

## MEMORANDUM

**TO:** Food Waste Grinder Sub-Committee

**FROM:** Erin Mahoney, Commissioner of Environmental Services

**DATE:** November 7, 2013

**RE:** **Requested materials on the impacts of food waste grinders in York Region**

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At the Food Waste Grinder Sub-Committee meeting on September 18, 2013, the Sub-Committee asked staff to provide more information from a York Region context on the use and impacts of food waste grinders. Specifically staff were asked to:

1. Conduct York Region research to verify prior assumptions regarding food waste grinder use rates and impacts to wastewater infrastructure
2. Assess the effectiveness of the Green Bin Program without the prohibition of food waste grinders considering factors including cost, quality of compost, social aspects and economies of scale
3. Conduct a cost/benefit analysis of retrofitting the Duffin Creek WPCP to incorporate cogeneration systems
4. Discuss these studies and findings with key stakeholders

Enclosed you will find three attachments for your consideration that address tasks one and two above. Task three is ongoing and will be circulated prior to the Sub-Committee meeting next week. The attached reports are as follows:

- Attachment 1: Aurora Food Waste Grinder Survey Results
- Attachment 2: Aurora Food Waste Grinder Wastewater Sampling Results and Analysis
- Attachment 3: Effectiveness of the Green Bin Program Without Prohibition of Food Waste Grinders

With respect to task four, I am also pleased to report that on November 4, staff met with members of a key food waste grinder stakeholder and discussed the CH2MHill report entitled; *Assessment of the Impacts of Food Waste Grinders on York Region's Sewage Infrastructure* (this report was previously forwarded to the Food Waste Grinder Sub-

**November 7, 2013**

**Requested materials on the impacts of food waste grinders in York Region**

Committee on October 24, 2013). Findings from the Aurora survey and wastewater sampling studies were also discussed at the stakeholder meeting. This meeting was productive and staff are proposing another consultation in early December. This future meeting will provide another opportunity for a fulsome discussion with all stakeholders regarding the survey and sampling studies as well as an opportunity for staff and stakeholders to consult on options for moving forward. These options will then be brought forward to the Sub-Committee at the January meeting.

I look forward to discussions and feedback on these matters at the November 13, 2013 Sub-Committee meeting.

If you have questions or require additional information, please contact Laura McDowell, at 905-830-4444 extension 5077.

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Erin Mahoney, M.Eng  
Commissioner of Environmental Services

cc. Bruce Macgregor, CAO



Environmental Services  
Environmental Promotion & Protection

## MEMORANDUM

TO: Food Waste Grinder Sub-Committee

FROM: Erin Mahoney, Commissioner of Environmental Services

DATE: November 7, 2013

RE: **Aurora Food Waste Grinder Survey Results**

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### **Purpose**

This memo is in response to a request from the Food Waste Grinder Subcommittee to provide more information on food waste grinder usage and to assess the amount of food waste disposed through food waste grinders in a York Region context. This information informed the Aurora food waste grinder wastewater sampling study which is presented in a separate Technical Memo. The survey also provides supporting information to the Environics survey, conducted in 2012 regarding food waste grinder use in York Region.

The subdivision survey was designed to determine:

1. The suitability of this subdivision for a food waste grinder wastewater impact study
2. Food waste disposal habits in an Aurora subdivision

### **Survey Methodology**

#### **An in-person interview style survey was conducted in an area of Aurora suspected of having a high food waste grinder installation rate**

A door-to-door field survey is an effective method of polling information from households in a small area. A door-to-door field survey was conducted in a residential subdivision of 317 homes in Aurora located in the north-east quadrant of the intersection of Bayview Avenue and Wellington Street East. This subdivision was identified by one of the Town of Aurora's plumbing inspectors as having a relatively higher installation rate of food waste grinders

compared to typical subdivisions elsewhere in the Region. Appendix 1 shows a map of the subdivision area. The 73 homes within the highlighted black boundary had food waste grinders installed at time of construction. For comparison purposes these homes were categorized as the study area and the remaining 244 homes were categorized as the control area. The subdivision is otherwise a typical York Region subdivision of single-family homes, with weekly Green Bin and Blue Box pick-up and bi-weekly garbage pickup.

### **Survey questionnaire developed by staff to determine food waste disposal information**

The survey questionnaire was developed to determine if a household had a food waste grinder as well as the household's perceived food waste disposal habits. Specifically, the survey was designed to ascertain the number of people in the household and whether or not the household had a food waste grinder installed. If the presence of a food waste grinder was confirmed, survey participants were asked how often they used the food waste grinder and how much food waste was typically disposed of in the food waste grinder. Regardless of whether they had a food waste grinder, all residents were asked how often and how much food waste they put into the Green Bin and black bag garbage. The survey questions can be found in Appendix 2. Survey questions were evaluated and tested on a focus group of York Region residents prior to initiating the study.

Actual data collection was conducted door-to-door from adult Aurora residents in the study area on eight occasions from August 8th to September 29th, 2013 between the hours of 9:00 a.m. to 8:30 p.m. When residents answered the door the purpose of the survey was explained and they were given the option to participate.

### **Survey Results**

#### **Door-to-door methodology resulted in a 39 per cent response rate**

Responses were received from 123 households out of the 317 homes in the identified subdivision, for an overall response rate of 39 per cent. The response rate from the study area was 58 per cent and 33 per cent from the control area (see Table 1). The average household population was 3.4 persons per household which is very similar to the census number of 3.3 persons per household in York Region. A survey of 123 single family households in the subdivision has a margin of error of approximately 6.9% 19 times out of 20. While this subdivision is not atypical of York Region, trends may vary throughout the Region.

#### **Survey confirmed that this subdivision is an excellent location to study the impacts of high use of food waste grinders**

Based on the survey, 83 per cent of homes in the study area still have a food waste grinder installed on the premises (Table 1). The installation rate for the control area is seven per cent, which is consistent with the nine per cent installation rate identified in the 2012 York Region Environics survey.

Of the 123 households surveyed in the control and study areas, 41 households reported having a food waste grinder installed. Thus, the overall subdivision installation rate of food waste grinders was approximately 33 per cent. This is considerably higher than the nine per cent York Region average installation rate identified in the 2012 Environics survey. These results confirm that this subdivision is an excellent location to conduct a wastewater sampling study designed to determine the impacts of high use of food waste grinders in York Region.

**Table 1: Food Waste Grinder Installation Rates**

	<b>Overall</b>	<b>Study Area</b>	<b>Control Area</b>
Surveys completed	123	42	81
Per cent with food waste grinder installed at time of survey	33%	83%	7%
Response Rate	39%	58%	33%

### **Analysis considered three subpopulations to determine food waste disposal habits and amounts**

Table 2 displays the reported food waste disposal habits of the households surveyed. It is divided into three subpopulations:

- Overall Survey – results were determined using all 123 completed surveys
- Study Area – results were calculated considering only those households with a food waste grinder installed at construction
- Control Households – results were determined from households that did not have a food waste grinder at construction

All subpopulations were analyzed to determine:

- What percentage of the total food waste produced reportedly went to each disposal method (e.g. Green bin, garbage, food waste grinder or backyard composter)
- How many grocery bags of food waste were recalled as being generated per week
- The approximate weight of food waste disposed. The average weight of a grocery bag of food waste was computed based on 2011/2012 source separated organics composition audit data and was found to be 1.4 kg.

**Table 2: Aurora subdivision food waste disposal habits**

	Total	Green Bin	Garbage	Food Waste Grinder	Backyard Composter
<b>Overall Survey</b>					
Average percentage of food waste disposed (%)	100	81	14	5	0
Average no. of bags food waste per household per week	2.74	2.19	0.39	0.12	0.01
Grocery bags of food waste per household per year*	142	114	20	7	1
Kg food waste per household per year**	196	158	28	9	1
<b>Study Area (with food waste grinder at construction)</b>					
Average percentage of food waste disposed (%)	100	76	11	13	0
Average no. of bags food waste per household per week	2.5	1.91	0.27	0.31	0
Grocery bags of food waste per household per year*	129	99	14	16	0
Kg food waste per household per year**	179	137	20	22	0
<b>Control Area (without food waste grinder at construction)</b>					
Average percentage of food waste disposed (%)	100	83	16	0.5	0.5
Average no. of bags food waste per household per week	2.84	2.35	0.46	0.01	0.01
Grocery bags of food waste per household per year*	148	122	24	1	1
Kg food waste per household per year**	204	169	33	1	1

\* Calculated from reported weekly total \*\*Calculated using 1.4 kg per grocery bag

## Results confirm Green Bin program is favoured means of disposing of food waste

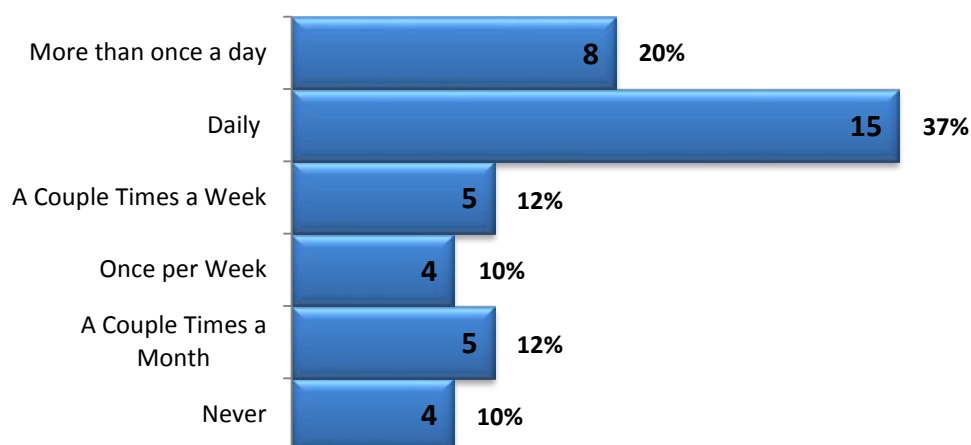
Table 2 confirms the trend seen in many other surveys, namely that the Green Bin program is the preferred method of food waste disposal. Overall, surveyed residents reported that they put an average of 81 per cent of their food waste into the Green Bin. Even in homes with a food waste grinder installed at construction, the portion added to the Green Bin was reported to be 76 per

cent. Overall, only 6 per cent of respondents reported not using their Green Bin at all, giving the Green Bin a 94 per cent use rate in this subdivision.

### **57 per cent of residents that own a food waste grinder report use it daily or more often**

Figure 1 shows the food waste grinder use frequency pattern. About 57 per cent of those households who have food waste grinders report using them daily or more frequently, but about 10 per cent of households with a food waste grinder report never using it. This is a greater percentage than identified in the 2012 Environics survey which found that 31 per cent of residents report using their food waste grinder daily or more often while 17 per cent did not use their food waste grinder at all.

**Figure 1: Histogram of Food Waste Grinder Usage**



### **Recall bias may contribute to reported waste disposal behaviours; further study is required to quantify disposal habits.**

On average, study area households reported that about 13 per cent of their food waste was disposed through the grinder or about 22 kg per year per household. Thus, despite the fact that 57 per cent of food waste grinder owners in the study area use their grinder daily they are only reportedly using it to dispose of a small percentage of their food waste. However there may be some recall bias affecting this number. Passing food waste into a food waste grinder is done once and the food waste is gone from the home versus a Green Bin system where the resident handles the food waste several times in a week and collects it in one place allowing them a better understanding and better recall of the actual amount food waste generated in a week. Therefore, it may be difficult for residents with food waste grinders to accurately estimate the amount of food waste they actually dispose into the grinder over a week as they do not routinely collect it for a week or measure it in any way. This recall bias is supported from the data in Table 2 comparing the total bags or weight of food waste generated per year. The calculated yearly total

weight of food waste generated in the control area is approximately 12 per cent greater than that reported by study area households. To determine the scope of the recall bias these survey results should be supported further with a wastewater sampling. A wastewater sampling study of this area *Aurora Food Waste Grinder Wastewater Sampling Results and Analysis* (2013, CH2M Hill), indicates that measured impacts in the wastewater was higher than what respondents believed they put into their food waste grinder.

## **Conclusion**

The survey confirmed that this subdivision in Aurora does indeed have a high installation rate and could be used to determine food waste grinder wastewater impacts.

Almost all residents indicated that they use their Green Bin for the bulk of their food waste disposal with the overall average reported proportion being 81 per cent compared to other disposal methods. This finding was relatively consistent between control and study households with only a six per cent difference in surveyed Green Bin per cent usage. The reported average amount of weekly bags of food waste generated varied by 12 per cent between the study and control households, with the study area households reporting less food waste generated than the control area. These findings could however be due to difficulty remembering the amount of waste placed into a food waste grinder. As a result, quantifiable wastewater impacts were measured and verified through a wastewater sampling study conducted in the same area *Aurora Food Waste Grinder Wastewater Sampling Results and Analysis* (2013, CH2M Hill).

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Erin Mahoney, M.Eng  
Commissioner of Environmental Services

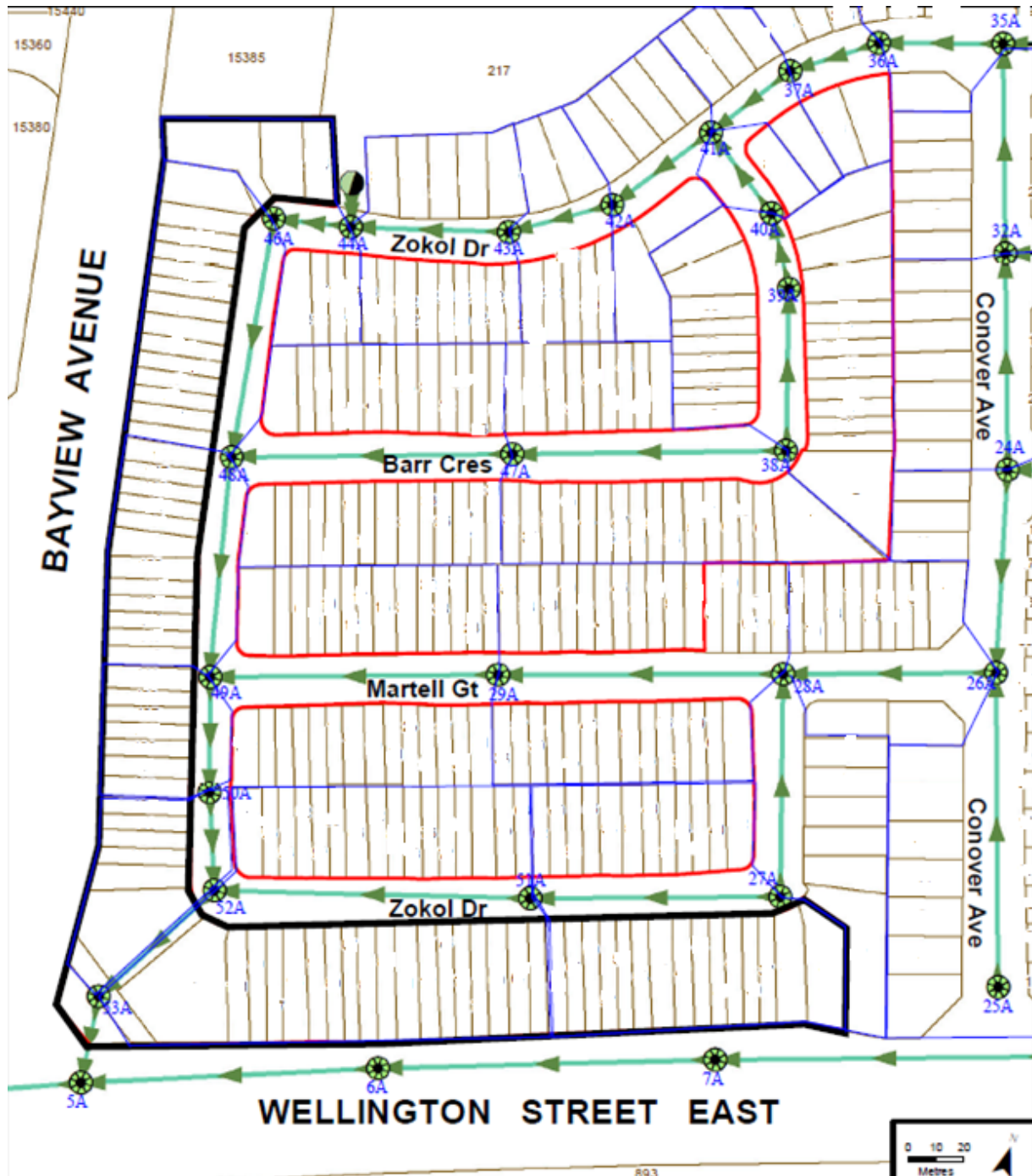
## Appendices (3)

- Appendix 1 – Survey Map of Aurora Subdivision
- Appendix 2 – Survey Questionnaire
- Appendix 3 – Survey Raw Data

Copy to: Bruce Macgregor, CAO



*Appendix1: Survey Map of Aurora Subdivision*



**LOCATION PLAN**

PRESERVE HOMES INC  
PHASE 1 - 65M-3850  
SANITARY PLAN

**Legend**



Sanitary Manhole



Sanitary Plug



Sanitary Pipe



65M-3850



Municipal Parcel



Map created by the Town of Aurora Infrastructure & Environmental Services Department, June 13th, 2013.  
Base data provided by York Region & the Town of Aurora.



## ***Appendix 2: Aurora Food Waste Survey Questionnaire***

**Script:** Hi my name is \_\_\_\_ (first name) \_\_\_\_ and I work for York Region. We're conducting a survey with residents on how they use York Region services. I'm wondering if I could take 5 minutes of your time and ask you 7 questions about how you dispose of food waste in your home. Please be assured that I am not selling or soliciting anything and your answers will remain anonymous.

If necessary – *"We would like to speak to a person in your household, 18 years of age or older."*

IF NO: When would it be convenient for us to come back? \_\_\_\_\_

If YES: Great, thank you!

1. How much food waste would you say your household generates per week? (*Reference counter-top compost bin container or approximately one grocery bag*). You can mention that we want the food waste generation amount excluding other items in the green bin such as paper towels, diapers, etc. If they only provide generation rate for green bin that's acceptable; record the data and put a comment on the response sheet.

- ☐ 1/4 of a container
- ☐ Half of a container
- ☐ 1 container
- ☐ 2 containers
- ☐ \_\_\_\_ containers

2. Do you have a food waste grinder or garburator installed under your kitchen sink? (*You may have to explain what this is, if they look puzzled*)

- ☐ Yes ☐ No

**If YES, go to 3; IF NO, go to 6**

3. How often do you use your food waste grinder?

- ☐ More than once a day
- ☐ Daily
- ☐ A couple of times a week
- ☐ Once a week

- ☐ A couple of times a month
- ☐ Never. Why? Explanation: \_\_\_\_\_
- ☐ Depends. Why? Explanation: \_\_\_\_\_

4. For which meals do you use the food waste grinder? (*Check all that apply*)

- ☐ Breakfast
- ☐ Lunch
- ☐ Dinner

5. What percentage of your food waste do you put in the food waste grinder per week? (*If they are unsure suggest ¼, ½, ¾*) \_\_\_\_\_ %

**If response to 2 is NO**

6. How do you dispose of your food waste? (*Give examples and check all that apply*)

- ☐ Backyard Composter
- ☐ Green bin
- ☐ Garbage
- ☐ Other, please specify \_\_\_\_\_

**If response to 2 is either YES or NO**

7. What percentage of your food waste do you put into each per week? (*If they are unsure suggest ¼, ½, ¾*)

- ☐ Green bin \_\_\_\_\_ %
- ☐ Backyard Composter \_\_\_\_\_ %
- ☐ Garbage \_\_\_\_\_ %
- ☐ Other \_\_\_\_\_ %

8. And lastly, how many people live in your household? \_\_\_\_\_

*If they ask why, indicate it is used for planning solid waste services.*

*If they refuse, enter "NR" for no response.*

This completes the survey. Thank you very much for your time and assistance. Have a great day!

**Appendix 3: Survey Raw Data**

STUDY HOUSEHOLDS															
No	Question 1			Question 2		Question 3							Question 4		
	1/4 of container	half of container	no. of container	Yes	No	More than daily	Daily	Couple times a wk.	Once a week	Couple times a mo.	Never	Depends	breakfast	lunch	dinner
1			0	X						X			X		
2			7	X							X				
3			4		X										
4			7	X						X			X	X	X
5			1	X							X				
6			3	X		X							X	X	X
7			5	X				X							X
8			0		X										
9			2		X										
10			1		X										
11			5	X					X				X	X	X
12			4	X			X								X
13	X			X					X						X
14			3 or 4	X			X								X
15			0	X		X							X		X
16			3	X			X								X
17			1	X						X			Snacks		
18			3 or 4	X		X									X
19			1 or 2	X					X						X
20			1	X			X								X
21		X		X		X									X
22			2	X			X						X	X	X
23			2	X			X						X		
24			1	X			X							X	
25			2	X					X				Snacks		
26			2 or 3	X			X						Only Vegetables		
27			7	X		X							X	X	X
28			0	X						X					X
29			1	X			X						X	X	X
30			3	X							X		X	X	X
31			2	X						X			X	X	X
32			6.5		X										
33			2	X				X					X	X	X
34			3	X				X					X	X	X
35			2.5	X				X					X	X	X
36			4	X				X					X	X	X
37			3	X			X						X	X	X
38			3.5	X		X							X	X	X
39			0		X										
40			3	X			X						X	X	X
41		x			x										
42			1	x			x								x

STUDY HOUSEHOLDS										
No.	Question 5	Question 6				Question 7				Question 8
		compost	green bin	garbage	others	compost	green bin	garbage	others	
1	10%						0	90	10	2
2	0%						100			7
3			X				100			3
4	5%						80	15	5	3
5							100			1
6	20%						80		20	4
7	3%						97		3	4
8				X			0	100		4
9			X				100			4
10			X				100			8
11	5%						95			3
12	10-20%						80-90			3
13	50%						50			2
14	10%						90			4
15	100%						0			2
16	2%						98			3
17	2%						98			3
18	2%						98			4
19	5%						95			3
20	25%						75			2
21	20%						80			2
22	60%						40			5
23	1%						99			3
24	20%						80			4
25	5%						95			2
26	2%						98			2
27	10						90			4
28	3						0	97		1
29	80						20			5
30	0						100			2
31	3						97			3
32			X				100			4
33	10						30	60		4
34	5						95			2
35	3						97			2
36	5						95			3
37	15						85			3
38	10						90			4
39				X			0	100		3
40	10						90			5
41			x				100			4
42	5		x				90		10	5

[illegible]

## CONTROL HOUSEHOLDS

[illegible]

CONTROL HOUSEHOLDS										
No	Question 5	Question 6				Question 7				Question 8
		compost	green bin	garbage	others	compost	green bin	garbage	others	
1			X				100			3
2			X	X			65	35		3
3			X				100			5
4	1%						99			4
5			X	X			66	34		4
6			X				100			2
7			X				100			2
8			X				100			5
9			X				100			4
10			X	X			95	5		3
11			X				100			2
12			X	X			80	20		5
13			X	X			80	20		4
14			X	X			80	20		1
15				X				100		4
16			X				95	5		4
17			X				100			4
18			X				100			3
19			X				100			4
20			X				100			2
21			X	X			20	80		2
22			X	X			55	45		5
23			X	X			50	50		2
24			X				100			5
25			X	X			60	40		4
26			X				100			2
27							33	67		4
28							100			4
29							50	50		3
30							100			4
31							100			4
32							100			3
33							100			3
34							95	5		4
35							70	30		3
36							100			2
37							90	10		3
38								100		6
39							100			2
40							80	20		3
41							90	10		2



CONTROL HOUSEHOLDS										
No	Question 5	Question 6				Question 7				Question 8
		compost	green bin	garbage	others	compost	green bin	garbage	others	
42							95	5		4
43							5	95		7
44							5	95		3
45							25	75		4
46							85	15		3
47							100			4
48							50	50		3
49	2						98			3
50							75	25		2
51							100			4
52			X				100			2
53			X				100			3
54			X				95	5		3
55			X				100			3
56			X	X			50	50		1
57			X				95		sink	2
58			X				100			4
59			X				100			2
60			X				100			3
61			X				100			4
62			X				75	25		4
63	10		X				100			3
64	5		X				90		10	5
65			X	X			60	40		4
66			X				100			4
67			X				99		1	2
68			X				100			4
69			X	X			60	40		5
70			X				90	10		5
71			X				100			4
72	10						90	10		4
73			X	X			80	20		4
74			X				100			3
75			X				100			4
76			X				100			4
77			X				90	10		4
78		X	X			50	50			4
79			X				100			2
80			X				100			2
81			X				95	5		4

# Aurora Food Waste Grinder Wastewater Sampling Results and Analysis

PREPARED FOR: Regional Municipality of York  
PREPARED BY: CH2M HILL  
DATE: November 6, 2013  
PROJECT NUMBER: 480537

## Executive Summary

At the request of The Regional Municipality of York (the Region), CH2M HILL undertook a sewage sampling program to investigate site-specific impacts of food waste grinder installation rates on sewage characteristics in a subdivision in the Town of Aurora. Flow measurement and sampling equipment were installed in manholes in a subdivision built circa 2005 that has a food waste grinder installation rate much higher than the Regional average. Sampling and flow measurement were conducted over a two week period from September 28 to October 12, 2013. From each of three sampling locations, during the first week daily composite samples (seven total) were collected and during the second week 12 hourly grab samples (84 total) were collected daily. Flows into and out of the subdivision were measured continuously.

Based on daily composite sampling data, concentrations of particulate sewage parameters (biochemical oxygen demand, suspended solids, total Kjeldahl nitrogen and total phosphorus) were strongly correlated with food waste grinder installation rates. In addition, concentrations of oil and grease also had a good correlation with food waste grinder installation rates.

Hourly sampling data also revealed significant increases in organic matter and suspended solids concentrations associated with higher food waste grinder installation rates. On a daily basis, there were significant increases in suspended solids concentrations at 6am and 7pm. These times may be consistent with breakfast and dinner meal preparation and clean-up times associated with commuter-type communities.

Flow measurements were used to estimate the subdivision's per capita wastewater generation rate of 291 litres per capita per day. This value is typical for a newer subdivision (built in 2005) experiencing minimal inflow and infiltration and comparable with the Ministry of the Environment's dry weather per capita wastewater generation rate of 300 litres per capita per day.

Based on the sampling data from the Aurora subdivision, biochemical oxygen demand loading from food waste by residents using food waste grinders was calculated to be 46 grams per capita per day over and above the loading due to sanitary waste. This value compared favourably with the food waste loading of 41 grams per capita per day estimated in the report "Assessment of the Impacts of Food Waste Grinders on York Region's Sewage Infrastructure" (CH2M HILL, 2013) previously commissioned by the Region. The modeled impact of higher organic loadings on the Duffin Creek Water Pollution Control Plant was corroborated by the Aurora sewage sampling.

These results support the premise that higher-than-average food waste grinder installation rates have an impact on sewage characteristics. Sewage samples collected from the Aurora subdivision had increased concentrations of particulate sewage parameters as well as oil and grease; these increases were significant, and results support past impact assessments and technical findings. A number of composite and hourly sewage samples had concentrations of biochemical oxygen demand and suspended solids higher than York Region's Sewer Use Bylaw limits.

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# 1. Introduction

The Regional Municipality of York (Region) is investigating impacts of food waste grinders on its sewage infrastructure. In 2013, the Region commissioned a study entitled “Assessment of the Impacts of Food Waste Grinders on York Region’s Sewage Infrastructure” (CH2M HILL, 2013). As a follow up to this study, the Region undertook an investigation of a residential subdivision in the Town of Aurora that has a relatively high installation rate of food waste grinders compared to the Regional average, hereinafter referred to as the “Aurora Subdivision”. Most of the food waste grinders in the Aurora Subdivision were installed by the developer when constructing the homes.

The purpose of the Aurora Subdivision investigation was to determine if there is an impact on sewage characteristics due to higher-than-average food waste grinder installation rates and determine the contribution of food waste on per capita organic loading to verify assumptions made in the impacts study (CH2M HILL, 2013).

The Aurora Subdivision investigation consisted of two elements:

1. A resident survey in the subdivision to determine the installation rate of food waste grinders, food waste grinder usage patterns, food waste disposal behaviour and other relevant information;
2. A sewage sampling program to measure sewage flows and determine the impacts of food waste grinder installation rates on sewage characteristics.

Regional staff completed the resident survey and its findings are documented in a separate memorandum (York Region, 2013).

The Region retained CH2M HILL to execute the sewage sampling program and perform data analysis and reporting as documented in this Technical Memorandum.

## 2. Methodology

### 2.1. Flow Monitoring and Sampling Program

#### *Subdivision Description*

Wastewater sampling and flow monitoring was conducted at the Aurora Subdivision which is located in the north-east quadrant of the intersection of Bayview Avenue and Wellington Street East (see Figure 1). The Subdivision was identified by one of the Town of Aurora’s plumbing inspectors as having a higher penetration rate of food waste grinders compared to typical subdivisions elsewhere in the Region. The higher food waste grinder installation rate was reported to be a result of food waste grinders being supplied as a standard appliance by a particular developer during new home construction in a portion of the Aurora Subdivision.

Figure 1 illustrates the sanitary plan of the Subdivision. As outlined by the thick black line on Figure 1, the houses on the west and south of Zokol Drive with backyards abutting Bayview Avenue and Wellington Street East were the houses identified as having food waste grinders installed when they were constructed in 2005.

There are 280 households in the Subdivision that discharge sewage downstream of the two inflow monitoring Manholes 36A and 28A and upstream of the effluent Manhole 52A. Of the 280 households, 73 were part of the housing development that had food waste grinders installed at construction.

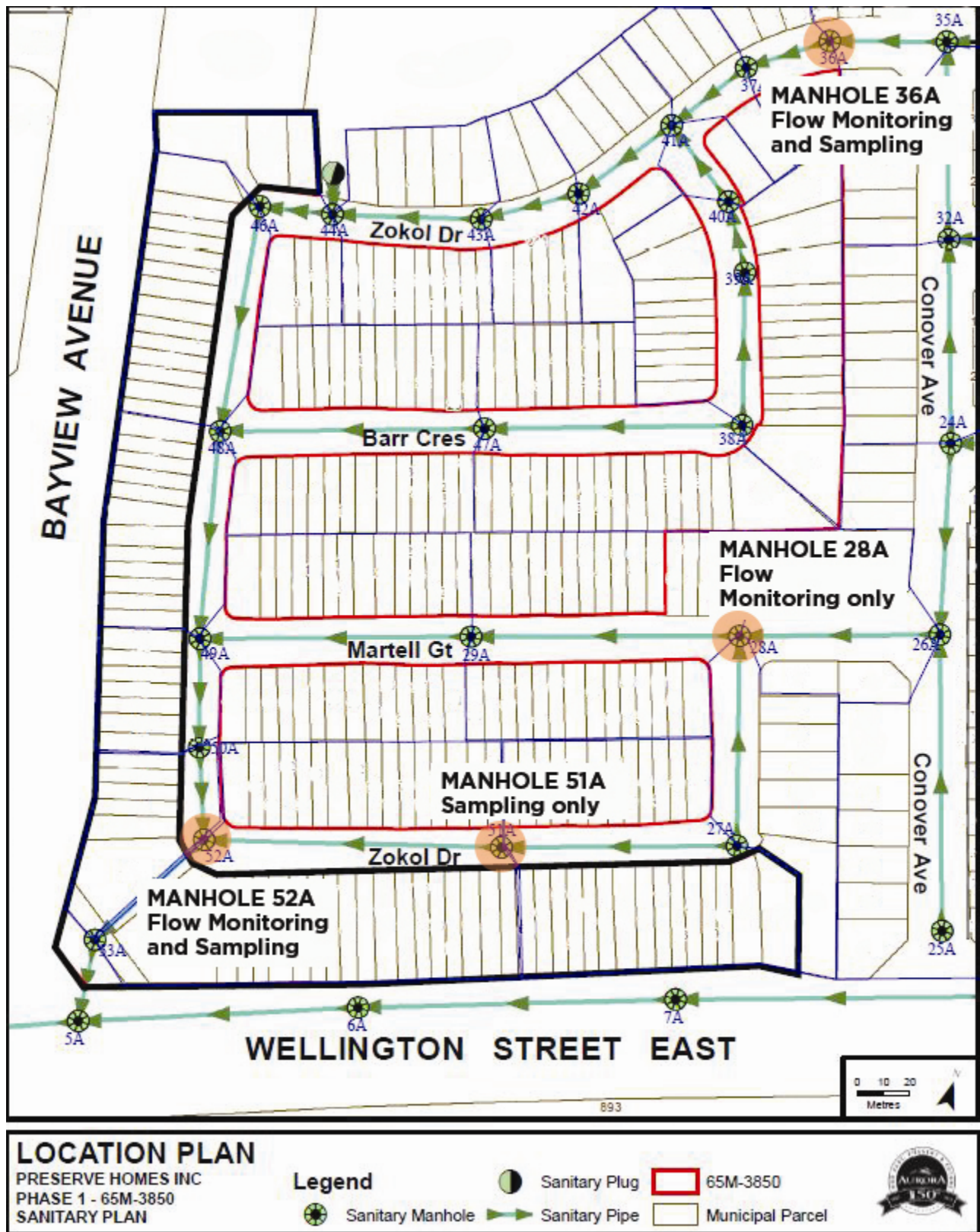


Figure 1: Sanitary Plan of Aurora Subdivision where Sampling Program Took Place

### ***Sampling and Flow Monitoring Locations***

Each location for flow monitoring and sampling was specifically selected to capture the following:

- Inflow into the Subdivision representing a low installation rate of food waste grinders
- Outflow from the Subdivision representing a moderate installation rate of food waste grinders
- Outflow from a portion of the Subdivision with a high installation rate of food waste grinders

As indicated in Figure 1 and summarized in Table 1 below, flow monitors were installed at three locations: Manholes 36A, 28A and 52A; sampling was undertaken at three locations: Manholes 36A, 51A, and 52A. The calculation of the food waste grinder installation rates is provided in Appendix C. Sewer diameters were 200 mm at manholes 36A, 28A and 51A and 300 mm on the discharge from manhole 52A.

TABLE 1  
**Sampling and Flow Monitoring Location Summary**

<b>Location Name</b>	<b>Location Description</b>	<b>Manhole Identifier</b>	<b>Flow Monitoring</b>	<b>Sewage Sampling</b>	<b>Food Waste Grinder Installation Rate</b>
Inflow 1	Inflow to the Subdivision, measurement of upstream sewage characteristics	36A	Yes (flume)	Yes	9 % *
Inflow 2	Inflow to the Subdivision	28A	Yes (flume)	No	9 % *
Outflow	Outflow from the Subdivision inclusive of inflow from upstream area	52A	Yes (area-velocity)	Yes	22 % **
High Food Waste Grinder Outflow	Outflow from a portion of the Subdivision with a high installation rate of food waste grinders.	51A	No	Yes	49 % **

\* Installation rate assumed to be equal to the Regional average based on 2012 telephone survey (Environics, 2012).

\*\* Installation rate calculated as described in Appendix C using data from door-to-door survey (York Region, 2013).

Flows measured at Manholes 36A and 28A represent the two inflows to the Aurora Subdivision, while Manhole 52A represents the outflow from the Aurora Subdivision. Flow measurements were used to estimate a per capita wastewater generation rate which was in turn used to calculate a per capita loading rate.

Manholes 36A, 51A and 52A were chosen as representative sampling locations to measure sewage concentrations reflecting different food waste grinder installation rates. Manhole 36A represents background sewage characteristics from an upstream area with a food waste grinder installation rate assumed to be typical of the Regional average of 9 percent based on a 2012 resident telephone survey (Environics, 2012).

Manhole 51A represents a sampling location where approximately 56 percent of contributing households (15 of 27 homes) that had food waste grinders installed at construction. Note that not all of those homes still have grinders installed – 83 percent of homes that had food waste grinders installed at construction still had them installed, resulting in a current food waste grinder installation rate of 49 percent at this location (see Food Waste Grinder Installation Rates in Appendix C).

In the remainder of this memorandum, the locations will be referred to by their location name noted in Table 1.

### ***Sampling Program***

Sample collection was carried out using automatic samplers over a consecutive two week period as follows:

- Week 1: 24-hour daily time-weighted composite samples collected for seven days and analyzed for:
  - carbonaceous five-day biochemical oxygen demand (cBOD<sub>5</sub>),
  - filtered cBOD<sub>5</sub>
  - total suspended solids (TSS) and volatile suspended solids (VSS),
  - total Kjeldahl nitrogen (TKN),
  - filtered TKN,
  - total phosphorus (TP),
  - filtered TP, and
  - total oil and grease.
- Week 2: 12 discrete hourly samples collected for seven days and analyzed for:
  - cBOD<sub>5</sub> and
  - TSS.

The second week sampling of 12 hourly samples reflected greater sampling frequency during the breakfast and dinner meal times as these were the anticipated times of greater food waste grinder use. cBOD<sub>5</sub> and TSS were selected to represent organic and solids load variation over the day; these parameters were the most noteworthy during the first week of composite sampling. Scheduled times for the hourly samples were 2:00 AM, 5:00 AM, 6:00 AM, 7:00 AM, 8:00 AM, 11:00 AM, 2:00 PM, 5:00 PM, 6:00 PM, 7:00 PM, 8:00 PM, and 11:00 PM.

The site setup, field work orders and equipment field calibration data are provided in Appendix A. Sample collection and flow monitoring were conducted by AMG Environmental. Equipment was installed on September 27, 2013; flow monitoring was conducted from September 27 to October 15 and sewage sampling was conducted from September 28 to October 12, 2013.

Sample analysis was performed by the York-Durham Regional Environmental Laboratory located at the Duffin Creek WPCP. This lab is accredited by the Canadian Association for Environmental Analytical Laboratories and received its Certificate of Accreditation from the Standards Council of Canada, recognizing the laboratory as a facility that conforms to requirements of ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories". Quality assurance/quality control samples and standards were prepared and analyzed as part of the sample analysis.

Collected samples were managed in accordance with chain of custody standards. Samples were transferred from AMG Environmental to the Region's Sewer Use Bylaw staff at the Aurora subdivision. Regional staff delivered the samples to the York-Durham Regional Environmental Laboratory. Chain of custody forms are provided in Appendix B.

### ***Data Analysis***

Raw data is provided in Appendix B. Samples collected during the first week were analyzed separately from the second week.

First, time series plots were created for each parameter. Then concentration averages were calculated: for the first week of daily composite samples, the seven day average was calculated for each parameter; for the

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second week of hourly samples, the seven day average was calculated for each hour at which samples were taken for each parameter. These plots were developed for each sampling location.

To determine if differences between two averages were statistically significant (for example, when comparing the average outflow concentration to the average inflow concentration), the 95 percent confidence interval of each average was calculated. This calculation is explained in Appendix C. A difference between two averages is statistically significant if their 95 percent confidence intervals do not overlap.

The percent increase was also calculated in some instances; this calculation is explained in Appendix C. The percent increase can be useful for seeing a trend of one data set being consistently higher (or lower) than another data set when there is a lot of variability in the individual data sets. An example is oil and grease shown in Figure 21 in Appendix D. In such a data set, there was no significant difference between the averages because the variability leads to large confidence intervals which overlap. However, because one data set is consistently higher than another data set, then the percent increase shows a significant difference. For the oil and grease example, the 95 percent confidence interval on the averages was 24.7 to 35.6 mg/L at the Inflow 1 location and 34.5 to 53.0 mg/L at the High Food Waste Grinder Outflow location. Because the 95 percent confidence intervals overlap, the difference in the averages is not statistically significant. However, when the percent increase was calculated (as described in Appendix C) to be 50 percent with a confidence interval of 32 percent then this increase was significant because the confidence interval did not overlap zero. This means the percent increase methodology found there was a statistically significant increase in oil and grease concentrations from the inflow to the outflow.

The data collected provided concentrations at three different food waste grinder installation rates. As such, plots of concentration versus installation rate were developed which included a linear regression line from which the y-intercept represents the concentration at zero food waste grinder installation rate (i.e. sanitary sewage component only) and the slope represents the food waste component from a food waste grinder (see Appendix C for further explanation).

The linear regression R-squared was used as a measure of how well the data formed a straight line; R-squared of 100 percent means an ideal fit and all the data exactly form a straight line. R-squared less than 100 percent is typical of real data, meaning the points do not all fit exactly on the regression line (line of best fit); in practice, R-squared values of 80 percent or more are generally considered a good fit while R-squared values of 40 percent or less are poor. A high R-squared meant the sewage concentrations were highly correlated with food waste grinder installation rates.

Per capita loadings were developed as the concentration multiplied by the per capita flow rate of the Aurora Subdivision on that day. This per capita calculation assumed all households within the subdivision generated the same wastewater volume.

Appendix C contains a list of calculations and assumptions.

## **3. Results**

Results are discussed for each week separately. The discussion below highlights graphs and summary data from which trends or conclusions could be developed. For a complete listing of all graphs that were developed, refer to Appendix D.

### **3.1. Per Capita Wastewater Flow**

The difference between the Aurora Subdivision total outflow and the two inflows was 3.2 L/s on average which corresponds to 291 L/capita/day. This value is typical for a newer subdivision experiencing minimal inflow and infiltration and comparable and compares well to the Ministry of the Environment's recommended design average dry weather per capita flow of 300 L/capita/day.

### 3.2. Week One: Daily Composite Samples

Figure 2 provides a graph which illustrates time series plots developed for composite TSS concentration data. This figure is generally illustrative of other parameters that were also measured (see Appendix D). Although there was some variability in the data, generally the TSS concentration at the Outflow and High Food Waste Grinder Outflow locations were higher than at the Inflow 1 location.

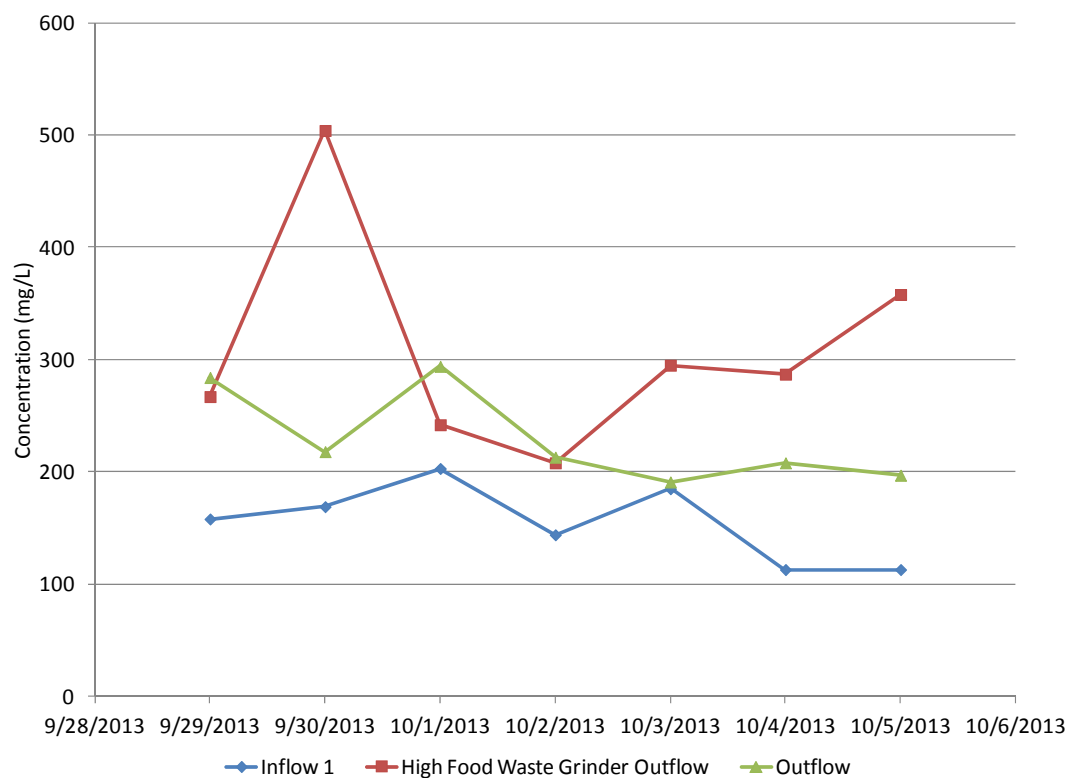


Figure 2: Daily Composite Sampling TSS Concentrations

Figures similar to Figure 2 were developed for each parameter measured and are provided in Appendix D.



For each composite sampling day, the percent increase was calculated for all parameters as described in Appendix C. Then the average of these seven increases was determined and plotted in Figure 3. The bar graph includes the 95 percent confidence intervals as dashed vertical lines on each bar; where the 95 percent confidence intervals do not cross over zero percent line, the concentration increases of those parameters were statistically significant. Figure 3 indicates that concentrations of soluble TP, cBOD<sub>5</sub>, oil and grease, TSS, fixed suspended solids, VSS, and TP were significantly higher at the High Food Waste Grinder Outflow compared to Inflow 1. Similarly, Figure 4 shows the percent increase of Outflow concentration compared to the Inflow 1 concentration. In this case, fewer parameters were significantly higher at the outflow: oil & grease, TSS and VSS concentrations.

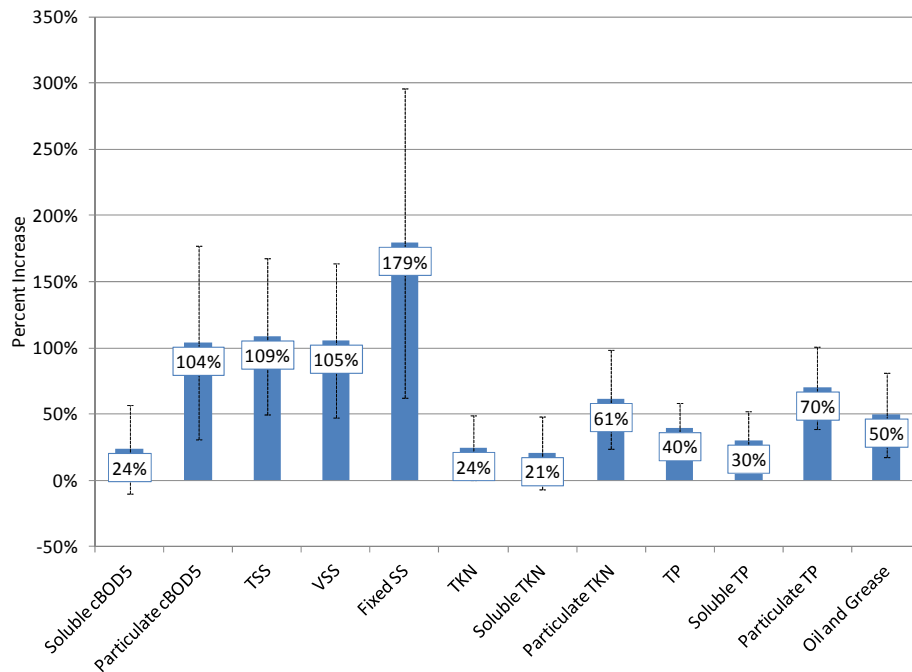


Figure 3: Composite Sampling Percent Increase, High Food Waste Grinder Outflow Compared to Inflow 1

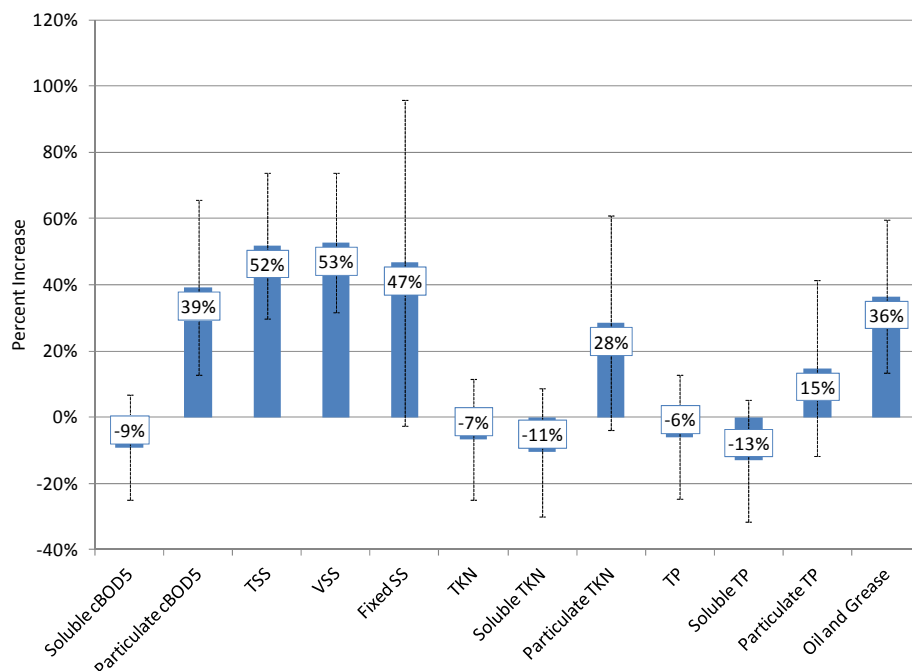


Figure 4: Composite Sampling Percent Increase in Outflow Compared to Inflow

### 3.3. Week Two: Hourly Samples

Figure 5 illustrates time series plots for hourly TSS data, at Inflow 1 and High Food Waste Grinder Outflow locations. This figure is illustrative of the hourly data. As can be seen in Figure 5, substantial variability in hourly data made it more difficult to discern trends as compared to the composite data. Additional graphs for hourly sample data are included in Appendix D.

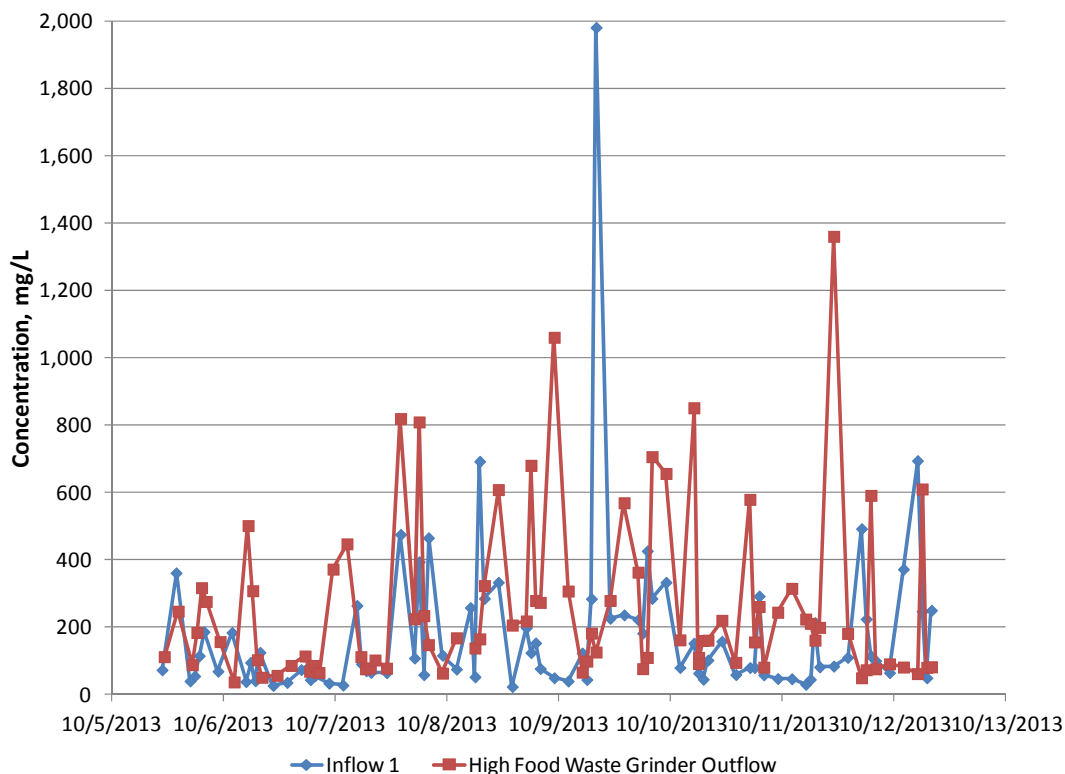


Figure 5: Hourly Sampling TSS Concentrations, Inflow 1 and High Food Waste Grinder Outflow Locations

The percent increase was calculated at each sampling time and the seven resulting values were averaged which resulted in diurnal profiles for average percent increase of TSS as illustrated in Figures 6 and 7. The percent increase calculation is further described in Appendix C.

Figure 6 illustrates the percent increase for the High Food Waste Grinder Outflow compared to Inflow 1, and Figure 7 illustrates the percent increase for the Outflow compared to Inflow 1. In these figures, if the 95 percent confidence interval crosses the zero percent line then the percent increase is not statistically significant. As seen in Figures 6 and 7, there were statistically significant percent increases in TSS at 6:00 AM and 7:00 PM at both the High Food Waste Grinder Outflow and Outflow locations. These increases were in the range of approximately 100 percent to 250 percent.

Figures 6 and 7 show that for two hours of the day (6:00 AM and 7:00 PM) the percent increase with TSS concentration was significant, and also show a general trend that outflow concentrations were consistently higher than the inflow concentrations; the percent increase at the High Food Waste Grinder Outflow was about 200 percent while the percent increase was about 100 percent at the Outflow.

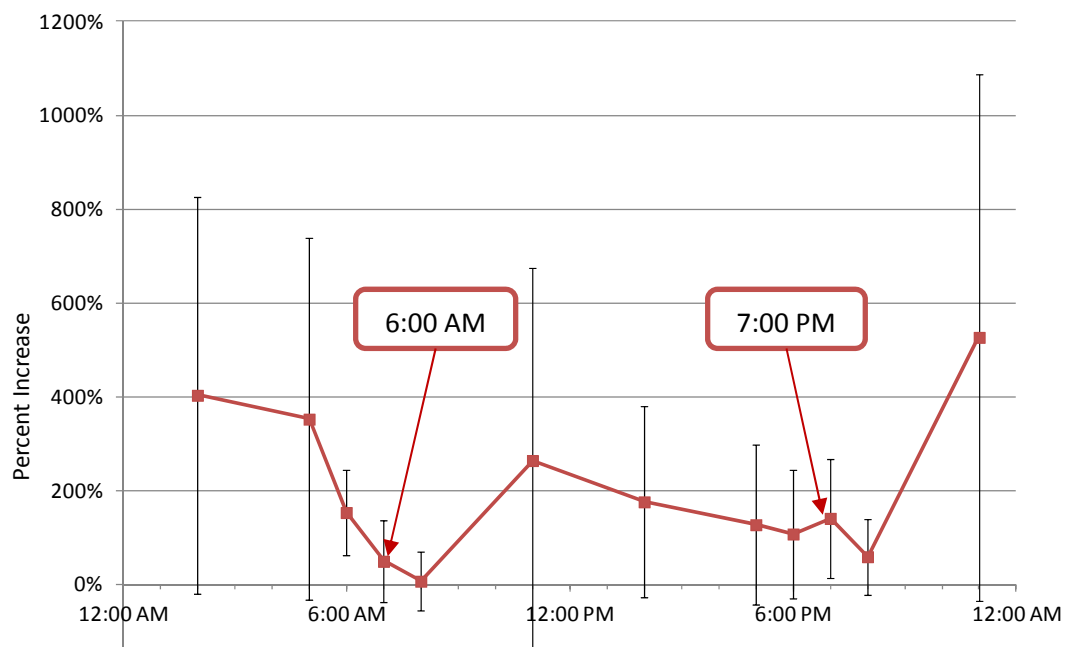


Figure 6: Percent Increase in TSS Concentration at High Food Waste Grinder Outflow Compared to Inflow 1

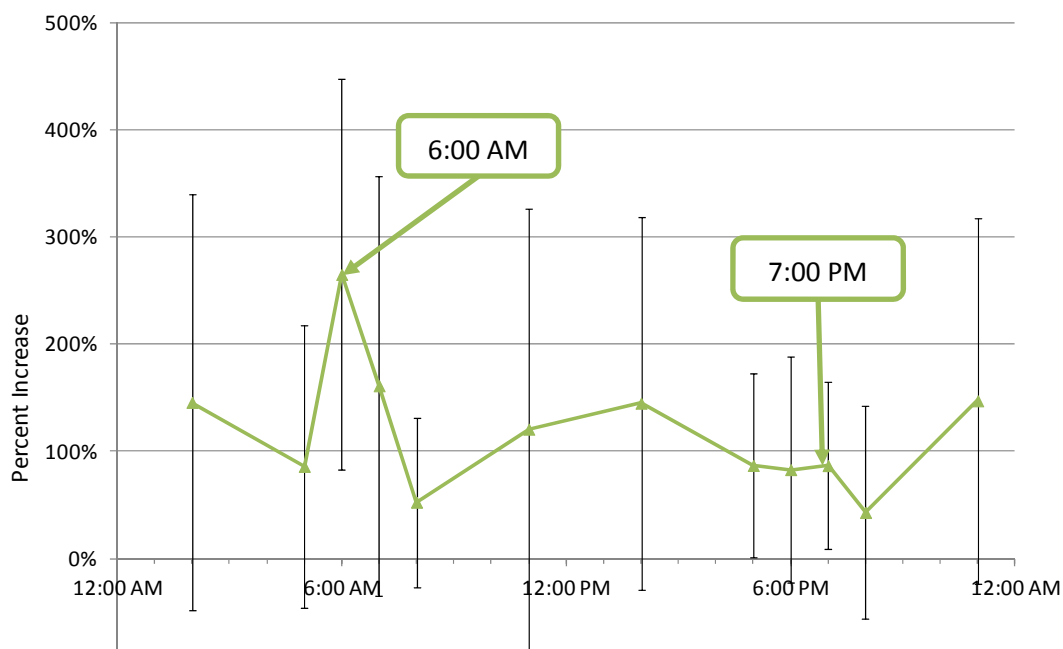


Figure 7: Percent Increase in TSS Concentration at Outflow Compared to Inflow 1

It was found that when all of the hourly percent increases are averaged together, statistically significant results emerge (Figure 8). Figure 8 illustrates that on average for the week of hourly grab sampling the  $\text{cBOD}_5$  and TSS concentrations were higher in the outflows than at the inflow. For TSS, the concentrations were about double at the Outflow compared to Inflow 1 and about triple at the High Food Waste Grinder Outflow compared to Inflow 1. For  $\text{cBOD}_5$ , the concentrations were more than double in both outflow locations compared to Inflow 1.

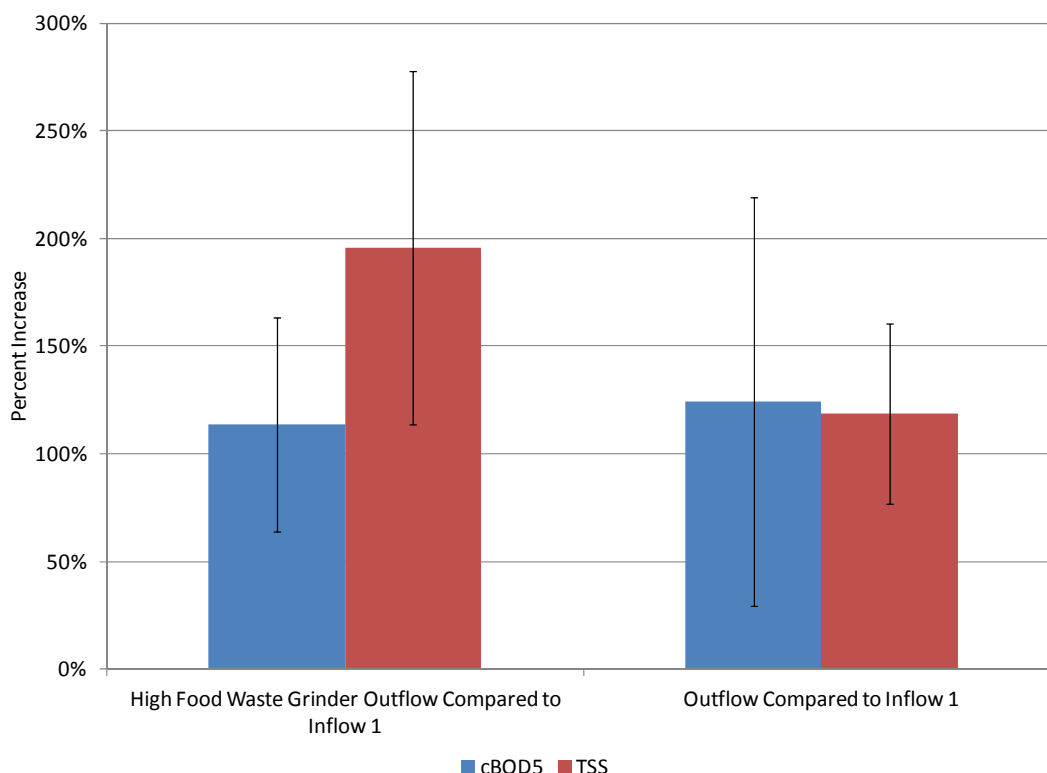


Figure 8: Average Percent Increase in  $\text{cBOD}_5$  and TSS Concentrations Across all Hourly Sampling Times Measured at High Food Waste Grinder Outflow compared to Inflow 1 and Outflow compared to Inflow 1.

These observations were consistent with the composite sampling data which also found the concentrations at the outflows to be significantly higher than the inflow. Overall average concentrations at each location were found to be consistent with the composite sampling averages.

### 3.4. Impact of Food Waste Grinder Installation Rate

The daily composite sampling results were used to develop relationships between the concentration of each parameter and the food waste grinder installation rate.

Table 1 summarizes average concentrations of each parameter calculated at each sampling location (there is a different food waste grinder installation rate associated with each sampling location) and the corresponding sewer use bylaw limit (if applicable). The data show increasing concentrations of particulate parameters as the food waste grinder installation rate increases. In addition, data indicate that most of the suspended solids are volatile solids (i.e. organic) and most of the observed increase in cBOD<sub>5</sub> concentration is due to the higher VSS.

TABLE 1  
**Aurora Sewage Sampling Program Results**  
*Average Concentrations, mg/L*

Item	Average Concentration, mg/L			York Region Sewer Use Bylaw Limit
	Inflow 1	Outflow	High Food Waste Grinder Outflow	
Food Waste Grinder Installation Rate:	9 percent	22 percent	49 percent	
cBOD <sub>5</sub>	149	154	222	300
Filtered cBOD <sub>5</sub>	90	75	101	–
Particulate cBOD <sub>5</sub>	59	79	121	–
TSS	155	229	309	350
VSS	144	215	283	–
Fixed Solids	11	14	25	–
TKN	67	59	81	100
Filtered TKN	60	51	70	–
Particulate TKN	7.0	8.8	10.8	–
TP	5.8	5.2	8.0	10
Filtered TP	4.2	3.5	5.4	–
Particulate TP	1.6	1.8	2.6	–
Oil & Grease	30	40	44	150

“–” indicates there is no applicable sewer use bylaw limit.

Although the Sewer Use Bylaw currently does not apply to individual residences, results in Table 1 show that the Inflow 1 average concentrations were about 50 to 70 percent of the bylaw limits (except oil and grease, at about 20 percent of the bylaw limit) while at the High Food Waste Grinder Outflow the average concentrations were generally about 75 to 90 percent of the bylaw limit (except oil and grease, at about 30 percent of the bylaw limit). And as seen in the raw data (Appendix B), there were a number of individual composite and hourly samples where the cBOD<sub>5</sub> or TSS concentrations exceeded the bylaw limit.

Figure 9 provides a graphical representation of the data in Table 1 for cBOD<sub>5</sub> and TSS. This figure illustrates there is a strong correlation between the food waste grinder installation rate and sewage concentrations of these two parameters. The y-intercept of the linear regression lines provide the concentration at zero percent food waste grinder installation rate (i.e. concentration due only to sanitary waste) and the slope of the linear regression lines provide the concentration due to food waste (see Appendix C for details).

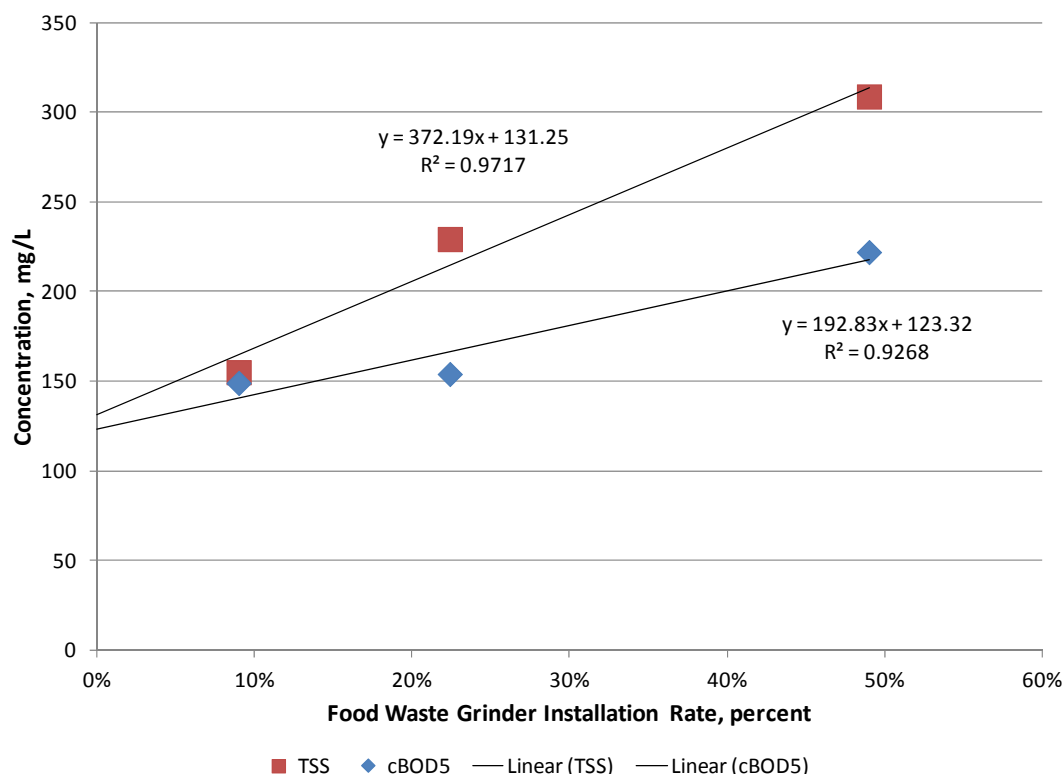


Figure 9: Graph of cBOD<sub>5</sub> and TSS Concentrations at Three Different Food Waste Grinder Installation Rates and Associated Linear Regression Lines

Table 2 summarizes the values determined from the regression lines for each parameter. In general, the regressions were strong for all particulate parameters and weak for filtered (soluble) parameters. The regression for oil and grease was also good. These results indicate there was greater discharge of particulates and oil and grease from areas with higher food waste grinder installation rates. The biodegradable fraction (VS percent of TS), nitrogen content and phosphorus content of the particulate components were calculated to be 90 percent, 2.5 percent and 0.7 percent which were comparable to the average values for food waste identified in the impacts assessment report (CH2M HILL, 2013) of 84 percent, 2.9 percent and 0.3 percent, respectively.

**TABLE 2****Aurora Sewage Sampling Program Results***Estimated Sewage Concentrations due to Sanitary Waste and Food Waste, mg/L*

Item	Concentration, mg/L		Regression R-Squared
	Due to Sanitary Waste (Regression y-intercept)	Due to Food Waste (Regression Slope)	
cBOD <sub>5</sub>	123	193	93%
Filtered cBOD <sub>5</sub>	78	38	35%
Particulate cBOD <sub>5</sub>	45	155	100%
TSS	131	372	97%
VSS	125	335	96%
Fixed Solids	6.8	37	98%
TKN	58	41	60%
Filtered TKN	52	32	45%
Particulate TKN	6.3	9.3	98%
TP	4.7	6.1	73%
Filtered TP	3.4	3.5	55%
Particulate TP	1.3	2.7	96%
Oil & Grease	30	31	82%

The results of the Aurora sampling program were used to develop a per capita cBOD<sub>5</sub> loading for food waste to compare to the estimate used in the report “Assessment of the Impacts of Food Waste Grinders on York Region’s Sewage Infrastructure” (CH2M HILL, 2013). Per capita total cBOD<sub>5</sub> loading values were calculated from the sampling data as the concentration measured on a given day multiplied by the per capita flowrate of the Aurora Subdivision on that day. This per capita calculation assumed all households within the subdivision generated the same wastewater volume regardless of whether they have a food waste grinder installed or not, and it also assumed all households upstream of the subdivision generated wastewater at the same rate as well. These assumptions were deemed acceptable for the purpose of developing the comparative per capita load value. As can be seen in Figure 10, the slope of the line was approximately 46 g cBOD<sub>5</sub> per capita per day. This value compared favourably to the 41 g per capita per day estimated in the impacts assessment report (CH2M HILL, 2013).

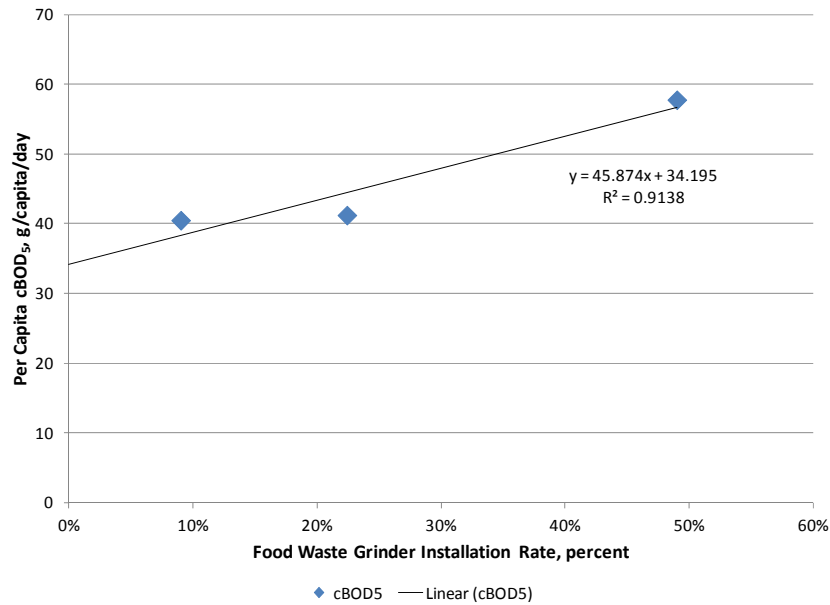


Figure 10: cBOD<sub>5</sub> Per Capita Loading at Three Different Food Waste Grinder Installation Rates

The graph of Duffin Creek WPCP Total BOD Loading at Specified FWG Use Rate originally presented in the impacts assessment report (CH2M HILL, 2013) was updated using the estimated food waste BOD loading value of 46 g cBOD<sub>5</sub> per capita per day calculated from the Aurora Subdivision data (see Figure 11). The results are consistent with the original figure because the food waste loading derived for the Aurora Subdivision matched well with the estimate made in the report. Figure 11 confirmed the reduction in service life of Duffin Creek WPCP by 1 to 5 years at effective use rates of 5 to 15 percent modeled in the impacts assessment report (CH2M HILL, 2013). Note that food waste grinder “use rate” is assumed to be approximately one-third of the installation rate based on the Environics survey (Environics, 2012).

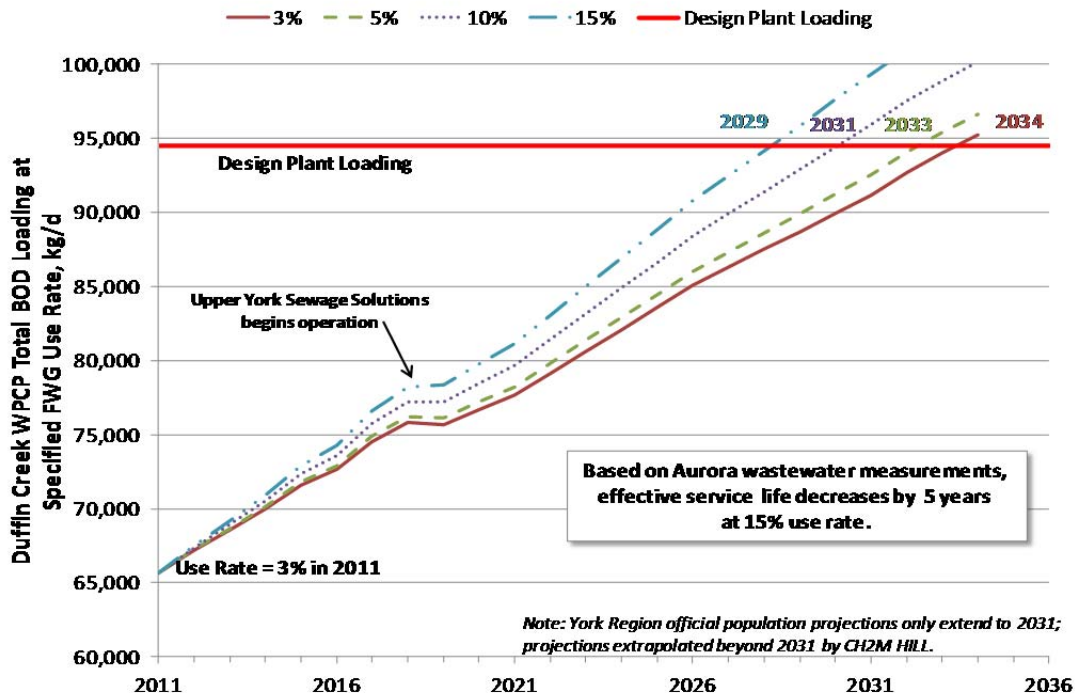


Figure 11: Updated Graph of Influent BOD Loading to Duffin Creek WPCP Based on Aurora Subdivision Sewage Sampling Results



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## 4. Conclusions

A sewage sampling program conducted in an Aurora subdivision over a two-week period in October 2013 found that higher food waste grinder installation rates were associated with higher sewage concentrations.

Based on daily composite sampling data, concentrations of particulate sewage parameters (cBOD<sub>5</sub>, TSS, TKN and TP) were strongly correlated with food waste grinder installation rates. In addition, concentrations of oil and grease also had a good correlation with food waste grinder installation rates.

Hourly sampling data also revealed significant increases in cBOD<sub>5</sub> and TSS concentrations associated with higher food waste grinder installation rates. On a daily basis, there were significant increases in TSS concentrations at 6am and 7pm. These times may be consistent with breakfast and dinner meal preparation and clean-up times associated with commuter-type communities.

For the purposes of comparison, the per capita cBOD<sub>5</sub> loading rate was derived based on the sampling data from the Aurora subdivision to compare to the report “Assessment of the Impacts of Food Waste Grinders on York Region’s Sewage Infrastructure” (CH2M HILL, 2013) previously commissioned by the Region. Based on the sampling data, the biochemical oxygen demand loading from food waste by residents using food waste grinders was calculated to be 46 grams per capita per day over and above the loading due to sanitary waste. This value is consistent with the previous report which estimated a loading of 41 g cBOD<sub>5</sub> per capita per day.

These results support the premise that higher-than-average food waste grinder installation rates have an impact on sewage characteristics. Sewage samples collected in the Aurora Subdivision had increased in concentrations of particulate sewage parameters as well as oil and grease, these increases were significant, and the results supported past impact assessments and technical findings.

## 5. References

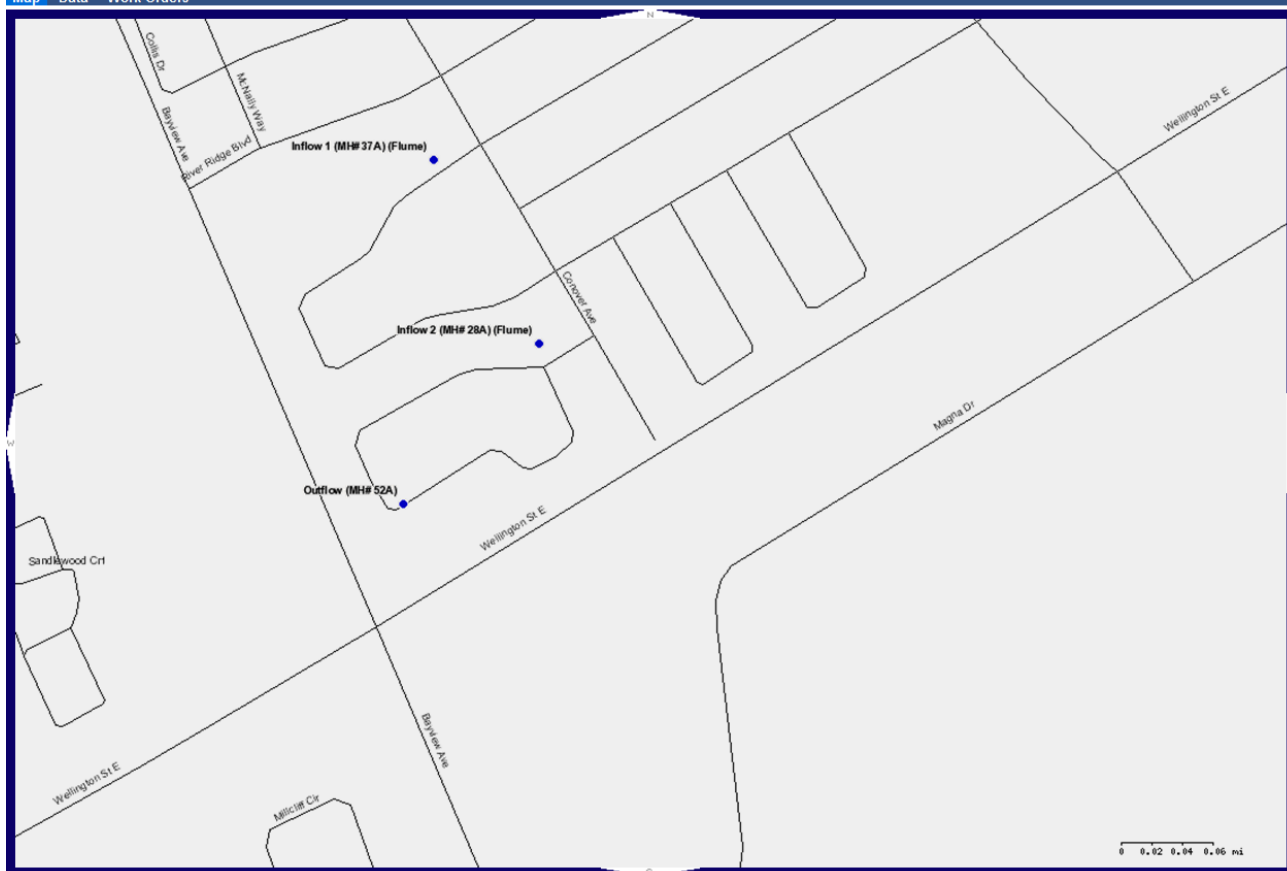
CH2M HILL (2013) Assessment of the Impacts of Food Waste Grinders on York Region’s Sewage Infrastructure. Final Report. Prepared for York Region by CH2M HILL, October 21, 2013.

Environics (2012) York Region Resident Survey on Food Waste Disposal Habits. December 2012.

York Region (2013) Memorandum: Aurora Food Waste Grinder Survey Results. Environmental Services, Environmental Promotion and Protection. November 13, 2013.

# **Appendix A**

## **Site Setup and Calibration Information**



AMG WO #	Site Name	Requestor & Authorization	Dates													
			Request	Accept	Due Date	Completed										
6005023	Inflow 1 (MH# 37A) (Flume)	Julia Tersigni	2013-09-26	2013-09-26	2013-09-28	2013-09-30										
<p>Request: Take down all s-doc information, including site photos and GPS. Install flow monitoring equipment. Complete an on site field verification of the sensors and connectivity to the host server.</p> <p>Work Performed: September 27 2013. Scott and Josh. Recorded all s-doc information. Installed flow monitoring equipment. Verified sensors and connectivity. Completed an F-Cal. Took all site photos.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005023"/></p> <p>Site : <input type="text" value="Inflow 1 (MH# 37A) (Flume)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Sep 27, 2013"/></p>																
<p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>08:57</td> <td>15</td> <td>15</td> <td>100</td> </tr> </tbody> </table> <p><u>Line Graph:</u></p> <p>Depth <input type="checkbox"/> All Sensors <input type="checkbox"/></p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	08:57	15	15	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	08:57	15	15	100												

AMG WO #	Site Name	Requestor & Authorization	Dates													
			Request	Accept	Due Date	Completed										
6005042	Inflow 1 (MH# 37A) (Flume)	Julia Tersigni	2013-10-02	2013-10-02	2013-10-05	2013-10-07										
<p>Request: Verify sensors and connectivity. Completed an F-Cal.</p> <p>Work Performed: October 3 2013. Matt and Kenny. Verified sensors and connectivity. Completed an F-Cal.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005042"/></p> <p>Site : <input type="text" value="Inflow 1 (MH# 37A) (Flume)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Oct 03, 2013"/></p> <hr/> <p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>15:08</td> <td>11</td> <td>11</td> <td>100</td> </tr> </tbody> </table> <p><u>Line Graph:</u></p> <hr/> <p>Depth <input type="checkbox"/> All Sensors <input type="checkbox"/></p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	15:08	11	11	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	15:08	11	11	100												
6005062	Inflow 1 (MH# 37A) (Flume)	Julia Tersigni	2013-10-11	2013-10-15	2013-10-18	2013-10-16										
<p>Request: Verify sensors and connectivity. Complete an F-Cal. Remove flow monitoring equipment.</p> <p>Work Performed: October 15 2013. Scott and Josh. Verified sensors and connectivity. Completed an F-Cal. Removed flow monitoring equipment and flume.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005062"/></p> <p>Site : <input type="text" value="Inflow 1 (MH# 37A) (Flume)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Oct 15, 2013"/></p> <hr/> <p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>08:23</td> <td>15</td> <td>15</td> <td>100</td> </tr> </tbody> </table> <p><u>Line Graph:</u></p> <hr/> <p>Depth <input type="checkbox"/> All Sensors <input type="checkbox"/></p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	08:23	15	15	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	08:23	15	15	100												

AMG WO #	Site Name	Requestor & Authorization	Dates													
			Request	Accept	Due Date	Completed										
6005024	Inflow 2 (MH# 28A) (Flume)	Julia Tersigni	2013-09-26	2013-09-26	2013-09-28	2013-09-30										
<p>Request: Take down all s-doc information, including site photos and GPS. Install flow monitoring equipment. Complete an onsite field verification of the sensors and connectivity to the host server.</p> <p>Work Performed: September 27 2013. Scott and Josh. Recorded all s-doc information. Installed flow monitoring equipment. Verified sensors and connectivity. Completed an F-Cal. Took all site photos.</p>																
<div> <div> <b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b>  Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005024"/>  Site : <input type="text" value="Inflow 2 (MH# 28A) (Flume)"/>  Site SN: <input type="text"/>  Date : <input type="text" value="Sep 27, 2013"/> </div> <div> <b>FCAL Statistics</b>  <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>14:02</td> <td>30</td> <td>30</td> <td>100</td> </tr> </tbody> </table> </div> <div> <b>Line Graph:</b>  <input type="checkbox"/> Depth <input type="checkbox"/> All Sensors </div> </div>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	14:02	30	30	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	14:02	30	30	100												
6005043	Inflow 2 (MH# 28A) (Flume)	Julia Tersigni	2013-10-02	2013-10-02	2013-10-05	2013-10-07										
<p>Request: Verify sensors and connectivity. Completed an F-Cal.</p> <p>Work Performed: October 3 2013. Matt and Kenny. Tightened the loosen stack. Verified sensors and connectivity. Completed an F-Cal.</p>																
<div> <div> <b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b>  Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005043"/>  Site : <input type="text" value="Inflow 2 (MH# 28A) (Flume)"/>  Site SN: <input type="text"/>  Date : <input type="text" value="Oct 03, 2013"/> </div> <div> <b>FCAL Statistics</b>  <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>13:24</td> <td>36</td> <td>36</td> <td>100</td> </tr> </tbody> </table> </div> <div> <b>Line Graph:</b>  <input type="checkbox"/> Depth <input type="checkbox"/> All Sensors </div> </div>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	13:24	36	36	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	13:24	36	36	100												

AMG WO #	Site Name	Requestor & Authorization	Dates													
			Request	Accept	Due Date	Completed										
6005045	Inflow 2 (MH# 28A) (Flume)	Julia Tersigni	2013-10-04	2013-10-04	2013-10-12	2013-10-07										
<p>Request: Install flume. Verify sensors and connectivity. Complete an F-Cal. Take new photos.</p> <p>Work Performed: October 4 2013. Greg and Kenny. Installed 8" flume. Rotated band to avoid ragging and debris. Verified sensors and connectivity. Completed an F-Cal.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005045"/></p> <p>Site : <input type="text" value="Inflow 2 (MH# 28A) (Flume)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Oct 04, 2013"/></p> <hr/> <p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>08:36</td> <td>37</td> <td>37</td> <td>100</td> </tr> </tbody> </table> <p><u>Line Graph:</u></p> <hr/> <p>Depth <input type="checkbox"/> All Sensors <input type="checkbox"/></p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	08:36	37	37	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	08:36	37	37	100												
6005063	Inflow 2 (MH# 28A) (Flume)	Julia Tersigni	2013-10-11	2013-10-15	2013-10-18	2013-10-16										
<p>Request: Verify sensors and connectivity. Complete an F-Cal. Remove flow monitoring equipment.</p> <p>Work Performed: October 15 2013. Scott and Josh. Verified sensors and connectivity. Completed an F-Cal. Removed flow monitoring equipment.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005063"/></p> <p>Site : <input type="text" value="Inflow 2 (MH# 28A) (Flume)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Oct 15, 2013"/></p> <hr/> <p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>10:05</td> <td>33</td> <td>33</td> <td>100</td> </tr> </tbody> </table> <p><u>Line Graph:</u></p> <hr/> <p>Depth <input type="checkbox"/> All Sensors <input type="checkbox"/></p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	10:05	33	33	100
Sensor Type	Time	Actual	Monitor	Accuracy%												
Depth (mm)	10:05	33	33	100												

AMG WO #	Site Name	Requestor & Authorization	Dates																							
			Request	Accept	Due Date	Completed																				
6005025	Outflow (MH# 52A)	Julia Tersigni	2013-09-26	2013-09-26	2013-09-28	2013-09-30																				
<p>Request: Take down all s-doc information, including site photos and GPS. Install flow monitoring equipment. Complete an onsite field verification of the sensors and connectivity to the host server.</p> <p>Work Performed: September 27 2013. Scott and Josh. Recorded all s-doc information. Installed flow monitoring equipment and sampler unit. Verified sensors and connectivity. Completed an F-Cal. Took all site photos.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005025"/></p> <p>Site : <input type="text" value="Outflow (MH# 52A)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Sep 27, 2013"/></p>																										
<p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>10:33</td> <td>65</td> <td>65</td> <td>100</td> </tr> <tr> <td>Velocity (m/s)</td> <td>11:13</td> <td>0.32</td> <td>0.32</td> <td>100</td> </tr> <tr> <td>Flow (mgd)</td> <td>11:13</td> <td>0.079</td> <td>0.079</td> <td>100</td> </tr> </tbody> </table> <p><b>Line Graph:</b></p> <p>Depth <input type="checkbox"/> Velocity <input type="checkbox"/> All Sensors <input type="checkbox"/></p> <p><b>Scatter Plot:</b></p> <p>None vs None</p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	10:33	65	65	100	Velocity (m/s)	11:13	0.32	0.32	100	Flow (mgd)	11:13	0.079	0.079	100
Sensor Type	Time	Actual	Monitor	Accuracy%																						
Depth (mm)	10:33	65	65	100																						
Velocity (m/s)	11:13	0.32	0.32	100																						
Flow (mgd)	11:13	0.079	0.079	100																						
6005044	Outflow (MH# 52A)	Julia Tersigni	2013-10-02	2013-10-02	2013-10-05	2013-10-07																				
<p>Request: Verify sensors and connectivity. Complete an F-Cal.</p> <p>Work Performed: October 3 2013. Matt and Kenny. Removed ragging and debris from sensors. Verified sensors and connectivity. Completed an F-Cal.</p> <p><b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b></p> <p>Project # <input type="text" value="0930510"/> WO# <input type="text" value="6005044"/></p> <p>Site : <input type="text" value="Outflow (MH# 52A)"/></p> <p>Site SN: <input type="text"/></p> <p>Date : <input type="text" value="Oct 03, 2013"/></p>																										
<p><b>FCAL Statistics</b></p> <table border="1"> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>14:34</td> <td>65</td> <td>65</td> <td>100</td> </tr> <tr> <td>Velocity (m/s)</td> <td>14:40</td> <td>0.42</td> <td>0.42</td> <td>100</td> </tr> <tr> <td>Flow (mgd)</td> <td>14:40</td> <td>0.108</td> <td>0.108</td> <td>100</td> </tr> </tbody> </table> <p><b>Line Graph:</b></p> <p>Depth <input type="checkbox"/> Velocity <input type="checkbox"/> All Sensors <input type="checkbox"/></p> <p><b>Scatter Plot:</b></p> <p>None vs None</p>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	14:34	65	65	100	Velocity (m/s)	14:40	0.42	0.42	100	Flow (mgd)	14:40	0.108	0.108	100
Sensor Type	Time	Actual	Monitor	Accuracy%																						
Depth (mm)	14:34	65	65	100																						
Velocity (m/s)	14:40	0.42	0.42	100																						
Flow (mgd)	14:40	0.108	0.108	100																						

AMG WO #	Site Name	Requestor & Authorization	Dates																							
			Request	Accept	Due Date	Completed																				
6005064	Outflow (MH# 52A)	Julia Tersigni	2013-10-11	2013-10-15	2013-10-18	2013-10-16																				
<p>Request: Verify sensors and connectivity. Complete an F-Cal. Remove flow monitoring equipment.</p> <p>Work Performed: October 15 2013 Scott and Josh. Verified sensors and connectivity. Completed an F-Cal. Removed flow monitoring equipment.</p>																										
<div> <div> <b>F-Cal Form</b>  <b>Field Calibration - Verification Form</b>  <b>Project #</b> 0930510  <b>Site :</b> Outflow (MH# 52A)  <b>Site SN:</b>  <b>Date :</b> Oct 15, 2013 </div> <div> <b>WO#</b> 6005064 </div> </div> <div> <b>FCAL Statistics</b>  <table> <thead> <tr> <th>Sensor Type</th> <th>Time</th> <th>Actual</th> <th>Monitor</th> <th>Accuracy%</th> </tr> </thead> <tbody> <tr> <td>Depth (mm)</td> <td>09:18</td> <td>65</td> <td>65</td> <td>100</td> </tr> <tr> <td>Velocity (m/s)</td> <td>09:21</td> <td>0.39</td> <td>0.39</td> <td>100</td> </tr> <tr> <td>Flow (mgd)</td> <td>09:21</td> <td>0.1</td> <td>0.102</td> <td>98.9</td> </tr> </tbody> </table> </div> <div> <b>Line Graph:</b>  Depth <input type="checkbox"/> Velocity <input type="checkbox"/> All Sensors <input type="checkbox"/> </div> <div> <b>Scatter Plot:</b>  None vs None </div>							Sensor Type	Time	Actual	Monitor	Accuracy%	Depth (mm)	09:18	65	65	100	Velocity (m/s)	09:21	0.39	0.39	100	Flow (mgd)	09:21	0.1	0.102	98.9
Sensor Type	Time	Actual	Monitor	Accuracy%																						
Depth (mm)	09:18	65	65	100																						
Velocity (m/s)	09:21	0.39	0.39	100																						
Flow (mgd)	09:21	0.1	0.102	98.9																						



Flow Measurement and Sampling Setup – Inflow 1



Flow Measurement Setup – Inflow 2



## Flow Measurement and Sampling Setup – Outflow



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## **Appendix B Raw Data**



Appendix B contains three tables which each outline the recorded hourly flows, daily composite sampling results and the hourly grab sampling results respectively.

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
9/27/2013 8:00		0.31		10/6/2013 8:00	2.21	0.75	9.67
9/27/2013 9:00		0.42		10/6/2013 9:00	2.18	0.55	7.85
9/27/2013 10:00		0.36	4.38	10/6/2013 10:00	2.60	0.54	9.33
9/27/2013 11:00		0.26	3.54	10/6/2013 11:00	2.00	0.43	7.83
9/27/2013 12:00		0.37	3.79	10/6/2013 12:00	1.98	0.46	7.93
9/27/2013 13:00		0.35	4.40	10/6/2013 13:00	1.53	0.52	5.91
9/27/2013 14:00	0.79	0.26	2.80	10/6/2013 14:00	1.79	0.64	7.53
9/27/2013 15:00	0.98	0.28	2.83	10/6/2013 15:00	1.50	0.63	6.85
9/27/2013 16:00	1.02	0.34	3.01	10/6/2013 16:00	1.56	0.70	6.62
9/27/2013 17:00	1.26	0.44	4.42	10/6/2013 17:00	2.06	0.80	8.80
9/27/2013 18:00	1.49	0.51	5.27	10/6/2013 18:00	2.33	0.94	8.84
9/27/2013 19:00	1.77	0.47	7.38	10/6/2013 19:00	2.42	0.87	10.14
9/27/2013 20:00	1.70	0.59	7.00	10/6/2013 20:00	2.30	0.63	9.36
9/27/2013 21:00	1.67	0.45	5.72	10/6/2013 21:00	1.50	0.55	5.19
9/27/2013 22:00	1.65	0.40	4.17	10/6/2013 22:00	1.08	0.36	3.07
9/27/2013 23:00	1.41	0.23	3.61	10/6/2013 23:00	0.66	0.22	4.53
9/28/2013 0:00	0.98	0.16	2.54	10/7/2013 0:00	0.39	0.16	2.68
9/28/2013 1:00	0.60	0.12	1.76	10/7/2013 1:00	0.44	0.15	2.21
9/28/2013 2:00	0.52	0.14	1.61	10/7/2013 2:00	0.48	0.15	2.91
9/28/2013 3:00	0.44	0.11	1.59	10/7/2013 3:00	0.37	0.18	2.64
9/28/2013 4:00	0.45	0.18	1.48	10/7/2013 4:00	0.51	0.33	3.63
9/28/2013 5:00	0.56	0.15	1.77	10/7/2013 5:00	1.45	0.42	6.91
9/28/2013 6:00	1.27	0.39	4.47	10/7/2013 6:00	2.23	0.64	9.58
9/28/2013 7:00	2.67	0.63	7.98	10/7/2013 7:00	2.07	0.56	8.91
9/28/2013 8:00	2.29	0.52	8.33	10/7/2013 8:00	1.34	0.47	6.74
9/28/2013 9:00	1.81	0.64	6.86	10/7/2013 9:00	1.44	0.39	6.52
9/28/2013 10:00	1.40	0.51	6.43	10/7/2013 10:00	1.09	0.31	5.98
9/28/2013 11:00	1.30	0.49	4.80	10/7/2013 11:00	1.27	0.24	5.75
9/28/2013 12:00	1.24	0.67	5.59	10/7/2013 12:00	1.07	0.20	5.48

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
9/28/2013 13:00	1.22	0.52	5.10	10/7/2013 13:00	0.88	0.26	3.98
9/28/2013 14:00	1.13	0.39	4.35	10/7/2013 14:00	0.85	0.35	5.26
9/28/2013 15:00	1.22	0.39	3.92	10/7/2013 15:00	0.84	0.39	5.13
9/28/2013 16:00	0.97	0.49	4.21	10/7/2013 16:00	1.54	0.36	7.56
9/28/2013 17:00	1.64	0.48	3.54	10/7/2013 17:00	1.73	0.47	7.81
9/28/2013 18:00	1.82	0.63	3.80	10/7/2013 18:00	2.30	0.50	8.19
9/28/2013 19:00	2.01	0.63	5.95	10/7/2013 19:00	2.36	0.63	9.74
9/28/2013 20:00	1.34	0.40	5.40	10/7/2013 20:00	1.85	0.51	9.56
9/28/2013 21:00	1.22	0.33	5.16	10/7/2013 21:00	1.77	0.48	8.92
9/28/2013 22:00	1.12	0.35	4.48	10/7/2013 22:00	1.18	0.37	6.27
9/28/2013 23:00	0.92	0.31	3.57	10/7/2013 23:00	0.71	0.19	4.07
9/29/2013 0:00	0.98	0.16	3.11	10/8/2013 0:00	0.38	0.19	2.56
9/29/2013 1:00	0.58	0.19	2.35	10/8/2013 1:00	0.49	0.27	2.38
9/29/2013 2:00	0.49	0.20	2.32	10/8/2013 2:00	0.68	0.25	3.08
9/29/2013 3:00	0.35	0.10	1.71	10/8/2013 3:00	0.54	0.18	2.59
9/29/2013 4:00	0.24	0.13	1.77	10/8/2013 4:00	0.51	0.29	2.60
9/29/2013 5:00	0.22	0.20	2.18	10/8/2013 5:00	1.48	0.39	5.91
9/29/2013 6:00	0.74	0.25	2.73	10/8/2013 6:00	2.00	0.62	8.92
9/29/2013 7:00	1.47	0.64	5.44	10/8/2013 7:00	1.89	0.47	5.63
9/29/2013 8:00	2.06	0.83	8.47	10/8/2013 8:00	1.19	0.34	5.00
9/29/2013 9:00	2.06	0.55	8.97	10/8/2013 9:00	1.13	0.38	3.93
9/29/2013 10:00	1.99	0.50	9.26	10/8/2013 10:00	1.06	0.29	2.55
9/29/2013 11:00	2.03	0.61	8.15	10/8/2013 11:00	0.89	0.28	2.37
9/29/2013 12:00	1.94	0.49	7.79	10/8/2013 12:00	0.92	0.22	2.86
9/29/2013 13:00	1.53	0.44	5.44	10/8/2013 13:00	0.83	0.30	2.64
9/29/2013 14:00	1.40	0.38	3.54	10/8/2013 14:00	0.81	0.26	3.81
9/29/2013 15:00	1.50	0.41	3.59	10/8/2013 15:00	1.04	0.40	6.26
9/29/2013 16:00	1.41	0.46	3.45	10/8/2013 16:00	1.53	0.29	6.23
9/29/2013 17:00	1.96	0.79	4.89	10/8/2013 17:00	1.97	0.44	8.41
9/29/2013 18:00	2.26	0.48	5.29	10/8/2013 18:00	2.38	0.57	8.50

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
9/29/2013 19:00	2.15	0.67	4.97	10/8/2013 19:00	2.27	0.60	7.19
9/29/2013 20:00	1.82	0.48	4.97	10/8/2013 20:00	2.26	0.59	9.05
9/29/2013 21:00	1.54	0.45	4.74	10/8/2013 21:00	1.79	0.40	7.16
9/29/2013 22:00	1.33	0.32	2.50	10/8/2013 22:00	0.98	0.24	3.93
9/29/2013 23:00	1.23	0.19	1.35	10/8/2013 23:00	0.60	0.24	2.29
9/30/2013 0:00	0.97	0.12	0.94	10/9/2013 0:00	0.51	0.14	2.05
9/30/2013 1:00	0.88	0.11	0.68	10/9/2013 1:00	0.27	0.18	1.58
9/30/2013 2:00	0.69	0.16	0.62	10/9/2013 2:00	0.31	0.17	1.65
9/30/2013 3:00	0.52	0.15	0.66	10/9/2013 3:00	0.35	0.15	1.19
9/30/2013 4:00	0.56	0.32	1.02	10/9/2013 4:00	0.52	0.26	1.87
9/30/2013 5:00	1.64	0.40	4.45	10/9/2013 5:00	1.42	0.37	6.48
9/30/2013 6:00	2.09	0.67	6.42	10/9/2013 6:00	2.40	0.71	10.40
9/30/2013 7:00	1.72	0.50	6.68	10/9/2013 7:00	2.15	0.67	9.31
9/30/2013 8:00	1.45	0.51	4.69	10/9/2013 8:00	1.38	0.49	5.85
9/30/2013 9:00	1.12	0.38	4.69	10/9/2013 9:00	1.21	0.32	5.19
9/30/2013 10:00	1.17	0.34	4.34	10/9/2013 10:00	0.87	0.38	4.75
9/30/2013 11:00	1.25	0.23	4.55	10/9/2013 11:00	0.92	0.23	4.63
9/30/2013 12:00	1.14	0.29	4.59	10/9/2013 12:00	0.97	0.23	4.39
9/30/2013 13:00	0.81	0.27	3.79	10/9/2013 13:00	0.66	0.28	3.47
9/30/2013 14:00	0.83	0.31	3.58	10/9/2013 14:00	0.79	0.28	3.58
9/30/2013 15:00	1.14	0.44	4.55	10/9/2013 15:00	0.97	0.30	4.79
9/30/2013 16:00	1.48	0.48	5.65	10/9/2013 16:00	1.18	0.42	5.56
9/30/2013 17:00	1.62	0.54	6.48	10/9/2013 17:00	1.67	0.59	6.26
9/30/2013 18:00	1.97	0.67	7.83	10/9/2013 18:00	2.23	0.62	8.28
9/30/2013 19:00	1.99	0.76	7.56	10/9/2013 19:00	2.64	0.62	8.26
9/30/2013 20:00	1.79	0.52	5.23	10/9/2013 20:00	2.22	0.64	9.05
9/30/2013 21:00	1.52	0.57	3.05	10/9/2013 21:00	1.46	0.51	8.20
9/30/2013 22:00	1.13	0.44	1.48	10/9/2013 22:00	1.36	0.36	6.29
9/30/2013 23:00	0.83	0.22	2.02	10/9/2013 23:00	0.78	0.18	3.45
10/1/2013 0:00	0.55	0.23	2.39	10/10/2013 0:00	0.52	0.15	2.89

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
10/1/2013 1:00	0.49	0.28	2.40	10/10/2013 1:00	0.43	0.16	2.56
10/1/2013 2:00	0.47	0.30	2.50	10/10/2013 2:00	0.38	0.14	2.43
10/1/2013 3:00	0.41	0.27	2.37	10/10/2013 3:00	0.31	0.19	2.08
10/1/2013 4:00	0.31	0.35	2.51	10/10/2013 4:00	0.58	0.31	3.11
10/1/2013 5:00	1.27	0.49	6.15	10/10/2013 5:00	1.08	0.39	6.03
10/1/2013 6:00	1.78	0.65	6.25	10/10/2013 6:00	2.42	0.65	9.39
10/1/2013 7:00	1.64	0.69	7.83	10/10/2013 7:00	1.78	0.68	8.59
10/1/2013 8:00	1.16	0.55	4.41	10/10/2013 8:00	1.43	0.46	6.58
10/1/2013 9:00	1.57	0.33	4.48	10/10/2013 9:00	1.30	0.33	5.24
10/1/2013 10:00	1.18	0.28	2.74	10/10/2013 10:00	0.98	0.29	5.01
10/1/2013 11:00	1.10	0.36	2.65	10/10/2013 11:00	1.02	0.27	3.98
10/1/2013 12:00	1.25	0.26	2.79	10/10/2013 12:00	0.85	0.30	3.72
10/1/2013 13:00	1.05	0.22	2.00	10/10/2013 13:00	0.79	0.30	2.48
10/1/2013 14:00	0.79	0.27	1.98	10/10/2013 14:00	0.79	0.35	2.61
10/1/2013 15:00	0.84	0.33	3.03	10/10/2013 15:00	1.15	0.36	2.95
10/1/2013 16:00	1.02	0.40	3.16	10/10/2013 16:00	1.33	0.40	3.46
10/1/2013 17:00	1.53	0.50	6.00	10/10/2013 17:00	1.64	0.41	5.03
10/1/2013 18:00	1.85	0.78	7.00	10/10/2013 18:00	1.87	0.63	6.69
10/1/2013 19:00	2.21	0.75	8.48	10/10/2013 19:00	2.11	0.51	6.81
10/1/2013 20:00	1.42	0.58	6.00	10/10/2013 20:00	2.02	0.41	6.60
10/1/2013 21:00	1.25	0.54	6.76	10/10/2013 21:00	1.52	0.43	6.33
10/1/2013 22:00	0.92	0.30	5.07	10/10/2013 22:00	1.48	0.37	6.19
10/1/2013 23:00	0.75	0.15	2.39	10/10/2013 23:00	0.88	0.23	3.61
10/2/2013 0:00	0.45	0.14	1.53	10/11/2013 0:00	0.39	0.14	2.05
10/2/2013 1:00	0.38	0.17	1.28	10/11/2013 1:00	0.36	0.29	2.12
10/2/2013 2:00	0.47	0.16	1.51	10/11/2013 2:00	0.43	0.23	2.10
10/2/2013 3:00	0.27	0.14	1.27	10/11/2013 3:00	0.38	0.15	2.10
10/2/2013 4:00	0.40	0.26	1.53	10/11/2013 4:00	0.41	0.20	2.24
10/2/2013 5:00	1.13	0.40	4.72	10/11/2013 5:00	1.08	0.37	5.30
10/2/2013 6:00	1.68	0.69	7.00	10/11/2013 6:00	1.98	0.53	6.60

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
10/2/2013 7:00	1.44	0.53	5.68	10/11/2013 7:00	1.90	0.47	7.40
10/2/2013 8:00	1.03	0.48	3.70	10/11/2013 8:00	1.67	0.49	6.40
10/2/2013 9:00	2.20	0.40	3.79	10/11/2013 9:00	1.80	0.49	6.42
10/2/2013 10:00	2.21	0.37	2.17	10/11/2013 10:00	1.56	0.49	6.78
10/2/2013 11:00	1.95	0.23	2.42	10/11/2013 11:00	1.50	0.41	5.66
10/2/2013 12:00	1.92	0.22	2.18	10/11/2013 12:00	1.36	0.41	5.88
10/2/2013 13:00	1.14	0.25	1.81	10/11/2013 13:00	1.12	0.36	4.59
10/2/2013 14:00	1.74	0.34	2.27	10/11/2013 14:00	1.19	0.33	4.76
10/2/2013 15:00	1.92	0.35	2.10	10/11/2013 15:00	1.01	0.31	5.42
10/2/2013 16:00	1.91	0.46	2.54	10/11/2013 16:00	1.50	0.38	6.05
10/2/2013 17:00	1.72	0.45	6.08	10/11/2013 17:00	1.66	0.49	6.92
10/2/2013 18:00	1.77	0.57	7.53	10/11/2013 18:00	1.84	0.50	7.58
10/2/2013 19:00	1.84	0.63	8.39	10/11/2013 19:00	2.10	0.37	6.75
10/2/2013 20:00	2.14	0.57	5.13	10/11/2013 20:00	1.84	0.39	6.13
10/2/2013 21:00	1.55	0.52	5.15	10/11/2013 21:00	1.32	0.44	6.10
10/2/2013 22:00	1.40	0.35	3.82	10/11/2013 22:00	1.28	0.30	5.42
10/2/2013 23:00	0.70	0.20	1.67	10/11/2013 23:00	1.05	0.21	4.24
10/3/2013 0:00	0.35	0.21	1.51	10/12/2013 0:00	0.64	0.19	2.64
10/3/2013 1:00	0.39	0.27	0.96	10/12/2013 1:00	0.49	0.19	2.01
10/3/2013 2:00	0.46	0.24	1.71	10/12/2013 2:00	0.45	0.20	1.73
10/3/2013 3:00	0.50	0.16	1.09	10/12/2013 3:00	0.32	0.16	1.34
10/3/2013 4:00	0.65	0.31	1.08	10/12/2013 4:00	0.32	0.17	1.17
10/3/2013 5:00	1.39	0.46	2.93	10/12/2013 5:00	0.51	0.27	1.30
10/3/2013 6:00	1.92	0.70	9.58	10/12/2013 6:00	0.94	0.23	2.29
10/3/2013 7:00	1.36	0.64	8.24	10/12/2013 7:00	1.80	0.55	7.00
10/3/2013 8:00	1.00	0.39	3.43	10/12/2013 8:00	2.65	0.61	7.18
10/3/2013 9:00	0.82	0.42	2.07	10/12/2013 9:00	2.82	0.56	7.26
10/3/2013 10:00	0.73	0.26	1.82	10/12/2013 10:00	2.88	0.52	6.31
10/3/2013 11:00	0.58	0.39	2.59	10/12/2013 11:00	2.32	0.58	4.47
10/3/2013 12:00	0.83	0.27	4.39	10/12/2013 12:00	2.04	0.36	5.52



TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
10/3/2013 13:00	1.23	0.43	5.58	10/12/2013 13:00	1.42	0.36	5.44
10/3/2013 14:00	1.36	0.38	5.74	10/12/2013 14:00	1.33	0.37	4.72
10/3/2013 15:00	1.45	0.46	5.69	10/12/2013 15:00	1.68	0.48	5.83
10/3/2013 16:00	1.63	0.45	6.61	10/12/2013 16:00	1.66	0.50	5.77
10/3/2013 17:00	1.74	0.41	5.95	10/12/2013 17:00	1.44	0.48	6.13
10/3/2013 18:00	1.88	0.70	9.53	10/12/2013 18:00	1.73	0.50	5.83
10/3/2013 19:00	2.42	0.59	9.99	10/12/2013 19:00	1.68	0.49	6.47
10/3/2013 20:00	2.02	0.62	9.88	10/12/2013 20:00	1.46	0.39	6.17
10/3/2013 21:00	1.73	0.67	8.68	10/12/2013 21:00	1.33	0.39	5.39
10/3/2013 22:00	1.55	0.32	6.85	10/12/2013 22:00	1.12	0.45	4.80
10/3/2013 23:00	1.29	0.23	4.25	10/12/2013 23:00	1.11	0.32	4.25
10/4/2013 0:00	1.13	0.20	2.79	10/13/2013 0:00	0.68	0.22	2.76
10/4/2013 1:00	0.96	0.18	2.47	10/13/2013 1:00	0.53	0.19	2.99
10/4/2013 2:00	0.90	0.17	2.17	10/13/2013 2:00	0.55	0.16	2.80
10/4/2013 3:00	0.86	0.17	2.12	10/13/2013 3:00	0.47	0.13	2.31
10/4/2013 4:00	0.89	0.35	2.37	10/13/2013 4:00	0.32	0.15	2.43
10/4/2013 5:00	1.60	0.49	3.69	10/13/2013 5:00	0.29	0.16	1.79
10/4/2013 6:00	1.82	0.66	7.29	10/13/2013 6:00	0.69	0.20	2.31
10/4/2013 7:00	1.86	0.60	8.68	10/13/2013 7:00	1.44	0.49	4.62
10/4/2013 8:00	1.33	0.42	6.48	10/13/2013 8:00	1.85	0.83	6.15
10/4/2013 9:00	1.32	0.39	5.36	10/13/2013 9:00	2.67	0.70	8.53
10/4/2013 10:00	0.94	0.29	4.47	10/13/2013 10:00	2.68	0.78	9.14
10/4/2013 11:00	1.19	0.34	4.54	10/13/2013 11:00	2.37	0.60	8.28
10/4/2013 12:00	1.20	0.35	5.58	10/13/2013 12:00	2.10	0.74	7.68
10/4/2013 13:00	1.01	0.27	5.67	10/13/2013 13:00	2.03	0.40	6.76
10/4/2013 14:00	0.98	0.28	5.01	10/13/2013 14:00	2.09	0.61	6.92
10/4/2013 15:00	1.10	0.38	5.51	10/13/2013 15:00	2.05	0.53	6.94
10/4/2013 16:00	1.45	0.39	7.02	10/13/2013 16:00	1.75	0.54	6.50
10/4/2013 17:00	1.68	0.63	7.61	10/13/2013 17:00	2.13	0.49	7.31
10/4/2013 18:00	2.02	0.53	8.65	10/13/2013 18:00	1.82	0.54	6.60

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
10/4/2013 19:00	2.15	0.58	8.42	10/13/2013 19:00	1.88	0.52	6.51
10/4/2013 20:00	1.50	0.62	7.94	10/13/2013 20:00	1.52	0.55	7.06
10/4/2013 21:00	1.66	0.43	7.58	10/13/2013 21:00	1.58	0.62	6.94
10/4/2013 22:00	1.08	0.40	5.09	10/13/2013 22:00	1.31	0.44	5.94
10/4/2013 23:00	0.79	0.37	4.80	10/13/2013 23:00	1.28	0.30	5.36
10/5/2013 0:00	0.51	0.27	3.65	10/14/2013 0:00	0.92	0.21	3.08
10/5/2013 1:00	0.40	0.25	2.86	10/14/2013 1:00	0.65	0.19	1.68
10/5/2013 2:00	0.38	0.27	2.77	10/14/2013 2:00	0.64	0.22	1.63
10/5/2013 3:00	0.39	0.18	2.50	10/14/2013 3:00	0.38	0.17	2.50
10/5/2013 4:00	0.20	0.18	2.56	10/14/2013 4:00	0.28	0.15	2.05
10/5/2013 5:00	0.43	0.24	2.52	10/14/2013 5:00	0.31	0.21	2.37
10/5/2013 6:00	0.95	0.33	5.27	10/14/2013 6:00	0.52	0.23	3.32
10/5/2013 7:00	1.58	0.63	7.85	10/14/2013 7:00	1.34	0.50	5.64
10/5/2013 8:00	2.06	0.67	8.62	10/14/2013 8:00	2.12	0.64	8.35
10/5/2013 9:00	2.15	0.73	9.36	10/14/2013 9:00	3.20	0.53	9.49
10/5/2013 10:00	2.03	0.75	9.57	10/14/2013 10:00	2.84	0.74	9.38
10/5/2013 11:00	2.08	0.41	9.42	10/14/2013 11:00	2.71	0.55	8.68
10/5/2013 12:00	2.09	0.47	8.84	10/14/2013 12:00	2.16	0.55	5.73
10/5/2013 13:00	2.05	0.63	7.02	10/14/2013 13:00	2.11	0.49	6.51
10/5/2013 14:00	1.64	0.40	4.93	10/14/2013 14:00	1.98	0.37	6.09
10/5/2013 15:00	1.59	0.38	5.73	10/14/2013 15:00	2.00	0.56	6.29
10/5/2013 16:00	1.72	0.39	5.60	10/14/2013 16:00	1.81	0.48	4.90
10/5/2013 17:00	1.78	0.54	3.98	10/14/2013 17:00	2.05	0.64	6.45
10/5/2013 18:00	1.96	0.58	4.84	10/14/2013 18:00	2.42	0.64	5.99
10/5/2013 19:00	1.96	0.65	5.87	10/14/2013 19:00	2.55	0.73	7.07
10/5/2013 20:00	1.92	0.50	5.84	10/14/2013 20:00	2.01	0.66	7.80
10/5/2013 21:00	1.49	0.35	5.94	10/14/2013 21:00	1.51	0.42	6.33
10/5/2013 22:00	1.22	0.37	5.15	10/14/2013 22:00	1.13	0.34	5.02
10/5/2013 23:00	0.63	0.30	3.60	10/14/2013 23:00	0.77	0.28	3.81
10/6/2013 0:00	0.52	0.27	2.91	10/15/2013 0:00	0.49	0.20	2.67

TABLE B-1

**Aurora Sewage Sampling Program Raw Data***Recorded Hourly Flow (L/s)*

Time Stamp (EST)	Manhole 28A (Device: Flume)	Manhole 37A (Device: Flume)	Manhole 52A (Device: AV)	Time Stamp (EST)	Manhole 28A	Manhole 37A	Manhole 52A
10/6/2013 1:00	0.51	0.15	2.24	10/15/2013 1:00	0.37	0.17	2.53
10/6/2013 2:00	0.55	0.20	1.84	10/15/2013 2:00	0.44	0.23	2.84
10/6/2013 3:00	0.33	0.29	1.34	10/15/2013 3:00	0.36	0.29	2.96
10/6/2013 4:00	0.25	0.19	0.97	10/15/2013 4:00	0.62	0.30	4.02
10/6/2013 5:00	0.36	0.22	1.32	10/15/2013 5:00	1.53	0.40	7.09
10/6/2013 6:00	0.71	0.24	2.84	10/15/2013 6:00	2.22	0.72	9.16
10/6/2013 7:00	1.49	0.49	6.18	10/15/2013 7:00	1.90	0.56	7.48
				10/15/2013 8:00	1.24	0.55	4.77
				10/15/2013 9:00	1.52		3.50
				10/15/2013 10:00	1.01		

TABLE B-2

**Aurora Sewage Sampling Program Raw Data***Daily Composite Sampling Results*

Date	Sample ID	Soluble cBOD5 (mg/L)	Soluble TKN (mg N/L)	Soluble TP (mg P/L)	cBOD5 (mg/L)	Oil & Grease (mg/L)	TSS (mg/L)	Fixed SS (mg/L)	Volatile SS (mg/L)	TKN (mg N/L)	TP (mg P/L)
9/29/2013	36A	58.1	78.6	4.76	124	38	158	14	144	85.4	6.26
9/29/2013	51A	95.1	91.7	5.8	224	51	267	15.4	251	101.0	8.12
9/29/2013	52A	63.3	58.4	3.55	146	46	284	19.4	265	64.4	4.87
9/30/2013	36A	97.3	85.4	6	156	34	169	14.4	154	92.6	7.84
9/30/2013	51A	114	84.6	6.64	354	67	504	42.6	462	96.0	10.0
9/30/2013	52A	81.5	47.9	2.94	164	42	218	16.4	201	55.6	4.38
10/1/2013	36A	69.1	50.9	3.05	154	31	203	12.4	191	60.1	4.85
10/1/2013	51A	70.1	67.3	4.36	184	41	242	33.8	208	78.0	6.71
10/1/2013	52A	74.5	56.8	3.66	134	53	294	18.8	276	68.1	5.88
10/2/2013	36A	56	49.8	3.52	115	24	144	10.2	134	57.2	5.00
10/2/2013	51A	82.1	41.1	3.66	196	28	208	15.4	193	52.5	5.98
10/2/2013	52A	62.8	43	3.11	148	40	213	8.2	204	55.1	5.32
10/3/2013	36A	104	58	4.64	159	39	185	16	169	64.9	6.77
10/3/2013	51A	85.8	69	5.85	192	35	295	24	271	77.5	8.38

TABLE B-2

**Aurora Sewage Sampling Program Raw Data***Daily Composite Sampling Results*

Date	Sample ID	Soluble cBOD5 (mg/L)	Soluble TKN (mg N/L)	Soluble TP (mg P/L)	cBOD5 (mg/L)	Oil & Grease (mg/L)	TSS (mg/L)	Fixed SS (mg/L)	Volatile SS (mg/L)	TKN (mg N/L)	TP (mg P/L)
10/3/2013	52A	73	44	3.35	154	32	191	11.8	179	50.3	4.90
10/4/2013	36A	160	55	4.15	211	25	113	5.2	108	60.2	5.39
10/4/2013	51A	102	54.6	4.75	208	43	287	25.6	261	68.4	7.67
10/4/2013	52A	90.8	48	3.72	185	39	208	11.6	196	58.9	5.76
10/5/2013	36A	82.3	41.6	3.45	124	20	113	4.4	109	47.6	4.69
10/5/2013	51A	156	81.9	6.57	196	41	358	21.2	337	92.4	9.17
10/5/2013	52A	79.5	56.1	3.94	147	27	197	10.8	186	63.1	5.52

TABLE B-3

**Aurora Sewage Sampling Program Raw Data***Hourly Grab Sampling Results*

Date	Time	Manhole 36A		Manhole 51A		Manhole 52A	
		cBOD <sub>5</sub> (mg/L)	TSS (mg/L)	cBOD <sub>5</sub> (mg/L)	TSS (mg/L)	cBOD <sub>5</sub> (mg/L)	TSS (mg/L)
Saturday, October 05, 2013	11:00 AM	65.7	73	92.7	112	194	59.3
Saturday, October 05, 2013	2:00 PM	174	361	187	247	241	238
Saturday, October 05, 2013	5:00 PM	27.9	40.1	138	88.3	190	93.5
Saturday, October 05, 2013	6:00 PM	316	54.6	565	184	193	189
Saturday, October 05, 2013	7:00 PM	120	115	188	317	220	325
Saturday, October 05, 2013	8:00 PM	217	186	199	276		
Saturday, October 05, 2013	11:00 PM	81	68.8	77.4	157	186	399
Sunday, October 06, 2013	2:00 AM	114	184	121	37.1	208	413
Sunday, October 06, 2013	5:00 AM	40.8	38.3	193	501	176	105
Sunday, October 06, 2013	6:00 AM	90.9	94.9	108	308	184	287
Sunday, October 06, 2013	7:00 AM	6	40.7	66	103	236	277
Sunday, October 06, 2013	8:00 AM	163	125	58.5	50.8	161	54.2
Sunday, October 06, 2013	11:00 AM	115	26.8	334	56.8	196	220
Sunday, October 06, 2013	2:00 PM	116	35.6	110	86.2	259	199
Sunday, October 06, 2013	5:00 PM	159	73.7	172	114	205	191
Sunday, October 06, 2013	6:00 PM	178	74	69.9	68.8	199	113
Sunday, October 06, 2013	7:00 PM	170	43.8	1,770	85.8	202	128
Sunday, October 06, 2013	8:00 PM	165	55.7	235	65	187	161
Sunday, October 06, 2013	11:00 PM	99.9	33.5	412	372	191	183
Monday, October 07, 2013	2:00 AM	41.1	27.8	81.3	447	124	216
Monday, October 07, 2013	5:00 AM	152	264	199	112	182	341
Monday, October 07, 2013	6:00 AM	72.9	90.5	141	76	183	219
Monday, October 07, 2013	7:00 AM	174	70.3	196	79.1	146	108
Monday, October 07, 2013	8:00 AM	94.2	65.5	180	102	144	189
Monday, October 07, 2013	11:00 AM	114	64.6	151	77.8	135	36.3
Monday, October 07, 2013	2:00 PM	210	475	211	819	110	77.6
Monday, October 07, 2013	5:00 PM	289	108	661	225	182	301
Monday, October 07, 2013	6:00 PM	148	394	106	809	193	277
Monday, October 07, 2013	7:00 PM	151	58.7	742	234	154	159
Monday, October 07, 2013	8:00 PM	268	465	169	148	126	154
Monday, October 07, 2013	11:00 PM	175	116	190	63.2	52.6	32

TABLE B-3

**Aurora Sewage Sampling Program Raw Data***Hourly Grab Sampling Results*

Date	Time	Manhole 36A		Manhole 51A		Manhole 52A	
		cBOD <sub>5</sub> (mg/L)	TSS (mg/L)	cBOD <sub>5</sub> (mg/L)	TSS (mg/L)	cBOD <sub>5</sub> (mg/L)	TSS (mg/L)
Tuesday, October 08, 2013	2:00 AM	185	75	289	168	43.3	39.9
Tuesday, October 08, 2013	5:00 AM	65.5	258			61.9	189
Tuesday, October 08, 2013	6:00 AM	24.1	52.2	111	138	120	358
Tuesday, October 08, 2013	7:00 AM	211	692	201	165	147	175
Tuesday, October 08, 2013	8:00 AM	108	285	197	323	225	345
Tuesday, October 08, 2013	11:00 AM	176	333	321	608	153	273
Tuesday, October 08, 2013	2:00 PM	56.4	23.3	180	206	123	135
Tuesday, October 08, 2013	5:00 PM	406	198	111	218	169	197
Tuesday, October 08, 2013	6:00 PM	175	124	249	680	150	212
Tuesday, October 08, 2013	7:00 PM	178	153	171	279	195	172
Tuesday, October 08, 2013	8:00 PM	165	76.8	180	273	168	262
Tuesday, October 08, 2013	11:00 PM	172	49.5	948	1,060	90.3	84.8
Wednesday, October 09, 2013	2:00 AM	13.2	39.8	156	307	99.3	151
Wednesday, October 09, 2013	5:00 AM	37.8	123	32.1	66	131	130
Wednesday, October 09, 2013	6:00 AM	18.9	44.1	25.8	98.8	103	124
Wednesday, October 09, 2013	7:00 AM	79.8	284	150	182	78.6	26.9
Wednesday, October 09, 2013	8:00 AM	837	1,980	100	126	183	250
Wednesday, October 09, 2013	11:00 AM	216	226	214	279	156	140
Wednesday, October 09, 2013	2:00 PM	130	236	357	569	179	145
Wednesday, October 09, 2013	5:00 PM	152	222	423	363	190	137
Wednesday, October 09, 2013	6:00 PM	178	182	119	76.6	172	183
Wednesday, October 09, 2013	7:00 PM	564	426	228	110	165	135
Wednesday, October 09, 2013	8:00 PM	94.5	285	405	706	142	141
Wednesday, October 09, 2013	11:00 PM	132	333	843	656	108	171
Thursday, October 10, 2013	2:00 AM	211	80	80	162	44.1	98.3
Thursday, October 10, 2013	5:00 AM	73.5	152	219	851	111	256
Thursday, October 10, 2013	6:00 AM	63.9	63.2	79	101	103	124
Thursday, October 10, 2013	7:00 AM	90.9	45.1	212	160	217	217
Thursday, October 10, 2013	8:00 AM	151	102	193	161	135	172
Thursday, October 10, 2013	11:00 AM	163	158	105	220	153	227
Thursday, October 10, 2013	2:00 PM	82.7	59.1	60	95	140	131

TABLE B-3

**Aurora Sewage Sampling Program Raw Data***Hourly Grab Sampling Results*

Date	Time	Manhole 36A		Manhole 51A		Manhole 52A	
		cBOD <sub>5</sub> (mg/L)	TSS (mg/L)	cBOD <sub>5</sub> (mg/L)	TSS (mg/L)	cBOD <sub>5</sub> (mg/L)	TSS (mg/L)
Thursday, October 10, 2013	5:00 PM	115	79.8	186	579	173	264
Thursday, October 10, 2013	6:00 PM	159	79.7	122	156	180	327
Thursday, October 10, 2013	7:00 PM	687	292	84	261	198	282
Thursday, October 10, 2013	8:00 PM	128	58.2	64	81	147	116
Thursday, October 10, 2013	11:00 PM	78.2	47.3	144	244	131	43.8
Friday, October 11, 2013	2:00 AM	14	46.6	83	315	70.4	63.9
Friday, October 11, 2013	5:00 AM	20.6	30.2	138	224	78.1	156
Friday, October 11, 2013	6:00 AM	44.9	44.8	87	211	164	331
Friday, October 11, 2013	7:00 AM	117	213	166	161	91.4	132
Friday, October 11, 2013	8:00 AM	67.1	81.9	167	199	182	233
Friday, October 11, 2013	11:00 AM	156	84	677	1,360	159	251
Friday, October 11, 2013	2:00 PM	79.6	110	80	181	195	232
Friday, October 11, 2013	5:00 PM	179	492	49	50	153	220
Friday, October 11, 2013	6:00 PM	153	224	39	73	150	67.8
Friday, October 11, 2013	7:00 PM	123	114	201	591	182	252
Friday, October 11, 2013	8:00 PM	165	100	78	76	347	89.4
Friday, October 11, 2013	11:00 PM	45.1	64.8	55	91	149	169
Saturday, October 12, 2013	2:00 AM	149	372	37	81	79	96.2
Saturday, October 12, 2013	5:00 AM	141	694	12	62	160	243
Saturday, October 12, 2013	6:00 AM	96.7	247	198	610	122	267
Saturday, October 12, 2013	7:00 AM	29.2	49.3	64	80	292	205
Saturday, October 12, 2013	8:00 AM	165	250	116	82	383	373

## **Appendix C**

# **Calculations and Assumptions**



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## Standard Deviation

The standard deviation of a set of values is a measure of the variability of the data. If all of the data are relatively similar, the standard deviation will be low. If the data are highly variable, meaning that the values are not consistent, the standard deviation of that data would be high.

The standard deviation is calculated as follows:

$$\sigma = \sqrt{\frac{\sum (x_n - x_{Avg})^2}{n-1}}$$

Where  $\sigma$  is the standard deviation of the dataset  
 $\Sigma$  represents the summation of all items from 1 to n  
 $n$  represents the number of values in the dataset  
 $x_n$  represents the values in the dataset  
 $x_{Avg}$  represents the average of the values in the dataset

Standard deviations were calculated using the Microsoft Excel function STDEV.

For example, we will calculate the standard deviation of the following seven values: 158 mg/L, 169 mg/L, 203 mg/L, 144 mg/L, 185 mg/L, 113 mg/L, 113 mg/L. Note these are the daily composite TSS concentrations measure at Manhole 36A during the first week of sampling.

$$\begin{aligned}\text{Average, } x_{Avg} &= 158 \text{ mg/L} + 169 \text{ mg/L} + 203 \text{ mg/L} + 144 \text{ mg/L} + 185 \text{ mg/L} + 113 \text{ mg/L} + 113 \text{ mg/L} / 7 \\ &= 1,085 \text{ mg/L} / 7 \\ &= 155 \text{ mg/L}\end{aligned}$$

## 95 Percent Confidence Interval

In order to determine if differences between two sets of data are statistically significant, the 95 percent confidence interval of the average was determined. It was assumed the data are normally distributed. Two values are considered significantly different (statistically) if their 95 percent confidence intervals do not overlap.

The 95 percent confidence interval is calculated as follows:

$$= \frac{1.96 \cdot \sigma}{\sqrt{n}}$$

For example, for the following seven values, 158 mg/L, 169 mg/L, 203 mg/L, 144 mg/L, 185 mg/L, 113 mg/L, 113 mg/L, the 95 percent confidence interval is:

$$\begin{aligned}\text{Average} &= 155 \text{ mg/L} \\ \text{Standard deviation} &= 34.3 \text{ mg/L} \\ \text{95 percent confidence interval} &= (1.96 \cdot 34.3 \text{ mg/L}) / \sqrt{7} \\ &= 25 \text{ mg/L}\end{aligned}$$

Therefore, one expects the average value to lie between 130 mg/L and 180 mg/L with 95 percent confidence.

## Differential Concentration

Differential concentration measures the change in concentration of a parameter in one location in comparison to a reference location. Usually it is the effluent concentration compared to the influent concentration.

The differential concentration is calculated as follows:

$$\text{Differential Concentration} = \text{Effluent Concentration} - \text{Influent Concentration}$$

Note that differential concentration can be a negative value if the effluent concentration is lower than the influent concentration. For example, if the effluent concentration is 158 mg/L and the influent concentration is 267 mg/L, then the differential concentration is -109 mg/L.

## Percent Increase

Percent increase measures the percentage change of a parameter in one location in comparison to a reference location. Typically it was the outflow concentration compared to the inflow concentration. The percent increase is expressed as a percentage and calculated as follows:

$$\text{Percent Increase} = \left( \frac{\text{Outflow Concentration}}{\text{Inflow Concentration}} - 1 \right) \times 100\%$$

If the outflow concentration is equal to the inflow concentration, then the percent increase is equal to zero. A percent increase of 50 percent means the outflow concentration is 50 percent higher than the inflow. Note the percent increase can be negative if the outflow concentration is lower than the inflow.

## Food Waste Grinder Installation Rates

The Region's resident survey (York Region, 2013) asked 42 of the 73 households that had Food waste grinders installed at construction if they had a food waste grinder installed – 35 households still had a food waste grinder installed, yielding an installation rate of approximately 83 percent for households that had Food waste grinders installed during construction.

Conversely, only six of the 81 households that did not have food waste grinders installed at construction responded to the resident survey that they have a food waste grinder installed; yielding a 7.4 percent installation rate for households that did not have food waste grinders installed during construction (control area). The 7.4 percent installation rate is similar to the results of a 2012 telephone survey (Environics, 2012) that found approximately nine percent of Region households have Food waste grinders installed. It was assumed that the area upstream of the Aurora Subdivision had food waste grinders installed at the Regional-average value of nine percent.

Based on the inflow and outflow monitoring manhole locations, there was a total of 280 households considered as part of the Aurora Subdivision. Of these, 73 were homes where food waste grinders were originally installed at construction and 207 were homes where food waste grinders were not installed during construction.

Therefore, the estimated overall food waste grinder installation rate for the Aurora Subdivision is:

$$= (73 \text{ households that had food waste grinders installed at construction} \times 83 \text{ percent current installation rate} + 207 \text{ households that did not have food waste grinders installed at construction} \times 7.4 \text{ percent current installation rate}) / 280 \text{ total households}$$

$$= 27 \text{ percent}$$

The flow monitoring data indicated the outflow from the subdivision was on average 2.9 times the inflow. That is, flow out of the subdivision was 74.4 percent from the subdivision itself and 25.6 percent from the upstream area. This allows calculation of the food waste grinder installation rate corresponding to the outflow monitoring location (Manhole 52A):

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= (25.6 percent upstream flow x 9 percent assumed installation rate) + (74.4 percent Aurora Subdivision flow x 27 percent installation rate)

= 22.4 percent

The installation rate at high food waste grinder location (Manhole 51A) is based on 15 houses at the 83 percent installation rate and 12 houses at the 7.4 percent installation rate:

= (15 households that had food waste grinders installed at construction x 83 percent installation rate + 12 households that did not have food waste grinders installed at construction x 7.4 percent installation rate) / 27 total households

= 49 percent

## Per Capita Flow

The Region's resident survey (York Region, 2013) of the Aurora Subdivision yielded an average household population of 3.4 people per household. This value is similar to the Regional average and corresponds to an estimated population of 952 people living in the monitored subdivision.

Per capita flow measured for the Aurora Subdivision was calculated as:

$$\text{Per Capita Flow} = \frac{\text{Total Outflow} - \text{Inflow 1} - \text{Inflow 2}}{952} \times 86,400 \text{ s/day}$$

where flows are in L/s.

## Per Capita Loading

Per capita loadings were developed as:

$$= \frac{\text{Concentration (mg/L)} \times \text{Per Capita Flow Rate (L/capita/day)}}{10^3 \text{ (mg/g)}}$$

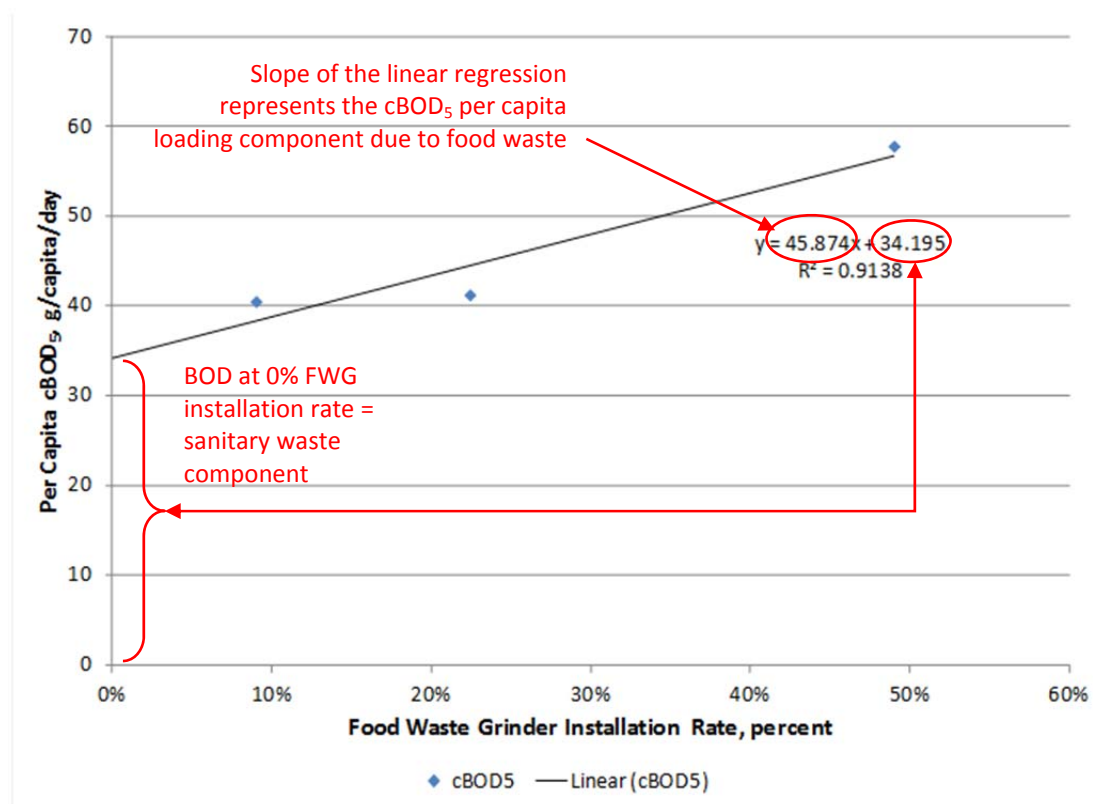
For example, the composite cBOD<sub>5</sub> concentration measured on September 29, 2013 was 124 mg/L. The per capita flow measured on that day was 249 L/capita/day.

Therefore, the daily per capita cBOD<sub>5</sub> loading is = (124 mg/L x 249 L/capita/day) / 10<sup>3</sup> mg/g  
= 31 g/capita/day

This per capita calculation assumes all households within the subdivision generate the same wastewater volume.

## Determination of Per Capita BOD Loading due to Food Waste

The per capita total BOD loading was plotted at three different food waste grinder installation rates as illustrated below:



The regression line is of the form  $y = mx + b$  where  $y$  is the per capita BOD loading,  $m$  is the slope of the line,  $x$  is the FWG installation rate and  $b$  is the y-intercept (the per capita BOD at 0% FWG installation rate). The y-intercept of the linear regression line provides the per capita loading at zero percent food waste grinder installation rate (i.e. concentration due only to sanitary waste) and the slope of the linear regression line provides the per capita loading due to food waste. This latter result is derived as follows:

Overall per capita BOD at a FWG Installation Rate =

(fraction homes with FWG)(Total per capita BOD with FWG) +

(fraction of homes without FWG)(Total per capita BOD without FWG)

The overall per capita BOD at a given FWG installation rate is determined from the linear regression ( $mx+b$ ).

The total per capita BOD with a FWG is equal to the food waste BOD component plus the sanitary sewage component.

The total per capita BOD without a FWG installed is equal to the sanitary sewage component i.e. the y-intercept  $b$ .

Substituting these into the equation yields:

$$mx + b = (x)(\text{BOD due to Food Waste} + b) + (1-x)(b)$$

Rearranging and solving for BOD due to food waste yields:

$$\text{BOD due to food waste} = m$$

As seen from the figure, the per capita BOD component due to food waste was found to be 46 g/capita/day.

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## **Appendix D**

# **Additional Results and Figures**

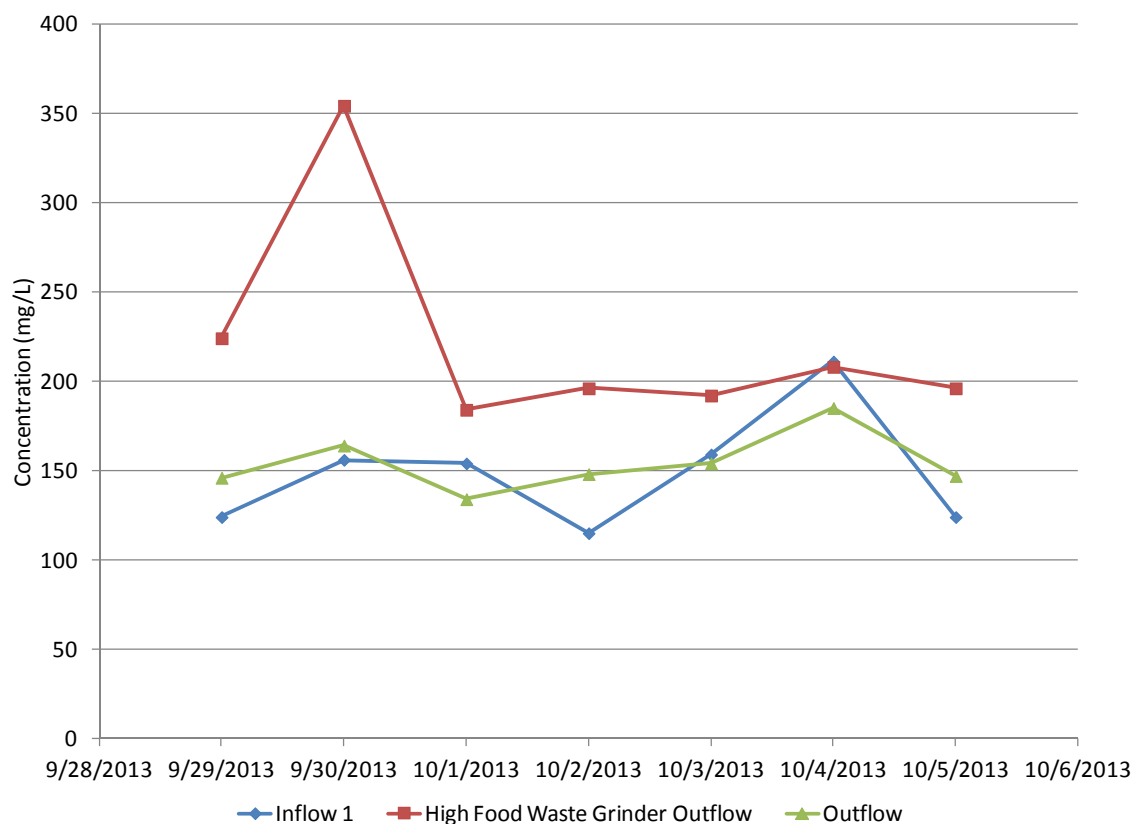
**Week One: Daily Composite Samples**

Figure 12: Daily Composite Sampling cBOD<sub>5</sub> Concentrations

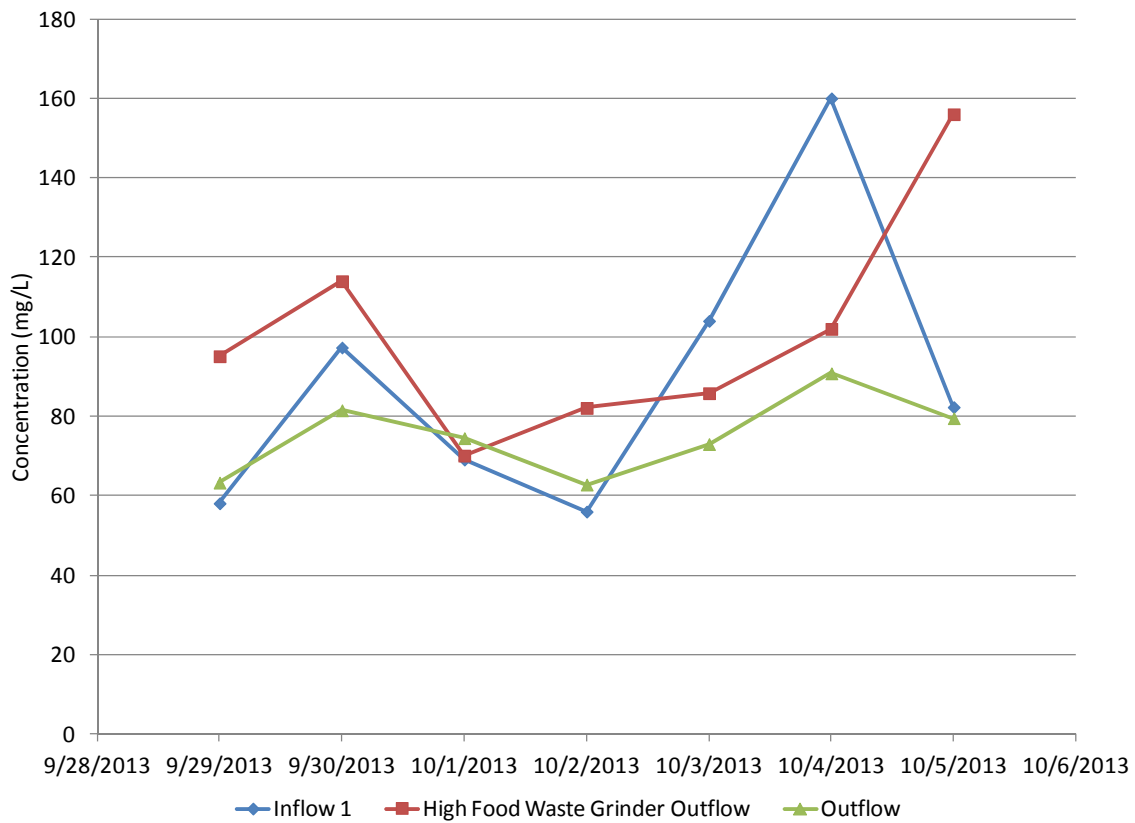


Figure 13: Daily Composite Sampling Filtered cBOD<sub>5</sub> Concentrations

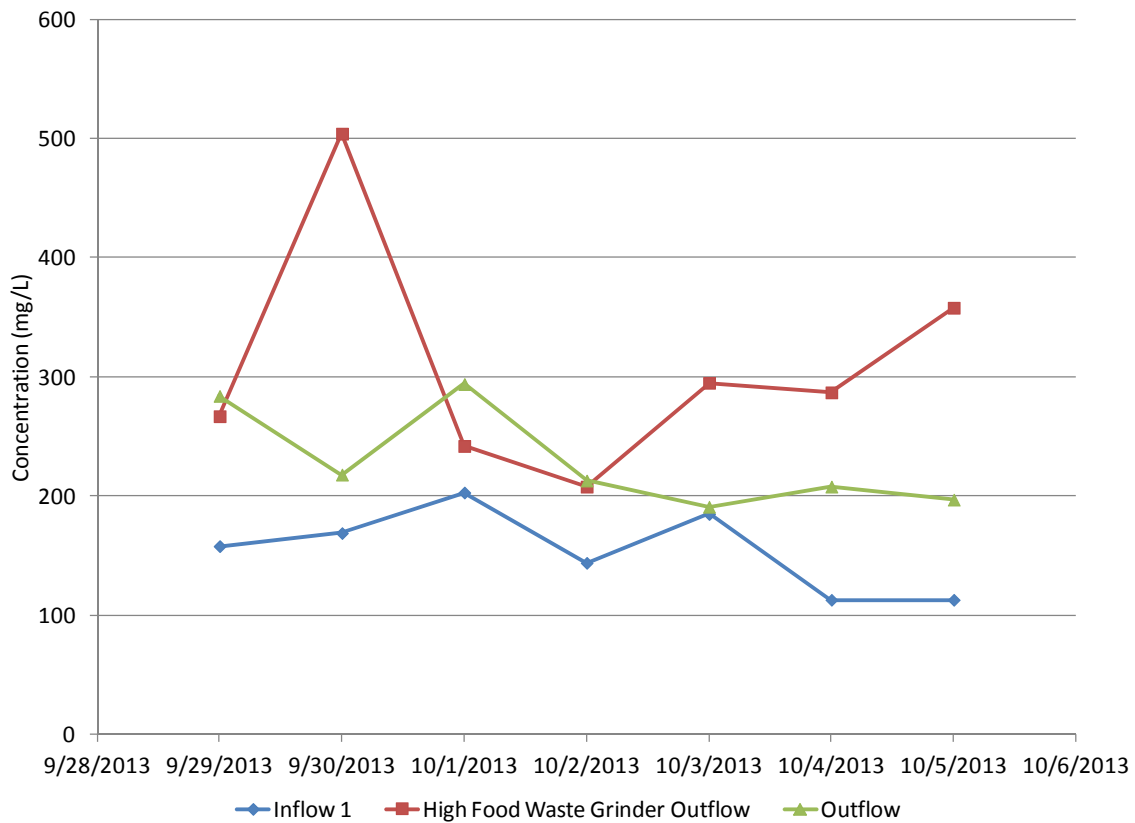


Figure 14: Daily Composite Sampling TSS Concentrations

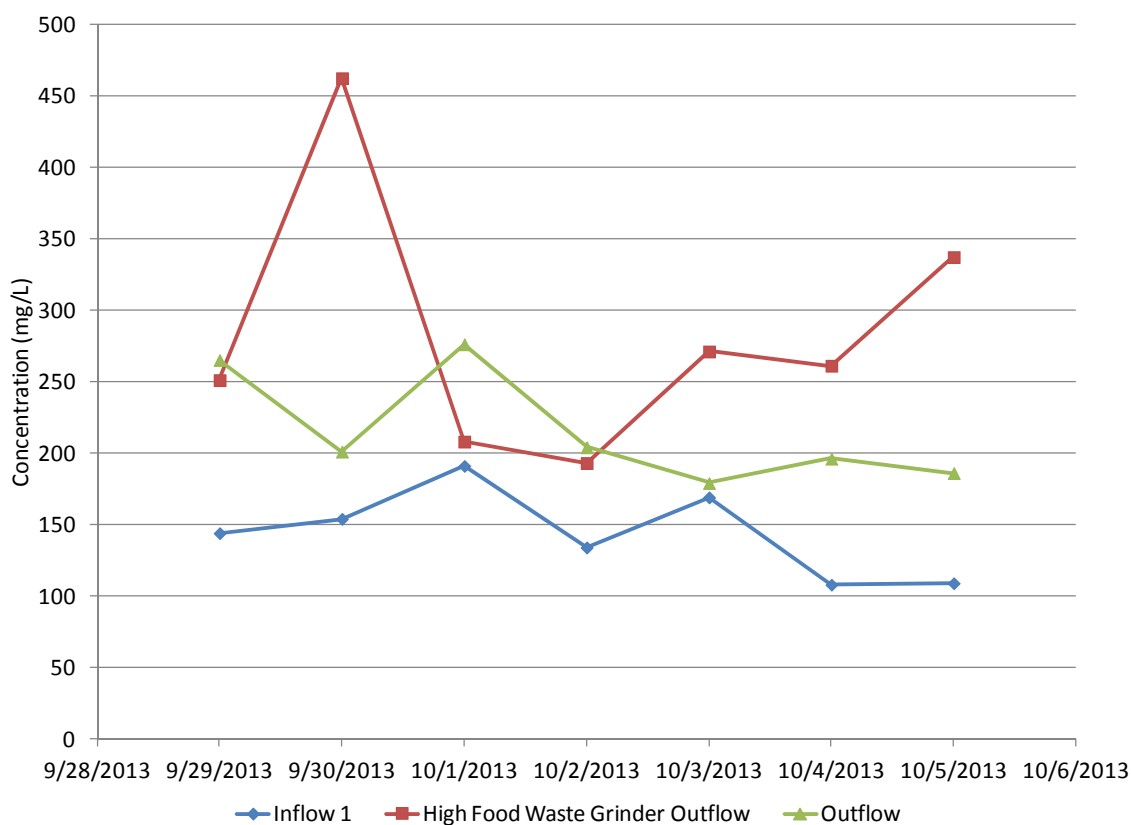


Figure 15: Daily Composite Sampling VSS Concentrations

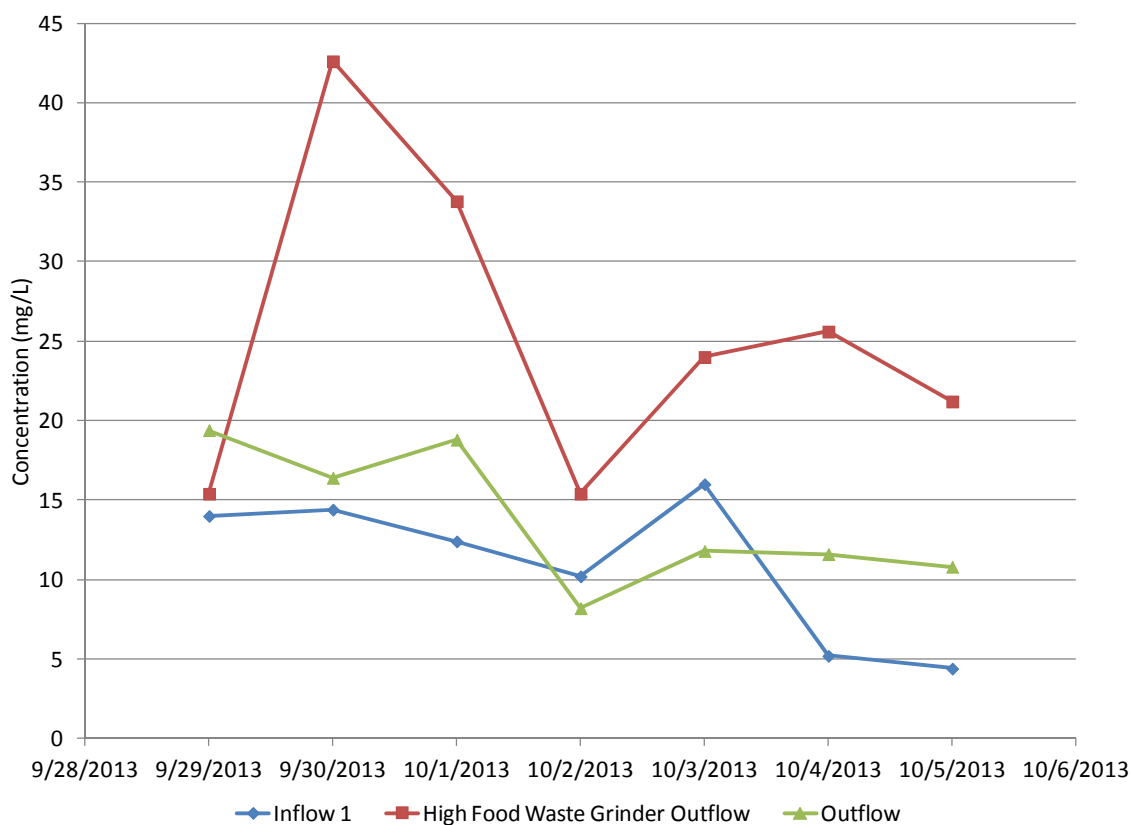


Figure 16: Daily Composite Sampling Fixed Solids Concentrations



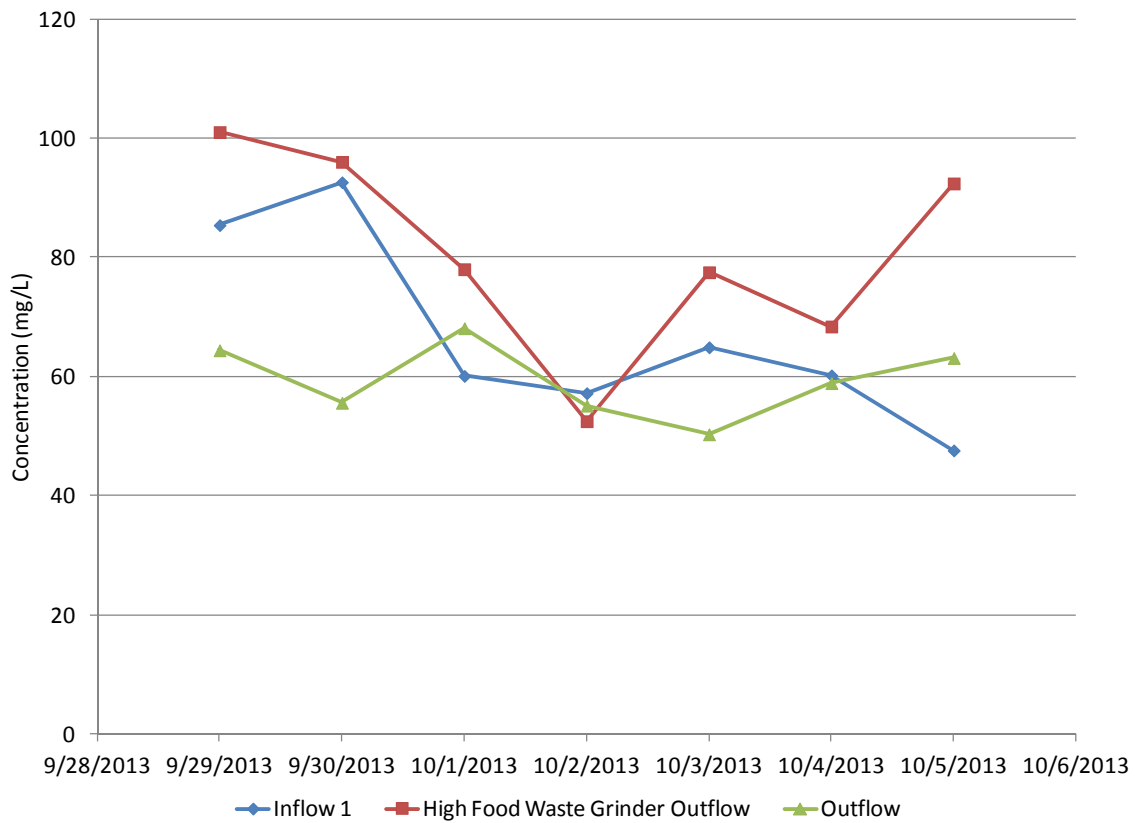


Figure 17: Daily Composite Sampling TKN Concentrations

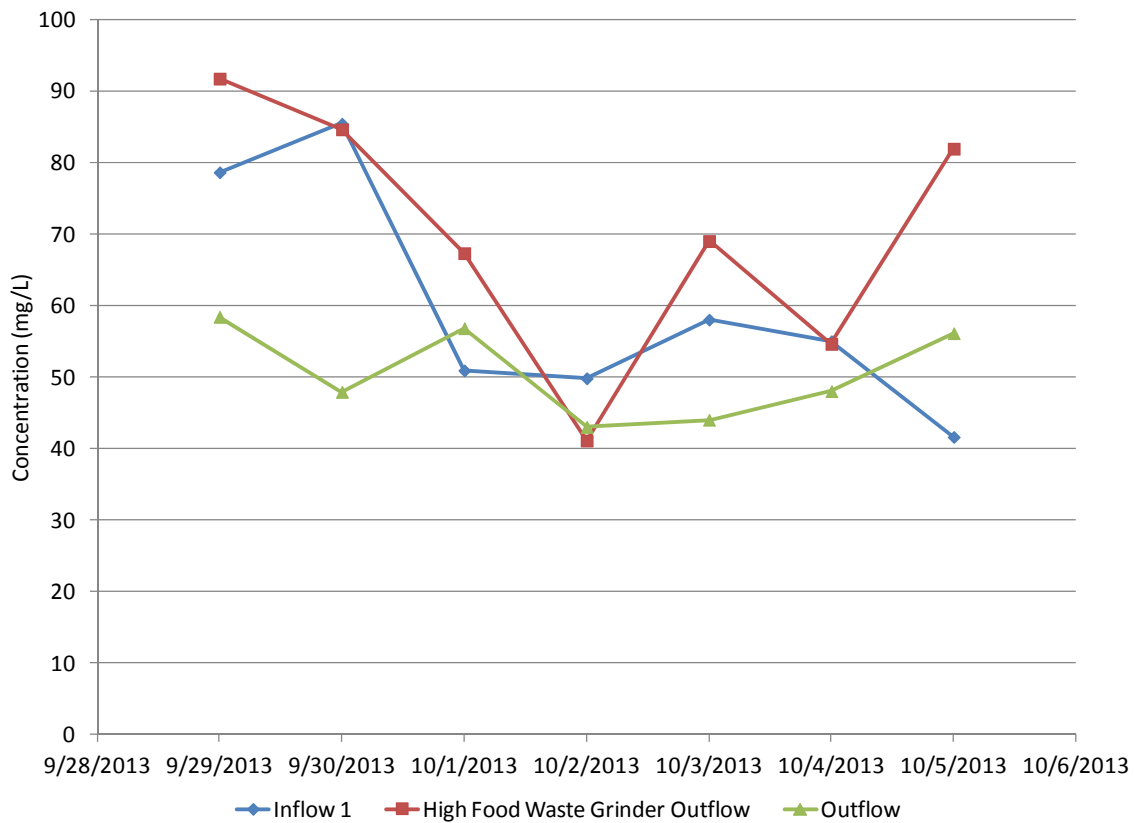


Figure 18: Daily Composite Sampling Filtered TKN Concentrations

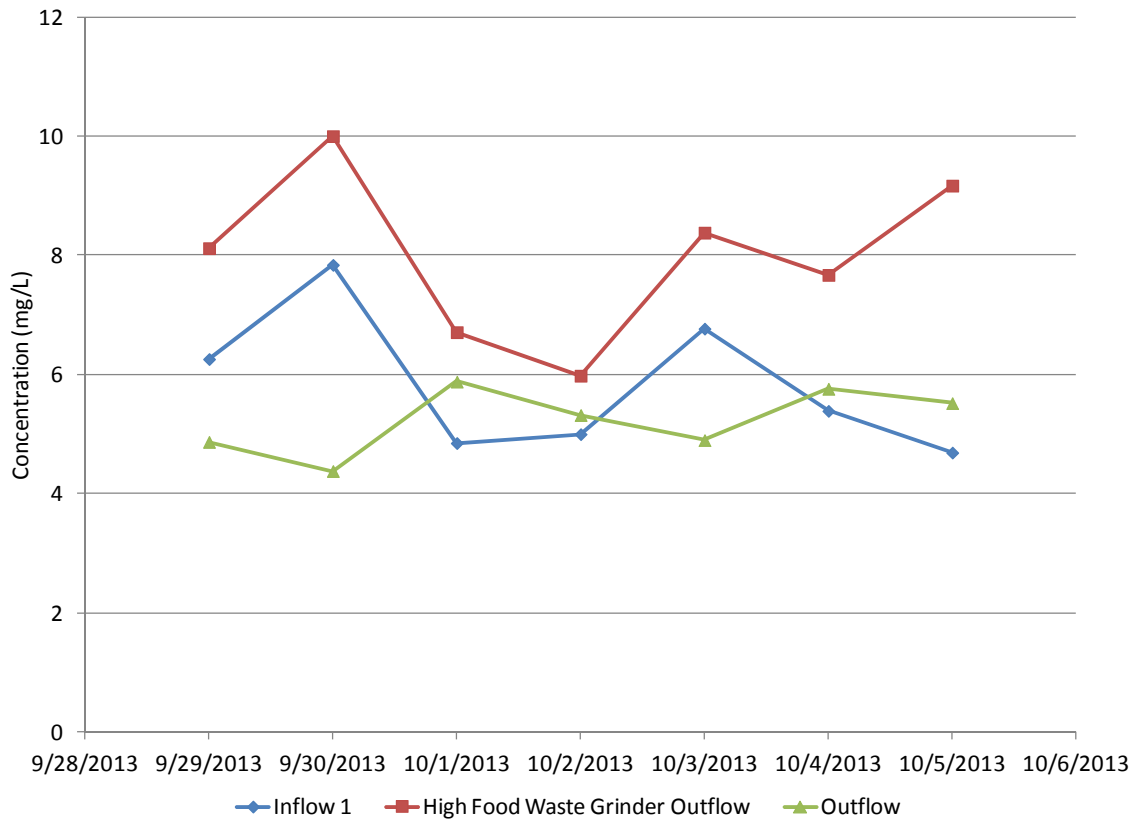


Figure 19: Daily Composite Sampling TP Concentrations

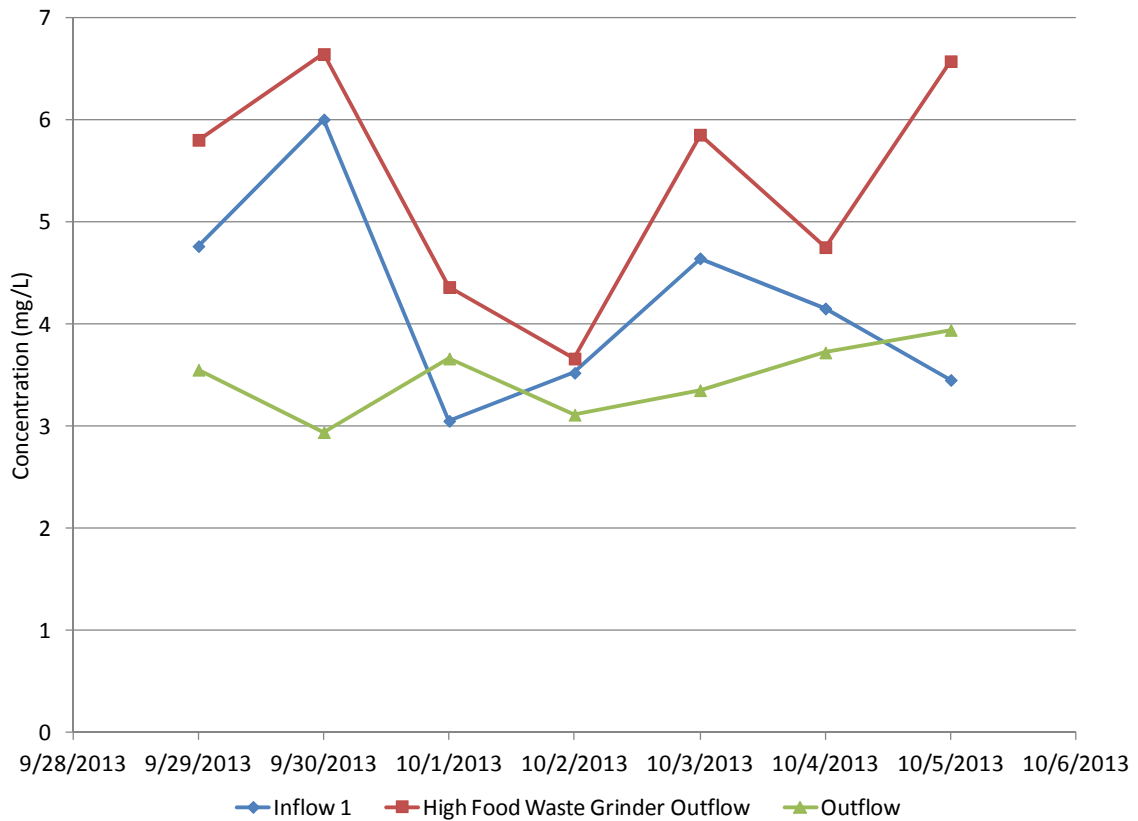


Figure 20: Daily Composite Sampling Filtered TP Concentrations

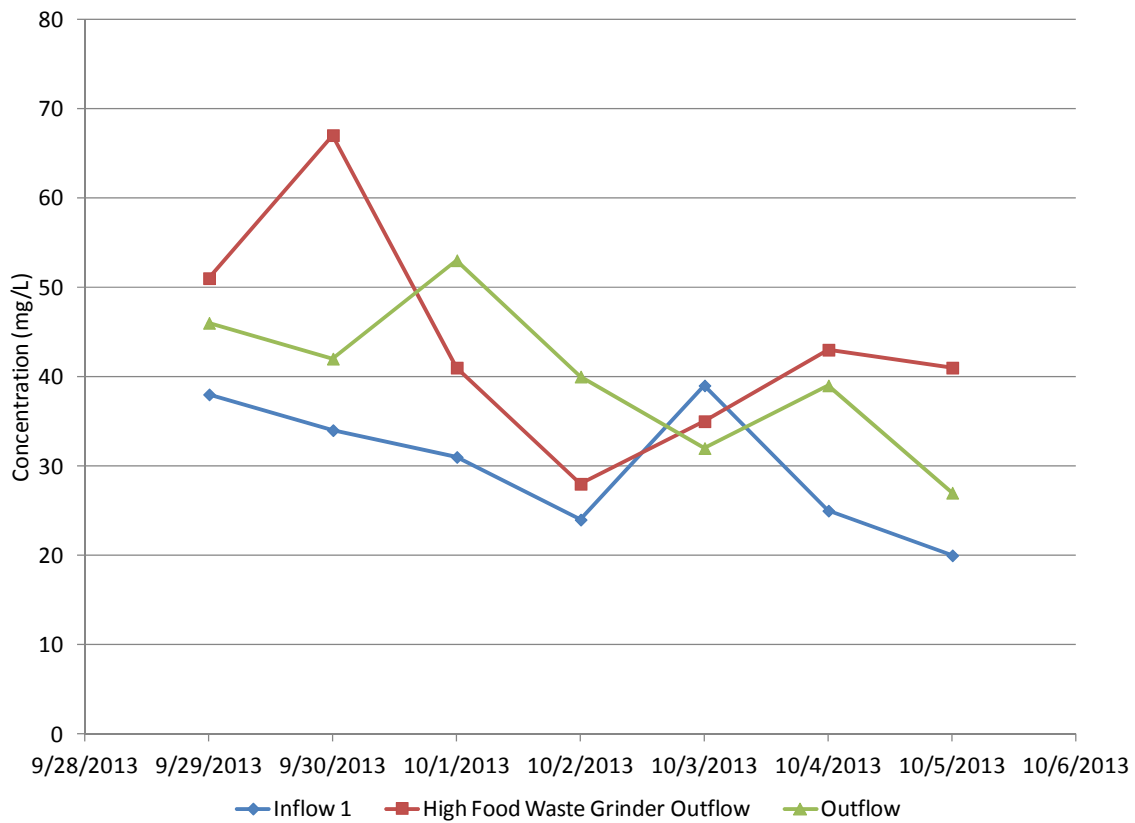


Figure 21: Daily Composite Sampling Oil and Grease Concentrations

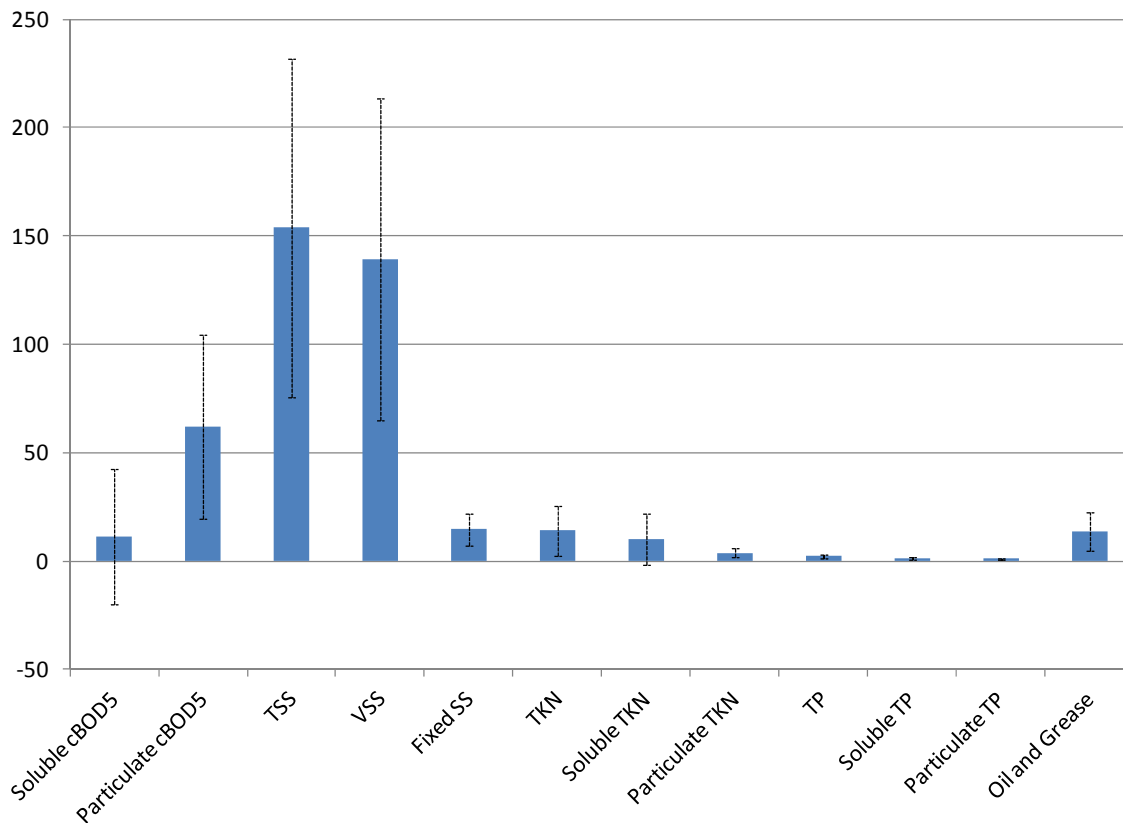


Figure 22: Composite Sampling Concentration Increase, High Food Waste Grinder Outflow minus Inflow 1

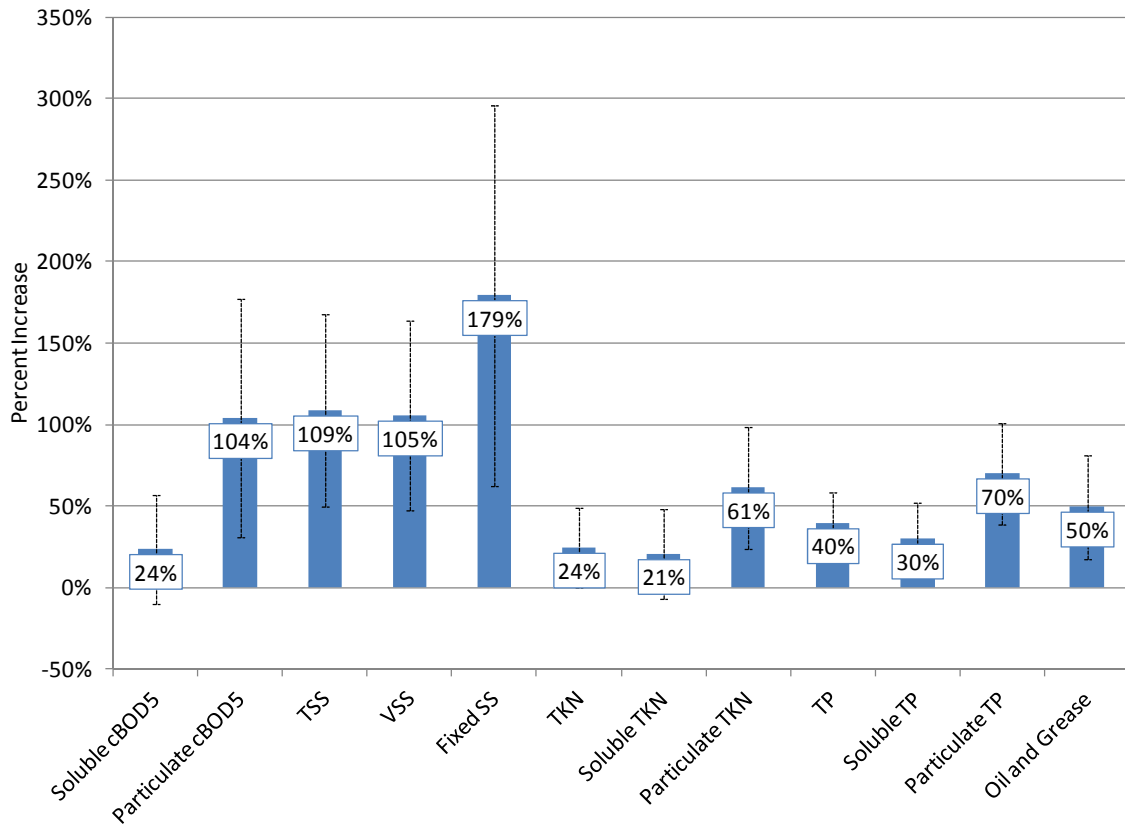


Figure 23: Composite Sampling Percent Increase, High Food Waste Grinder Outflow compared to Inflow 1

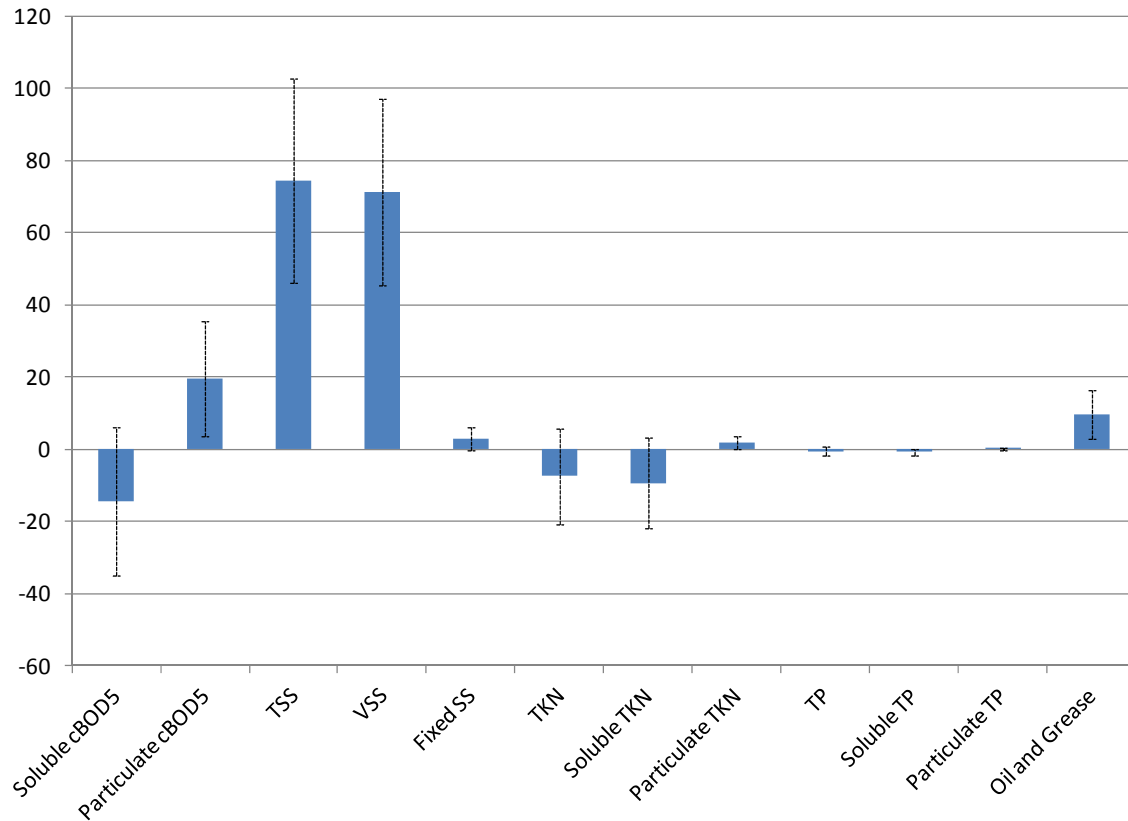


Figure 24: Composite Sampling Concentration Increase, Outflow minus Inflow 1

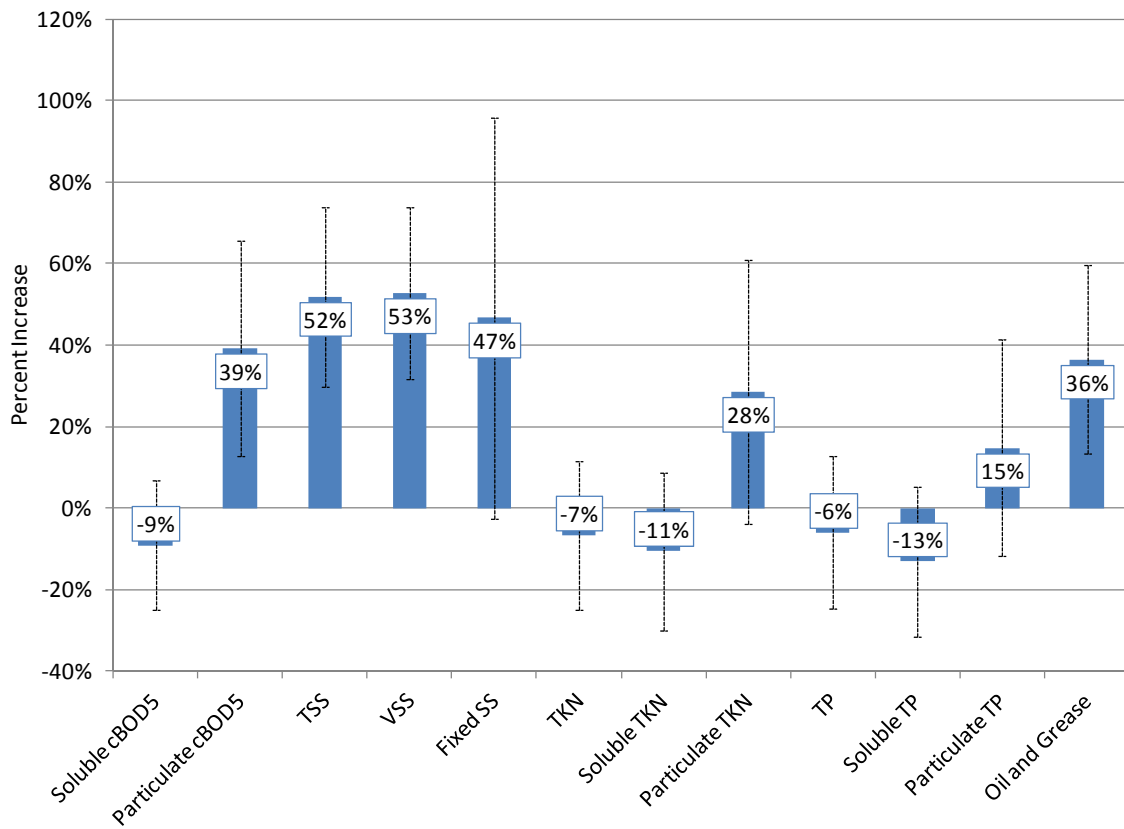


Figure 25: Composite Sampling Percent Increase, Outflow Compared to Inflow 1

## Week Two: Hourly Grab Samples

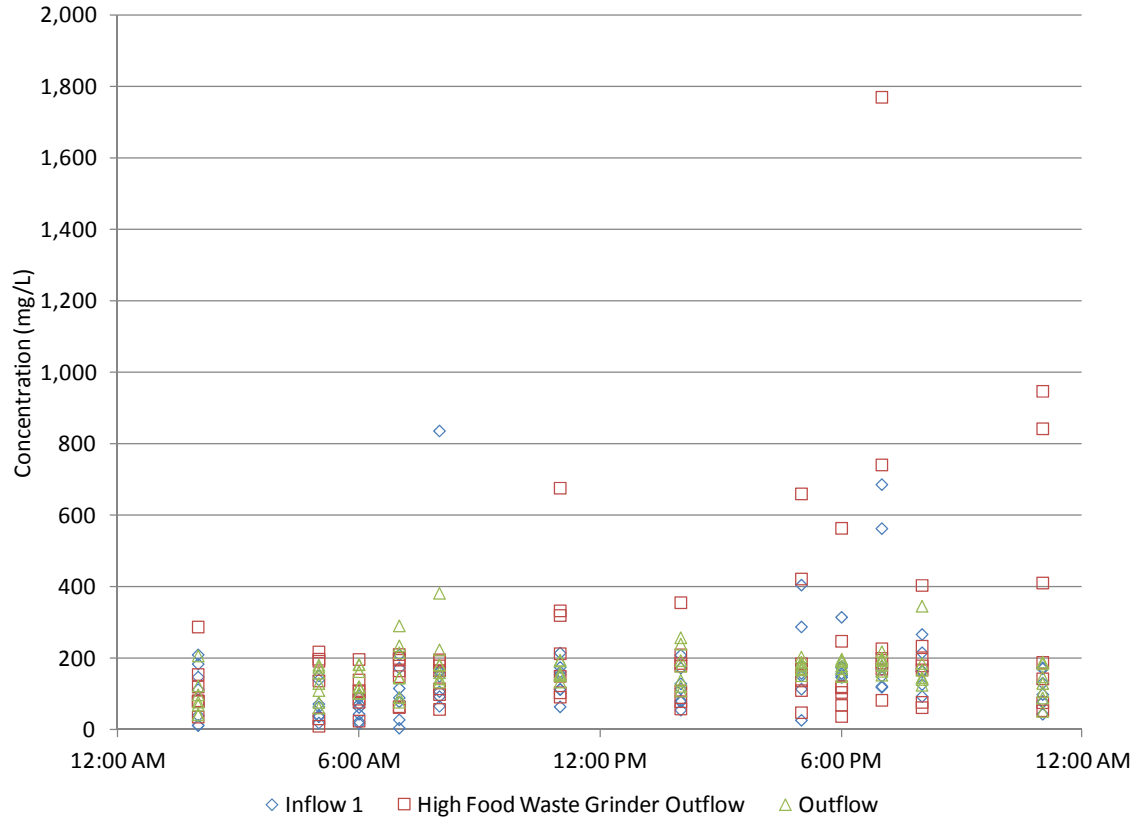


Figure 26: Hourly Grab  $cBOD_5$  Concentrations

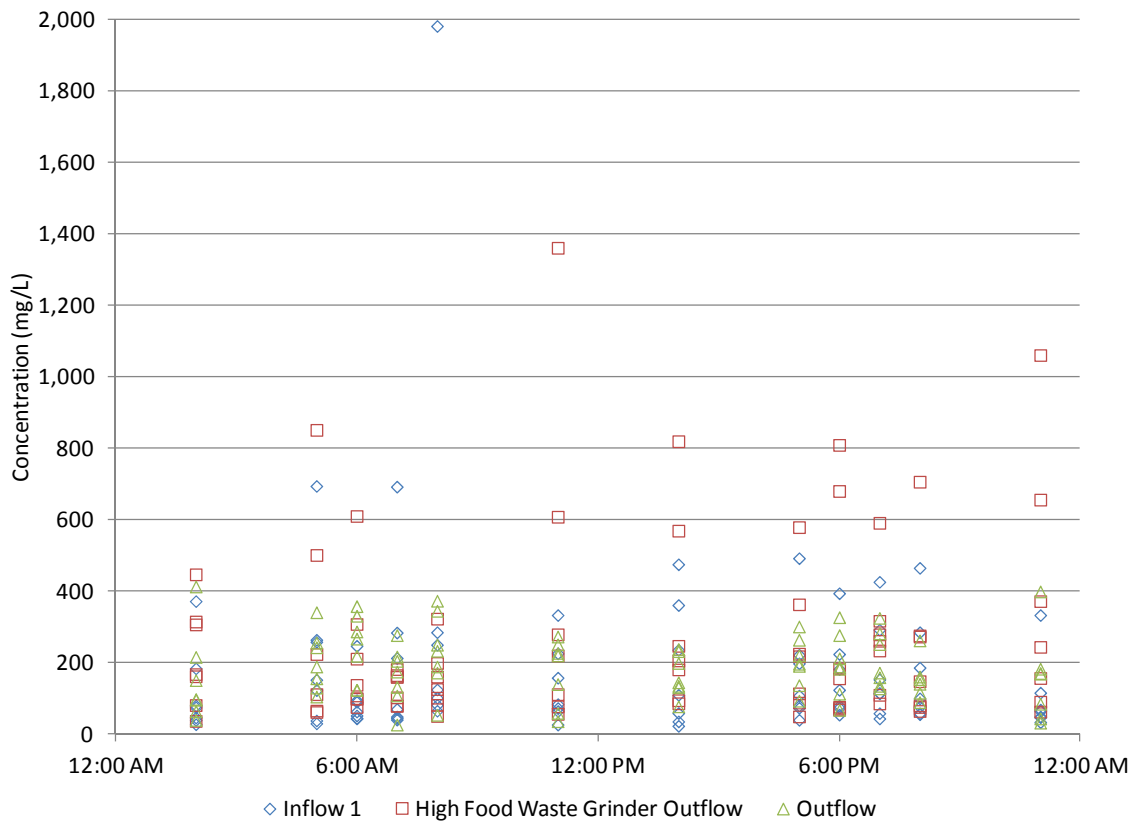


Figure 27: Hourly Grab TSS Concentrations

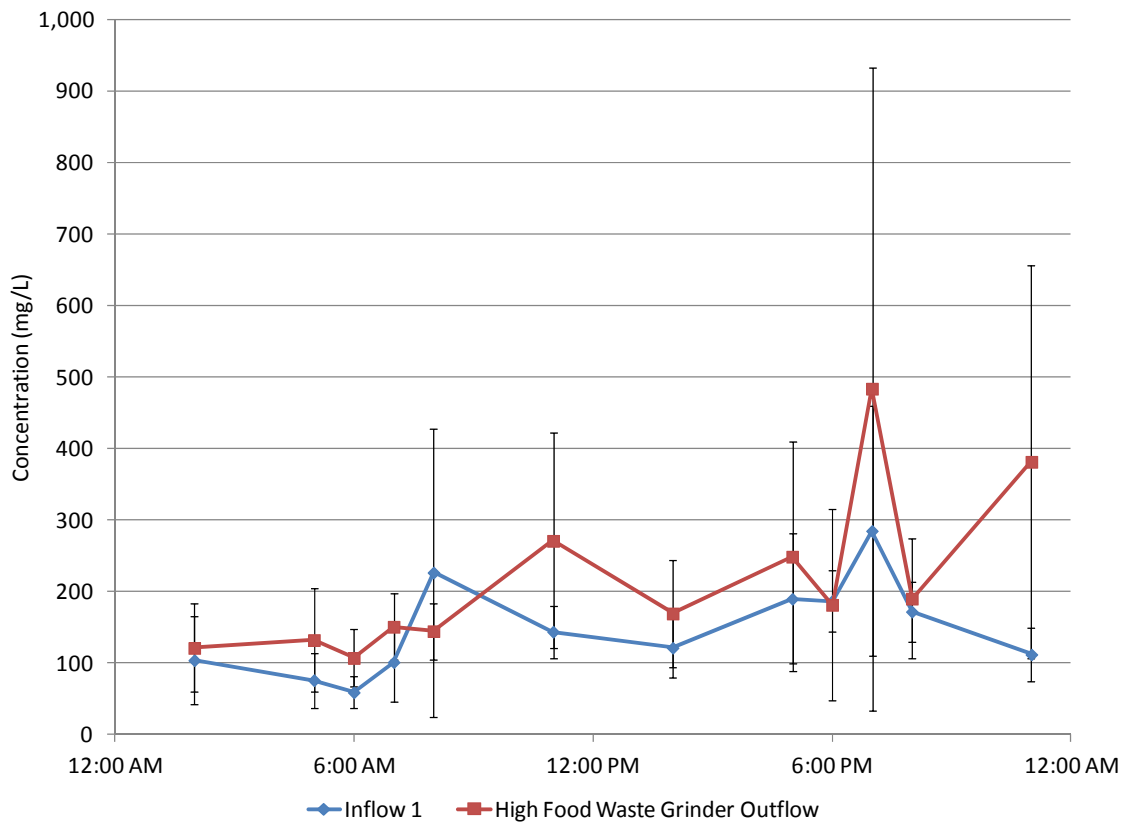


Figure 28: Average Hourly Grab  $cBOD_5$  Concentrations Measured at Inflow 1 and High Food Waste Grinder Outflow

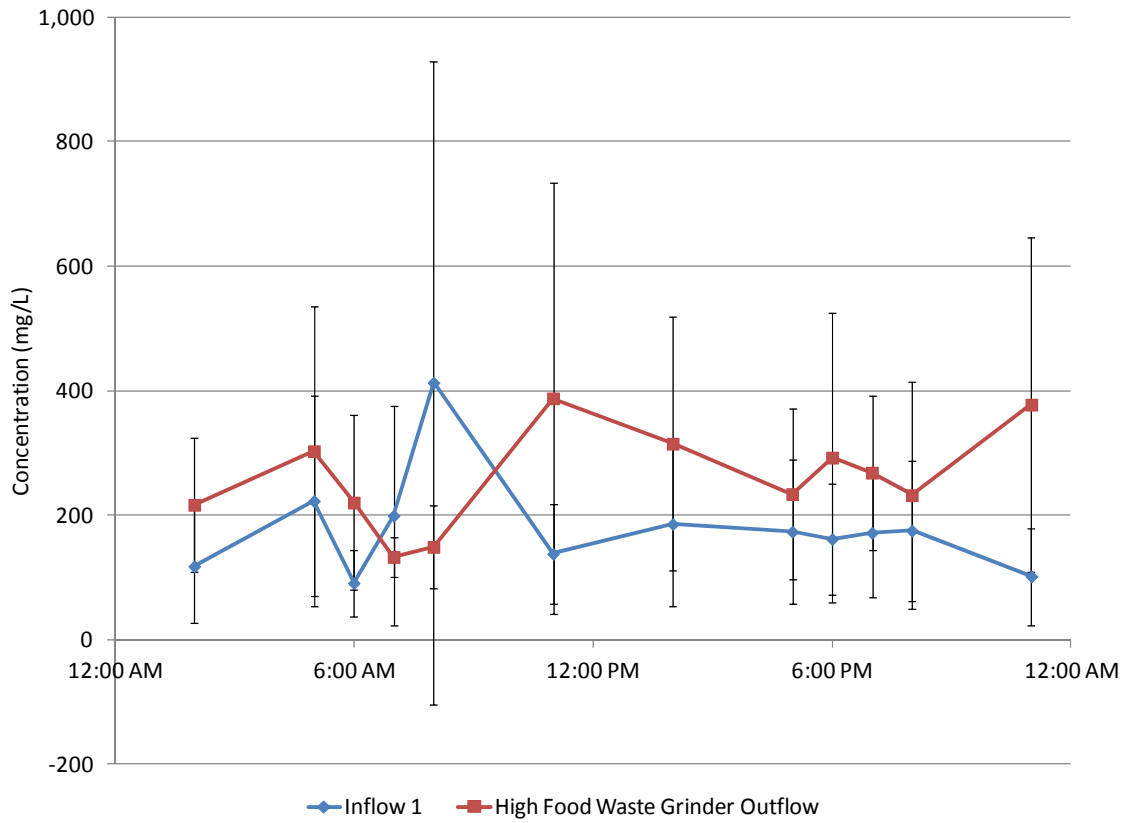


Figure 29: Average Hourly Grab TSS Concentrations Measured at Inflow 1 and High Food Waste Grinder Outflow

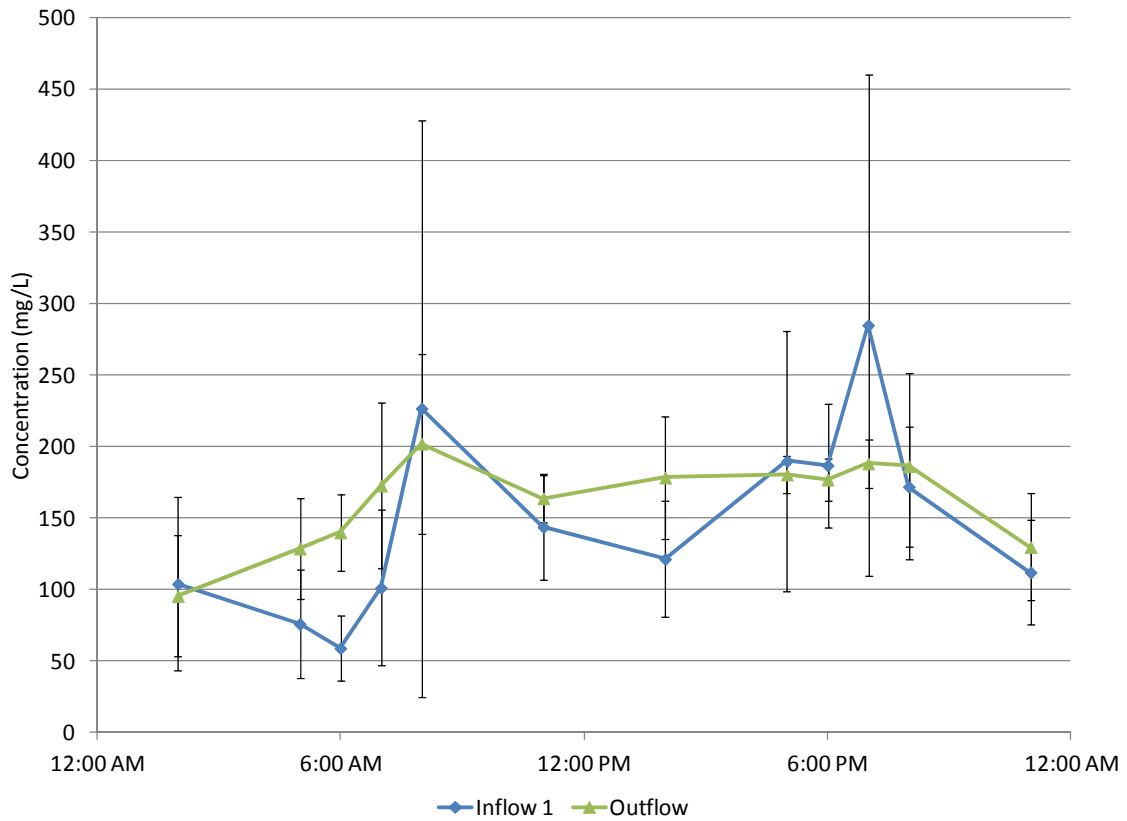


Figure 30: Average Hourly Grab cBOD<sub>5</sub> Concentrations Measured at Inflow 1 and Outflow



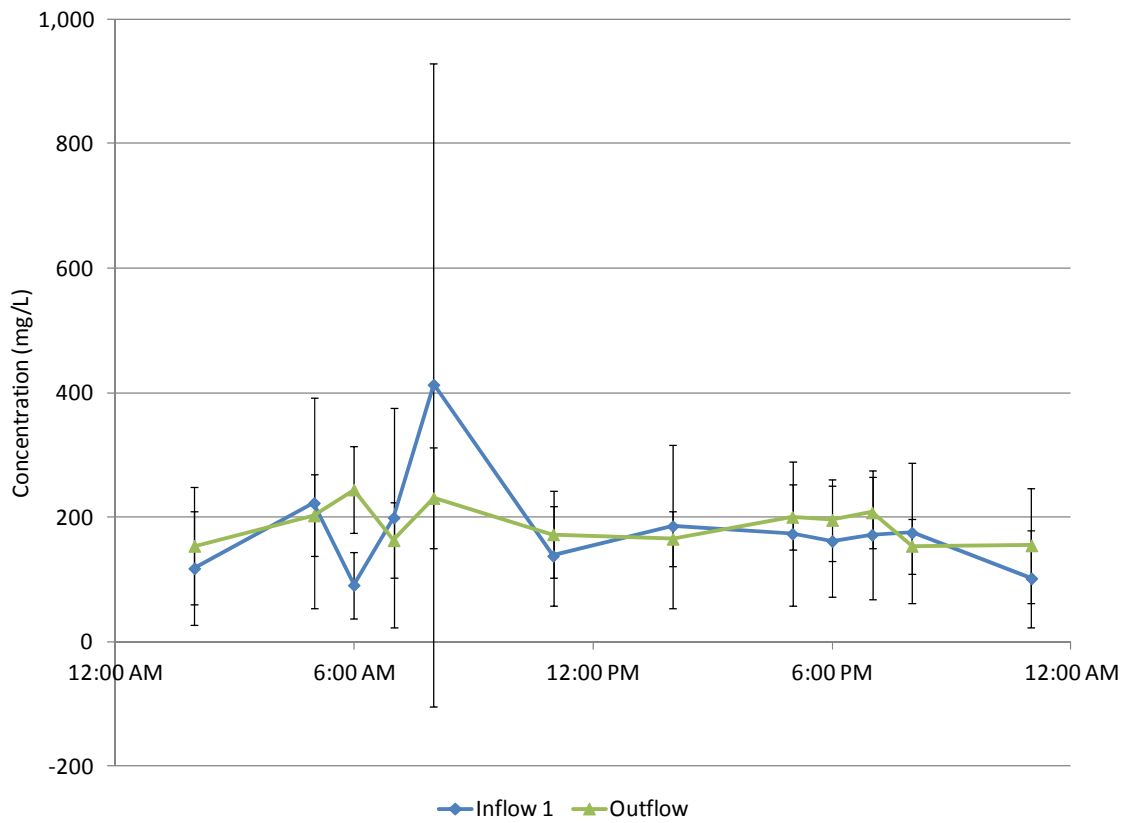


Figure 31: Average Hourly Grab TSS Concentrations Measured at Inflow 1 and Outflow

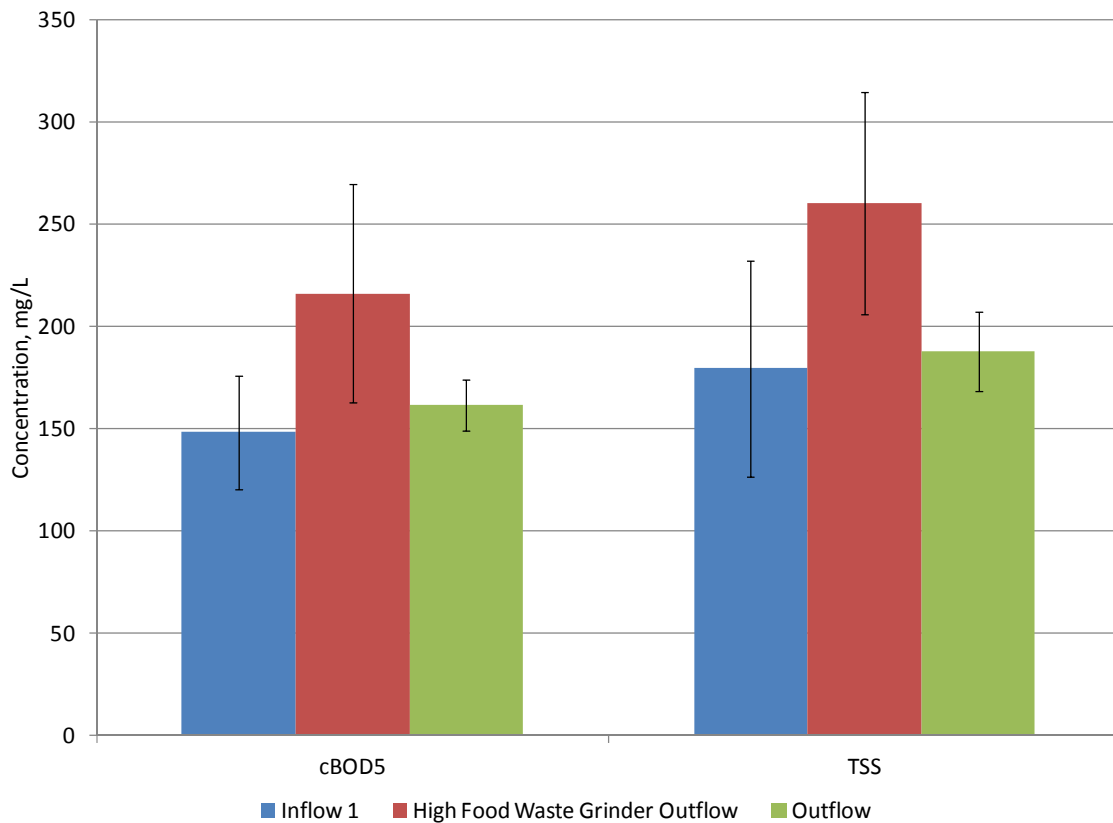


Figure 32: Total Average cBOD<sub>5</sub> and TSS Concentrations (Hourly Grab)

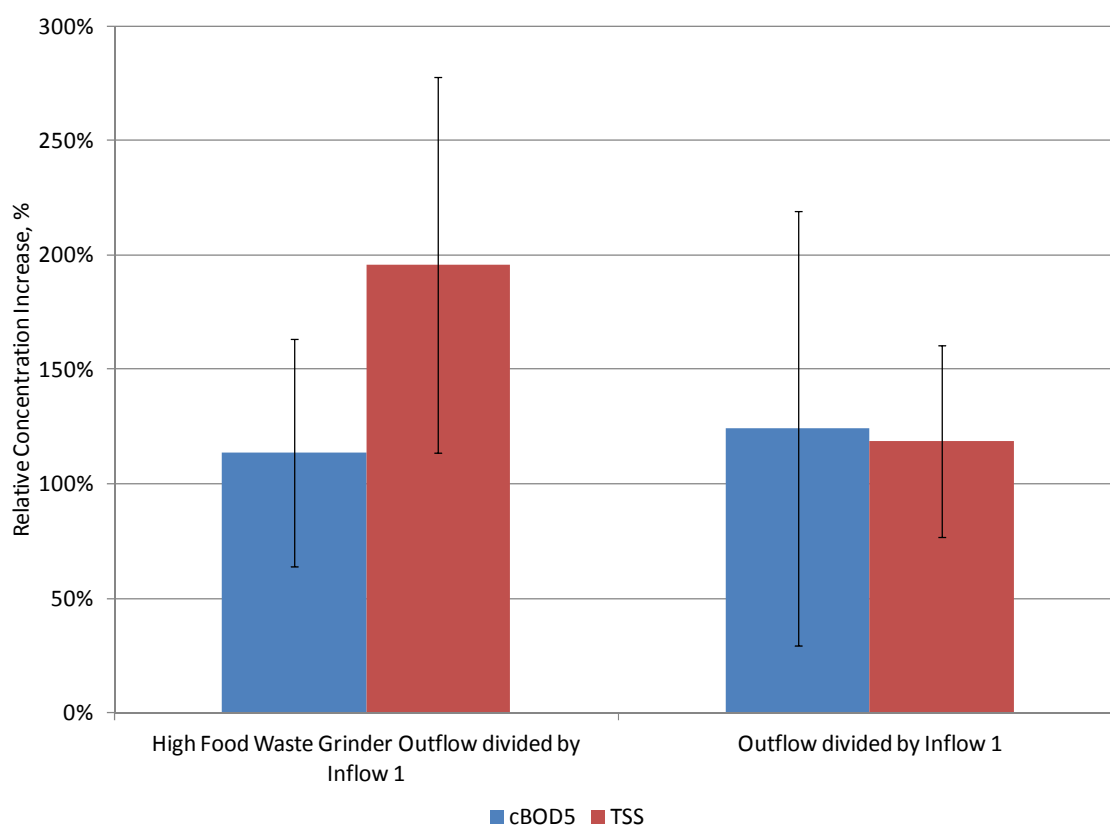


Figure 33: Percent Increase for Total Average cBOD<sub>5</sub> and TSS Concentrations (Hourly Grab)  
(Measure of concentration increase relative to Inflow 1)



Figure 34: Percent Increase in cBOD<sub>5</sub> Concentration, High Food Waste Grinder Outflow Compared to Inflow 1

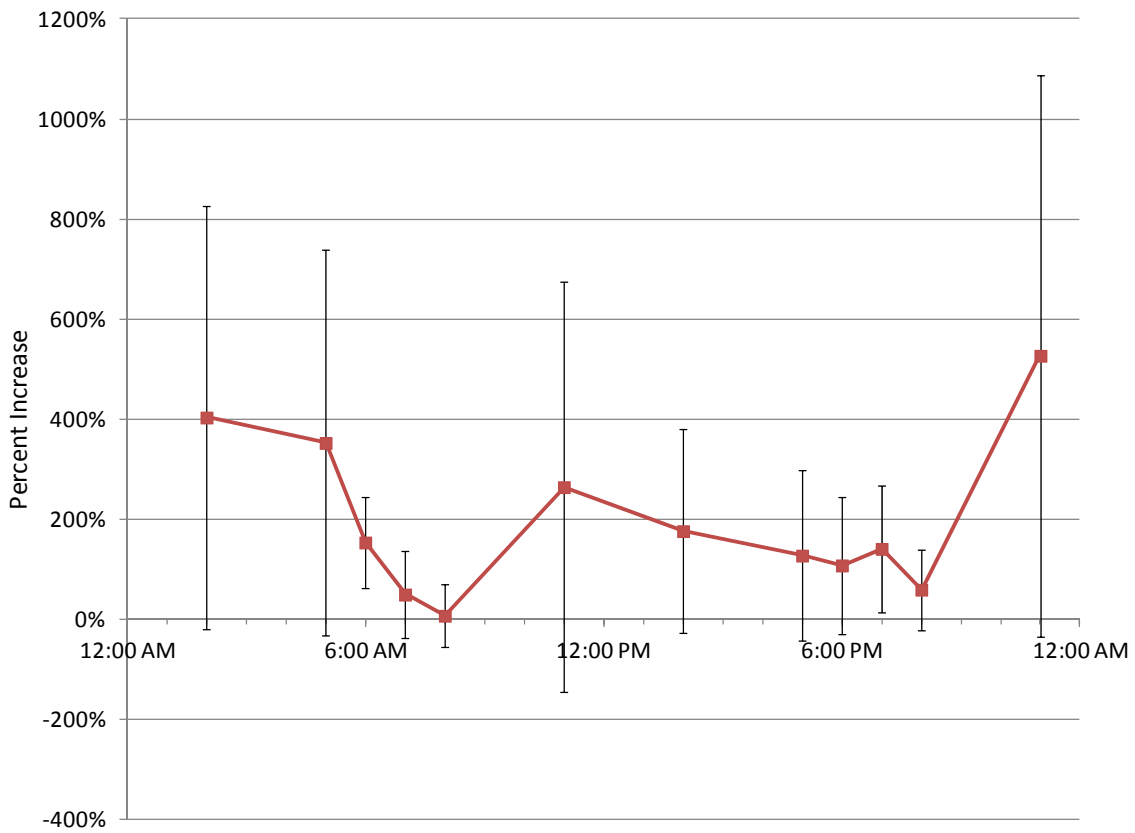


Figure 35: Percent Increase in TSS Concentration, High Food Waste Grinder Outflow Compared to Inflow 1

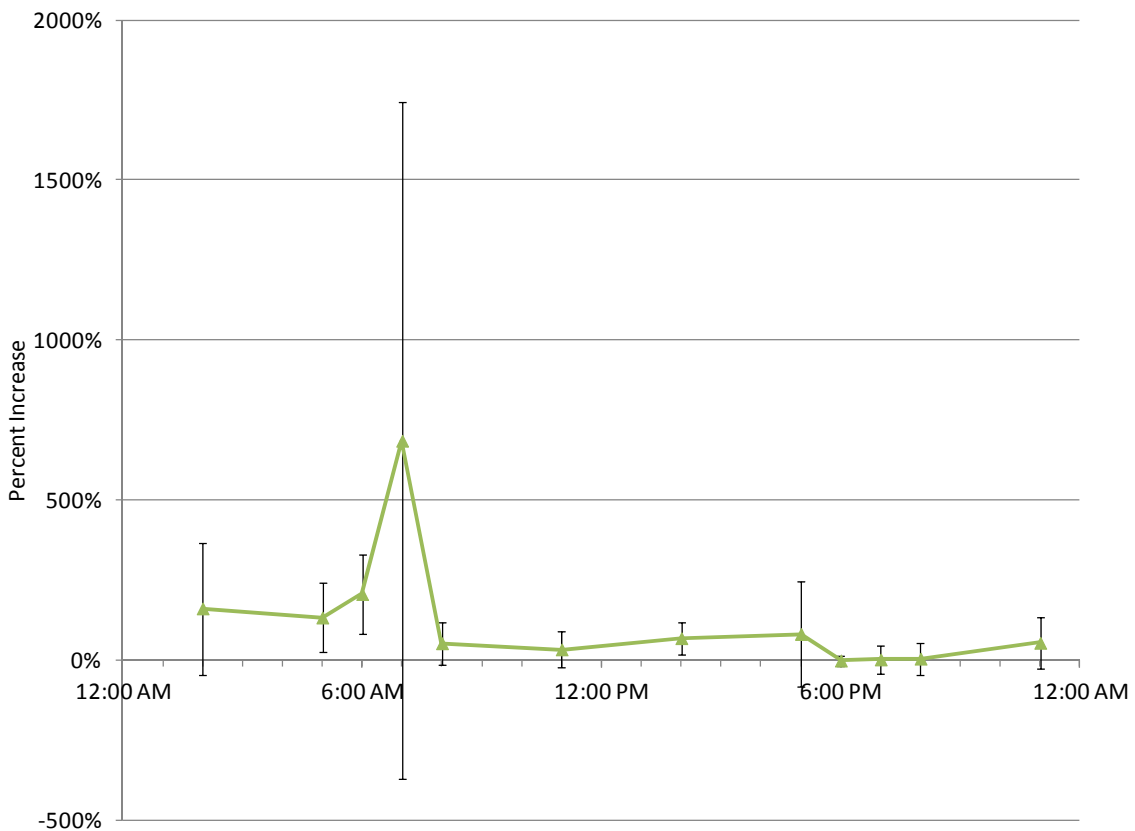


Figure 36: Percent Increase in cBOD<sub>5</sub> Concentration, Outflow Compared to Inflow 1



Figure 37: Percent Increase in TSS Concentration, Outflow Compared to Inflow 1

Daily Composite Sampling Results  
September 29, 2013 to October 5, 2013



**YD222636**

**Chain of Custody Form**

**Wastewater and Soils**

Client:	<b>Region of York</b>	Contact Name:	<b>Fai Ng</b>	Tel/Fax:	<b>905-895-1200x5133/905-9300-6927</b>	Additional Reports To:
Project:	<b>777 7777 0016</b>	Address:	<b>17250 Yonge Street</b>	E-mail:	<b>chi-fai.ng@york.ca</b>	
Sampler:	<b>Vetri Kasinathan</b>		<b>Newmarket, ON L3Y 6Z1</b>	Autolog #:		

Field Sample #	Laboratory Sample ID	Sub Location	Sample					Test Group/Tests	Container Type Required	Bottles		Guideline
			Matrix	Type	Subtype	Date mm-dd-yy	Time hh:mm			# Sent	# Rec'd	
16765		Aurora FWG 36A	Industrial	Grab	York	09-29-13		pH SIM2C TOGMAV		3		SEWER USE BY- LAW
16768		Aurora FWG 36A	Industrial	Grab	York	09-30-13		pH SIM2C TOGMAV		3		SEWER USE BY- LAW
16959		Aurora FWG 51A	Industrial	Grab	York	09-29-13		pH SIM2C TOGMAV		3		SEWER USE BY- LAW
16960		Aurora FWG 52A	Industrial	Grab	York	09-30-13		pH SIM2C TOGMAV		3		SEWER USE BY- LAW
16961		Aurora FWG 52A	Industrial	Grab	York	09-29-13		pH SIM2C TOGMAV		3		SEWER USE BY- LAW
16962		Aurora FWG 51A	Industrial	Grab	York	09-30-13		pH SIM2C TOGMAV		3		SEWER USE BY- LAW

Submitted By:	<b>Vetri Kasinathan</b> Print and Sign
Delivered By:	<b>Vetri Kasinathan</b> Print and Sign
Date:	<b>09-30-13</b> mm-dd-yy
Time:	 hh:mm

**LAB Use Only**

Comments:	
Received By:	 Print and Sign
WO#:	
Date / Time:	



**YD222637**

**Chain of Custody Form**

**Wastewater and Soils**

Client:	<b>Region of York</b>	Contact Name:	<b>Fai Ng</b>	Tel/Fax:	<b>905-895-1200x5133/905-9300-6927</b>	Additional Reports To:
Project:	<b>777 7777 0016</b>	Address:	<b>17250 Yonge Street</b>	E-mail:	<b>chi-fai.ng@york.ca</b>	
Sampler:	<b>Vetri Kasinathan</b>		<b>Newmarket, ON L3Y 6Z1</b>	Autolog #:		

Field Sample #	Laboratory Sample ID	Sub Location	Sample					Test Group/Tests	Container Type Required	Bottles		Guideline
			Matrix	Type	Subtype	Date mm-dd-yy	Time hh:mm			# Sent	# Rec'd	
16964		Aurora FWG 36A	Industrial	Grab	York	10-01-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16965		Aurora FWG 36A	Industrial	Grab	York	10-01-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16966		Aurora FWG 51A	Industrial	Grab	York	10-01-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16967		Aurora FWG 51A	Industrial	Grab	York	10-01-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16968		Aurora FWG 52A	Industrial	Grab	York	10-01-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16969		Aurora FWG 52A	Industrial	Grab	York	10-01-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW

Submitted By:	<b>Vetri Kasinathan</b> Print and Sign
Delivered By:	<b>Vetri Kasinathan</b> Print and Sign
Date:	<b>10-01-13</b> mm-dd-yy
Time:	 hh:mm

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Date / Time:	



**YD222645**

**Chain of Custody Form**

**Wastewater and Soils**

Client:	<u>Region of York</u>	Contact Name:	<u>Fai Ng</u>	Tel/Fax:	<u>905-895-1200x5133/905-9300-6927</u>	Additional Reports To:
Project:	<u>777 7777 0016</u>	Address:	<u>17250 Yonge Street</u>	E-mail:	<u>chi-fai.ng@york.ca</u>	
Sampler:	<u>Vetri Kasinathan</u>		<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:		

Field Sample #	Laboratory Sample ID	Sub Location	Sample					Test Group/Tests	Container Type Required	Bottles		Guideline
			Matrix	Type	Subtype	Date mm-dd-yy	Time hh:mm			# Sent	# Rec'd	
16970		Aurora FWG 36A	Industrial	Grab	York	10-02-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16971		Aurora FWG 36A	Industrial	Grab	York	10-02-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16972		Aurora FWG 51A	Industrial	Grab	York	10-02-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16973		Aurora FWG 51A	Industrial	Grab	York	10-02-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16974		Aurora FWG 52A	Industrial	Grab	York	10-02-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16975		Aurora FWG 52A	Industrial	Grab	York	10-02-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16981		Aurora FWG 36A	Industrial	Grab	York	10-03-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16982		Aurora FWG 36A	Industrial	Grab	York	10-03-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16983		Aurora FWG 51A	Industrial	Grab	York	10-03-13		FILT SIM2C - SS		2		SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u> Print and Sign
Delivered By:	<u>Vetri Kasinathan</u> Print and Sign
Date:	<u>10-03-13</u> mm-dd-yy
Time:	<u></u> hh:mm

**LAB Use Only**

Comments:	<u></u>
Received By:	<u></u> Print and Sign
WO#:	<u></u>
Date / Time:	<u></u>





**YD222645**

**Chain of Custody Form**

**Wastewater and Soils**

Client:	<u>Region of York</u>	Contact Name:	<u>Fai Ng</u>	Tel/Fax:	<u>905-895-1200x5133/905-9300-6927</u>	Additional Reports To:
Project:	<u>777 7777 0016</u>	Address:	<u>17250 Yonge Street</u>	E-mail:	<u>chi-fai.ng@york.ca</u>	
Sampler:	<u>Vetri Kasinathan</u>		<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:		

Field Sample #	Laboratory Sample ID	Sub Location	Sample					Test Group/Tests	Container Type Required	Bottles		Guideline
			Matrix	Type	Subtype	Date mm-dd-yy	Time hh:mm			# Sent	# Rec'd	
16984		Aurora FWG 51A	Industrial	Grab	York	10-03-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16985		Aurora FWG 52A	Industrial	Grab	York	10-03-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16986		Aurora FWG 52A	Industrial	Grab	York	10-03-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u> Print and Sign
Delivered By:	<u>Vetri Kasinathan</u> Print and Sign
Date:	<u>10-03-13</u> mm-dd-yy
Time:	<u></u> hh:mm

**LAB Use Only**

Comments:	<u></u>
Received By:	<u></u> Print and Sign
WO#:	<u></u>
Date / Time:	<u></u>



**YD222646**

**Chain of Custody Form**

**Wastewater and Soils**

Client:	<b>Region of York</b>	Contact Name:	<b>Fai Ng</b>	Tel/Fax:	<b>905-895-1200x5133/905-9300-6927</b>	Additional Reports To:
Project:	<b>777 7777 0016</b>	Address:	<b>17250 Yonge Street</b>	E-mail:	<b>chi-fai.ng@york.ca</b>	
Sampler:	<b>Vetri Kasinathan</b>		<b>Newmarket, ON L3Y 6Z1</b>	Autolog #:		

Field Sample #	Laboratory Sample ID	Sub Location	Sample					Test Group/Tests	Container Type Required	Bottles		Guideline
			Matrix	Type	Subtype	Date mm-dd-yy	Time hh:mm			# Sent	# Rec'd	
16987		Aurora FWG 36A	Industrial	Grab	York	10-04-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16988		Aurora FWG 36A	Industrial	Grab	York	10-04-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16989		Aurora FWG 51A	Industrial	Grab	York	10-04-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16990		Aurora FWG 51A	Industrial	Grab	York	10-04-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
16991		Aurora FWG 52A	Industrial	Grab	York	10-04-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
16992		Aurora FWG 52A	Industrial	Grab	York	10-04-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW

Submitted By:	<b>Vetri Kasinathan</b> Print and Sign
Delivered By:	<b>Vetri Kasinathan</b> Print and Sign
Date:	<b>10-04-13</b> mm-dd-yy
Time:	 hh:mm

**LAB Use Only**

Comments:	
Received By:	 Print and Sign
WO#:	
Date / Time:	



**YD222651**

**Chain of Custody Form**

**Wastewater and Soils**

Client:	<b>Region of York</b>	Contact Name:	<b>Fai Ng</b>	Tel/Fax:	<b>905-895-1200x5133/905-9300-6927</b>	Additional Reports To:
Project:	<b>777 7777 0016</b>	Address:	<b>17250 Yonge Street</b>	E-mail:	<b>chi-fai.ng@york.ca</b>	
Sampler:	<b>Vetri Kasinathan</b>		<b>Newmarket, ON L3Y 6Z1</b>	Autolog #:		

Field Sample #	Laboratory Sample ID	Sub Location	Sample					Test Group/Tests	Container Type Required	Bottles		Guideline
			Matrix	Type	Subtype	Date mm-dd-yy	Time hh:mm			# Sent	# Rec'd	
17067		Aurora FWG 36A	Industrial	Grab	York	10-05-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
17068		Aurora FWG 36A	Industrial	Grab	York	10-05-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
17069		Aurora FWG 51A	Industrial	Grab	York	10-05-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
17070		Aurora FWG 51A	Industrial	Grab	York	10-05-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW
17071		Aurora FWG 52A	Industrial	Grab	York	10-05-13		FILT SIM2C - SS		2		SEWER USE BY-LAW
17072		Aurora FWG 52A	Industrial	Grab	York	10-05-13		SOLSAV TOG SIM2C - SS		3		SEWER USE BY-LAW

Submitted By:	<b>Vetri Kasinathan</b> Print and Sign
Delivered By:	<b>Vetri Kasinathan</b> Print and Sign
Date:	<b>10-07-13</b> mm-dd-yy
Time:	 hh:mm

**LAB Use Only**

Comments:	
Received By:	 Print and Sign
WO#:	
Date / Time:	



## INORGANICS ANALYSIS REPORT

Page 1 of 4

**Work Order #:** 2176924

**Submission #:** 222636

### Report Authorization

**Client Details:** Region of York - Industrial

**Date Received:** 2013-09-30

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-07

**No. of Samples:** 12

**Report to:**

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 721501 **Field ID:** 16765 **Location:** Region of York  
**Sample Date:** 2013-09-29 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Unfiltered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 721501
General	cBOD (5day)	0.2	300	mg/L	124
	Oil + Grease, Total	2	150	mg/L	38
	Suspended Solids	0.9	350	mg/L	158
	Suspended Solids Ash	0.9		mg/L	14.0
	Suspended Solids LOI	0.9		mg/L	144
Nutrients	TKN as N	0.5	100	mg/L	85.4
	Total Phosphorus as P	0.06	10	mg/L	6.26

**Lab ID:** 721502 **Field ID:** 16765 **Location:** Region of York  
**Sample Date:** 2013-09-29 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Filtered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 721502
General	cBOD (5day)	0.2	300	mg/L	58.1
Nutrients	TKN as N	0.5	100	mg/L	78.6
	Total Phosphorus as P	0.06	10	mg/L	4.76

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

# YORK-DURHAM

## Regional Environmental Laboratory

901 McKay Road Pickering, Ontario L1W 3A3 Telephone Toll Free: 1-877-551-8877  
Local Telephone: (905) 686-0041 Fax: (905) 686-0664

### INORGANICS ANALYSIS REPORT

Page 2 of 4

**Work Order #:** 2176924

**Submission #:** 222636

<b>Lab ID:</b> 721503	<b>Field ID:</b> 16768	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-30	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721503
General	cBOD (5day)	0.2	300	mg/L	156
	Oil + Grease, Total	2	150	mg/L	34
	Suspended Solids	0.9	350	mg/L	169
	Suspended Solids Ash	0.9		mg/L	14.4
	Suspended Solids LOI	0.9		mg/L	154
Nutrients	TKN as N	0.5	100	mg/L	92.6
	Total Phosphorus as P	0.06	10	mg/L	7.84

<b>Lab ID:</b> 721504	<b>Field ID:</b> 16768	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-30	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721504
General	cBOD (5day)	0.2	300	mg/L	97.3
Nutrients	TKN as N	0.5	100	mg/L	85.4
	Total Phosphorus as P	0.06	10	mg/L	6.00

<b>Lab ID:</b> 721505	<b>Field ID:</b> 16959	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-29	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721505
General	cBOD (5day)	0.2	300	mg/L	224
	Oil + Grease, Total	2	150	mg/L	51
	Suspended Solids	0.9	350	mg/L	267
	Suspended Solids Ash	0.9		mg/L	15.4
	Suspended Solids LOI	0.9		mg/L	251
Nutrients	TKN as N	2	100	mg/L	101^
	Total Phosphorus as P	0.06	10	mg/L	8.12

<b>Lab ID:</b> 721506	<b>Field ID:</b> 16959	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-29	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721506
General	cBOD (5day)	0.2	300	mg/L	95.1
Nutrients	TKN as N	0.5	100	mg/L	91.7
	Total Phosphorus as P	0.06	10	mg/L	5.80

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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901 McKay Road Pickering, Ontario L1W 3A3 Telephone Toll Free: 1-877-551-8877  
Local Telephone: (905) 686-0041 Fax: (905) 686-0664

### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2176924

**Submission #:** 222636

<b>Lab ID:</b> 721507	<b>Field ID:</b> 16960	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-30	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721507
General	cBOD (5day)	0.2	300	mg/L	164
	Oil + Grease, Total	2	150	mg/L	42
	Suspended Solids	0.9	350	mg/L	218
	Suspended Solids Ash	0.9		mg/L	16.4
	Suspended Solids LOI	0.9		mg/L	201
Nutrients	TKN as N	0.5	100	mg/L	55.6
	Total Phosphorus as P	0.06	10	mg/L	4.38

<b>Lab ID:</b> 721508	<b>Field ID:</b> 16960	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-30	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721508
General	cBOD (5day)	0.2	300	mg/L	81.5
Nutrients	TKN as N	0.5	100	mg/L	47.9
	Total Phosphorus as P	0.06	10	mg/L	2.94

<b>Lab ID:</b> 721509	<b>Field ID:</b> 16961	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-29	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721509
General	cBOD (5day)	0.2	300	mg/L	146
	Oil + Grease, Total	2	150	mg/L	46
	Suspended Solids	0.9	350	mg/L	284
	Suspended Solids Ash	0.9		mg/L	19.4
	Suspended Solids LOI	0.9		mg/L	265
Nutrients	TKN as N	0.5	100	mg/L	64.4
	Total Phosphorus as P	0.06	10	mg/L	4.87

<b>Lab ID:</b> 721510	<b>Field ID:</b> 16961	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-29	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721510
General	cBOD (5day)	0.2	300	mg/L	63.3
Nutrients	TKN as N	0.5	100	mg/L	58.4
	Total Phosphorus as P	0.06	10	mg/L	3.55

**Legend:**

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd

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## Regional Environmental Laboratory

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Local Telephone: (905) 686-0041 Fax: (905) 686-0664

### INORGANICS ANALYSIS REPORT

Page 4 of 4

**Work Order #:** 2176924

**Submission #:** 222636

<b>Lab ID:</b> 721511	<b>Field ID:</b> 16962	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-30	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721511
General	cBOD (5day)	0.2	300	mg/L	354^
	Oil + Grease, Total	2	150	mg/L	67
	Suspended Solids	0.9	350	mg/L	504^
	Suspended Solids Ash	0.9		mg/L	42.6
	Suspended Solids LOI	0.9		mg/L	462
Nutrients	TKN as N	5	100	mg/L	96
	Total Phosphorus as P	0.6	10	mg/L	10.0

<b>Lab ID:</b> 721512	<b>Field ID:</b> 16962	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-09-30	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721512
General	cBOD (5day)	0.2	300	mg/L	114
Nutrients	TKN as N	0.5	100	mg/L	84.6
	Total Phosphorus as P	0.06	10	mg/L	6.64

#### Analysis Summary

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	18	Industrial	2013-09-30	2013-10-02	Gravimetric	RELI-03
BOD/cBOD (5 day)	12	Industrial	2013-10-02	2013-10-07	D.O. Meter	RELI-04
Total Nutrients	24	Industrial	2013-09-30	2013-10-02	Skalar SFA	RELI-12
Oil & Grease (SPE)	6	Industrial	2013-10-03	2013-10-04	Oil & Grease (SPE)	RELO-31

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

Legend:

MDL = Method detection limit

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Date Format: yyyy-mm-dd



**INORGANICS ANALYSIS REPORT**

Page 1 of 3

**Work Order #:** 2177008

**Submission #:** 222637

**Report Authorization**

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-01

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-10

**No. of Samples:** 6

**Report to:**

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 721882 **Field ID:** 16964 **Location:** Region of York  
**Sample Date:** 2013-10-01 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Filtered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 721882
General	cBOD (5day)	0.2	300	mg/L	69.1
Nutrients	TKN as N	0.5	100	mg/L	50.9
	Total Phosphorus as P	0.06	10	mg/L	3.05

**Lab ID:** 721883 **Field ID:** 16965 **Location:** Region of York  
**Sample Date:** 2013-10-01 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Unfiltered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 721883
General	cBOD (5day)	0.2	300	mg/L	154
	Oil + Grease, Total	2	150	mg/L	31
	Suspended Solids	0.9	350	mg/L	203
	Suspended Solids Ash	0.9		mg/L	12.4
	Suspended Solids LOI	0.9		mg/L	191
Nutrients	TKN as N	0.5	100	mg/L	60.1
	Total Phosphorus as P	0.06	10	mg/L	4.85

**Legend:**

MDL = Method detection limit

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Date Format: yyyy-mm-dd



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## Regional Environmental Laboratory

901 McKay Road Pickering, Ontario L1W 3A3 Telephone Toll Free: 1-877-551-8877  
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### INORGANICS ANALYSIS REPORT

Page 2 of 3

**Work Order #:** 2177008

**Submission #:** 222637

<b>Lab ID:</b> 721886	<b>Field ID:</b> 16966	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-01	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721886
General	cBOD (5day)	0.2	300	mg/L	70.1
Nutrients	TKN as N	0.5	100	mg/L	67.3
	Total Phosphorus as P	0.06	10	mg/L	4.36

<b>Lab ID:</b> 721887	<b>Field ID:</b> 16967	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-01	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721887
General	cBOD (5day)	0.2	300	mg/L	184
	Oil + Grease, Total	2	150	mg/L	41
	Suspended Solids	0.9	350	mg/L	242
	Suspended Solids Ash	0.9		mg/L	33.8
	Suspended Solids LOI	0.9		mg/L	208
Nutrients	TKN as N	0.5	100	mg/L	78.0
	Total Phosphorus as P	0.06	10	mg/L	6.71

<b>Lab ID:</b> 721890	<b>Field ID:</b> 16968	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-01	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721890
General	cBOD (5day)	0.2	300	mg/L	74.5
Nutrients	TKN as N	0.5	100	mg/L	56.8
	Total Phosphorus as P	0.06	10	mg/L	3.66

<b>Lab ID:</b> 721891	<b>Field ID:</b> 16969	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-01	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 721891
General	cBOD (5day)	0.2	300	mg/L	134
	Oil + Grease, Total	2	150	mg/L	53
	Suspended Solids	0.9	350	mg/L	294
	Suspended Solids Ash	0.9		mg/L	18.8
	Suspended Solids LOI	0.9		mg/L	276
Nutrients	TKN as N	0.5	100	mg/L	68.1
	Total Phosphorus as P	0.06	10	mg/L	5.88

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Regional Environmental Laboratory**

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177008

**Submission #:** 222637

**Analysis Summary**

<b><u>Test Group</u></b>	<b><u>Quantity</u></b>	<b><u>Sample Matrix</u></b>	<b><u>Date Prepared</u></b>	<b><u>Date Analyzed</u></b>	<b><u>Instrument</u></b>	<b><u>Method</u></b>
Solids	9	Industrial	2013-10-01	2013-10-03	Gravimetric	RELI-03
BOD/cBOD (5 day)	6	Industrial	2013-10-03	2013-10-08	D.O. Meter	RELI-04
Total Nutrients	12	Industrial	2013-10-01	2013-10-02	Skalar SFA	RELI-12
Oil & Grease (SPE)	3	Industrial	2013-10-03	2013-10-04	Oil & Grease (SPE)	RELO-31

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd



## INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177121

**Submission #:** 222645

### Report Authorization

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-03

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-09

**No. of Samples:** 12

**Report to:**

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 722277 **Field ID:** 16970 **Location:** Region of York  
**Sample Date:** 2013-10-02 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Filtered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722277
General	cBOD (5day)	0.2	300	mg/L	56.0
Nutrients	TKN as N	0.5	100	mg/L	49.8
	Total Phosphorus as P	0.06	10	mg/L	3.52

**Lab ID:** 722278 **Field ID:** 16971 **Location:** Region of York  
**Sample Date:** 2013-10-02 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Unfiltered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722278
General	cBOD (5day)	0.2	300	mg/L	115
	Oil + Grease, Total	2	150	mg/L	24
	Suspended Solids	0.9	350	mg/L	144
	Suspended Solids Ash	0.9		mg/L	10.2
	Suspended Solids LOI	0.9		mg/L	134
Nutrients	TKN as N	0.5	100	mg/L	57.2
	Total Phosphorus as P	0.06	10	mg/L	5.00

**Legend:**

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177121

**Submission #:** 222645

<b>Lab ID:</b> 722279	<b>Field ID:</b> 16972	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-02	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722279
General	cBOD (5day)	0.2	300	mg/L	82.1
Nutrients	TKN as N	0.5	100	mg/L	41.1
	Total Phosphorus as P	0.06	10	mg/L	3.66

<b>Lab ID:</b> 722280	<b>Field ID:</b> 16973	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-02	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722280
General	cBOD (5day)	0.2	300	mg/L	196
	Oil + Grease, Total	2	150	mg/L	28
	Suspended Solids	0.9	350	mg/L	208
	Suspended Solids Ash	0.9		mg/L	15.4
	Suspended Solids LOI	0.9		mg/L	193
Nutrients	TKN as N	0.5	100	mg/L	52.5
	Total Phosphorus as P	0.06	10	mg/L	5.98

<b>Lab ID:</b> 722281	<b>Field ID:</b> 16974	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-02	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722281
General	cBOD (5day)	0.2	300	mg/L	62.8
Nutrients	TKN as N	0.5	100	mg/L	43.0
	Total Phosphorus as P	0.06	10	mg/L	3.11

<b>Lab ID:</b> 722282	<b>Field ID:</b> 16975	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-02	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722282
General	cBOD (5day)	0.2	300	mg/L	148
	Oil + Grease, Total	2	150	mg/L	40
	Suspended Solids	0.9	350	mg/L	213
	Suspended Solids Ash	0.9		mg/L	8.2
	Suspended Solids LOI	0.9		mg/L	204
Nutrients	TKN as N	0.5	100	mg/L	55.1
	Total Phosphorus as P	0.06	10	mg/L	5.32

Legend:

MDL = Method detection limit

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177121

**Submission #:** 222645

<b>Lab ID:</b> 722283	<b>Field ID:</b> 16981	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-03	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722283
General	cBOD (5day)	0.2	300	mg/L	104
Nutrients	TKN as N	0.5	100	mg/L	58.0
	Total Phosphorus as P	0.06	10	mg/L	4.64

<b>Lab ID:</b> 722284	<b>Field ID:</b> 16982	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-03	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722284
General	cBOD (5day)	0.2	300	mg/L	159
	Oil + Grease, Total	2	150	mg/L	39
	Suspended Solids	0.9	350	mg/L	185
	Suspended Solids Ash	0.9		mg/L	16.0
	Suspended Solids LOI	0.9		mg/L	169
Nutrients	TKN as N	0.5	100	mg/L	64.9
	Total Phosphorus as P	0.06	10	mg/L	6.77

<b>Lab ID:</b> 722285	<b>Field ID:</b> 16983	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-03	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722285
General	cBOD (5day)	0.2	300	mg/L	85.8
Nutrients	TKN as N	0.5	100	mg/L	69.0
	Total Phosphorus as P	0.06	10	mg/L	5.85

<b>Lab ID:</b> 722286	<b>Field ID:</b> 16984	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-03	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722286
General	cBOD (5day)	0.2	300	mg/L	192
	Oil + Grease, Total	2	150	mg/L	35
	Suspended Solids	0.9	350	mg/L	295
	Suspended Solids Ash	0.9		mg/L	24.0
	Suspended Solids LOI	0.9		mg/L	271
Nutrients	TKN as N	0.5	100	mg/L	77.5
	Total Phosphorus as P	0.06	10	mg/L	8.38

Legend:

MDL = Method detection limit

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177121

**Submission #:** 222645

<b>Lab ID:</b> 722287	<b>Field ID:</b> 16985	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-03	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722287
General	cBOD (5day)	0.2	300	mg/L	73.0
Nutrients	TKN as N	0.5	100	mg/L	44.0
	Total Phosphorus as P	0.06	10	mg/L	3.35

<b>Lab ID:</b> 722288	<b>Field ID:</b> 16986	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-03	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722288
General	cBOD (5day)	0.2	300	mg/L	154
	Oil + Grease, Total	2	150	mg/L	32
	Suspended Solids	0.9	350	mg/L	191
	Suspended Solids Ash	0.9		mg/L	11.8
	Suspended Solids LOI	0.9		mg/L	179
Nutrients	TKN as N	0.5	100	mg/L	50.3
	Total Phosphorus as P	0.06	10	mg/L	4.90

#### Analysis Summary

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	18	Industrial	2013-10-03	2013-10-07	Gravimetric	RELI-03
BOD/cBOD (5 day)	12	Industrial	2013-10-04	2013-10-09	D.O. Meter	RELI-04
Total Nutrients	24	Industrial	2013-10-03	2013-10-04	Skalar SFA	RELI-12
Oil & Grease (SPE)	6	Industrial	2013-10-07	2013-10-08	Oil & Grease (SPE)	RELO-31

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

Legend:

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Date Format: yyyy-mm-dd



## INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177177

**Submission #:** 222646

### Report Authorization

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-04

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-09

**No. of Samples:** 6

**Report to:**

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Operations Manager  
Region of York  
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Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 722514 **Field ID:** 16987 **Location:** Region of York  
**Sample Date:** 2013-10-04 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Filtered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722514
General	cBOD (5day)	0.2	300	mg/L	160
Nutrients	TKN as N	0.5	100	mg/L	55.0
	Total Phosphorus as P	0.06	10	mg/L	4.15

**Lab ID:** 722515 **Field ID:** 16988 **Location:** Region of York  
**Sample Date:** 2013-10-04 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Unfiltered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722515
General	cBOD (5day)	0.2	300	mg/L	211
	Oil + Grease, Total	2	150	mg/L	25
	Suspended Solids	0.9	350	mg/L	113
	Suspended Solids Ash	0.9		mg/L	5.2
	Suspended Solids LOI	0.9		mg/L	108
Nutrients	TKN as N	0.5	100	mg/L	60.2
	Total Phosphorus as P	0.06	10	mg/L	5.39

**Legend:**

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Date Format: yyyy-mm-dd

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177177

**Submission #:** 222646

<b>Lab ID:</b> 722516	<b>Field ID:</b> 16989	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-04	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722516
General	cBOD (5day)	0.2	300	mg/L	102
Nutrients	TKN as N	0.5	100	mg/L	54.6
	Total Phosphorus as P	0.06	10	mg/L	4.75

<b>Lab ID:</b> 722517	<b>Field ID:</b> 16990	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-04	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722517
General	cBOD (5day)	0.2	300	mg/L	208
	Oil + Grease, Total	2	150	mg/L	43
	Suspended Solids	0.9	350	mg/L	287
	Suspended Solids Ash	0.9		mg/L	25.6
	Suspended Solids LOI	0.9		mg/L	261
Nutrients	TKN as N	0.5	100	mg/L	68.4
	Total Phosphorus as P	0.06	10	mg/L	7.67

<b>Lab ID:</b> 722518	<b>Field ID:</b> 16991	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-04	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722518
General	cBOD (5day)	0.2	300	mg/L	90.8
Nutrients	TKN as N	0.5	100	mg/L	48.0
	Total Phosphorus as P	0.06	10	mg/L	3.72

<b>Lab ID:</b> 722519	<b>Field ID:</b> 16992	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-04	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722519
General	cBOD (5day)	0.2	300	mg/L	185
	Oil + Grease, Total	2	150	mg/L	39
	Suspended Solids	0.9	350	mg/L	208
	Suspended Solids Ash	0.9		mg/L	11.6
	Suspended Solids LOI	0.9		mg/L	196
Nutrients	TKN as N	0.5	100	mg/L	58.9
	Total Phosphorus as P	0.06	10	mg/L	5.76

Legend:

MDL = Method detection limit

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177177

**Submission #:** 222646

**Analysis Summary**

<b><u>Test Group</u></b>	<b><u>Quantity</u></b>	<b><u>Sample Matrix</u></b>	<b><u>Date Prepared</u></b>	<b><u>Date Analyzed</u></b>	<b><u>Instrument</u></b>	<b><u>Method</u></b>
Solids	9	Industrial	2013-10-04	2013-10-08	Gravimetric	RELI-03
BOD/cBOD (5 day)	6	Industrial	2013-10-04	2013-10-09	D.O. Meter	RELI-04
Total Nutrients	12	Industrial	2013-10-04	2013-10-08	Skalar SFA	RELI-12
Oil & Grease (SPE)	3	Industrial	2013-10-07	2013-10-08	Oil & Grease (SPE)	RELO-31

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

**Legend:**

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd



## INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177226

**Submission #:** 222651

### Report Authorization

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-07

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-15

**No. of Samples:** 6

**Report to:**

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Region of York  
17250 Yonge St., Box 147  
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chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 722791 **Field ID:** 17067 **Location:** Region of York  
**Sample Date:** 2013-10-05 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Filtered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722791
General	cBOD (5day)	0.2	300	mg/L	82.3
Nutrients	TKN as N	0.5	100	mg/L	41.6
	Total Phosphorus as P	0.06	10	mg/L	3.45

**Lab ID:** 722792 **Field ID:** 17068 **Location:** Region of York  
**Sample Date:** 2013-10-05 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A - Unfiltered  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722792
General	cBOD (5day)	0.2	300	mg/L	124
	Oil + Grease, Total	2	150	mg/L	20
	Suspended Solids	0.9	350	mg/L	113
	Suspended Solids Ash	0.9		mg/L	4.4
	Suspended Solids LOI	0.9		mg/L	109
Nutrients	TKN as N	0.5	100	mg/L	47.6
	Total Phosphorus as P	0.06	10	mg/L	4.69

**Legend:**

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177226

**Submission #:** 222651

<b>Lab ID:</b> 722793	<b>Field ID:</b> 17069	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722793
General	cBOD (5day)	0.2	300	mg/L	156
Nutrients	TKN as N	0.5	100	mg/L	81.9
	Total Phosphorus as P	0.06	10	mg/L	6.57

<b>Lab ID:</b> 722794	<b>Field ID:</b> 17070	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722794
General	cBOD (5day)	0.2	300	mg/L	196
	Oil + Grease, Total	2	150	mg/L	41
	Suspended Solids	0.9	350	mg/L	358^
	Suspended Solids Ash	0.9		mg/L	21.2
	Suspended Solids LOI	0.9		mg/L	337
Nutrients	TKN as N	0.5	100	mg/L	92.4
	Total Phosphorus as P	0.06	10	mg/L	9.17

<b>Lab ID:</b> 722795	<b>Field ID:</b> 17071	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Filtered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722795
General	cBOD (5day)	0.2	300	mg/L	79.5
Nutrients	TKN as N	0.5	100	mg/L	56.1
	Total Phosphorus as P	0.06	10	mg/L	3.94

<b>Lab ID:</b> 722796	<b>Field ID:</b> 17072	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - Unfiltered
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722796
General	cBOD (5day)	0.2	300	mg/L	147
	Oil + Grease, Total	2	150	mg/L	27
	Suspended Solids	0.9	350	mg/L	197
	Suspended Solids Ash	0.9		mg/L	10.8
	Suspended Solids LOI	0.9		mg/L	186
Nutrients	TKN as N	0.5	100	mg/L	63.1
	Total Phosphorus as P	0.06	10	mg/L	5.52

Legend:

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< = Less than

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Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177226

**Submission #:** 222651

**Analysis Summary**

<b><u>Test Group</u></b>	<b><u>Quantity</u></b>	<b><u>Sample Matrix</u></b>	<b><u>Date Prepared</u></b>	<b><u>Date Analyzed</u></b>	<b><u>Instrument</u></b>	<b><u>Method</u></b>
Solids	9	Industrial	2013-10-07	2013-10-09	Gravimetric	RELI-03
BOD/cBOD (5 day)	6	Industrial	2013-10-08	2013-10-13	D.O. Meter	RELI-04
Total Nutrients	12	Industrial	2013-10-07	2013-10-08	Skalar SFA	RELI-12
Oil & Grease (SPE)	3	Industrial	2013-10-07	2013-10-08	Oil & Grease (SPE)	RELO-31

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

Hourly Grab Sampling Results  
October 5, 2013 to October 12, 2013

720  
35C  
\* PLEASE SEE ATTACHED

**York Region YORK - DURHAM**  
**Regional Environmental Laboratory**

901 McKay Road, Pickering, ON L1W 3A3, TEL: 905-686-0041, FAX: 905-686

YD222647

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-695-1200x5133/905-9300-6927</u>	Additional Reports To: <u>OPERATIONS MANAGER</u>
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: _____	

Lab Sample	Laboratory Sample ID	Location	Sample					Lab Sample	Signature Required	Bodies		Chain of Custody
			Time	Volume	Substrate	Date	Time			San	Water	
16993 A	722719	Aurora FWG 36A	Industrial	Grab	York	10-06-13	8:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16993 B	722720						9:48					
16994 A	722721	Aurora FWG 36A	Industrial	Grab	York	10-06-13	10:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16994 B	722722						11:48					
16995 A	722723	Aurora FWG 36A	Industrial	Grab	York	10-06-13	12:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16995 B	722724						13:48					
16996 A	722725	Aurora FWG 36A	Industrial	Grab	York	10-06-13	14:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16996 B	722726						15:48					
16997 A	722727	Aurora FWG 36A	Industrial	Grab	York	10-06-13	16:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16997 B	722728						17:48					
16998 A	722729	Aurora FWG 36A	Industrial	Grab	York	10-06-13	18:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16998 B	722730						19:48					
16999 A	722731	Aurora FWG 36A	Industrial	Grab	York	10-06-13	20:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
16999 B	722732						21:48					
17000 A	722733	Aurora FWG 36A	Industrial	Grab	York	10-06-13	22:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17000 B	722734						23:48					
17001 A	722735	Aurora FWG 36A	Industrial	Grab	York	10-06-13	24:48	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17001 B	722736						1:48					

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-07-13</u>
	mm-dd-yy
Time:	_____
	hh:mm

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Comments:	_____
Received By:	<u>13 OCT 7 PM 1:25</u>
	Print and Sign
WO#:	<u>2177225</u>
Date / Time:	_____



YD222647

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Sample ID	Location	Type	Grab	York	Date	Time	Parameter	Volume	Result	Unit	Notes
17002A / 722739	Aurora FWG 36A	Industrial	Grab	York	10-06-13	2:48	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17002B / 722738						3:48					
17003A / 722737	Aurora FWG 36A	Industrial	Grab	York	10-06-13	4:48	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17003B / 722740						5:48					
17004A / 722741	Aurora FWG 36A	Industrial	Grab	York	10-06-13	6:48	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17004B / 722742						7:48					
17006A / 722743	Aurora FWG 51A	Industrial	Grab	York	10-06-13	9:16	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17006B / 722744						10:16					
17007A / 722745	Aurora FWG 51A	Industrial	Grab	York	10-06-13	11:16	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17007B / 722746						12:16					
17008A / 722747	Aurora FWG 51A	Industrial	Grab	York	10-06-13	13:16	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17008B / 722748						14:16					
17009A / 722749	Aurora FWG 51A	Industrial	Grab	York	10-06-13	15:16	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17009B / 722750						16:16					
17010A / 722751	Aurora FWG 51A	Industrial	Grab	York	10-06-13	17:16	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17010B / 722752						18:16					
17011A / 722753	Aurora FWG 51A	Industrial	Grab	York	10-06-13	19:16	CBOD SOLSUS	2	2		SEWER USE BY-LAW
17011B / 722754						20:16					

Submitted By:	<u>Vetri Kasinathan</u>
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Date:	<u>10-07-13</u>
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YD222647

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x5133/905-9300-8927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: _____	

Lab Sample ID	Laboratory Sample ID	Sublocation	Sample					Test	Sample Type	Volume		Remarks
			Matrix	Type	Source	Date	Time			From	To	
17012A	722755	Aurora FWG 51A	Industrial	Grab	York	10-06-13	21:16	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17012B	722756						22:16					
17013A	722757	Aurora FWG 51A	Industrial	Grab	York	10-06-13	23:16	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17013B	722758						24:16					
17014A	722759	Aurora FWG 51A	Industrial	Grab	York	10-06-13	1:16	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17014B	722760						2:16					
17015A	722761	Aurora FWG 51A	Industrial	Grab	York	10-06-13	3:16	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17015B	722762						4:16					
17016A	722763	Aurora FWG 51A	Industrial	Grab	York	10-06-13	5:16	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17016B	722764						6:16					
17017A	722765	Aurora FWG 51A	Industrial	Grab	York	10-06-13	7:16	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17017B	722766						8:16					
17018A	722767	Aurora FWG 52A	Industrial	Grab	York	10-06-13	10:39	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17018B	722768						12:39					
17019A	722769	Aurora FWG 52A	Industrial	Grab	York	10-06-13	13:39	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17019B	722770						14:39					
17020A	722771	Aurora FWG 52A	Industrial	Grab	York	10-06-13	15:39	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17020B	722772						16:39					

Submitted By: _____	<u>Vetri Kasinathan</u>
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Delivered By: _____	<u>Vetri Kasinathan</u>
	Print and Sign
Date: _____	<u>10-07-13</u>
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## Regional Environmental Laboratory

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YD222647

## Chain of Custody Form

Wastewater and Soils

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample ID		Sub-Station	Client	Type	Location	Date	Time	Parameter	Concentration	Unit	Result	Notes	
17021A	722773	Aurora FWG 52A	Industrial	Grab	York	10-06-13	18:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17021B	722774						18:30						
17022A	722775	Aurora FWG 52A	Industrial	Grab	York	10-06-13	19:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17022B	722776						20:30						
17023A	722777	Aurora FWG 52A	Industrial	Grab	York	10-06-13	21:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17023B	722778						22:30						
17024A	722779	Aurora FWG 52A	Industrial	Grab	York	10-06-13	23:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17024B	722780						24:30						
17025A	722781	Aurora FWG 52A	Industrial	Grab	York	10-06-13	1:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17025B	722782						2:30						
17026A	722783	Aurora FWG 52A	Industrial	Grab	York	10-06-13	3:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17026B	722784						4:30						
17027A	722785	Aurora FWG 52A	Industrial	Grab	York	10-06-13	5:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17027B	722786						6:30						
17028A	722787	Aurora FWG 52A	Industrial	Grab	York	10-06-13	7:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17028B	722788						8:30						
17029A	722789	Aurora FWG 52A	Industrial	Grab	York	10-06-13	9:30	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17029B	722790						10:30						

Submitted By:	<u>Vetri Kasinathan</u>
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	Print and Sign
Date:	<u>10-07-13</u>
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Labeled By:	
Checked Date/Time:	
Proofed By:	



## INORGANICS ANALYSIS REPORT

Page 1 of 9

**Work Order #:** 2177225

**Submission #:** 222647

### Report Authorization

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-07

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-15

**Report to:**

**No. of Samples:** 35

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 722721 **Field ID:** 16994A **Location:** Region of York  
**Sample Date:** 2013-10-05 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722721
General	cBOD (5day)	0.2	300	mg/L	65.7
	Suspended Solids	0.9	350	mg/L	73.0

**Lab ID:** 722724 **Field ID:** 16995B **Location:** Region of York  
**Sample Date:** 2013-10-05 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722724
General	cBOD (5day)	0.2	300	mg/L	174
	Suspended Solids	0.9	350	mg/L	361^

**Lab ID:** 722727 **Field ID:** 16997A **Location:** Region of York  
**Sample Date:** 2013-10-05 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 722727
General	cBOD (5day)	0.2	300	mg/L	27.9
	Suspended Solids	0.9	350	mg/L	40.1

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Regional Environmental Laboratory**

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Local Telephone: (905) 686-0041 Fax: (905) 686-0664

**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b> 722728	<b>Field ID:</b> 16997B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722728
General	cBOD (5day)	0.2	300	mg/L	316^
	Suspended Solids	0.9	350	mg/L	54.6

<b>Lab ID:</b> 722729	<b>Field ID:</b> 16998A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722729
General	cBOD (5day)	0.2	300	mg/L	120
	Suspended Solids	0.9	350	mg/L	115

<b>Lab ID:</b> 722730	<b>Field ID:</b> 16998B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722730
General	cBOD (5day)	0.2	300	mg/L	217
	Suspended Solids	0.9	350	mg/L	186

<b>Lab ID:</b> 722733	<b>Field ID:</b> 17000A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722733
General	cBOD (5day)	0.2	300	mg/L	81.0
	Suspended Solids	0.9	350	mg/L	68.8

Legend:

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b> 722736	<b>Field ID:</b> 17001B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722736
General	cBOD (5day)	0.2	300	mg/L	114
	Suspended Solids	0.9	350	mg/L	184

<b>Lab ID:</b> 722739	<b>Field ID:</b> 17003A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722739
General	cBOD (5day)	0.2	300	mg/L	40.8
	Suspended Solids	0.9	350	mg/L	38.3

<b>Lab ID:</b> 722740	<b>Field ID:</b> 17003B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722740
General	cBOD (5day)	0.2	300	mg/L	90.9
	Suspended Solids	0.9	350	mg/L	94.9

<b>Lab ID:</b> 722741	<b>Field ID:</b> 17004A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722741
General	cBOD (5day)	6.0	300	mg/L	<6.0
	Suspended Solids	0.9	350	mg/L	40.7

Legend:

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b>	722742	<b>Field ID:</b>	17004B	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-06	<b>Criteria:</b>	Sewer Use By-law	<b>Sub Location:</b>	Aurora FWG 36A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 722742
General	cBOD (5day)	0.2	300	mg/L	163
	Suspended Solids	0.9	350	mg/L	125

<b>Lab ID:</b>	722745	<b>Field ID:</b>	17007A	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-05	<b>Criteria:</b>	Sewer Use By-law	<b>Sub Location:</b>	Aurora FWG 51A - 11:16/12:16 Composite
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 722745
General	cBOD (5day)	0.2	300	mg/L	92.7
	Suspended Solids	0.9	350	mg/L	112

<b>Lab ID:</b>	722748	<b>Field ID:</b>	17008B	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-05	<b>Criteria:</b>	Sewer Use By-law	<b>Sub Location:</b>	Aurora FWG 51A - 13:16/14:16 Composite
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 722748
General	cBOD (5day)	0.2	300	mg/L	187
	Suspended Solids	0.9	350	mg/L	247

<b>Lab ID:</b>	722751	<b>Field ID:</b>	17010A	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-05	<b>Criteria:</b>	Sewer Use By-law	<b>Sub Location:</b>	Aurora FWG 51A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 722751
General	cBOD (5day)	0.2	300	mg/L	138
	Suspended Solids	0.9	350	mg/L	88.3

Legend:

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b> 722752	<b>Field ID:</b> 17010B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722752
General	cBOD (5day)	0.2	300	mg/L	565^
	Suspended Solids	0.9	350	mg/L	184

<b>Lab ID:</b> 722753	<b>Field ID:</b> 17011A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722753
General	cBOD (5day)	0.2	300	mg/L	188
	Suspended Solids	0.9	350	mg/L	317

<b>Lab ID:</b> 722754	<b>Field ID:</b> 17011B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722754
General	cBOD (5day)	0.2	300	mg/L	199
	Suspended Solids	0.9	350	mg/L	276

<b>Lab ID:</b> 722757	<b>Field ID:</b> 17013A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722757
General	cBOD (5day)	0.2	300	mg/L	77.4
	Suspended Solids	0.9	350	mg/L	157

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b> 722760	<b>Field ID:</b> 17014B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722760
General	cBOD (5day)	0.2	300	mg/L	121
	Suspended Solids	0.9	350	mg/L	37.1

<b>Lab ID:</b> 722763	<b>Field ID:</b> 17016A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722763
General	cBOD (5day)	0.2	300	mg/L	193
	Suspended Solids	0.9	350	mg/L	501^

<b>Lab ID:</b> 722764	<b>Field ID:</b> 17016B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722764
General	cBOD (5day)	0.2	300	mg/L	108
	Suspended Solids	0.9	350	mg/L	308

<b>Lab ID:</b> 722765	<b>Field ID:</b> 17017A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722765
General	cBOD (5day)	0.2	300	mg/L	66.0
	Suspended Solids	0.9	350	mg/L	103

Legend:

MDL = Method detection limit

< = Less than

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b> 722766	<b>Field ID:</b> 17017B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722766
General	cBOD (5day)	0.2	300	mg/L	58.5
	Suspended Solids	0.9	350	mg/L	50.8

<b>Lab ID:</b> 722767	<b>Field ID:</b> 17018A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722767
General	cBOD (5day)	0.2	300	mg/L	194
	Suspended Solids	0.9	350	mg/L	59.3

<b>Lab ID:</b> 722769	<b>Field ID:</b> 17019A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722769
General	cBOD (5day)	0.2	300	mg/L	241
	Suspended Solids	0.9	350	mg/L	238

<b>Lab ID:</b> 722772	<b>Field ID:</b> 17020B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722772
General	cBOD (5day)	0.2	300	mg/L	190
	Suspended Solids	0.9	350	mg/L	93.5

Legend:

MDL = Method detection limit

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**Work Order #:** 2177225

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<b>Lab ID:</b> 722774	<b>Field ID:</b> 17021B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - 17:30/18:30 Composite
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722774
General	cBOD (5day)	0.2	300	mg/L	193
	Suspended Solids	0.9	350	mg/L	189

<b>Lab ID:</b> 722775	<b>Field ID:</b> 17022A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A - 19:30/20:30 Composite
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722775
General	cBOD (5day)	0.2	300	mg/L	220
	Suspended Solids	0.9	350	mg/L	325

<b>Lab ID:</b> 722779	<b>Field ID:</b> 17024A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-05	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722779
General	cBOD (5day)	0.2	300	mg/L	186
	Suspended Solids	0.9	350	mg/L	399^

<b>Lab ID:</b> 722782	<b>Field ID:</b> 17025B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722782
General	cBOD (5day)	0.2	300	mg/L	208
	Suspended Solids	0.9	350	mg/L	413^

Legend:

MDL = Method detection limit

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**Work Order #:** 2177225

**Submission #:** 222647

<b>Lab ID:</b> 722785	<b>Field ID:</b> 17027A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722785
General	cBOD (5day)	0.2	300	mg/L	176
	Suspended Solids	0.9	350	mg/L	105

<b>Lab ID:</b> 722786	<b>Field ID:</b> 17027B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722786
General	cBOD (5day)	0.2	300	mg/L	184
	Suspended Solids	0.9	350	mg/L	287

<b>Lab ID:</b> 722787	<b>Field ID:</b> 17028A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722787
General	cBOD (5day)	0.2	300	mg/L	236
	Suspended Solids	0.9	350	mg/L	277

<b>Lab ID:</b> 722788	<b>Field ID:</b> 17028B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 722788
General	cBOD (5day)	0.2	300	mg/L	161
	Suspended Solids	0.9	350	mg/L	54.2

#### Analysis Summary

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	35	Industrial	2013-10-08	2013-10-09	Gravimetric	RELI-03
BOD/cBOD (5 day)	35	Industrial	2013-10-08	2013-10-13	D.O. Meter	RELI-04

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd



## INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177298

**Submission #:** 222650

### Report Authorization

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-07

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-18

**Report to:**

**No. of Samples:** 36

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 723156      **Field ID:** 17030-2      **Location:** Region of York  
**Sample Date:** 2013-10-06      **Criteria:** Sewer Use By-law      **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 723156
General	cBOD (5day)	0.2	300	mg/L	115
	Suspended Solids	0.9	350	mg/L	26.8

**Lab ID:** 723157      **Field ID:** 17032-5      **Location:** Region of York  
**Sample Date:** 2013-10-06      **Criteria:** Sewer Use By-law      **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 723157
General	cBOD (5day)	0.2	300	mg/L	116
	Suspended Solids	0.9	350	mg/L	35.6

**Lab ID:** 723158      **Field ID:** 17033-8      **Location:** Region of York  
**Sample Date:** 2013-10-06      **Criteria:** Sewer Use By-law      **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 723158
General	cBOD (5day)	0.2	300	mg/L	159
	Suspended Solids	0.9	350	mg/L	73.7

**Legend:**

MDL = Method detection limit

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723159	<b>Field ID:</b> 17034-9	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723159
General	cBOD (5day)	0.2	300	mg/L	178
	Suspended Solids	0.9	350	mg/L	74.0

<b>Lab ID:</b> 723160	<b>Field ID:</b> 17034-10	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723160
General	cBOD (5day)	0.2	300	mg/L	170
	Suspended Solids	0.9	350	mg/L	43.8

<b>Lab ID:</b> 723161	<b>Field ID:</b> 17035-11	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723161
General	cBOD (5day)	0.2	300	mg/L	165
	Suspended Solids	0.9	350	mg/L	55.7

<b>Lab ID:</b> 723162	<b>Field ID:</b> 17036-14	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723162
General	cBOD (5day)	0.2	300	mg/L	99.9
	Suspended Solids	0.9	350	mg/L	33.5

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723163	<b>Field ID:</b> 17038-17	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723163
General	cBOD (5day)	0.2	300	mg/L	41.1
	Suspended Solids	0.9	350	mg/L	27.8

<b>Lab ID:</b> 723164	<b>Field ID:</b> 17039-20	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723164
General	cBOD (5day)	0.2	300	mg/L	152
	Suspended Solids	0.9	350	mg/L	264

<b>Lab ID:</b> 723165	<b>Field ID:</b> 17040-21	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723165
General	cBOD (5day)	0.2	300	mg/L	72.9
	Suspended Solids	0.9	350	mg/L	90.5

<b>Lab ID:</b> 723166	<b>Field ID:</b> 17040-22	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723166
General	cBOD (5day)	0.2	300	mg/L	174
	Suspended Solids	0.9	350	mg/L	70.3

Legend:

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723167	<b>Field ID:</b> 17041-23	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723167
General	cBOD (5day)	0.2	300	mg/L	94.2
	Suspended Solids	0.9	350	mg/L	65.5

<b>Lab ID:</b> 723168	<b>Field ID:</b> 17042-2	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723168
General	cBOD (5day)	0.2	300	mg/L	334^
	Suspended Solids	0.9	350	mg/L	56.8

<b>Lab ID:</b> 723169	<b>Field ID:</b> 17044-5	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723169
General	cBOD (5day)	0.2	300	mg/L	110
	Suspended Solids	0.9	350	mg/L	86.2

<b>Lab ID:</b> 723170	<b>Field ID:</b> 17045-8	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723170
General	cBOD (5day)	0.2	300	mg/L	172
	Suspended Solids	0.9	350	mg/L	114

Legend:

MDL = Method detection limit

< = Less than

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<b>Lab ID:</b> 723171	<b>Field ID:</b> 17046-9	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723171
General	cBOD (5day)	0.2	300	mg/L	69.9
	Suspended Solids	0.9	350	mg/L	68.8

<b>Lab ID:</b> 723172	<b>Field ID:</b> 17046-10	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723172
General	cBOD (5day)	0.2	300	mg/L	1770^
	Suspended Solids	0.9	350	mg/L	85.8

<b>Lab ID:</b> 723173	<b>Field ID:</b> 17047-11	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723173
General	cBOD (5day)	0.2	300	mg/L	235
	Suspended Solids	0.9	350	mg/L	65.0

<b>Lab ID:</b> 723174	<b>Field ID:</b> 17048-14	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723174
General	cBOD (5day)	0.2	300	mg/L	412^
	Suspended Solids	0.9	350	mg/L	372^

Legend:

MDL = Method detection limit

< = Less than

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723175	<b>Field ID:</b> 17050-17	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723175
General	cBOD (5day)	0.2	300	mg/L	81.3
	Suspended Solids	0.9	350	mg/L	447^

<b>Lab ID:</b> 723176	<b>Field ID:</b> 17051-20	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723176
General	cBOD (5day)	0.2	300	mg/L	199
	Suspended Solids	0.9	350	mg/L	112

<b>Lab ID:</b> 723177	<b>Field ID:</b> 17052-21	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723177
General	cBOD (5day)	0.2	300	mg/L	141
	Suspended Solids	0.9	350	mg/L	76.0

<b>Lab ID:</b> 723178	<b>Field ID:</b> 17052-22	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723178
General	cBOD (5day)	0.2	300	mg/L	196
	Suspended Solids	0.9	350	mg/L	79.1

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd



**YORK-DURHAM**  
**Regional Environmental Laboratory**

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Local Telephone: (905) 686-0041 Fax: (905) 686-0664

**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723179	<b>Field ID:</b> 17053-23	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723179
General	cBOD (5day)	0.2	300	mg/L	180
	Suspended Solids	0.9	350	mg/L	102

<b>Lab ID:</b> 723180	<b>Field ID:</b> 17054-1	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723180
General	cBOD (5day)	0.2	300	mg/L	196
	Suspended Solids	0.9	350	mg/L	220

<b>Lab ID:</b> 723181	<b>Field ID:</b> 17055-3	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723181
General	cBOD (5day)	0.2	300	mg/L	259
	Suspended Solids	0.9	350	mg/L	199

<b>Lab ID:</b> 723182	<b>Field ID:</b> 17056-6	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723182
General	cBOD (5day)	0.2	300	mg/L	205
	Suspended Solids	0.9	350	mg/L	191

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723183	<b>Field ID:</b> 17057-7	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723183
General	cBOD (5day)	0.2	300	mg/L	199
	Suspended Solids	0.9	350	mg/L	113

<b>Lab ID:</b> 723184	<b>Field ID:</b> 17057-8	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723184
General	cBOD (5day)	0.2	300	mg/L	202
	Suspended Solids	0.9	350	mg/L	128

<b>Lab ID:</b> 723185	<b>Field ID:</b> 17058-9	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723185
General	cBOD (5day)	0.2	300	mg/L	187
	Suspended Solids	0.9	350	mg/L	161

<b>Lab ID:</b> 723186	<b>Field ID:</b> 17059-12	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-06	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723186
General	cBOD (5day)	0.2	300	mg/L	191
	Suspended Solids	0.9	350	mg/L	183

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723187	<b>Field ID:</b> 17061-16	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723187
General	cBOD (5day)	0.2	300	mg/L	124
	Suspended Solids	0.9	350	mg/L	216

<b>Lab ID:</b> 723188	<b>Field ID:</b> 17063-19	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723188
General	cBOD (5day)	0.2	300	mg/L	182
	Suspended Solids	0.9	350	mg/L	341

<b>Lab ID:</b> 723189	<b>Field ID:</b> 17063-20	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723189
General	cBOD (5day)	0.2	300	mg/L	183
	Suspended Solids	0.9	350	mg/L	219

<b>Lab ID:</b> 723190	<b>Field ID:</b> 17064-21	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723190
General	cBOD (5day)	0.2	300	mg/L	146
	Suspended Solids	0.9	350	mg/L	108

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177298

**Submission #:** 222650

<b>Lab ID:</b> 723191	<b>Field ID:</b> 17064-22	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723191
General	cBOD (5day)	0.2	300	mg/L	144
	Suspended Solids	0.9	350	mg/L	189

**Analysis Summary**

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	36	Industrial	2013-10-08	2013-10-09	Gravimetric	RELI-03
BOD/cBOD (5 day)	36	Industrial	2013-10-08	2013-10-13	D.O. Meter	RELI-04

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

**York Region YORK - DURHAM**  
**Regional Environmental Laboratory**



901 McKay Road, Pickering, ON L1W 3A3, TEL: 905-886-0041, FAX: 905-886

**YD222650**

**Chain of Custody Form**

**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x6133/906-9300-6927</u>	Additional Reports To: <u>OPERATIONS MANAGER</u>
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: _____	

Lab Sample #	Sample ID	Sublocation	Sample					Test Group/Item	Sampler Info	Date		Signature
			Matrix	Type	Source	Date	Time			Sample	Time	
17030	1 <i>723136</i>	Aurora FWG 36A	Industrial	Grab	York	10-07-13	9:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17031	3 4	Aurora FWG 36A	Industrial	Grab	York	10-07-13	11:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17032	5 <i>7231575</i> 6	Aurora FWG 36A	Industrial	Grab	York	10-07-13	13:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17033	7 <i>7231588</i>	Aurora FWG 36A	Industrial	Grab	York	10-07-13	15:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17034	<i>7231599</i> <i>7231600</i>	Aurora FWG 36A	Industrial	Grab	York	10-07-13	17:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17035	<i>7231611</i> 12	Aurora FWG 36A	Industrial	Grab	York	10-07-13	19:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17036	13 <i>7231624</i>	Aurora FWG 36A	Industrial	Grab	York	10-07-13	21:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17037	15 16	Aurora FWG 36A	Industrial	Grab	York	10-07-13	23:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17038	<i>7231637</i> 18	Aurora FWG 36A	Industrial	Grab	York	10-07-13	1:38	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-07-13</u>
	mm-dd-yy
Time:	_____
	hh:mm

Pls. see attached for corrected sample dates

LAB Use Only	
Comments:	_____
Received By:	<u>[Signature]</u>
	Print and Sign
WO#:	<u>13 OCT 7 PM 1:21</u>
Date / Time:	<u>2177298</u>



**YD222650**

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <b>Region of York</b>	Contact Name: <b>Fai Ng</b>	Tel/Fax: <b>905-686-1200x6133/905-9300-6927</b>	Additional Reports To:
Project: <b>777 7777 0016</b>	Address: <b>17250 Yonge Street</b>	E-mail: <b>chl-fai.ng@york.ca</b>	
Sampler: <b>Vetri Kasinathan</b>	<b>Newmarket, ON L3Y 6Z1</b>	Autolog #:	



17039	19 7231620	Aurora FWG 36A	Industrial	Grab	York	10-07-13	3:38 4:38	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17040	72316521 72316622	Aurora FWG 36A	Industrial	Grab	York	10-07-13	5:38 6:38	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17041	72316723 24	Aurora FWG 36A	Industrial	Grab	York	10-07-13	7:38 8:38	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17042	1 7231682	Aurora FWG 51A	Industrial	Grab	York	10-07-13	10:30 11:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17043	3 4	Aurora FWG 51A	Industrial	Grab	York	10-07-13	12:30 13:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17044	7231695 6	Aurora FWG 51A	Industrial	Grab	York	10-07-13	14:30 15:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17045	7 7231708	Aurora FWG 51A	Industrial	Grab	York	10-07-13	16:30 17:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17046	7231719 72317210	Aurora FWG 51A	Industrial	Grab	York	10-07-13	18:30 19:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17047	72317311 12	Aurora FWG 51A	Industrial	Grab	York	10-07-13	20:30 21:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW

Pls. see attached  
for corrected  
sample dates

Submitted By:	<b>Vetri Kasinathan</b>
	Print and Sign
Delivered By:	<b>Vetri Kasinathan</b>
	Print and Sign
Date:	<b>10-07-13</b>
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WO#:	
Date / Time:	



**YD222650**

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample ID	Lab Sample ID	Sublocation	Sample					Lab Equipment	Signature: Who Required	#Tests		Guideline
			Matrix	Type	Source	Date / Time Collected	Time Sampled			Flow	#Rep	
17048	I 7231744	Aurora FWG 51A	Industrial	Grab	York	*10-07-13	22:30 23:30	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17049	15 16	Aurora FWG 51A	Industrial	Grab	York	10-07-13	00:30 1:30	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17050	72317517 18	Aurora FWG 51A	Industrial	Grab	York	10-07-13	2:30 3:30	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17051	19 72317620	Aurora FWG 51A	Industrial	Grab	York	10-07-13	4:30 5:30	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17052	72317721 72317822	Aurora FWG 51A	Industrial	Grab	York	10-07-13	6:30 7:30	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17053	72317923 24	Aurora FWG 51A	Industrial	Grab	York	10-07-13	8:30 9:30	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17054	7231801 2	Aurora FWG 52A	Industrial	Grab	York	*10-07-13	12:03 13:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17055	7231813 4	Aurora FWG 52A	Industrial	Grab	York	*10-07-13	14:03 15:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17056	5 7231826	Aurora FWG 52A	Industrial	Grab	York	*10-07-13	16:03 17:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
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	Print and Sign
Date:	<u>10-07-13</u>
	mm-dd-yy
Time:	
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*\* Pls. see attached for corrected sample dates*

LAB Use Only	
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Received By:	
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WO#:	
Date / Time:	



YD222650

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x5133/905-9300-6827</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Sample ID	Sample Description	Location	Matrix	Type	City	Date	Time	Parameter	Volume (L)	Volume (mL)	Volume (mL)	Volume (mL)
17057	7231837 7231848	Aurora FWG 52A	Industrial	Grab	York	10-07-13	18:03 19:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17058	7231859 10	Aurora FWG 52A	Industrial	Grab	York	10-07-13	20:03 21:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17059	11 7231862	Aurora FWG 52A	Industrial	Grab	York	10-07-13	22:03 23:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17060	13 14	Aurora FWG 52A	Industrial	Grab	York	10-07-13	24:03 01:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17061	15 72318716	Aurora FWG 52A	Industrial	Grab	York	10-07-13	01:03 02:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17062	17 18	Aurora FWG 52A	Industrial	Grab	York	10-07-13	03:03 04:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17063	72318819 72318920	Aurora FWG 52A	Industrial	Grab	York	10-07-13	05:03 06:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17064	72319021 72319122	Aurora FWG 52A	Industrial	Grab	York	10-07-13	07:03 08:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17065	23 24	Aurora FWG 52A	Industrial	Grab	York	10-07-13	09:03 10:03	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-07-13</u>
	mm-dd-yy
Time:	
	hh:mm

SORTED/LINED UP BY: MS  
 LABELED BY: MS  
 CHECKED BY: MS  
 PROOFED BY:

Comments:	
Received By:	
	Print and Sign
WO#:	
Date / Time:	

\* Pls. see attached for corrected sample dates



**YORK - DURHAM**  
**Regional Environmental Laboratory**

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YD222650

**Chain of Custody Form**  
**Wastewater and Soils**

Client:	Region of York	Contact Name:	Fai Ng	Tel/Fax:	905-598-1288/5133/905-9308-6927	Additional Reports To:
Project:	777 7777 0016	Address:	17250 Yonge Street	E-mail:	chi-fai.ng@york.ca	
Sampler:	Vetri Kasinathan		Newmarket, ON L3Y 6Z1	Autolog #:		

Sample ID	Location	Sample Type	Grab	York	Date	Time	Parameter	Volume	Notes	SEWER USE BY-LAW
17030	1	Aurora FWG 36A	Industrial	Grab	York	10-6-13	9:58	CBOD SOLSUS	2	2
	2					10:38				
17031	3	Aurora FWG 36A	Industrial	Grab	York	10-6-13	11:58	CBOD SOLSUS	2	2
	4					12:38				
17032	5	Aurora FWG 36A	Industrial	Grab	York	10-6-13	15:58	CBOD SOLSUS	2	2
	6					16:38				
17033	7	Aurora FWG 36A	Industrial	Grab	York	10-6-13	15:58	CBOD SOLSUS	2	2
	8					16:38				
17034	9	Aurora FWG 36A	Industrial	Grab	York	10-6-13	17:58	CBOD SOLSUS	2	2
	10					18:38				
17035	11	Aurora FWG 36A	Industrial	Grab	York	10-6-13	19:38	CBOD SOLSUS	2	2
	12					22:38				
17036	13	Aurora FWG 36A	Industrial	Grab	York	10-6-13	21:58	CBOD SOLSUS	2	2
	14					22:38				
17037	15	Aurora FWG 36A	Industrial	Grab	York	10-6-13	25:38	CBOD SOLSUS	2	2
	16					24:38				
17038	17	Aurora FWG 36A	Industrial	Grab	York	10-7-13	1:38	CBOD SOLSUS	2	2
	18					2:38				

Submitted By:	Vetri Kasinathan
Delivered By:	Vetri Kasinathan
Date:	10-07-13
Time:	

Comments:	
Received By:	
WOT:	
Date / Time:	13 OCT 7 PM

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**Chain of Custody Form**  
**Wastewater and Soils**

Client:	Region of York	Contact Name:	Fel No	Tel/Fax:	905-495-1200x5133/905-6306-6327	Additional Reports To:
Project:	TTT TTTT 0018	Address:	17250 Yonge Street	E-mail:	chl-felng@york.ca	
Sampler:	Vetri Kasinathan		Newmarket, ON L3Y 6Z1	Autolog #:		

17039	19 20	Aurora FWG 36A	Industrial	Grab	York	10-07-13	3:38 4:38	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17040	21 22	Aurora FWG 36A	Industrial	Grab	York	10-07-13	5:38 6:38	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17041	23 24	Aurora FWG 36A	Industrial	Grab	York	10-07-13	7:38 8:38	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17042	1 2	Aurora FWG 51A	Industrial	Grab	York	10-6-13	10:30 11:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17043	3 4	Aurora FWG 51A	Industrial	Grab	York	10-6-13	12:30 13:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17044	5 6	Aurora FWG 51A	Industrial	Grab	York	10-6-13	14:30 15:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17045	7 8	Aurora FWG 51A	Industrial	Grab	York	10-6-13	16:30 17:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17046	9 10	Aurora FWG 51A	Industrial	Grab	York	10-6-13	18:30 19:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17047	11 12	Aurora FWG 51A	Industrial	Grab	York	10-6-13	20:30 21:30	CBOD SOLSUS		2	2	SEWER USE BY- LAW

Submitted By:	Vetri Kasinathan
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Delivered By:	Vetri Kasinathan
	Print and Sign
Date:	10-07-13
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Received By:	
	Print and Sign
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Date / Time:	

YD222650

**Chain of Custody Form**  
**Wastewater and Soils**

Client:	Region of York	Contact Name:	Fai Ng	Tel/Fax:	905-888-1200/6132/905-9200-6927	Additional Reports To:
Project:	777 7777 0016	Address:	17250 Yonge Street	E-mail:	chi-fai.ng@york.ca	
Sampler:	Vetri Kasinathan		Newmarket, ON L3Y 6Z1	Autolog #:		

Lab No.	Sample No.	Location	Sample Type	Grab	York	Date	Time	Parameter	Volume	Count	Notes
17048	13	Aurora FWG 51A	Industrial	Grab	York	10-6-13	22:30	CBOD SOLSUS		2	SEWER USE BY-LAW
	14						23:30				
17049	15	Aurora FWG 51A	Industrial	Grab	York	10-07-13	10:30	CBOD SOLSUS		2	SEWER USE BY-LAW
	16						1:30				
17050	17	Aurora FWG 51A	Industrial	Grab	York	10-07-13	2:30	CBOD SOLSUS		2	SEWER USE BY-LAW
	18						3:30				
17051	19	Aurora FWG 51A	Industrial	Grab	York	10-07-13	4:30	CBOD SOLSUS		2	SEWER USE BY-LAW
	20						5:30				
17052	21	Aurora FWG 51A	Industrial	Grab	York	10-07-13	6:30	CBOD SOLSUS		2	SEWER USE BY-LAW
	22						7:30				
17053	23	Aurora FWG 51A	Industrial	Grab	York	10-07-13	8:30	CBOD SOLSUS		2	SEWER USE BY-LAW
	24						9:30				
17054	1	Aurora FWG 52A	Industrial	Grab	York	10-6-13	12:03	CBOD SOLSUS		2	SEWER USE BY-LAW
	2						13:03				
17055	3	Aurora FWG 52A	Industrial	Grab	York	10-6-13	14:03	CBOD SOLSUS		2	SEWER USE BY-LAW
	4						15:03				
17056	5	Aurora FWG 52A	Industrial	Grab	York	10-6-13	16:03	CBOD SOLSUS		2	SEWER USE BY-LAW
	6						17:03				

Submitted By:	Vetri Kasinathan
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Comments:	
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Date / Time:	

YD222650

**Chain of Custody Form**  
**Wastewater and Soils**

Client:	Region of York	Contact Name:	Fai Ng	Tel/Fax:	905-886-1206; 9133/886-9300-6927	Additional Reports To:
Project:	777 7777 0016	Address:	17250 Yonge Street	E-mail:	chi-fai.ng@york.ca	
Sampler:	Vetri Kasinathan		Newmarket, ON L3Y 6Z1	Autolog #:		

Sample ID	Sample No.	Location	Type	Grab	Date	Time	Parameter	Volume	Result	Unit	SEWER USE BY-LAW
17057	7 8	Aurora FWG 52A	Industrial	Grab	York	10-6-13	18:03 19:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17058	9 10	Aurora FWG 52A	Industrial	Grab	York	10-6-13	20:03 21:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17059	11 12	Aurora FWG 52A	Industrial	Grab	York	10-6-13	22:03 23:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17060	13 14	Aurora FWG 52A	Industrial	Grab	York	10-07-13	24:03 01:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17081	15 16	Aurora FWG 52A	Industrial	Grab	York	10-07-13	1:03 2:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17082	17 18	Aurora FWG 52A	Industrial	Grab	York	10-07-13	3:03 4:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17083	19 20	Aurora FWG 52A	Industrial	Grab	York	10-07-13	5:03 6:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17084	21 22	Aurora FWG 52A	Industrial	Grab	York	10-07-13	7:03 8:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW
17085	23 24	Aurora FWG 52A	Industrial	Grab	York	10-07-13	9:03 10:03	CBOD SOLSUS	2	2	SEWER USE BY-LAW

Submitted By:	Vetri Kasinathan
Delivered By:	Vetri Kasinathan
Date:	10-07-13
Time:	10:00

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Comments: \_\_\_\_\_

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Received By: \_\_\_\_\_

WOK: \_\_\_\_\_

Date / Time: \_\_\_\_\_



YD222653

35C

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x6133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Field Sample #	Lab Sample ID	Substrate	Matrix	Type	Location	Date	Time	Parameter	Volume	Depth	Notes
17079	I723604	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	14:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17080	I723605	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	14:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17081	I723606	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	17:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17082	I723607	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	18:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17083	I723608	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	19:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17084	I723609	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	20:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17085	I723610	Aurora FWG 36A	Industrial	Grab	York	10-07-13 10-08-13	23:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17086	I723611	Aurora FWG 36A	Industrial	Grab	York	10-08-13	02:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW
17087	I723612	Aurora FWG 36A	Industrial	Grab	York	10-08-13	05:00	CBOD SOLSUS		2	Z SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u> <i>HP</i>
	Print and Sign
Date:	<u>10-08-13</u> <i>Oct. 8/13</i>
	mm-dd-yy
Time:	<u>14:00</u>
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Comments:	
Received By:	<i>Matt Smegal</i>
	Print and Sign
WO#:	<u>2177396</u>
Date / Time:	<u>13 OCT 8 PM 3:40</u>



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Chain of Custody Form

Wastewater and Soils

Client:	<u>Region of York</u>	Contact Name:	<u>Fai Ng</u>	Tel/Fax:	<u>905-895-1200x5133/906-9300-8927</u>	Additional Reports To:
Project:	<u>777 7777 0016</u>	Address:	<u>17250 Yonge Street</u>	E-mail:	<u>chi-fai.ng@york.ca</u>	
Sampler:	<u>Vetri Kasinathan</u>		<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:		

17088	I723613	Aurora FWG 36A	Industrial	Grab	York	10-08-13	06:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17089	I723614	Aurora FWG 36A	Industrial	Grab	York	10-08-13	07:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17090	I723615	Aurora FWG 36A	Industrial	Grab	York	10-08-13	08:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17091	I723616	Aurora FWG 51A	Industrial	Grab	York	10-08-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17092	I723617	Aurora FWG 51A	Industrial	Grab	York	10-08-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17093	I723618	Aurora FWG 51A	Industrial	Grab	York	10-08-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17094	I723619	Aurora FWG 51A	Industrial	Grab	York	10-08-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17095	I723620	Aurora FWG 51A	Industrial	Grab	York	10-08-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17096	I723621	Aurora FWG 51A	Industrial	Grab	York	10-08-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW

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Comments:	
Received By:	
WO#:	<u>2177396</u>
Date / Time:	

Submitted By:	<u>Vetri Kasinathan</u>
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Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-08-13</u>
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**Chain of Custody Form**

**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample	Location Sample	Substrate	Sample					Time	Time	Time	Time	Time	Time	Time
			Type	Way	Sample	Time	Time							
17097	I723622	Aurora FWG 51A	Industrial	Grab	York	10-08-13	23:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17098	I723623	Aurora FWG 51A	Industrial	Grab	York	10-08-13	02:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17099	<del>I723624</del>	Aurora FWG 51A	Industrial	Grab	York	10-08-13	05:00	CBOD SOLSUS		2	X	SEWER USE BY-LAW		
17100	I723624	Aurora FWG 51A	Industrial	Grab	York	10-08-13	06:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17101	I723625	Aurora FWG 51A	Industrial	Grab	York	10-08-13	07:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17102	I723626	Aurora FWG 51A	Industrial	Grab	York	10-08-13	08:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17103	I723627	Aurora FWG 52A	Industrial	Grab	York	10-08-13	11:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17104	I723628	Aurora FWG 52A	Industrial	Grab	York	10-08-13	14:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		
17105	I723629	Aurora FWG 52A	Industrial	Grab	York	10-08-13	17:00	CBOD SOLSUS		2	Z	SEWER USE BY-LAW		

Submitted By:	<u>Vetri Kasinathan</u>
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Delivered By:	<u>Vetri Kasinathan</u>
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WC#:	<u>2177396</u>
Date / Time:	



**YD222653**

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x6133/905-8300-8927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Sample ID	Location	Sample Type	Volume	Time	Temperature	Analysis	Result	Unit	Notes
17106	I723630	Aurora FWG 52A	Industrial	Grab	York	10-07-13 10-08-13	18.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17107	I723631	Aurora FWG 52A	Industrial	Grab	York	10-07-13 10-08-13	19.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17108	I723632	Aurora FWG 52A	Industrial	Grab	York	10-07-13 10-08-13	20.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17109	I723633	Aurora FWG 52A	Industrial	Grab	York	10-07-13 10-08-13	23.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17110	I723634	Aurora FWG 52A	Industrial	Grab	York	10-08-13	2.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17111	I723635	Aurora FWG 52A	Industrial	Grab	York	10-08-13	5.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17112	I723636	Aurora FWG 52A	Industrial	Grab	York	10-08-13	6.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17113	I723637	Aurora FWG 52A	Industrial	Grab	York	10-08-13	7.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW
17114	I723638	Aurora FWG 52A	Industrial	Grab	York	10-08-13	8.00	CBOD SOLSUS	2 2 SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
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Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-08-13</u>
	mm-dd-yy
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 LABELED BY: CC  
 CHECKED BY: MS  
 PROOFED BY:

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Received By:	
WO#:	<u>2177396</u>
Date / Time:	





**INORGANICS ANALYSIS REPORT**

Page 1 of 9

**Work Order #:** 2177396

**Submission #:** 222653

**Report Authorization**

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-08

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-15

**Report to:**

**No. of Samples:** 35

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 723604 **Field ID:** 17079 **Location:** Region of York  
**Sample Date:** 2013-10-07 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 723604
General	cBOD (5day)	0.2	300	mg/L	114
	Suspended Solids	0.9	350	mg/L	64.6

**Lab ID:** 723605 **Field ID:** 17080 **Location:** Region of York  
**Sample Date:** 2013-10-07 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 723605
General	cBOD (5day)	0.2	300	mg/L	210
	Suspended Solids	0.9	350	mg/L	475^

**Lab ID:** 723606 **Field ID:** 17081 **Location:** Region of York  
**Sample Date:** 2013-10-07 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 723606
General	cBOD (5day)	0.2	300	mg/L	289
	Suspended Solids	0.9	350	mg/L	108

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

**YORK-DURHAM**  
**Regional Environmental Laboratory**

901 McKay Road Pickering, Ontario L1W 3A3 Telephone Toll Free: 1-877-551-8877  
Local Telephone: (905) 686-0041 Fax: (905) 686-0664

**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723607	<b>Field ID:</b> 17082	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723607
General	cBOD (5day)	0.2	300	mg/L	148
	Suspended Solids	0.9	350	mg/L	394^

<b>Lab ID:</b> 723608	<b>Field ID:</b> 17083	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723608
General	cBOD (5day)	0.2	300	mg/L	151
	Suspended Solids	0.9	350	mg/L	58.7

<b>Lab ID:</b> 723609	<b>Field ID:</b> 17084	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723609
General	cBOD (5day)	0.2	300	mg/L	268
	Suspended Solids	0.9	350	mg/L	465^

<b>Lab ID:</b> 723610	<b>Field ID:</b> 17085	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723610
General	cBOD (5day)	0.2	300	mg/L	175
	Suspended Solids	0.9	350	mg/L	116

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Regional Environmental Laboratory**

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Local Telephone: (905) 686-0041 Fax: (905) 686-0664

**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723611	<b>Field ID:</b> 17086	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723611
General	cBOD (5day)	0.2	300	mg/L	185
	Suspended Solids	0.9	350	mg/L	75.0

<b>Lab ID:</b> 723612	<b>Field ID:</b> 17087	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723612
General	cBOD (5day)	0.2	300	mg/L	65.5
	Suspended Solids	0.9	350	mg/L	258

<b>Lab ID:</b> 723613	<b>Field ID:</b> 17088	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723613
General	cBOD (5day)	0.2	300	mg/L	24.1
	Suspended Solids	0.9	350	mg/L	52.2

<b>Lab ID:</b> 723614	<b>Field ID:</b> 17089	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723614
General	cBOD (5day)	0.2	300	mg/L	211
	Suspended Solids	0.9	350	mg/L	692^

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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## Regional Environmental Laboratory

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723615	<b>Field ID:</b> 17090	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723615
General	cBOD (5day)	0.2	300	mg/L	108
	Suspended Solids	0.9	350	mg/L	285

<b>Lab ID:</b> 723616	<b>Field ID:</b> 17091	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723616
General	cBOD (5day)	0.2	300	mg/L	151
	Suspended Solids	0.9	350	mg/L	77.8

<b>Lab ID:</b> 723617	<b>Field ID:</b> 17092	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723617
General	cBOD (5day)	0.2	300	mg/L	211
	Suspended Solids	0.9	350	mg/L	819^

<b>Lab ID:</b> 723618	<b>Field ID:</b> 17093	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723618
General	cBOD (5day)	0.2	300	mg/L	661^
	Suspended Solids	0.9	350	mg/L	225

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Regional Environmental Laboratory**

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723619	<b>Field ID:</b> 17094	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723619
General	cBOD (5day)	0.2	300	mg/L	106
	Suspended Solids	0.9	350	mg/L	809 <sup>^</sup>

<b>Lab ID:</b> 723620	<b>Field ID:</b> 17095	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723620
General	cBOD (5day)	0.2	300	mg/L	742 <sup>^</sup>
	Suspended Solids	0.9	350	mg/L	234

<b>Lab ID:</b> 723621	<b>Field ID:</b> 17096	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723621
General	cBOD (5day)	0.2	300	mg/L	169
	Suspended Solids	0.9	350	mg/L	148

<b>Lab ID:</b> 723622	<b>Field ID:</b> 17097	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723622
General	cBOD (5day)	0.2	300	mg/L	190
	Suspended Solids	0.9	350	mg/L	63.2

Legend:

MDL = Method detection limit

< = Less than

<sup>^</sup> = Result outside limit

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723623	<b>Field ID:</b> 17098	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723623
General	cBOD (5day)	0.2	300	mg/L	289
	Suspended Solids	0.9	350	mg/L	168

<b>Lab ID:</b> 723624	<b>Field ID:</b> 17100	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723624
General	cBOD (5day)	0.2	300	mg/L	111
	Suspended Solids	0.9	350	mg/L	138

<b>Lab ID:</b> 723625	<b>Field ID:</b> 17101	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723625
General	cBOD (5day)	0.2	300	mg/L	201
	Suspended Solids	0.9	350	mg/L	165

<b>Lab ID:</b> 723626	<b>Field ID:</b> 17102	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723626
General	cBOD (5day)	0.2	300	mg/L	197
	Suspended Solids	0.9	350	mg/L	323

Legend:

MDL = Method detection limit

< = Less than

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723627	<b>Field ID:</b> 17103	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723627
General	cBOD (5day)	0.2	300	mg/L	135
	Suspended Solids	0.9	350	mg/L	36.3

<b>Lab ID:</b> 723628	<b>Field ID:</b> 17104	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723628
General	cBOD (5day)	0.2	300	mg/L	110
	Suspended Solids	0.9	350	mg/L	77.6

<b>Lab ID:</b> 723629	<b>Field ID:</b> 17105	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723629
General	cBOD (5day)	0.2	300	mg/L	182
	Suspended Solids	0.9	350	mg/L	301

<b>Lab ID:</b> 723630	<b>Field ID:</b> 17106	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723630
General	cBOD (5day)	0.2	300	mg/L	193
	Suspended Solids	0.9	350	mg/L	277

Legend:

MDL = Method detection limit

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723631	<b>Field ID:</b> 17107	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723631
General	cBOD (5day)	0.2	300	mg/L	154
	Suspended Solids	0.9	350	mg/L	159

<b>Lab ID:</b> 723632	<b>Field ID:</b> 17108	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723632
General	cBOD (5day)	0.2	300	mg/L	126
	Suspended Solids	0.9	350	mg/L	154

<b>Lab ID:</b> 723633	<b>Field ID:</b> 17109	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-07	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723633
General	cBOD (5day)	0.2	300	mg/L	52.6
	Suspended Solids	0.9	350	mg/L	32.0

<b>Lab ID:</b> 723634	<b>Field ID:</b> 17110	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723634
General	cBOD (5day)	0.2	300	mg/L	43.3
	Suspended Solids	0.9	350	mg/L	39.9

Legend:

MDL = Method detection limit

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177396

**Submission #:** 222653

<b>Lab ID:</b> 723635	<b>Field ID:</b> 17111	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723635
General	cBOD (5day)	0.2	300	mg/L	61.9
	Suspended Solids	0.9	350	mg/L	189

<b>Lab ID:</b> 723636	<b>Field ID:</b> 17112	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723636
General	cBOD (5day)	0.2	300	mg/L	120
	Suspended Solids	0.9	350	mg/L	358^

<b>Lab ID:</b> 723637	<b>Field ID:</b> 17113	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723637
General	cBOD (5day)	0.2	300	mg/L	147
	Suspended Solids	0.9	350	mg/L	175

<b>Lab ID:</b> 723638	<b>Field ID:</b> 17114	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-08	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 723638
General	cBOD (5day)	0.2	300	mg/L	225
	Suspended Solids	0.9	350	mg/L	345

#### Analysis Summary

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	35	Industrial	2013-10-09	2013-10-10	Gravimetric	RELI-03
BOD/cBOD (5 day)	35	Industrial	2013-10-09	2013-10-14	D.O. Meter	RELI-04

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

Legend:

MDL = Method detection limit

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^ = Result outside limit

Date Format: yyyy-mm-dd



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## Chain of Custody Form

## Wastewater and Soils

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x6133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chl-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample ID	Client Sample ID	Sample Description	Matrix	Type	Location	Date	Time	Parameter	Container Type	Required	Actual	Remarks
17115	I724027	Aurora FWG 36A	Industrial	Grab	York	10-09-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17116	724028	Aurora FWG 36A	Industrial	Grab	York	10-09-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17117	724029	Aurora FWG 36A	Industrial	Grab	York	10-09-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17118	724030	Aurora FWG 36A	Industrial	Grab	York	10-09-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17119	724031	Aurora FWG 36A	Industrial	Grab	York	10-09-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17120	724032	Aurora FWG 36A	Industrial	Grab	York	10-09-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17121	724033	Aurora FWG 36A	Industrial	Grab	York	10-09-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17122	724034	Aurora FWG 36A	Industrial	Grab	York	10-09-13	2:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17123	724035	Aurora FWG 36A	Industrial	Grab	York	10-09-13	5:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u> <u>HP</u>
	Print and Sign
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901 McKay Road, Pickering, ON L1W 3A3, TEL: 905-886-0041, FAX: 905-886

Client:	Region of York	Contact Name:	Fai Ng	Tel/Fax:	905-896-1200x5133/905-9300-6927	Additional Reports To:
Project:	777 7777 0016	Address:	17250 Yonge Street	E-mail:	chi-fai.ng@york.ca	
Sampler:	Vetri Kasinathan		Newmarket, ON L3Y 6Z1	Autolog #:		

17124	I724036	Aurora FWG 36A	Industrial	Grab	York	10-09-13	6:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17125	724037	Aurora FWG 36A	Industrial	Grab	York	10-09-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17126	724038	Aurora FWG 36A	Industrial	Grab	York	10-09-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17127	724039	Aurora FWG 51A	Industrial	Grab	York	10-09-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17128	724040	Aurora FWG 51A	Industrial	Grab	York	10-09-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17129	724041	Aurora FWG 51A	Industrial	Grab	York	10-09-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17130	724042	Aurora FWG 51A	Industrial	Grab	York	10-09-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17131	724043	Aurora FWG 51A	Industrial	Grab	York	10-09-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW
17132	724044	Aurora FWG 51A	Industrial	Grab	York	10-09-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY- LAW

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Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x6133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: _____	

Field Sample	Lab Sample	Site Location	Matrix	Type	Sampler	Date	Time	Test	Container / Volume	Batch	Volume	Substrate
17133	I724045	Aurora FWG 51A	Industrial	Grab	York	10-09-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17134	724046	Aurora FWG 51A	Industrial	Grab	York	10-09-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17135	724047	Aurora FWG 51A	Industrial	Grab	York	10-09-13	5:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17136	724048	Aurora FWG 51A	Industrial	Grab	York	10-09-13	6:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17137	724049	Aurora FWG 51A	Industrial	Grab	York	10-09-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17138	724050	Aurora FWG 51A	Industrial	Grab	York	10-09-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17139	724051	Aurora FWG 52A	Industrial	Grab	York	10-09-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17140	724052	Aurora FWG 52A	Industrial	Grab	York	10-09-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17141	724053	Aurora FWG 52A	Industrial	Grab	York	10-09-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u> Print and Sign
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Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: _____	

ID		Sample ID		Sample Name		Sample Type		Sample Date		Sample Time		Sample Location		Sample Status		Sample Notes	
ID	Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Status	Sample Notes	ID	Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Status	Sample Notes
17142	I724054	Aurora FWG 52A	Industrial	Grab	York	10-09-13	18:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17143	724055	Aurora FWG 52A	Industrial	Grab	York	10-09-13	19:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17145	724056	Aurora FWG 52A	Industrial	Grab	York	10-09-13	20:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17146	724057	Aurora FWG 52A	Industrial	Grab	York	10-09-13	23:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17147	724058	Aurora FWG 52A	Industrial	Grab	York	10-09-13	2:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17148	724059	Aurora FWG 52A	Industrial	Grab	York	10-09-13	5:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17149	724060	Aurora FWG 52A	Industrial	Grab	York	10-09-13	6:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17150	724061	Aurora FWG 52A	Industrial	Grab	York	10-09-13	7:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				
17151	724062	Aurora FWG 36A	Industrial	Grab	York	10-10-13	11:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW				

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LAB Use Only	
Comments:	_____
Received By:	_____ Print and Sign
WO#:	<u>2177520</u>
Date / Time:	_____

**\*\* AH - LAB ACCIDENT → LIMITED SAMPLE, PLS. USE SPARINGLY**



YD222655

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x6133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample ID	Lab Sample ID	Site Location	Sample					Lab Sample ID	Container Type	Field		Remarks
			Matrix	Type	Location	Date	Time			Person	Signature	
17152	I724063	Aurora FWG 36A	Industrial	Grab	York	10-10-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17153	724064	Aurora FWG 36A	Industrial	Grab	York	10-10-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17154	724065	Aurora FWG 36A	Industrial	Grab	York	10-10-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17155	724066	Aurora FWG 36A	Industrial	Grab	York	10-10-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17156	724067	Aurora FWG 36A	Industrial	Grab	York	10-10-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17157	724068	Aurora FWG 36A	Industrial	Grab	York	10-10-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17158	724069	Aurora FWG 36A	Industrial	Grab	York	10-10-13	02:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17159	724070	Aurora FWG 36A	Industrial	Grab	York	10-10-13	05:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17160	724071	Aurora FWG 36A	Industrial	Grab	York	10-10-13	06:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-10-13</u>
	mm-dd-yy
Time:	
	hh:mm

LAB Use Only	
Comments:	
Received By:	
WO#:	<u>2177520</u>
Date / Time:	



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**Wastewater and Soils**

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Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: <u></u>	

Lab ID	Sample ID	Sub location	Sample					Test	Container type	BMR		Lab use
			Matrix	Type	Subtype	Temp	Time			State	Volume	
17161	I724072	Aurora FWG 36A	Industrial	Grab	York	10-10-13	07:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17162	724073	Aurora FWG 36A	Industrial	Grab	York	10-10-13	08:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17163	724074	Aurora FWG 51A	Industrial	Grab	York	10-10-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17164	724075	Aurora FWG 51A	Industrial	Grab	York	10-10-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17165	724076	Aurora FWG 51A	Industrial	Grab	York	10-10-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17166	724077	Aurora FWG 51A	Industrial	Grab	York	10-10-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17167	724078	Aurora FWG 51A	Industrial	Grab	York	10-10-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17168	724079	Aurora FWG 51A	Industrial	Grab	York	10-10-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17169	724080	Aurora FWG 51A	Industrial	Grab	York	10-10-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

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Comments: _____
Received By: _____ <small>Print and Sign</small>
WO#: <u>2177520</u>
Date / Time: _____

Submitted By: <u>Vetri Kasinathan</u> <small>Print and Sign</small>
Delivered By: <u>Vetri Kasinathan</u> <small>Print and Sign</small>
Date: <u>10-10-13</u> <small>mm-dd-yy</small>
Time: _____ <small>hh:mm</small>



**YD222655**

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample ID	Location Sample ID	Sub Location	Matrix	Type	City	Date	Time	CBOD SOLSUS	Company Name	Required	ASam	ASam	Comments
17170	I724081	Aurora FWG 51A	Industrial	Grab	York	10-10-13	02:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17171	724082	Aurora FWG 51A	Industrial	Grab	York	10-10-13	05:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17172	A 724083	Aurora FWG 51A	Industrial	Grab	York	10-10-13	06:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17173	724084	Aurora FWG 51A	Industrial	Grab	York	10-10-13	07:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17174	724085	Aurora FWG 51A	Industrial	Grab	York	10-10-13	08:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17175	724086	Aurora FWG 52A	Industrial	Grab	York	10-10-13	11:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17176	724087	Aurora FWG 52A	Industrial	Grab	York	10-10-13	14:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17177	724088	Aurora FWG 52A	Industrial	Grab	York	10-10-13	17:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17178	724089	Aurora FWG 52A	Industrial	Grab	York	10-10-13	18:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-10-13</u>
	mm-dd-yy
Time:	<u>hh:mm</u>

\* SAMPLE 17172 ⇒  
 BOTTLES WERE HAD  
 DIFFERENT COLOURED  
 SAMPLES  
 (TO BE TREATED AS  
 SEPERATE SAMPLES  
 "A" & "B")

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Comments:	
Received By:	<u>2177520</u>
	Print and Sign
WO#:	
Date / Time:	





**YD222655**

**Chain of Custody Form**  
**Wastewater and Soils**

Client:	<u>Region of York</u>	Contact Name:	<u>Fai Ng</u>	Tel/Fax:	<u>905-896-1200x5133/906-9300-6927</u>	Additional Reports To:
Project:	<u>777 7777 0016</u>	Address:	<u>17250 Yonge Street</u>	E-mail:	<u>chi-fai.ng@york.ca</u>	
Sampler:	<u>Vetri Kasinathan</u>		<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:		

Lab Sample ID	Client Sample ID	Sample Name	Location	Type	City	Date	Time	Parameter	Container	Volume	Temp	Substrate
17179	724090	Aurora FWG 52A	Industrial	Grab	York	10-10-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17180	724091	Aurora FWG 52A	Industrial	Grab	York	10-10-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17181	724092	Aurora FWG 52A	Industrial	Grab	York	10-10-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17182	724093	Aurora FWG 52A	Industrial	Grab	York	10-10-13	2:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17183	724094	Aurora FWG 52A	Industrial	Grab	York	10-10-13	5:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17184	724095	Aurora FWG 52A	Industrial	Grab	York	10-10-13	6:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17185	724096	Aurora FWG 52A	Industrial	Grab	York	10-10-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17186	724097	Aurora FWG 52A	Industrial	Grab	York	10-10-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17187	724098	Aurora FWG 52A	Industrial	Grab	York	10-09-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

171728 724214 AURORA FWG 51A " " " 10-10-13 06:00

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Comments: \_\_\_\_\_

Received By: \_\_\_\_\_

WO#: 2177520

Date / Time: \_\_\_\_\_

Submitted By:	<u>Vetri Kasinathan</u>	SORTED/LINED UP BY: <u>AK</u> LABELED BY: <u>AH</u> CHECKED BY: <u>CC/AS</u> PROOFED BY: _____
Delivered By:	<u>Vetri Kasinathan</u>	
Date:	<u>10-10-13</u>	
Time:	_____ hh:mm	



**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

**Report Authorization**

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-10

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-17

**No. of Samples:** 73

**Report to:**

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 724027 **Field ID:** 17115 **Location:** Region of York  
**Sample Date:** 2013-10-09 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724027
General	cBOD (5day)	0.2	300	mg/L	176
	Suspended Solids	0.9	350	mg/L	333

**Lab ID:** 724028 **Field ID:** 17116 **Location:** Region of York  
**Sample Date:** 2013-10-09 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724028
General	cBOD (5day)	0.2	300	mg/L	56.4
	Suspended Solids	0.9	350	mg/L	23.3

**Lab ID:** 724029 **Field ID:** 17117 **Location:** Region of York  
**Sample Date:** 2013-10-09 **Criteria:** Sewer Use By-law **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724029
General	cBOD (5day)	0.2	300	mg/L	406^
	Suspended Solids	0.9	350	mg/L	198

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**Regional Environmental Laboratory**

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Local Telephone: (905) 686-0041 Fax: (905) 686-0664

**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724030	<b>Field ID:</b> 17118	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724030
General	cBOD (5day)	0.2	300	mg/L	175
	Suspended Solids	0.9	350	mg/L	124

<b>Lab ID:</b> 724031	<b>Field ID:</b> 17119	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724031
General	cBOD (5day)	0.2	300	mg/L	178
	Suspended Solids	0.9	350	mg/L	153

<b>Lab ID:</b> 724032	<b>Field ID:</b> 17120	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724032
General	cBOD (5day)	0.2	300	mg/L	165
	Suspended Solids	0.9	350	mg/L	76.8

<b>Lab ID:</b> 724033	<b>Field ID:</b> 17121	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724033
General	cBOD (5day)	0.2	300	mg/L	172
	Suspended Solids	0.9	350	mg/L	49.5

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724034	<b>Field ID:</b> 17122	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724034
General	cBOD (5day)	0.2	300	mg/L	13.2
	Suspended Solids	0.9	350	mg/L	39.8

<b>Lab ID:</b> 724035	<b>Field ID:</b> 17123	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724035
General	cBOD (5day)	0.2	300	mg/L	37.8
	Suspended Solids	0.9	350	mg/L	123

<b>Lab ID:</b> 724036	<b>Field ID:</b> 17124	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724036
General	cBOD (5day)	0.2	300	mg/L	18.9
	Suspended Solids	0.9	350	mg/L	44.1

<b>Lab ID:</b> 724037	<b>Field ID:</b> 17125	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724037
General	cBOD (5day)	0.2	300	mg/L	79.8
	Suspended Solids	0.9	350	mg/L	284

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724038	<b>Field ID:</b> 17126	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724038
General	cBOD (5day)	0.2	300	mg/L	837^
	Suspended Solids	4	350	mg/L	1980^

<b>Lab ID:</b> 724039	<b>Field ID:</b> 17127	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724039
General	cBOD (5day)	0.2	300	mg/L	321^
	Suspended Solids	4	350	mg/L	608^

<b>Lab ID:</b> 724040	<b>Field ID:</b> 17128	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724040
General	cBOD (5day)	0.2	300	mg/L	180
	Suspended Solids	0.9	350	mg/L	206

<b>Lab ID:</b> 724041	<b>Field ID:</b> 17129	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724041
General	cBOD (5day)	0.2	300	mg/L	111
	Suspended Solids	0.9	350	mg/L	218

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724042	<b>Field ID:</b> 17130	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724042
General	cBOD (5day)	0.2	300	mg/L	249
	Suspended Solids	0.9	350	mg/L	680^

<b>Lab ID:</b> 724043	<b>Field ID:</b> 17131	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724043
General	cBOD (5day)	0.2	300	mg/L	171
	Suspended Solids	0.9	350	mg/L	279

<b>Lab ID:</b> 724044	<b>Field ID:</b> 17132	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724044
General	cBOD (5day)	0.2	300	mg/L	180
	Suspended Solids	0.9	350	mg/L	273

<b>Lab ID:</b> 724045	<b>Field ID:</b> 17133	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724045
General	cBOD (5day)	0.2	300	mg/L	948^
	Suspended Solids	4	350	mg/L	1060^

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724046	<b>Field ID:</b> 17134	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724046
General	cBOD (5day)	0.2	300	mg/L	156
	Suspended Solids	0.9	350	mg/L	307

<b>Lab ID:</b> 724047	<b>Field ID:</b> 17135	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724047
General	cBOD (5day)	0.2	300	mg/L	32.1
	Suspended Solids	0.9	350	mg/L	66.0

<b>Lab ID:</b> 724048	<b>Field ID:</b> 17136	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724048
General	cBOD (5day)	0.2	300	mg/L	25.8
	Suspended Solids	0.9	350	mg/L	98.8

<b>Lab ID:</b> 724049	<b>Field ID:</b> 17137	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724049
General	cBOD (5day)	0.2	300	mg/L	150
	Suspended Solids	0.9	350	mg/L	182

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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<b>Lab ID:</b> 724050	<b>Field ID:</b> 17138	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724050
General	cBOD (5day)	0.2	300	mg/L	100
	Suspended Solids	0.9	350	mg/L	126

<b>Lab ID:</b> 724051	<b>Field ID:</b> 17139	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724051
General	cBOD (5day)	0.2	300	mg/L	153
	Suspended Solids	0.9	350	mg/L	273

<b>Lab ID:</b> 724052	<b>Field ID:</b> 17140	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724052
General	cBOD (5day)	0.2	300	mg/L	123
	Suspended Solids	0.9	350	mg/L	135

<b>Lab ID:</b> 724053	<b>Field ID:</b> 17141	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724053
General	cBOD (5day)	0.2	300	mg/L	169
	Suspended Solids	0.9	350	mg/L	197

Legend:

MDL = Method detection limit

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<b>Lab ID:</b> 724054	<b>Field ID:</b> 17142	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724054
General	cBOD (5day)	0.2	300	mg/L	150
	Suspended Solids	0.9	350	mg/L	212

<b>Lab ID:</b> 724055	<b>Field ID:</b> 17143	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724055
General	cBOD (5day)	0.2	300	mg/L	195
	Suspended Solids	0.9	350	mg/L	172

<b>Lab ID:</b> 724056	<b>Field ID:</b> 17145	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724056
General	cBOD (5day)	0.2	300	mg/L	168
	Suspended Solids	0.9	350	mg/L	262

<b>Lab ID:</b> 724057	<b>Field ID:</b> 17146	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724057
General	cBOD (5day)	0.2	300	mg/L	90.3
	Suspended Solids	0.9	350	mg/L	84.8

Legend:

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<b>Lab ID:</b> 724058	<b>Field ID:</b> 17147	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724058
General	cBOD (5day)	0.2	300	mg/L	99.3
	Suspended Solids	0.9	350	mg/L	151

<b>Lab ID:</b> 724059	<b>Field ID:</b> 17148	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724059
General	cBOD (5day)	0.2	300	mg/L	131
	Suspended Solids	0.9	350	mg/L	130

<b>Lab ID:</b> 724060	<b>Field ID:</b> 17149	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724060
General	cBOD (5day)	0.2	300	mg/L	103
	Suspended Solids	0.9	350	mg/L	124

<b>Lab ID:</b> 724061	<b>Field ID:</b> 17150	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724061
General	cBOD (5day)	0.2	300	mg/L	78.6
	Suspended Solids	0.9	350	mg/L	26.9

Legend:

MDL = Method detection limit

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<b>Lab ID:</b> 724062	<b>Field ID:</b> 17151	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724062
General	cBOD (5day)	0.2	300	mg/L	216
	Suspended Solids	0.9	350	mg/L	226

<b>Lab ID:</b> 724063	<b>Field ID:</b> 17152	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724063
General	cBOD (5day)	0.2	300	mg/L	130
	Suspended Solids	0.9	350	mg/L	236

<b>Lab ID:</b> 724064	<b>Field ID:</b> 17153	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724064
General	cBOD (5day)	0.2	300	mg/L	152
	Suspended Solids	0.9	350	mg/L	222

<b>Lab ID:</b> 724065	<b>Field ID:</b> 17154	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724065
General	cBOD (5day)	0.2	300	mg/L	178
	Suspended Solids	0.9	350	mg/L	182

Legend:

MDL = Method detection limit

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<b>Lab ID:</b> 724066	<b>Field ID:</b> 17155	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724066
General	cBOD (5day)	0.2	300	mg/L	564 <sup>^</sup>
	Suspended Solids	0.9	350	mg/L	426 <sup>^</sup>

<b>Lab ID:</b> 724067	<b>Field ID:</b> 17156	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724067
General	cBOD (5day)	0.2	300	mg/L	94.5
	Suspended Solids	0.9	350	mg/L	285

<b>Lab ID:</b> 724068	<b>Field ID:</b> 17157	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724068
General	cBOD (5day)	0.2	300	mg/L	132
	Suspended Solids	0.9	350	mg/L	333

<b>Lab ID:</b> 724069	<b>Field ID:</b> 17158	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724069
General	cBOD (5day)	0.2	300	mg/L	211
	Suspended Solids	0.9	350	mg/L	80.0

Legend:

MDL = Method detection limit

< = Less than

<sup>^</sup> = Result outside limit

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<b>Lab ID:</b> 724070	<b>Field ID:</b> 17159	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724070
General	cBOD (5day)	0.2	300	mg/L	73.5
	Suspended Solids	0.9	350	mg/L	152

<b>Lab ID:</b> 724071	<b>Field ID:</b> 17160	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724071
General	cBOD (5day)	0.2	300	mg/L	63.9
	Suspended Solids	0.9	350	mg/L	63.2

<b>Lab ID:</b> 724072	<b>Field ID:</b> 17161	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724072
General	cBOD (5day)	0.2	300	mg/L	90.9
	Suspended Solids	0.9	350	mg/L	45.1

<b>Lab ID:</b> 724073	<b>Field ID:</b> 17162	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724073
General	cBOD (5day)	0.2	300	mg/L	151
	Suspended Solids	0.9	350	mg/L	102

Legend:

MDL = Method detection limit

< = Less than

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<b>Lab ID:</b> 724074	<b>Field ID:</b> 17163	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724074
General	cBOD (5day)	0.2	300	mg/L	214
	Suspended Solids	0.9	350	mg/L	279

<b>Lab ID:</b> 724075	<b>Field ID:</b> 17164	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724075
General	cBOD (5day)	0.2	300	mg/L	357^
	Suspended Solids	0.9	350	mg/L	569^

<b>Lab ID:</b> 724076	<b>Field ID:</b> 17165	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724076
General	cBOD (5day)	0.2	300	mg/L	423^
	Suspended Solids	0.9	350	mg/L	363^

<b>Lab ID:</b> 724077	<b>Field ID:</b> 17166	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724077
General	cBOD (5day)	0.2	300	mg/L	119
	Suspended Solids	0.9	350	mg/L	76.6

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<b>Lab ID:</b> 724078	<b>Field ID:</b> 17167	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724078
General	cBOD (5day)	0.2	300	mg/L	228
	Suspended Solids	0.9	350	mg/L	110

<b>Lab ID:</b> 724079	<b>Field ID:</b> 17168	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724079
General	cBOD (5day)	0.2	300	mg/L	405^
	Suspended Solids	0.9	350	mg/L	706^

<b>Lab ID:</b> 724080	<b>Field ID:</b> 17169	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724080
General	cBOD (5day)	0.2	300	mg/L	843^
	Suspended Solids	0.9	350	mg/L	656^

<b>Lab ID:</b> 724081	<b>Field ID:</b> 17170	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724081
General	cBOD (5day)	0.2	300	mg/L	79.8
	Suspended Solids	0.9	350	mg/L	162

Legend:

MDL = Method detection limit

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<b>Lab ID:</b> 724082	<b>Field ID:</b> 17171	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724082
General	cBOD (5day)	0.2	300	mg/L	219
	Suspended Solids	0.9	350	mg/L	851^

<b>Lab ID:</b> 724083	<b>Field ID:</b> 17172A	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724083
General	cBOD (5day)	0.2	300	mg/L	106
	Suspended Solids	0.9	350	mg/L	110

<b>Lab ID:</b> 724084	<b>Field ID:</b> 17173	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724084
General	cBOD (5day)	0.2	300	mg/L	212
	Suspended Solids	0.9	350	mg/L	160

<b>Lab ID:</b> 724085	<b>Field ID:</b> 17174	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724085
General	cBOD (5day)	0.2	300	mg/L	193
	Suspended Solids	0.9	350	mg/L	161

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

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<b>Lab ID:</b> 724086	<b>Field ID:</b> 17175	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724086
General	cBOD (5day)	0.2	300	mg/L	156
	Suspended Solids	0.9	350	mg/L	140

<b>Lab ID:</b> 724087	<b>Field ID:</b> 17176	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724087
General	cBOD (5day)	0.2	300	mg/L	179
	Suspended Solids	0.9	350	mg/L	145

<b>Lab ID:</b> 724088	<b>Field ID:</b> 17177	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724088
General	cBOD (5day)	0.2	300	mg/L	190
	Suspended Solids	0.9	350	mg/L	137

<b>Lab ID:</b> 724089	<b>Field ID:</b> 17178	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724089
General	cBOD (5day)	0.2	300	mg/L	172
	Suspended Solids	0.9	350	mg/L	183

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Regional Environmental Laboratory**

901 McKay Road Pickering, Ontario L1W 3A3 Telephone Toll Free: 1-877-551-8877  
Local Telephone: (905) 686-0041 Fax: (905) 686-0664

**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724090	<b>Field ID:</b> 17179	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724090
General	cBOD (5day)	0.2	300	mg/L	165
	Suspended Solids	0.9	350	mg/L	135

<b>Lab ID:</b> 724091	<b>Field ID:</b> 17180	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724091
General	cBOD (5day)	0.2	300	mg/L	142
	Suspended Solids	0.9	350	mg/L	141

<b>Lab ID:</b> 724092	<b>Field ID:</b> 17181	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724092
General	cBOD (5day)	0.2	300	mg/L	108
	Suspended Solids	0.9	350	mg/L	171

<b>Lab ID:</b> 724093	<b>Field ID:</b> 17182	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724093
General	cBOD (5day)	0.2	300	mg/L	44.1
	Suspended Solids	0.9	350	mg/L	98.3

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724094	<b>Field ID:</b> 17183	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724094
General	cBOD (5day)	0.2	300	mg/L	111
	Suspended Solids	0.9	350	mg/L	256

<b>Lab ID:</b> 724095	<b>Field ID:</b> 17184	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724095
General	cBOD (5day)	0.2	300	mg/L	103
	Suspended Solids	0.9	350	mg/L	124

<b>Lab ID:</b> 724096	<b>Field ID:</b> 17185	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724096
General	cBOD (5day)	0.2	300	mg/L	217
	Suspended Solids	0.9	350	mg/L	217

<b>Lab ID:</b> 724097	<b>Field ID:</b> 17186	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724097
General	cBOD (5day)	0.2	300	mg/L	135
	Suspended Solids	0.9	350	mg/L	172

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177520

**Submission #:** 222655

<b>Lab ID:</b> 724098	<b>Field ID:</b> 17187	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-09	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724098
General	cBOD (5day)	0.2	300	mg/L	183
	Suspended Solids	0.9	350	mg/L	250

<b>Lab ID:</b> 724214	<b>Field ID:</b> 17172B	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-10	<b>Criteria:</b> Sewer Use By-law	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724214
General	cBOD (5day)	0.2	300	mg/L	51.3
	Suspended Solids	0.9	350	mg/L	91.6

**Analysis Summary**

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	73	Industrial	2013-10-11	2013-10-16	Gravimetric	RELI-03
BOD/cBOD (5 day)	73	Industrial	2013-10-11	2013-10-16	D.O. Meter	RELI-04

Note: All supporting analytical information including measurement uncertainty is available upon request.

**Report Comments:**

Lab ID	Comment
724083	Given the distinct difference in physical appearance between the 2 bottles submitted as duplicates for this sample, as per client instructions, they were analysed separately, with the second bottle assigned lab sample #724214.

[END OF REPORT]

**Legend:**

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**YD222657**

**Chain of Custody Form**  
**Wastewater and Soils**

Client: Region of York Contact Name: Fai Ng Tel/Fax: 905-895-1200x6133/905-9300-6927 Additional Reports To: Operations manager

Project: 777 7777 0016 Address: 17250 Yonge Street E-mail: chi-fai.ng@york.ca

Sampler: Vetri Kasinathan Autolog #: Newmarket, ON L3Y 6Z1

Field Sample #	Laboratory Sample #	Sub location	Sample					Test Parameters	Equipment Required	BODs		Remarks
			Matrix	Type	Subtype	Date/Time	Time			Sub	Food	
17275	<u>I724439</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17276	<u>I724440</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17277	<u>I724441</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17278	<u>I724442</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17279	<u>I724443</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17280	<u>I724444</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17281	<u>I724445</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17282	<u>I724446</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	02:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17283	<u>I724447</u>	Aurora FWG 36A	Industrial	Grab	York	10-11-13	05:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By: Vetri Kasinathan  
 Print and Sign

Delivered By: Vetri Kasinathan  
 Print and Sign

Date: 10-15-13  
 mm-dd-yy

Time:   
 hh:mm

**LAB Use Only**

Comments:

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WO#:

Date / Time: 2177604



**YD222657**

**Chain of Custody Form**  
**Wastewater and Soils**

901 McKay Road, Pickering, ON L1W 3A3, TEL: 905-686-0041, FAX: 905-686

Client:	<b>Region of York</b>	Contact Name:	<b>Fai Ng</b>	Tel/Fax:	<b>905-896-1200x6133/905-9300-8927</b>	Additional Reports To:
Project:	<b>777 7777 0016</b>	Address:	<b>17250 Yonge Street</b>	E-mail:	<b>chi-fai.ng@york.ca</b>	
Sampler:	<b>Vetri Kasinathan</b>		<b>Newmarket, ON L3Y 6Z1</b>	Autolog #:		

Sample ID	Location	Sample Type	Grab	York	Date	Time	Parameter	Volume	Notes	Lab Use	Lab Use	Lab Use
17284 I724448	Aurora FWG 36A	Industrial	Grab	York	10-11-13	06:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17285 I724449	Aurora FWG 36A	Industrial	Grab	York	10-11-13	07:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17286 I724450	Aurora FWG 36A	Industrial	Grab	York	10-11-13	08:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17287 I724451	Aurora FWG 51A	Industrial	Grab	York	10-11-13	11:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17288 I724452	Aurora FWG 51A	Industrial	Grab	York	10-11-13	14:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17289 I724453	Aurora FWG 51A	Industrial	Grab	York	10-11-13	17:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17290 I724454	Aurora FWG 51A	Industrial	Grab	York	10-11-13	18:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17291 I724455	Aurora FWG 51A	Industrial	Grab	York	10-11-13	19:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW
17292 I724456	Aurora FWG 51A	Industrial	Grab	York	10-11-13	20:00	CBOD SOLSUS			2	2	SEWER USE BY-LAW

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Comments:	
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WO#:	
Date / Time:	

Submitted By:	<b>Vetri Kasinathan</b>
Delivered By:	<b>Vetri Kasinathan</b>
Date:	<b>10-15-13</b>
Time:	

page 3

**York Region YORK - DURHAM**  
**Regional Environmental Laboratory**

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YD222657

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-896-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Lab Sample #	Laboratory Sample #	Sub-location	Sample					Lab Equipment	Reference Value Result	Dilution		Analyte
			Matrix	WQC	Substrate	Recovery	Time (min)			Blank	Field	
17293	I724457	Aurora FWG 51A	Industrial	Grab	York	10-11-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17294	I724458	Aurora FWG 51A	Industrial	Grab	York	10-11-13	02:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17295	I724459	Aurora FWG 51A	Industrial	Grab	York	10-11-13	05:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17296	I724460	Aurora FWG 51A	Industrial	Grab	York	10-11-13	06:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17297	I724461	Aurora FWG 51A	Industrial	Grab	York	10-11-13	07:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17298	I724462	Aurora FWG 51A	Industrial	Grab	York	10-11-13	08:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17299	I724463	Aurora FWG 52A	Industrial	Grab	York	10-11-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17301	I724464	Aurora FWG 52A	Industrial	Grab	York	10-11-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17302	I724465	Aurora FWG 52A	Industrial	Grab	York	10-11-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

\*

Submitted By:	<u>Vetri Kasinathan</u> Print and Sign
Delivered By:	<u>Vetri Kasinathan</u> Print and Sign
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Comments:	<u></u>
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WO#:	<u></u>
Date / Time:	<u></u>

\* 2nd bottle dropped + spilled 1/2 contents at lab - Alison S.



**YD222657**

**Chain of Custody Form**  
**Wastewater and Soils**

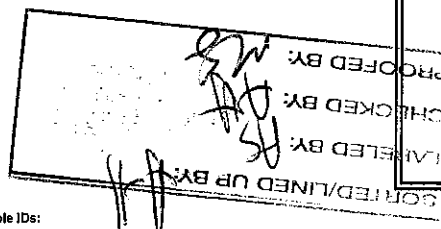
901 McKay Road, Pickering, ON L1W 3A3, TEL: 905-686-0041, FAX: 905-686

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x5133/905-9300-6927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Item	Location	Sample	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time
Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
17303	Aurora FWG 52A	Industrial	Grab	York	10-11-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17304	Aurora FWG 52A	Industrial	Grab	York	10-11-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17305	Aurora FWG 52A	Industrial	Grab	York	10-11-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17306	Aurora FWG 52A	Industrial	Grab	York	10-11-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17307	Aurora FWG 52A	Industrial	Grab	York	10-11-13	02:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17308	Aurora FWG 52A	Industrial	Grab	York	10-11-13	05:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17309	Aurora FWG 52A	Industrial	Grab	York	10-11-13	06:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17310	Aurora FWG 52A	Industrial	Grab	York	10-11-13	07:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		
17311	Aurora FWG 52A	Industrial	Grab	York	10-11-13	08:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW		

**LAB Use Only**

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Time:	
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Comments:	
Received By:	
	Print and Sign
WO#:	
Date / Time:	<u>2177604</u>





**INORGANICS ANALYSIS REPORT**

Page 1 of 10

**Work Order #:** 2177604

**Submission #:** 222657

**Report Authorization**

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-11

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-21

**Report to:**

**No. of Samples:** 36

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 724439 **Field ID:** 17275 **Location:** Region of York  
**Sample Date:** 2013-10-11 **Criteria:** Sewer Use By-law York **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724439
General	cBOD (5day)	0.2	300	mg/L	163
	Suspended Solids	0.9	350	mg/L	158

**Lab ID:** 724440 **Field ID:** 17276 **Location:** Region of York  
**Sample Date:** 2013-10-11 **Criteria:** Sewer Use By-law York **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724440
General	cBOD (5day)	0.2	300	mg/L	82.7
	Suspended Solids	0.9	350	mg/L	59.1

**Lab ID:** 724441 **Field ID:** 17277 **Location:** Region of York  
**Sample Date:** 2013-10-11 **Criteria:** Sewer Use By-law York **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724441
General	cBOD (5day)	0.2	300	mg/L	115
	Suspended Solids	0.9	350	mg/L	79.8

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724442	<b>Field ID:</b> 17278	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724442
General	cBOD (5day)	0.2	300	mg/L	159
	Suspended Solids	0.9	350	mg/L	79.7

<b>Lab ID:</b> 724443	<b>Field ID:</b> 17279	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724443
General	cBOD (5day)	0.2	300	mg/L	687^
	Suspended Solids	0.9	350	mg/L	292

<b>Lab ID:</b> 724444	<b>Field ID:</b> 17280	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724444
General	cBOD (5day)	0.2	300	mg/L	128
	Suspended Solids	0.9	350	mg/L	58.2

<b>Lab ID:</b> 724445	<b>Field ID:</b> 17281	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724445
General	cBOD (5day)	0.2	300	mg/L	78.2
	Suspended Solids	0.9	350	mg/L	47.3

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724446	<b>Field ID:</b> 17282	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724446
General	cBOD (5day)	0.2	300	mg/L	14.0
	Suspended Solids	0.9	350	mg/L	46.6

<b>Lab ID:</b> 724447	<b>Field ID:</b> 17283	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724447
General	cBOD (5day)	0.2	300	mg/L	20.6
	Suspended Solids	0.9	350	mg/L	30.2

<b>Lab ID:</b> 724448	<b>Field ID:</b> 17284	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724448
General	cBOD (5day)	0.2	300	mg/L	44.9
	Suspended Solids	0.9	350	mg/L	44.8

<b>Lab ID:</b> 724449	<b>Field ID:</b> 17285	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724449
General	cBOD (5day)	0.2	300	mg/L	117
	Suspended Solids	0.9	350	mg/L	213

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724450	<b>Field ID:</b> 17286	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724450
General	cBOD (5day)	0.2	300	mg/L	67.1
	Suspended Solids	0.9	350	mg/L	81.9

<b>Lab ID:</b> 724451	<b>Field ID:</b> 17287	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724451
General	cBOD (5day)	0.2	300	mg/L	105
	Suspended Solids	0.9	350	mg/L	220

<b>Lab ID:</b> 724452	<b>Field ID:</b> 17288	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724452
General	cBOD (5day)	0.2	300	mg/L	59.6
	Suspended Solids	0.9	350	mg/L	95.0

<b>Lab ID:</b> 724453	<b>Field ID:</b> 17289	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724453
General	cBOD (5day)	0.2	300	mg/L	186
	Suspended Solids	4	350	mg/L	579^

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724454	<b>Field ID:</b> 17290	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724454
General	cBOD (5day)	0.2	300	mg/L	122
	Suspended Solids	0.9	350	mg/L	156

<b>Lab ID:</b> 724455	<b>Field ID:</b> 17291	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724455
General	cBOD (5day)	0.2	300	mg/L	84.1
	Suspended Solids	0.9	350	mg/L	261

<b>Lab ID:</b> 724456	<b>Field ID:</b> 17292	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724456
General	cBOD (5day)	0.2	300	mg/L	63.5
	Suspended Solids	0.9	350	mg/L	80.8

<b>Lab ID:</b> 724457	<b>Field ID:</b> 17293	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724457
General	cBOD (5day)	0.2	300	mg/L	144
	Suspended Solids	0.9	350	mg/L	244

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724458	<b>Field ID:</b> 17294	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724458
General	cBOD (5day)	0.2	300	mg/L	82.7
	Suspended Solids	0.9	350	mg/L	315

<b>Lab ID:</b> 724459	<b>Field ID:</b> 17295	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724459
General	cBOD (5day)	0.2	300	mg/L	138
	Suspended Solids	0.9	350	mg/L	224

<b>Lab ID:</b> 724460	<b>Field ID:</b> 17296	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724460
General	cBOD (5day)	0.2	300	mg/L	86.9
	Suspended Solids	0.9	350	mg/L	211

<b>Lab ID:</b> 724461	<b>Field ID:</b> 17297	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724461
General	cBOD (5day)	0.2	300	mg/L	166
	Suspended Solids	0.9	350	mg/L	161

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Work Order #:** 2177604

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<b>Lab ID:</b>	724462	<b>Field ID:</b>	17298	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-11	<b>Criteria:</b>	Sewer Use By-law York	<b>Sub Location:</b>	Aurora FWG 51A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 724462
General	cBOD (5day)	0.2	300	mg/L	167
	Suspended Solids	0.9	350	mg/L	199

<b>Lab ID:</b>	724463	<b>Field ID:</b>	17299	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-11	<b>Criteria:</b>	Sewer Use By-law York	<b>Sub Location:</b>	Aurora FWG 52A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 724463
General	cBOD (5day)	0.2	300	mg/L	153
	Suspended Solids	0.9	350	mg/L	227

<b>Lab ID:</b>	724464	<b>Field ID:</b>	17301	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-11	<b>Criteria:</b>	Sewer Use By-law York	<b>Sub Location:</b>	Aurora FWG 52A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 724464
General	cBOD (5day)	0.2	300	mg/L	140
	Suspended Solids	0.9	350	mg/L	131

<b>Lab ID:</b>	724465	<b>Field ID:</b>	17302	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-11	<b>Criteria:</b>	Sewer Use By-law York	<b>Sub Location:</b>	Aurora FWG 52A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 724465
General	cBOD (5day)	0.2	300	mg/L	173
	Suspended Solids	0.9	350	mg/L	264

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724466	<b>Field ID:</b> 17303	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724466
General	cBOD (5day)	0.2	300	mg/L	180
	Suspended Solids	0.9	350	mg/L	327

<b>Lab ID:</b> 724467	<b>Field ID:</b> 17304	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724467
General	cBOD (5day)	0.2	300	mg/L	198
	Suspended Solids	0.9	350	mg/L	282

<b>Lab ID:</b> 724468	<b>Field ID:</b> 17305	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724468
General	cBOD (5day)	0.2	300	mg/L	147
	Suspended Solids	0.9	350	mg/L	116

<b>Lab ID:</b> 724469	<b>Field ID:</b> 17306	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724469
General	cBOD (5day)	0.2	300	mg/L	131
	Suspended Solids	0.9	350	mg/L	43.8

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd



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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b> 724470	<b>Field ID:</b> 17307	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724470
General	cBOD (5day)	0.2	300	mg/L	70.4
	Suspended Solids	0.9	350	mg/L	63.9

<b>Lab ID:</b> 724471	<b>Field ID:</b> 17308	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724471
General	cBOD (5day)	0.2	300	mg/L	78.1
	Suspended Solids	0.9	350	mg/L	156

<b>Lab ID:</b> 724472	<b>Field ID:</b> 17309	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724472
General	cBOD (5day)	0.2	300	mg/L	164
	Suspended Solids	0.9	350	mg/L	331

<b>Lab ID:</b> 724473	<b>Field ID:</b> 17310	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-11	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724473
General	cBOD (5day)	0.2	300	mg/L	91.4
	Suspended Solids	0.9	350	mg/L	132

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177604

**Submission #:** 222657

<b>Lab ID:</b>	724474	<b>Field ID:</b>	17311	<b>Location:</b>	Region of York
<b>Sample Date:</b>	2013-10-11	<b>Criteria:</b>	Sewer Use By-law York	<b>Sub Location:</b>	Aurora FWG 52A
<b>Type:</b>	Grab				
<b>DWS #:</b>	N/A				

Group	Analyte	MDL	Limit	Units	Results for 724474
General	cBOD (5day)	0.2	300	mg/L	182
	Suspended Solids	0.9	350	mg/L	233

**Analysis Summary**

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	36	Industrial	2013-10-17	2013-10-18	Gravimetric	RELI-03
BOD/cBOD (5 day)	36	Industrial	2013-10-15	2013-10-21	D.O. Meter	RELI-04

Note: All supporting analytical information including measurement uncertainty is available upon request.

[END OF REPORT]

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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YD222660

**Chain of Custody Form**  
**Wastewater and Soils**

Client: Region of York Contact Name: Fai Ng Tel/Fax: 905-896-1200x5133/905-9300-6927 Additional Reports To: OPERATIONS MANAGER

Project: 777 7777 0016 Address: 17250 Yonge Street E-mail: chi-fai.ng@york.ca

Sampler: Vetri Kasinathan Newmarket, ON L3Y 6Z1 Autolog #: \_\_\_\_\_

Lab Sample ID	Laboratory Sample ID	Site Location	SAMPLE					Parameter	Container Type Required	Bottles		Analyte
			Matrix	Type	Source	Date (mm-dd-yy)	Time (hh:mm)			Asst	Recd	
17312	724648	Aurora FWG 36A	Industrial	Grab	York	10-12-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17313	724649	Aurora FWG 36A	Industrial	Grab	York	10-12-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17314	724650	Aurora FWG 36A	Industrial	Grab	York	10-12-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17315	724651	Aurora FWG 36A	Industrial	Grab	York	10-12-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17316	724652	Aurora FWG 36A	Industrial	Grab	York	10-12-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17317	724653	Aurora FWG 36A	Industrial	Grab	York	10-12-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17318	724654	Aurora FWG 36A	Industrial	Grab	York	10-12-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17319	724655	Aurora FWG 36A	Industrial	Grab	York	10-12-13	2:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17320	724656	Aurora FWG 36A	Industrial	Grab	York	10-12-13	5:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By: Vetri Kasinathan  
 Print and Sign

Delivered By: Vetri Kasinathan HP  
 Print and Sign

Date: 10-15-13 10-15-13  
 mm-dd-yy

Time: 13:30  
 hh:mm

**LAB Use Only**

Comments: \_\_\_\_\_

Received By: \_\_\_\_\_  
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WON: 1300T 15 PM

Date / Time: 2177655



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**Wastewater and Soils**

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Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #:	

Field Sample	Location	Substrate	Matrix	Type	Site	Date	Time	Test	Container Type	Volume	Notes	Signature
17321 <i>I 724657</i>	Aurora FWG 36A	Industrial	Grab	York	10-12-13	6:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17322 <i>724658</i>	Aurora FWG 36A	Industrial	Grab	York	10-12-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17323 <i>724659</i>	Aurora FWG 36A	Industrial	Grab	York	10-12-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17324 <i>724660</i>	Aurora FWG 51A	Industrial	Grab	York	10-12-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17325 <i>724661</i>	Aurora FWG 51A	Industrial	Grab	York	10-12-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17326 <i>724662</i>	Aurora FWG 51A	Industrial	Grab	York	10-12-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17327 <i>724663</i>	Aurora FWG 51A	Industrial	Grab	York	10-12-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17328 <i>724664</i>	Aurora FWG 51A	Industrial	Grab	York	10-12-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	
17329 <i>724665</i>	Aurora FWG 51A	Industrial	Grab	York	10-12-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW	

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Comments:	
Received By:	
WO#:	
Date / Time:	

Submitted By:	<u>Vetri Kasinathan</u>
	Print and Sign
Delivered By:	<u>Vetri Kasinathan</u>
	Print and Sign
Date:	<u>10-15-13</u>
	mm-dd-yy
Time:	
	hh:mm

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**YD222660**

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <u>Region of York</u>	Contact Name: <u>Fai Ng</u>	Tel/Fax: <u>905-895-1200x5133/905-8300-8927</u>	Additional Reports To:
Project: <u>777 7777 0016</u>	Address: <u>17250 Yonge Street</u>	E-mail: <u>chi-fai.ng@york.ca</u>	
Sampler: <u>Vetri Kasinathan</u>	<u>Newmarket, ON L3Y 6Z1</u>	Autolog #: _____	

Lab Sample ID	Laboratory Sample ID	Sublocation	Sample					Test Group/Pres	Container Vol Required	BOD/DO		Comments
			Type	Vol	Source	Date	Time			Sign	AR200	
17330	I 724666	Aurora FWG 51A	Industrial	Grab	York	10-12-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17331	724667	Aurora FWG 51A	Industrial	Grab	York	10-12-13	2:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17332	724668	Aurora FWG 51A	Industrial	Grab	York	10-12-13	5:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17333	724669	Aurora FWG 51A	Industrial	Grab	York	10-12-13	6:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17334	724670	Aurora FWG 51A	Industrial	Grab	York	10-12-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17335	724671	Aurora FWG 51A	Industrial	Grab	York	10-12-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17336	724672	Aurora FWG 52A	Industrial	Grab	York	10-12-13	11:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17337	724673	Aurora FWG 52A	Industrial	Grab	York	10-12-13	14:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17338	724674	Aurora FWG 52A	Industrial	Grab	York	10-12-13	17:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<u>Vetri Kasinathan</u> Print and Sign
Delivered By:	<u>Vetri Kasinathan</u> Print and Sign
Date:	<u>10-15-13</u> mm-dd-yy
Time:	_____ hh:mm

LAB Use Only	
Comments:	_____
Received By:	_____ Print and Sign
WO#:	_____
Date / Time:	_____

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YD222660

**Chain of Custody Form**  
**Wastewater and Soils**

Client: <b>Region of York</b>	Contact Name: <b>Fai Ng</b>	Tel/Fax: <b>905-896-1200x5133/906-9300-6927</b>	Additional Reports To: _____
Project: <b>777 7777 0016</b>	Address: <b>17260 Yonge Street</b>	E-mail: <b>chi-fai.ng@york.ca</b>	
Sampler: <b>Vetri Kasinathan</b>	<b>Newmarket, ON L3Y 6Z1</b>	Autolog #: _____	

Lab Sample ID	Laboratory Sample ID	Sample Location	Sample					Test Group/Type	Compliance Required	Flow		Comments
			Matrix	Type	Substrate	Date	Time			Flow	Flow	
17339 <i>I 724675</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	18:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17340 <i>724676</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	19:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17341 <i>724677</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	20:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17342 <i>724678</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	23:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17343 <i>724679</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	2:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17344 <i>724680</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	5:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17345 <i>724681</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	6:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17346 <i>724682</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	7:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW
17347 <i>724683</i>		Aurora FWG 52A	Industrial	Grab	York	10-12-13	8:00	CBOD SOLSUS		2	2	SEWER USE BY-LAW

Submitted By:	<b>Vetri Kasinathan</b>
	Print and Sign
Delivered By:	<b>Vetri Kasinathan</b>
	Print and Sign
Date:	<b>10-15-13</b>
	mm-dd-yy
Time:	_____
	hh:mm

LAB Use Only

PROOFED BY: \_\_\_\_\_

CHECKED BY: *MS*

LABELED BY: *CC*

SORTED/LINED UP BY: \_\_\_\_\_

Comments:	_____
Received By:	_____
	Print and Sign
WO#:	_____
Date / Time:	_____



**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

**Report Authorization**

**Client Details:** Region of York - Industrial

**Date Received:** 2013-10-15

**Sampled By:** V. Kasinathan

**Date of Issue:** 2013-10-22

**Report to:**

**No. of Samples:** 36

Fai Ng  
Region of York  
17250 Yonge St., Box 147  
Newmarket, ON  
L3Y 6Z1  
chi-fai.ng@york.ca

Operations Manager  
Region of York  
380 Bayview Pkwy, Box 1  
Newmarket, ON  
L3Y 4W3  
lab.reports@york.ca

**Lab ID:** 724648 **Field ID:** 17312 **Location:** Region of York  
**Sample Date:** 2013-10-12 **Criteria:** Sewer Use By-law York **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724648
General	cBOD (5day)	0.2	300	mg/L	156
	Suspended Solids	0.9	350	mg/L	84.0

**Lab ID:** 724649 **Field ID:** 17313 **Location:** Region of York  
**Sample Date:** 2013-10-12 **Criteria:** Sewer Use By-law York **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724649
General	cBOD (5day)	0.2	300	mg/L	79.6
	Suspended Solids	0.9	350	mg/L	110

**Lab ID:** 724650 **Field ID:** 17314 **Location:** Region of York  
**Sample Date:** 2013-10-12 **Criteria:** Sewer Use By-law York **Sub Location:** Aurora FWG 36A  
**Type:** Grab  
**DWS #:** N/A

Group	Analyte	MDL	Limit	Units	Results for 724650
General	cBOD (5day)	0.2	300	mg/L	179
	Suspended Solids	0.9	350	mg/L	492^

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724651	<b>Field ID:</b> 17315	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724651
General	cBOD (5day)	0.2	300	mg/L	153
	Suspended Solids	0.9	350	mg/L	224

<b>Lab ID:</b> 724652	<b>Field ID:</b> 17316	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724652
General	cBOD (5day)	0.2	300	mg/L	123
	Suspended Solids	0.9	350	mg/L	114

<b>Lab ID:</b> 724653	<b>Field ID:</b> 17317	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724653
General	cBOD (5day)	0.2	300	mg/L	165
	Suspended Solids	0.9	350	mg/L	100

<b>Lab ID:</b> 724654	<b>Field ID:</b> 17318	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724654
General	cBOD (5day)	0.2	300	mg/L	45.1
	Suspended Solids	0.9	350	mg/L	64.8

Legend:

MDL = Method detection limit

< = Less than

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Date Format: yyyy-mm-dd



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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724655	<b>Field ID:</b> 17319	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724655
General	cBOD (5day)	0.2	300	mg/L	149
	Suspended Solids	0.9	350	mg/L	372^

<b>Lab ID:</b> 724656	<b>Field ID:</b> 17320	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724656
General	cBOD (5day)	0.2	300	mg/L	141
	Suspended Solids	0.9	350	mg/L	694^

<b>Lab ID:</b> 724657	<b>Field ID:</b> 17321	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724657
General	cBOD (5day)	0.2	300	mg/L	96.7
	Suspended Solids	0.9	350	mg/L	247

<b>Lab ID:</b> 724658	<b>Field ID:</b> 17322	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724658
General	cBOD (5day)	0.2	300	mg/L	29.2
	Suspended Solids	0.9	350	mg/L	49.3

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724659	<b>Field ID:</b> 17323	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 36A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724659
General	cBOD (5day)	0.2	300	mg/L	165
	Suspended Solids	0.9	350	mg/L	250

<b>Lab ID:</b> 724660	<b>Field ID:</b> 17324	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724660
General	cBOD (5day)	0.2	300	mg/L	677^
	Suspended Solids	4	350	mg/L	1360^

<b>Lab ID:</b> 724661	<b>Field ID:</b> 17325	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724661
General	cBOD (5day)	0.2	300	mg/L	80.2
	Suspended Solids	0.9	350	mg/L	181

<b>Lab ID:</b> 724662	<b>Field ID:</b> 17326	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724662
General	cBOD (5day)	0.2	300	mg/L	49.3
	Suspended Solids	0.9	350	mg/L	49.5

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724663	<b>Field ID:</b> 17327	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724663
General	cBOD (5day)	0.2	300	mg/L	38.5
	Suspended Solids	0.9	350	mg/L	73.2

<b>Lab ID:</b> 724664	<b>Field ID:</b> 17328	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724664
General	cBOD (5day)	0.2	300	mg/L	201
	Suspended Solids	0.9	350	mg/L	591^

<b>Lab ID:</b> 724665	<b>Field ID:</b> 17329	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724665
General	cBOD (5day)	0.2	300	mg/L	78.1
	Suspended Solids	0.9	350	mg/L	76.2

<b>Lab ID:</b> 724666	<b>Field ID:</b> 17330	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724666
General	cBOD (5day)	0.2	300	mg/L	54.7
	Suspended Solids	0.9	350	mg/L	90.7

Legend:

MDL = Method detection limit

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724667	<b>Field ID:</b> 17331	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724667
General	cBOD (5day)	0.2	300	mg/L	37.0
	Suspended Solids	0.9	350	mg/L	81.3

<b>Lab ID:</b> 724668	<b>Field ID:</b> 17332	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724668
General	cBOD (5day)	0.2	300	mg/L	11.5
	Suspended Solids	0.9	350	mg/L	62.0

<b>Lab ID:</b> 724669	<b>Field ID:</b> 17333	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724669
General	cBOD (5day)	0.2	300	mg/L	198
	Suspended Solids	0.9	350	mg/L	610^

<b>Lab ID:</b> 724670	<b>Field ID:</b> 17334	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724670
General	cBOD (5day)	0.2	300	mg/L	63.7
	Suspended Solids	0.9	350	mg/L	80.2

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724671	<b>Field ID:</b> 17335	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 51A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724671
General	cBOD (5day)	0.2	300	mg/L	116
	Suspended Solids	0.9	350	mg/L	82.0

<b>Lab ID:</b> 724672	<b>Field ID:</b> 17336	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724672
General	cBOD (5day)	0.2	300	mg/L	159
	Suspended Solids	0.9	350	mg/L	251

<b>Lab ID:</b> 724673	<b>Field ID:</b> 17337	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724673
General	cBOD (5day)	0.2	300	mg/L	195
	Suspended Solids	0.9	350	mg/L	232

<b>Lab ID:</b> 724674	<b>Field ID:</b> 17338	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724674
General	cBOD (5day)	0.2	300	mg/L	153
	Suspended Solids	0.9	350	mg/L	220

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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### INORGANICS ANALYSIS REPORT

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724675	<b>Field ID:</b> 17339	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724675
General	cBOD (5day)	0.2	300	mg/L	150
	Suspended Solids	0.9	350	mg/L	67.8

<b>Lab ID:</b> 724676	<b>Field ID:</b> 17340	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724676
General	cBOD (5day)	0.2	300	mg/L	182
	Suspended Solids	0.9	350	mg/L	252

<b>Lab ID:</b> 724677	<b>Field ID:</b> 17341	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724677
General	cBOD (5day)	0.2	300	mg/L	347^
	Suspended Solids	0.9	350	mg/L	89.4

<b>Lab ID:</b> 724678	<b>Field ID:</b> 17342	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724678
General	cBOD (5day)	0.2	300	mg/L	149
	Suspended Solids	0.9	350	mg/L	169

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724679	<b>Field ID:</b> 17343	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724679
General	cBOD (5day)	0.2	300	mg/L	79.0
	Suspended Solids	0.9	350	mg/L	96.2

<b>Lab ID:</b> 724680	<b>Field ID:</b> 17344	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724680
General	cBOD (5day)	0.2	300	mg/L	160
	Suspended Solids	0.9	350	mg/L	243

<b>Lab ID:</b> 724681	<b>Field ID:</b> 17345	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724681
General	cBOD (5day)	0.2	300	mg/L	122
	Suspended Solids	0.9	350	mg/L	267

<b>Lab ID:</b> 724682	<b>Field ID:</b> 17346	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724682
General	cBOD (5day)	0.2	300	mg/L	292
	Suspended Solids	0.9	350	mg/L	205

Legend:

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd

**YORK-DURHAM**  
**Regional Environmental Laboratory**

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**INORGANICS ANALYSIS REPORT**

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**Work Order #:** 2177655

**Submission #:** 222660

<b>Lab ID:</b> 724683	<b>Field ID:</b> 17347	<b>Location:</b> Region of York
<b>Sample Date:</b> 2013-10-12	<b>Criteria:</b> Sewer Use By-law York	<b>Sub Location:</b> Aurora FWG 52A
<b>Type:</b> Grab		
<b>DWS #:</b> N/A		

Group	Analyte	MDL	Limit	Units	Results for 724683
General	cBOD (5day)	0.2	300	mg/L	383^
	Suspended Solids	0.9	350	mg/L	373^

**Analysis Summary**

<u>Test Group</u>	<u>Quantity</u>	<u>Sample Matrix</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Instrument</u>	<u>Method</u>
Solids	36	Industrial	2013-10-17	2013-10-18	Gravimetric	RELI-03
BOD/cBOD (5 day)	36	Industrial	2013-10-16	2013-10-21	D.O. Meter	RELI-04

Note: All supporting analytical information including measurement uncertainty is available upon request.

**Report Comments:**

**Comment**

PRELIMINARY REPORT: Apart from lab sample numbers 724648 to 724655, all samples require repeat analysis beyond the recommended laboratory holding time. Reason for repeat testing: Initial cBOD analysis did not meet QC batch requirements. Final report to be issued once reanalysis is complete.

[END OF REPORT]

**Legend:**

MDL = Method detection limit

< = Less than

^ = Result outside limit

Date Format: yyyy-mm-dd





Environmental Services  
Environmental Promotion & Protection

## MEMORANDUM

TO: Food Waste Grinder Sub-Committee

FROM: Erin Mahoney, Commissioner of Environmental Services

DATE: November 7, 2013

RE: **Effectiveness of the Green Bin Program without Prohibition of Food Waste Grinders**

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This memo is in response to a request from the Food Waste Grinder Subcommittee to assess the effectiveness of the Green Bin Program without the prohibition of food waste grinders.

To manage food waste, Regional Council endorsed an inclusive Green Bin program in 2005 which has become one of the most successful in Ontario. The current Green Bin program is convenient and significantly contributes to York Region's Waste Diversion Ontario's (WDO) diversion rate which has achieved amongst the top two highest rankings in Ontario over the past several years. When considering the broader use of food waste grinders, throughout the Region, potential impacts to the Green Bin program have been noted in that the results may:

- Reduce the WDO diversion rate and quality of compost produced;
- Impact the quality of Green Bin feedstock materials, exasperating challenges in procuring processing markets, and;
- Produce no expected cost savings since food waste grinders are unable to process all Green Bin materials; as a result, the curbside Green Bin program will still be required to manage these materials

As a result of these impacts, it is recommended that Council continue to support the Green Bin program as the best practice for achieving beneficial use of food waste by creating compost.

## PROCESSING AND COMPOST QUALITY IMPACTS

### **Green Bin program will still be required for effective organics management as food waste grinders cannot process a number of materials accepted in the Green Bin program**

Modern food waste grinders are effective at grinding food waste, however there are common organic items that cannot be processed, such as large or fibrous pieces of food waste, soiled paper, paper towels, diapers, pet waste, and sanitary products. These remaining items are acceptable in York Region's Green Bin program which will continue to be required to manage the remainder of the source separated organics stream, including the remaining food waste fraction. In this regard, as the food waste portion of this organics stream decreases, negative impacts related to operational processing and compost quality may increase.

### **High quality SSO improves marketability of York Region Green Bin materials**

The *Ontario Compost Quality Standards* outlines requirements for a finished product to qualify as compost (AA, A, or B grade). York Region requires its processors to generate AA compost, the highest grade. To meet this standard, processors must meet strict guidelines for heavy metals, sharps, foreign matter, and plastics. For plastics, there must be 0.5 per cent or less plastic in the finished compost. The impacts of food waste grinders on Green Bin composition at different usage rates are included in Table 1 below. Finding processing capacity in Ontario, Quebec or New York continues to be extremely challenging. Ensuring a high quality source separated organics feedstock improves the likelihood of obtaining additional processing capacity, as well as maintaining the current performance of our processing contractors. Increasing levels of plastics, diaper, sanitary products, and pet waste exacerbates challenges in procuring sustainable Green Bin processing markets.

**Table 1**  
Impact of Food Waste Grinders on Green Bin Composition

<b>Material Type</b>	<b>Current</b>	<b>5%</b>	<b>15%</b>	<b>30%</b>
Food Waste	69.30%	68.86%	66.42%	62.15%
Soiled Paper & Tissue	6.35%	6.45%	6.95%	7.84%
Other Acceptable Green Bin Materials	1.44%	1.46%	1.57%	1.78%
Plastic Bags, Diapers, Pet Waste and Sanitary	21.20%	21.50%	23.18%	26.13%
Unacceptable Materials	1.71%	1.73%	1.87%	2.10%
Total Green Bin Materials (t)	92,260	90,942	84,353	74,832

## IMPACTS TO ORGANICS VOLUMES AND DIVERSION RATES

### High usage rate of food waste grinders will decrease Green Bin tonnages impacting diversion rates

A significant reduction in Green Bin tonnages is possible if food waste grinders reach a high usage rate. Food waste grinder manufacturers estimate that an average household will dispose of 100 kilograms of wet food waste per year via a food waste grinder. In the CH2M Hill report, “*Assessment of Impacts of Food Waste Grinders on York Region’s Sewage Infrastructure*”, it was estimated this figure could be higher in York Region at approximately 198 kilograms per household per year. At the current usage level of 3 per cent, the effects are minimal; however, as usage rates increase so will impacts on Green Bin tonnages. Green Bin represents a large proportion of York Region’s diversion rate. Based on CH2M Hill’s estimates, were food waste grinders to be used in 30 per cent of homes in York Region it would reduce available Green Bin materials by 17,791 tonnes per year (2012 tonnes). This would result in a reduction in York Region’s anticipated 2012 Waste Diversion Ontario (WDO) diversion rate of approximately three per cent as outlined in Table 2.

**Table 2**

Anticipated 2012 Waste Diversion Ontario Diversion Impact\* with Food Waste Grinders Usage by 30% of Homes

	<b>2012 Tonnes</b>	<b>15% Food Waste Grinder Use</b>	<b>30% Food Waste Grinder Use</b>
Total Residential Waste Diverted	217,469	209,562	191,771
Total Residential Waste Disposed	166,162,416	162,416	162,416
Total Residential Waste Generated	379,885	371,978	354,187
<b>WDO Diversion Rate</b>	<b>57.25%</b>	<b>56.34%</b>	<b>54.14%</b>

## IMPACTS TO REGIONAL STRATEGIES AND POLICIES

### Council implemented the Green Bin program in 2005 which has become one of the most successful in Ontario

Council mandated the implementation of the Green Bin program in 2005 to manage food waste and other organic materials. Over the past eight years residents have demonstrated enthusiasm for the Green Bin with a participation rate of over 80 per cent and an average set out of 314 kilograms per household per year; among the highest rates in Ontario. Food waste grinders can only manage a portion of this stream. The portion varies based on the type of grinder, but no grinder can accept the full range of waste accepted by the Green Bin program. Providing two different options for managing food waste in the home has the potential to negatively impact diversion rates.

## **York Region SM4RT Living plan will continue to focus heavily on Green Bin**

In September 2013, Council endorsed the SM4RT Living Waste Management Master Plan to guide waste management for the next 40 years. There is a strong emphasis on the waste management 4R's hierarchy with a focus on reduction and reuse and waste as a resource. Key components of the plan include a reduction in wasted food, efficient use of resources, and increased diversion in the multi-residential sector.

The food waste reduction strategy is projected to reduce more than 13,845 tonnes annually when compared to baseline projections. These tonnage reductions translate into approximately \$5.7 million in avoided annual costs, assuming a projected decrease of 15 per cent by 2031. Critical to the success of driving food waste reduction will be promotion and education efforts to drive awareness and behavior change regarding the amount of food waste that families generate. Part of that awareness is knowing and visually seeing how much food we are putting into our Green Bins on a regular basis and adjusting our purchasing and consuming habits to reduce the food waste generated. Disposing of food waste through a food waste grinder has the potential to negatively impact our residents' awareness of the amount of food that is being wasted, i.e. "out of sight out of mind". This is evidenced by the results of the *Aurora Food Waste Grinder Survey* (September 2013) which indicated that residents believed they used their food waste grinders much less than what was measured in the *Aurora Food Waste Grinder Wastewater Sampling Results and Analysis* memo.

One of the Green Bin program's key components of success is that materials placed in this stream are composted into an environmentally and socially beneficial product. The Green Bin program provides a full cradle to cradle solution; finished compost provides valuable nutrients back to the earth, and in turn helps produce new food. Processing food waste via wastewater treatment facilities would yield an inferior product as food organic matter would be contaminated with pathogens from human waste. Human waste biosolids cannot be utilized in the same manner as compost from the Green Bin program. In fact, the solids management strategy at Duffin Creek includes thermal oxidization (incineration) of biosolids. For these reasons, the Green Bin program represents a more sustainable use of organic matter.

## **Regional Official Plan requires facilities for three stream waste management in new multi-residential developments to be as convenient as garbage**

Multi-residential diversion is more challenging than single family household programs. As a result there is a focus in the SM4RT Living Solid Waste Master Plan and the Regional Official Plan on improving diversion in this sector. York Region's Official Plan requires all new multi-residential developments to provide facilities for three-stream waste management that are as convenient as garbage. Most local area municipalities have conditions of site plan approvals with this requirement as well.

Both the Town of Richmond Hill and City of Markham have had success implementing Green Bin programs in multi-residential buildings. It is anticipated that Green Bin convenience will continue to increase in multi-residential homes in the future as buildings are constructed with effective facilities for three stream waste. If food waste grinders were installed in these multi-

residential buildings with Green Bin services it would represent a redundant system for food waste management.

The SM4RT Living Solid Waste Master Plan Multi Residential strategy has not recommended a 'one size fits all' solution to manage organics. Recognizing that servicing multi-residential developments can be challenging, the recommendations include pilots for several different types of technology. One pilot has been initiated with the City of Markham, Rockport Group and Totally Green to install an on-site composting processor in a retirement residence. Results of this and other pilot studies will be brought forward in 2014 and beyond in the Integrated Waste Management Master Plan updates.

## **CONCLUSION AND RECOMMENDATIONS**

### **York Region's Green Bin program has demonstrated success; food waste grinders are not required for effective organics management**

York Region's Green Bin program has provided residents with a convenient and successful method of disposing of a wide range of organic matter. The York Regional Official Plan and SM4RT Living Solid Waste Master Plan are implementing initiatives to expand on this success. Wide-spread use of food waste grinders could increase the proportion of plastics in the Green Bin stream resulting in a product that is more challenging to market for processing. In addition, increased usage of food waste grinders would negatively impact WDO diversion rates. Given the usage rates of the Green Bin and the array of materials it accepts, food waste grinders are not required for effective organic management in York Region.

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Erin Mahoney, M.Eng,  
Commissioner of Environmental Services

BM

Copy to: Bruce Macgregor, CAO

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