

# Technical Report

prepared for:

**Chandra Prasad**  
10 Deer Run Ridge  
Woodbridge CT, 06525  
**Attention: Chandra Prasad**

Report Date: 08/02/2021

**Client Project ID: July 22, 2021 Swale GW Amity HS 06525/Turf Install**

York Project (SDG) No.: 21G1101

CT Cert. No. PH-0723

New Jersey Cert. No. CT005 and NY037



New York Cert. Nos. 10854 and 12058

PA Cert. No. 68-04440

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RICHMOND HILL, NY 11418  
ClientServices@yorklab.com

Report Date: 08/02/2021  
Client Project ID: July 22, 2021 Swale GW Amity HS 06525/Turf Install  
York Project (SDG) No.: 21G1101

**Chandra Prasad**  
10 Deer Run Ridge  
Woodbridge CT, 06525  
Attention: Chandra Prasad

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## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on July 23, 2021 with a temperature of 5.5 C. The project was identified as your project: **July 22, 2021 Swale GW Amity HS 06525/Turf Install**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

<u>York Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
21G1101-01	Run-off Swale by Amity Field	Drinking Water	07/22/2021	07/23/2021
21G1101-02	PFAS Field Blank	Drinking Water	07/22/2021	07/23/2021

## **General Notes for York Project (SDG) No.: 21G1101**

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

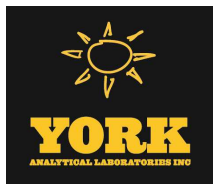
**Approved By:**



Cassie Mosher  
Laboratory Manager

**Date:** 08/02/2021





### Sample Information

**Client Sample ID:** Run-off Swale by Amity Field

**York Sample ID:** 21G1101-01

<u>York Project (SDG) No.</u>	<u>Client Project ID</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Date Received</u>
21G1101	July 22, 2021 Swale GW Amity HS 06525/Turf Install	Drinking Water	July 22, 2021 8:00 pm	07/23/2021

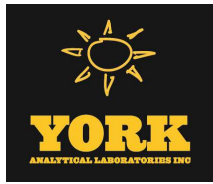
**PFAS, EPA 537.1 List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 537.1 SPE DVB

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.39		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
307-24-4	Perfluorohexanoic acid (PFHxA)	3.33		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.04		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
335-67-1	Perfluorooctanoic acid (PFOA)	7.57		ng/L	1.19	1	EPA 537.1 Certifications: NELAC-NY12058	07/28/2021 16:21	07/29/2021 21:56	ZZZ
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	6.44		ng/L	1.19	1	EPA 537.1 Certifications: NELAC-NY12058	07/28/2021 16:21	07/29/2021 21:56	ZZZ
375-95-1	Perfluorononanoic acid (PFNA)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
335-76-2	Perfluorodecanoic acid (PFDA)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
72629-94-8	Perfluorotridecanoic acid (PFTriDA)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
2355-31-9	N-MeFOSAA	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
2991-50-6	N-EtFOSAA	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
756426-58-1	9CL-PF3ONS	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
763051-92-9	11CL-PF3OUdS	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
13252-13-6	HFPO-DA (Gen-X)	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ
919005-14-4	ADONA	ND		ng/L	1.19	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 21:56	ZZZ



### Sample Information

**Client Sample ID:** PFAS Field Blank

**York Sample ID:** 21G1101-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

21G1101

July 22, 2021 Swale GW Amity HS 06525/Turf Install

Drinking Water

July 22, 2021 8:00 pm

07/23/2021

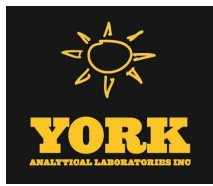
**PFAS, EPA 537.1 List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 537.1 SPE DVB

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
335-67-1	Perfluorooctanoic acid (PFOA)	ND		ng/L	1.58	1	EPA 537.1 Certifications: NELAC-NY12058	07/28/2021 16:21	07/29/2021 22:23	ZZZ
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		ng/L	1.58	1	EPA 537.1 Certifications: NELAC-NY12058	07/28/2021 16:21	07/29/2021 22:23	ZZZ
375-95-1	Perfluorononanoic acid (PFNA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
335-76-2	Perfluorodecanoic acid (PFDA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
2355-31-9	N-MeFOSAA	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
2991-50-6	N-EtFOSAA	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
756426-58-1	9CL-PF3ONS	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
763051-92-9	11CL-PF3OUdS	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
13252-13-6	HFPO-DA (Gen-X)	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ
919005-14-4	ADONA	ND		ng/L	1.58	1	EPA 537.1 Certifications:	07/28/2021 16:21	07/29/2021 22:23	ZZZ



## Sample and Data Qualifiers Relating to This Work Order

### Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias ) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.



# Field Chain-of-Custody Record

YORK Project No.

2191101

York Analytical Laboratories, Inc. (YORK)'s Standard Terms & Conditions are listed on the back side of this document. This document serves as your written authorization for YORK to proceed with the analyses requested below. Your signature binds you to YORK's Standard Terms & Conditions.

120 Research Drive Stratford, CT 06615 132-02 89th Ave Queens, NY 11418 800-306-YORK 800-306-9675 www.yorklab.com clientservices@yorklab.com

<b>YOUR INFORMATION</b>		<b>Report To:</b>		<b>Invoice To:</b>		<b>YOUR Project Number</b>		<b>Turn-Around Time</b>	
Company: CHANDRA PRASAD	Address: 10 DEER RUN AVE WOODBRIDGE CT 06525	Company: ;	Address: ;	Company: ;	Address: ;	July 22, 2021	RUSH - Next Day	RUSH - Two Day	RUSH - Three Day
Phone: 203 314 0379	Contact: ;	Phone: ;	Contact: ;	Phone: ;	Contact: ;	Amity HS - 06525	RUSH - Four Day	RUSH - Five Day	Standard (5-7 Day)
E-mail: chndraprasad.buoks@gmail.com	E-mail: ;	E-mail: ;	E-mail: ;	E-mail: ;	E-mail: ;	YOUR Project Name: AFTER ARTIFICIAL PFAS TURC installation Amity HS - 06525			

<b>Matrix Codes</b>		<b>Samples From</b>		<b>Report / EDD Type (circle selections)</b>		<b>YORK Reg. Comp.</b>	
S - soil / solid	GW - groundwater	New York	Summary Report	CT RCP	Standard Excel EDD	Compared to the following Regulation(s): (please fill in)	
DW - drinking water	WW - wastewater	New Jersey	QA Report	CT RCP DQA/DUE	EQULS (Standard)		
O - Oil	Other:	Connecticut	<input checked="" type="checkbox"/>	NY ASP A Package	NYSDEC EQULS		
		Pennsylvania		NY ASP B Package	Deliverables		
		Other:		NJDKQP	Other:		

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description
Run-off swale by Amity Field	surface water	7/22/21 7PM	PFAS EPA 537.1 LIST	005
Run-off swale by Amity Field	surface water	7/22/21 7PM	PFAS EPA 537.1 LIS	004
PFAS Field Blank		7/22/21 7PM		001 (public work)
PFAS Field Blank		7/22/21 7PM		002 (empty)

<b>Comments:</b>		<b>Preservation: (check all that apply)</b>	
		HCl	MeOH
		HNO3	H2SO4
		NaOH	Ascorbic Acid
		ZnAc	Other:

1. Samples Relinquished by / Company		Date/Time
[Signature]		7/23/21 9:45 AM
2. Samples Relinquished by / Company		Date/Time
[Signature]		7/23/21 9:45 AM
3. Samples Relinquished by / Company		Date/Time
[Signature]		7/23/21 9:45 AM
4. Samples Relinquished by / Company		Date/Time
[Signature]		7/23/21 9:45 AM

Special Instruction		Date/Time
Field Filtered		
Lab to Filter		