

Report of Subsurface Exploration and Infiltration Evaluation

Hightstown Redevelopment

Block 21, Lots 1 -14 and 26, And Block 30, Lots 1-7 and 10 Bank Street and North Main Street Township of Hightstown, Mercer County, New Jersey

July 18, 2017

Prepared For

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MC Project No. 16001094A

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FIGURE

Exploration Location PlanFi	Figure No.). 1	
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1.0 INTRODUCTION

This report presents the results of the geotechnical evaluation performed in June 2017, at the project site with respect to proposed stormwater management areas and infiltration rates for use in design. Maser Consulting P.A. understands that the purpose of the proposed project is to construct a mixed use development consisting of multi-family units and retail space along with typical appurtenant site improvements on an existing 6.9 acres of land located between North Academy Street, Bank Street and North Main Street in Hightstown Township, Mercer County, New Jersey.

Infiltration rate recommendations provided in this report are based on review of published data, accepted engineering practice, and field observations. Maser Consulting P.A. has evaluated the subsurface conditions at the site, and provides an evaluation of potential infiltration rates for soils encountered at depth within the area of the proposed stormwater management systems and design seasonal high water levels.

2.0 SITE DESCRIPTION

The subject project site is an approximately 6.9 acres site bounded by North Academy Street, Bank Street and North Main Street, in Hightstown Township, Mercer County, New Jersey and is referred to as Block 21, Lots 1-14 and 26, and Block 30, Lots 1-7 and 10 on the Hightstown Township Tax Maps. Rocky Brook runs through the center of the property. The current use consists primarily of warehouse structures (RTL Merchandising, Moving, Storage and Decorations).

We understand the purpose of the proposed project is to redevelop the site with a combination of multi-family units and retail space along with typical appurtenant site improvements.



3.0 SCOPE OF SERVICES

In order to evaluate the subsurface conditions within the influence of the proposed stormwater management areas and to subsequently provide consultation regarding anticipated subsurface infiltration rates and design estimated seasonal high water levels (ESHWL), we performed the following scope of services:

- a) Engaged the services of an excavation contractor to excavate test pits for exploration of subsurface soil and groundwater conditions within the proposed stormwater management areas;
- b) Provided full-time technical observation of the excavation work;
- c) Obtained representative soil samples encountered within the zone of influence of the proposed construction;
- d) Evaluated the field data and prepared test pit logs showing the types of soils observed, depths to groundwater, and depths to estimated seasonal high groundwater;
- e) Performed a combination of laboratory testing on select soil samples to evaluate groundwater infiltration rates for the subgrade soils; and
- Provided a Subsurface Exploration and Infiltration Evaluation Report that reviews potential soil infiltration rates for design and groundwater considerations for the proposed basin requirements.



4.0 SUBSURFACE EXPLORATION

The subsurface conditions were evaluated on June 16, 2017, through the excavation of a total of four (4) test pits, labeled TP-1 through TP-4, that were advanced to termination depths of approximately 15 feet (180 inches) below ground surface by Viersma & Sons of Allamuchy, NJ, using a CAT 315F trackhoe. Test pits for the exploration were excavated at the locations shown on the Exploration Location Plan, Figure No. 1.

Representatives from Maser Consulting's Geotechnical Department observed the test pit excavations. Soils encountered were classified in the field in accordance with N.J.A.C. 7:9A, Subchapter 5.3, Terminology Required for Soil Logs. The Burmister Soil Classification System was also used. Representative soil samples of strata encountered were collected and returned to Maser Consulting's Red Bank laboratory facilities for further evaluation and analyses. Details pertaining to the subsurface conditions encountered are presented on the Test Pit Logs in Appendix A.

The depth of groundwater was measured from the ground surface to the point of observed seepage or consistent soil moisture, and was encountered in the test pits at depths ranging from approximately 3.75 to 10 feet below existing grade. The subsurface strata were also evaluated with respect to mottling and soil staining, to determine if seasonal high groundwater levels extended into the test pit depths. Staining and mottling within a soil stratum can indicate seasonal high water level (SHWL) fluctuations, but is also found along wormholes, as a result of prior farming practices, or as an indication of geologic depositional factors. Evidence of SHWL was encountered at depths ranging from approximately 12 inches to 30 inches below existing ground surface within the four (4) test pits excavated as part of this exploration.

Please refer to Table 1 for a summary of depths to the groundwater table and to the estimated seasonal high water level (ESHWL). Soil moisture and groundwater conditions should be expected to fluctuate with season, precipitation amounts, and other on-site and off-site factors including site utilization.



	TABLE 1 DEPTH TO GWT AND ESHWL SUMMARY						
Test Pit ID	Approx. Ground Surface Elev. (ft)	Depth to Groundwater Water Table, GWT (in)	Depth to Estimated Seasonal High Water Level, ESHWL (in)				
TP-1	± 84.0	96	12				
TP-2	± 88.0	102	20				
TP-3	± 86.0	120	16				
TP-4	± 85.5	45	30				

5.0 SUBSURFACE CONDITIONS

The soils encountered during our exploration consisted of the existing pavement layer, approximately 6 to 12 inches thick, consisting of light brownish gray loamy sand with up to 50% gravel, underlain by layers of grayish brown, brown and yellowish brown sandy loam. Loam and silty clay loam, with varying amounts of gravel (up to 25%). These layers were underlain by a black clay loam, which was encountered at depths ranging from approximately 7.5 to 12 feet below existing grade and extended to the termination depth of the test pits at approximately 15 feet below existing grade.

6.0 SOIL INFILTRATION EVALUATION

Selected soil samples were tested by the Maser Consulting Geotechnical Laboratory in Red Bank, New Jersey. The testing consisted of eight (8) Tube Permeameter Tests performed to estimate the infiltration rate of groundwater through the soils at depth. Tube Permeameter testing was performed in accordance with New Jersey Administrative Code (N.J.A.C.) 7:9A-6.2 and BMP-E requirements. The soil samples were selected based on review of test pit logs by design personnel, the proposed infiltration depths, and comparison to other strata encountered at each test pit location. The tube samples were collected from the soils directly by inserting the sample tube into the ground and retrieving the tube by excavating the soils surrounding it.

Infiltration test results are summarized in Table 2 on the following page, with laboratory testing results provided in Appendix B.

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TABLE 2 INFILTRATION TEST SUMMARY						
Test Pit ID	Approx. Ground Surface Elev. (ft)	Depth below Existing Grade (in)	Infiltration Rate (in/hr)			
TD 1	+84.0	72	0.0			
11-1	± 04.0	96	0.0			
		43	11.4 / 18.2			
TP-2	± 88.0	96	0.0			
		144	0.0			
TP-3	±86.0	68	0.0			
TD 4	105 5	39	5.6 / 3.7			
112-4	±03.3	96	0.0			

7.0 GENERAL CONSTRUCTION DISCUSSION

Although representative samples of near surface granular soils indicated good infiltration rates, potential indicators of the estimated seasonal high water level (ESHWL) were observed at very shallow depths (12 to 30 inches below ground surface) in the test pits excavated as part of this subsurface exploration. Given that the ESHWL was found to be within 24 inches of the existing ground surface in three of the four test pits, it is our opinion that the site is not viable for infiltration purposes per BMP-E requirements.

Excavated soils with high silt and clay contents are unsuitable for use as structural fill throughout the site. Soils containing significant quantities of organic materials may need to be removed from the site and disposed in a manner consistent with local, state and federal regulations. Stripped topsoil and cohesive materials may be used to raise site grades in lawn areas, but may be difficult to re-handle and place in a manner that will minimize post-construction subsidence. During periods of inclement weather, placing and compaction difficulties will also occur since the materials, in general, will be moisture sensitive. Granular materials encountered during site earthwork operations should be segregated for reuse as general fills for this project.



8.0 CLOSING

Successful construction of the project will require competent field observation of the construction operations. Earthwork, including clearing and grubbing, subgrade identification, grading, and fill placement should be observed by a competent individual familiar with the recommendations contained herein. We are available to perform construction observation services, if requested.

The recommendations contained herein are contingent upon the actual field conditions being consistent with those encountered during our field exploration. Should any variation in the anticipated conditions be encountered or site regrading be proposed, Maser Consulting P.A. should be notified immediately to determine what impact the changed conditions may have upon the presented recommendations.

9.0 LIMITATIONS

Services performed by Maser Consulting P.A. during this project have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended in the services provided. This is not an Environmental Assessment.

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APPENDIX A

TEST PIT LOGS

VISUAL IDENTIFICATION OF SAMPLES

(Burmister Soil Classification System)

I. Definition of Soil Components and Fractions

<u>Material</u>	<u>Symbol</u>	<u>Fraction</u>	<u>Sieve Size</u>	Definition
Boulders	Bldr		9" +	Material retained on 9" sieve.
Cobbles	Cbl		3" to 9"	Material passing the 9" sieve and retained on the 3" sieve.
Gravel	G	coarse (c) medium (m) fine (f)	1" to 3" 3/8" to 1" No. 10 to 3/8"	Material passing the 3" sieve and retained on the No. 10 sieve.
Sand	S	coarse (c) medium (m) fine (f)	No. 30 to No. 10 No. 60 to No. 30 No. 200 to No. 60	Material passing the No. 10 sieve and retained on the No. 200 sieve.
Silt	\$		Passing No. 200 (0.075 mm)	Material passing the No. 200 sieve that is non-plastic in character and exhibits little or no strength when air dried
Clayey SILT	Cy\$	Slight (SL)	1 to 5	Clay - Soil
SILT & CLAY	\$ & C	Low (L)	5 to 10	Material passing the No. 200 which can be
CLAY & SILT	C & \$	Medium (M)	10 to 20	within a certain range of moisture content,
Silty CLAY	\$yC	High (H)	20 to 40	when air-dried.
CLAY	С	Very High (VH)	40 Plus	
Organic Silt	(O\$)			Material passing the No. 200 sieve which exhibits plastic properties within a certain range of moisture content, and exhibits fine granular and organic characteristics.

II. Definition of Component Proportions

<u>Component</u>	<u>Written</u>	<u>Proportions</u>	<u>Symbol</u>	Percentage Range by Weight*
Principal	CAPITALS			50 or more
Minor	Lower Case	and	a.	$35 ext{ to } 50$
		some	s.	$20 ext{ to } 35$
		little	1.	10 to 20
		trace	t.	1 to 10

* Minus sign (-) lower limit, plus sign (+) upper limit, no sign middle range.

Consulting, Mu Planners - Su P Loo Job Nu	Inicipal & Environme Inveyors = Landsca Project: H cation: H umber:	Red Bank OFFICE 331 Newman Spring Suite 203 Red Bank, N.J. 0770 Phone (732) 383-1990 ppe Architects ightstown Redevelopme ightstown, NJ. 16001094A	is Road TEST PIT No 50 DATE EXCAVATED: 6, 50 DATE EXCAVATED: 6, 50 SURFACE ELEVATION: 8 ent EXCAVATED BY: Kevin Viers — EQUIPMENT USED: CAT 315F Tropology — INSPECTED BY: Pavle A./Ana	 /15/17 4.0+/ ma ackhoe stasia_D.
DEPTH (ft)	DEPTH (in)		DESCRIPTION	REMARKS
	$\begin{array}{c} & & & & & & & \\ & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & &$	(10 YR 6/2) Lt. Bro (Existing Pavement) (10 YR 3/2) Very D Subangular-Blocky, (Possible Topsoil, Mo (7.5 YR 5/6) Strong Friable. 10% Gravel (5 YR 5/8) Yellowis (10 YR 4/2) Dk. Gr Subangular-Blocky, (5 YR 5/8) Yellowis (7.5 YR 2.5/1) Blac (Wet throughout).	ownish Gray Loamy Sand. >50% Gravel. (Dry). Dk. Grayish Brown Sandy Loam. Friable. 20% Gravel. Frequent Fine Roots. Dist). g Brown Loam. Subangular-Blocky, I. Common, Distinct, Med-Fine th Red Mottles at 12"-45". (Moist). Trayish Brown Silty Clay Loam. Friable. Common, Distinct, Fine h Red Mottles at 45"-90". (Moist).	
	192 192 204	E	END OF TEST PIT AT 180 INCHES	
 20	216 228 240	N.E. = Not Encounter N.A. = Not Applicable	red	
	GROUNDWATE	R: DEPTH (ft.) DATE	ESTIMATED DEPTH TO SEASONAL HIGH GROUNDWATER: 12	nches
At Co After Comp	mpletion (0 hr: letion (>24 hr:	eu $\underline{\vee}$ $\underline{0.0}$ $\underline{0/15/17}$ s.) $\underline{\Psi}$ $\underline{8.0}$ $\underline{6/15/17}$ s.) $\underline{\Psi}$ N.A. $\underline{6/15/17}$	TEST PIT No	. <u>TP-1</u>

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Consulting, Mu Planners - Su P Loo Job Nu	nicipal & Environm Inveyors - Landsc roject: cation: umber:	RED BANK OFFICE 331 Newman Springs Road Suite 203 Red Bank, N.J. 07701 Phone (732) 383-1990 ape ArchitectsTIghtstownFax (732) 383-1990 E-mail - geotech@maserconsulting.comSUlightstownRedevelopmentEXCAVATE EQUIPMENT INSPECTE	EST PIT No. TP-2 DATE EXCAVATED: 6/15/17 RFACE ELEVATION: 88.0+/- ED BY: Kevin Viersma USED: CAT 315F Trackhoe D BY: Pavle A./Anastasia D.
DEPTH (ft)	DEPTH (in)	DESCRIPTION	REMARKS
	6^{3-}_{9-} 12 24 36 36 48 60 72 84 96 108 120 132 132 144 156 168 180	 8"(10 YR 6/2) Lt. Brownish Gray Loamy Sand (Existing Pavement) (Dry). (7.5 YR 3/1) Very Dk. Gray Sandy Loam. Friable. 20% Gravel. Frequent Fine Roots. Common, Distinct, Med-Fine (10 YR 4/6) I Mottles at 20"-46". (Possible Fill) (Possible 46" (7.5 YR 4/4) Brown Silty Clay Loam. Subdef Friable. 10% Gravel. Common, Distinct, Fin Yellowish Red Mottles at 46"-102". Wet throughout at 102"-144". (7.5 YR 2.5/1) Black Clay Loam. Massive, (Wet throughout). 	d. >50% Gravel. Subangular-Blocky, Dk. Yellowish Brown y Organic) (Moist). angular-Blocky, e (5 YR 5/8) Firm.
	192—	END OF TEST PIT AT 180 INCHES	
_	204 —		
20	210 — 	N.E. = Not Encountered N.A. = Not Applicable	
	GROUNDWATE	R: DEPTH (ft.) DATE ESTIMATED DEPTH TO SEASONAL $15/17$	HIGH GROUNDWATER: 20 Inches
At Con After Comp	mpletion (0 h	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	EST PIT No. TP-2

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Consulting, Mu Planners - Su P Loc Job Nu	Inicipal & Environm Inveyors - Landsc roject: cation: umber:	Red BANK OFFICE 331 Newman Spring Suite 203 Red Bank, N.J. 077C Phone (732) 383-199 Fax (732) 383-199 E-mail - geotech@mHightstownRedevelopmeHightstown,NJ.16001094A	Image: space spac	<u>TP-3</u> /15/17 6.0+/- ma ckhoe stasia D.		
DEPTH (ft)	DEPTH DEPTH (ft) (in) DESCRIPTION					
	$ \begin{array}{c} & & & & & & & & \\ & & & & & & & & \\ & & & &$	(10 YR 6/2) Lt. Bro (Existing Pavement) 22" (10 YR 3/3) Dk. E Friable. 25% Grav (5 YR 5/8) Yellowid (Possible Fill) (Mo (10 YR 3/2) Ver Subangular-Block Frequent Medium- (7.5 YR 6/8) Re (Possible Fill) (Mo (10 YR 2/2) Very Subangular-Blocky, Few, Distinct, Med- at 35"-48". (Mois (10 YR 4/4) Dk. Y Subangular-Blocky, Med-Fine Mottles of (7.5 YR 2.5/1) Blac Lt. Seepage at 127'	ownish Gray Loamy Sand. >50% Gravel. (Dry). Brown Sandy Loam. Subangular-Blocky, rel. Common, Distinct, Med-Fine ish Red Mottles at 16"-22". Dist). y Dk. Grayish Brown Sandy Loam. cy, Firm. 20% Gravel. -Fine Roots. Common, Distinct, Med-Fine eddish Yellow Mottles at 22"-35". oist). Dk. Brown Sandy Loam. Friable. 20% Gravel. Few Fine Roots. -Fine (7.5 YR 6/8) Reddish Yellow Mottles st). Yellowish Brown Silty Clay Loam. Firm. 10% Gravel. Common, Distinct, at 53"-120". (Moist). END OF TEST PIT AT 180 INCHES Derched condition.			
- 20-	228— 240—	N.A. = Not Applicable				
(GROUNDWATE First Encounte	ER: DEPTH (ft.) DATE red <u>√ 10.0</u> 6 <u>/15/1</u> 7	ESTIMATED DEPTH TO SEASONAL HIGH GROUNDWATER: 16 i	nches		
At Cor After Comp	mpletion (0 hi letion (>24 hi	rs.) $\mathbf{\nabla}$ 10.0 6/15/17 rs.) $\mathbf{\nabla}$ N.A. 6/15/17	TEST PIT No	. <u>TP-3</u>		

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Consulting, Mu Planners = Su	unicipal & Environme urveyors • Landsca	SERR Suite 203 Red Bank OF 331 Newman S Suite 203 Red Bank, N.J. Phone (732) 383 Fax (732) 383 E-mail - geotecl	EICE Definings Road TEST PIT No .07701 33-1950 .9900 DATE EXCAVATED: <u>6</u> .h@maserconsulting.com SURFACE ELEVATION: <u>8</u>	. TP-4 /15/17 5.5+/-
P Lo Job Nu	Project: <u>H</u> cation: <u>H</u> umber: _	lightstown Redevelop lightstown, NJ. 16001094A	oment EXCAVATED BY: Kevin Viers EQUIPMENT USED: CAT 315F Tro INSPECTED BY: Pavle A./Ana	ma ackhoe stasia D.
DEPTH (ft)	DEPTH (in)		DESCRIPTION	REMARKS
0 	$ \begin{array}{c} $	(10 YR 6/2) Lt. (Existing Pavemen (10 YR 5/8) Brov Loose. 25% Grav	Brownish Gray Loamy Sand. >50% Gravel. t) (Dry). wn Sandy Loam. Subangular-Blocky, vel. (Moist throughout).	
- 5 - -	36 48 60 72 84 96	(10 YR 4/6) Dk. Firm. Common, Mottles at 30"-45 Wet throughout at 98"	Yellowish Brown Loam. Subangular-Blocky, Distinct, Fine (5 YR 4/4) Reddish Brown 5". Lt. Seepage at 45"-80". t 80"-98".	
 10—	108 120 120 132 132			
- - 15-	156 168 168	(7.5 YR 2.5/1) B (Wet throughout).	lack Clay Loam. Massive, Firm.	
			END OF TEST PIT AT 180 INCHES	
	204	* Seepage due to N.E. = Not Encour	o perched condition. ntered	
	228	N.A. = Not Applico	able	
At Co After Comp	GROUNDWATE First Encounter mpletion (0 hr pletion (>24 hr	R: DEPTH (ft.) DATE red \checkmark 3.75 $6/15/17$ s.) \checkmark 3.75 $6/15/17$ s.) \checkmark $N.A.$ $6/15/17$	TEST PIT NO	TP-4

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APPENDIX B

LABORATORY TESTING



TUBE PERMEAMETER TEST DATA

Project Name	e: Hightsto	own Redevel	opment		Proje	ct Number:	1600109	4A
Block:	21	I			Munio	Municipality: Hights		wn
Lot:	21	I			Coun	ty:	Merce	r
Test Number	Fest Number: S-1				Date	Collected:	6/15/20	17
Material Test	ed:	TP-1			Repli	cate:	А	
Depth of Samp	ole:	72"			Samp	ole Type:	Undisturbe	d
1.	Sample [Dimensions	Radius = Length =		2.54 4.25	cm in		
2.	Measu tul	rements be #: A20	Tube Wei Total Wei Soil Weig	ght = ght = ht =	358.68 722.91 364.23	g g g		
	Volume = Volume =	E Le	ngth * 2.54 cm 21	/inch * π * 8.69	Radius ²			
	Bulk Dens Bulk Dens	sity = sity =	Soil We	ight / Volu 1.67	me			
	ļ	Height of Wa	ter Level abov	e Rim of T	est Basin (incl	hes)		
		At beginning At end of	of interval: interval:	4.25 4.25	H_1 H_2			
3.	Test Da	ata						
	Time Begi	<u>п,</u> Т ₁	Time End,	T ₂	Test Length	(min)	∆ Height	(in)
a. b. c. d.	0:00 0:00 0:00 0:00		2:00:00 2:00:00 2:00:00 2:00:00	av =	120 120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permeal	bility Calcul	ation K	(in/hr) = 6	0 min/hr * r²/R²	* L (in)/T (m	iin) * In (н₁/н₂)	
	K =	0.00	in/hr =	Soil Perme	ability Class	K0		
5.	Any De	fects in Sam	iple:	No				
6.	l hereby ce	rtify that the	information on	Form 3b	of this applicat	ion is true ar	nd accurate. I	am av

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	Hightsto	wn Redevelo	pment		Pro	ject Number:	1600109	4A
Block:	21				Mu	nicipality:	Hightsto	wn
Lot:	21				Co	unty:	Merce	r
Test Number:		S-1			Dat	te Collected:	6/15/20 ⁻	17
Material Teste	ed:	TP-1			Re	plicate:	В	
Depth of Sampl	le: 72	2"			Sa	mple Type:	Undisturbe	d
1.	Sample Di	mensions	Radius = Length =		2.54 4.000	cm in		
2.	Measur tube	ements e #: Bm-69	Tube Weig Total Weig Soil Weigh	pht = pht = nt =	358.43 696.45 338.02	g g g		
	Volume = Volume =	Len	gth * 2.54 cm/ 205	inch * π * 5.82	Radius ²			
	Bulk Densi Bulk Densi	ty = ty =	Soil Weig	ght / Volu 1.64	me			
	Н	eight of Wate	er Level above	e Rim of 1	est Basin (ir	nches)		
	Ą	t beginning of At end of ir	of interval: nterval:	4.125 4.125	H ₁ H ₂			
3.	Test Dat	a						
-	Time Begin	<u>,</u> T ₁	Time End,	T ₂	Test Leng	<u>gth</u> (min)	Δ Height	_ (in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permeab	ility Calcula	tion K	(in/hr) = 6	60 min/hr * r²/	^{′′R²} * L (in)/T (m	nin) * In (H₁/H₂)	
	K =	0.00	in/hr = S	oil Perme	eability Class	s KO		
5.	Any Def	e cts in Samp	ole:	No				
6.	I hereby cer	tify that the ir	nformation on	Form 3b	of this applic	ation is true a	nd accurate.	am av

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name	: Hightstov	wn Redevelo	pment		Proje	Project Number: 160010		
Block:	21				Muni	cipality:	Hightsto	wn
Lot:	21				Cour	nty:	Merce	r
Test Number:	S	-2			Date	Collected:	6/15/20 ⁻	17
Material Teste	ed:	TP-1			Repl	icate:	А	
Depth of Samp	le: 96	6"			Sam	ple Type:	Undisturbe	d
1.	Sample Di	mensions	Radius = Length =		2.54 4	cm in		
2.	Measur tube	ements e #: Bm552	Tube Weig Total Weig Soil Weigh	ght = ght = nt =	358.3 723.98 365.68	g g		
	Volume = Volume =	Len	gth * 2.54 cm/ 205	inch * π * 5.82	Radius ²			
	Bulk Densi Bulk Densi	ty = ty =	Soil Weig	ght / Volu 1.78	me			
	Н	eight of Wate	er Level above	e Rim of T	est Basin (inc	hes)		
	A	t beginning c At end of ir	of interval: hterval:	4.25 4.25	H_1 H_2			
3.	Test Dat	a						
	Time Begin	, T ₁	Time End,	T ₂	Test Lengt	<u>n</u> (min)	Δ Height	_ (in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permeab	ility Calcula	tion K	(in/hr) = 6	0 min/hr * r²/R	² * L (in)/T (m	nin) * In (H ₁ /H ₂)	
	K =	0.00	in/hr = S	oil Perme	ability Class	K0		
5.	Any Def	ects in Samp	le:	No				
6.	I hereby cer	tify that the ir	formation on	Form 3b o	of this applica	tion is true ar	nd accurate.	am a

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name	e: Hights	town Redevel	opment		Proj	Project Number: 1600 ²		
Block:	2	1			Mun	icipality:	Hightsto	wn
Lot:	2	1			Cou	nty:	Merce	r
Test Number:	:	S-2			Date	Collected:	6/15/20 ⁻	17
Material Teste	ed:	TP-1			Rep	licate:	В	
Depth of Samp	ole:	96"			Sam	ple Type:	Undisturbe	d
1.	Sample	Dimensions	Radius = Length =		2.54 4.000	cm in		
2.	Meas tu	urements ibe #: PA-1	Tube Weig Total Weig Soil Weigh	ht = ht = t =	362.12 746.86 384.74	g g		
	Volume Volume	= Le =	ngth * 2.54 cm/i 205	nch * π * .82	⁷ Radius ²			
	Bulk Der Bulk Der	usity = usity =	Soil Weig	ht / Volu .87	me			
		Height of Wa	ter Level above	Rim of 1	est Basin (in	ches)		
		At beginning At end of	of interval: interval:	4.25 4.25	H_1 H_2			
3.	Test D	ata						
	Time Beg	iin, T ₁	Time End,	T ₂	Test Lengt	<u>h</u> (min)	∆ Height	_ (in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permea	ability Calcul	ation K (in/hr) = 6	60 min/hr * r²/R	.² * L (in)/T (m	nin) * In (H₁/H₂)	
	K =	0.00	in/hr = S	oil Perme	eability Class	K0		
5.	Any De	efects in Sam	iple:	No				
6.	I hereby c	ertify that the	information on I	Form 3b	of this applica	tion is true a	nd accurate. I	am a

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	Hightstown Redev	elopment		Projec	t Number:	16001094	łA
Block:	21			Munici	pality:	Hightstow	vn
Lot:	21			County	/:	Mercer	
Test Number:	S-1			Date C	Collected:	6/15/2017	
Material Tested	d: TP-2			Replic	ate:	А	
Depth of Sample	e: 43"			Sampl	е Туре:	Undisturbed	ł
1.	Sample Dimension	s Radius = Length =	=	2.54 4.125	cm in		
2.	Measurements tube #: Bm-	Tube We Total We 46 Soil Weig	ight = ight = ght =	350.87 696.86 345.99	g g		
	Volume = L Volume =	ength * 2.54 cn. 21	n/inch * π * I2.25	Radius ²			
	Bulk Density = Bulk Density =	Soil We	eight / Volu 1.63	me			
	Height of W	ater Level abov	ve Rim of T	est Basin (inch	es)		
	At beginnin At end c	g of interval: of interval:	3.875 2.75	H_1 H_2			
3.	Test Data						
-	Time Begin, T ₁	Time End,	T ₂	Test Length	(min)	Δ Height	(in)
a. b. c. d.	0:00 0:00 0:00 0:00	00:06:36 00:07:53 00:07:40 00:07:37	av =	6.6 7.88 7.66 7.62 7.44		1.125 1.125 1.125 1.125 1.125 1.125	
4.	Permeability Calco	ulation K	((in/hr) = 6	0 min/hr * r²/R² *	⁻ L (in)/T (mi	in) * In (H₁/H₂)	
	K = 11.41	in/hr =	Soil Perme	eability Class	K4		
5.	Any Defects in Sa	mple:	No				
6. I	hereby certify that the	e information or	n Form 3b	of this application	on is true an	d accurate.	am av

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name	: Hightstown Re	developm	ent		ļ	Project Number: 1600			A	
Block:	21				I	Municip	ality:	Hightstow	'n	
Lot:	21					County	:	Mercer		
Test Number:	S-1				I	Date Co	ollected:	6/15/201	7	
Material Teste	ed: TP	-2			I	Replica	te:	В	В	
Depth of Samp	ole: 43"				:	Sample	Type:	Undisturbed	ł	
1.	Sample Dimens	sions	Radius = Length =	=	2.54 4.500		cm in			
2.	Measuremen tube #:	ts Bm-6	Tube We Total We Soil Weig	eight = eight = ght =	355.3 747.2 391.8	5 2 5	g g g			
	Volume = Volume =	Length	1 * 2.54 cn 23	n/inch * π * 31.55	[*] Radius ²					
	Bulk Density = Bulk Density =		Soil We	eight / Volu 1.69	me					
	Height	of Water L	evel abo	ve Rim of 1	Fest Basir	n (inche	s)			
	At beg At e	inning of ir and of inter	nterval: rval:	3.875 2.625	H4 H2	2				
3.	Test Data									
	Time Begin, T	1 <u>T</u>	ime End,	T ₂	Test Lo	ength	(min)	∆ Height	(in)	
a. b. c. d.	0:00 0:00 0:00 0:00	(((00:05:15 00:06:03 00:05:50 00:05:42	av =	5.2 6.0 5.8 5.70	25 95 93 7 975		1.250 1.250 1.250 1.250 1.250		
4.	Permeability C	alculatio	n k	K (in/hr) = 6	60 min/hr	* r²/R² *	L (in)/T (i	min) * In (H ₁ /H ₂)		
	K = 18.42	2 ir	n/hr =	Soil Perme	eability Cl	ass	K4			
5.	Any Defects i	n Sample:		No						
6.	I hereby certify the	at the infor	mation or	n Form 3b	of this ap	olicatio	n is true a	and accurate.	am a'	

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	Hightst	own Redeve	lopment		Proje	Project Number: 1600		
Block:	2	1			Muni	cipality:	Hightstov	wn
Lot:	2	1			Coun	ty:	Mercer	r
Test Number:	S	5-2			Date	Collected:	6/15/201	17
Material Teste	d:	TP-2			Repli	cate:	А	
Depth of Sampl	e:	96"			Sam	ole Type:	Undisturbed	
1.	Sample [Dimensions	Radius = Length =	=	2.54 4	cm in		
2.	Measu tul	i rements be #: Bm-6	Tube We Total We 5 Soil Weig	eight = eight = ght =	357.24 751.25 394.01	g g		
	Volume = Volume =	= Le =	ngth * 2.54 cn 20	n/inch * π *)5.82	Radius ²			
	Bulk Dens Bulk Dens	sity = sity =	Soil We	eight / Volur 1.91	ne			
		Height of Wa	ater Level abo	ve Rim of T	est Basin (inc	hes)		
		At beginning At end of	of interval: interval:	4 4	H_1 H_2			
3.	Test Da	ata						
-	Time Begi	<u>п,</u> Т ₁	Time End,	T_2	Test Length	<u>(</u> (min)	∆ Height	(in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permea	bility Calcul	ation k	(in/hr) = 6	0 min/hr * r²/R²	* L (in)/T (m	in) * In (н₁/н₂)	
	K =	0.00	in/hr =	Soil Perme	ability Class	K0		
5.	Any De	fects in San	nple:	No				
6.	I hereby ce	rtify that the	information or	n Form 3b c	of this applicat	ion is true ar	nd accurate. I	am a

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	Hightstov	vn Redevelo	pment		Pro	Project Number: 16001		
Block:	21				Mu	inicipality:	Hightstov	wn
Lot:	21				Co	unty:	Merce	r
Test Number:	S	6-2			Da	te Collected:	6/15/201	17
Material Teste	d:	TP-2			Re	plicate:	В	
Depth of Sample	e: 96	, m				mple Type:	Undisturbe	d
1.	Sample Dir	nensions	Radius = Length =	=	2.54 4.500	cm in		
2.	Measure tube	e ments #: Bm-41	Tube We Total We Soil Weig	ight = ight = ght =	354.77 772.35 417.58	g g		
	Volume = Volume =	Len	gth * 2.54 cn 23	n/inch * π * 31.55	⁷ Radius ²			
	Bulk Densit Bulk Densit	y = y =	Soil We	eight / Volu 1.80	me			
	He	eight of Wate	er Level abov	/e Rim of 1	^r est Basin (i	nches)		
	At	beginning of the beginn	of interval: hterval:	4 4	H ₁ H ₂			
3.	Test Data	a						
-	Time Begin,	T	Time End,	T_2	Test Leng	<u>gth</u> (min)	∆ Height	_ (in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permeabi	lity Calcula	tion k	((in/hr) = 6	60 min/hr * r²	/ℝ² * L (in)/T (n	nin) * In (H1/H2)	
	K =	0.00	in/hr =	Soil Perme	eability Clas	s K0	, (, 2,	
5.	Any Defe	ects in Samp	ble:	No				
6.	I hereby cert	ify that the ir	nformation or	Form 3b	of this applic	cation is true a	nd accurate. I	am av

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	Hightstown R	edevelo	opment		Proje	Project Number: 1600		
Block:	21				Munio	cipality:	Hightstov	wn
Lot:	21				Coun	ty:	Mercer	-
Test Number:	S-3				Date	Collected:	6/15/201	7
Material Tested	d: T	P-2			Repli	cate:	А	
Depth of Sample	e: 144"				Samp	ole Type:	Undisturbe	d
1.	Sample Dimen	sions	Radius = Length =		2.54 4.75	cm in		
2.	Measureme tube #:	nts A8	Tube We Total Wei Soil Weig	ight = ght = ht =	366.04 799.77 433.73	g g g		
	Volume = Volume =	Ler	ngth * 2.54 cm 24	/inch * π * 4.41	Radius ²			
	Bulk Density = Bulk Density =		Soil We	ight / Volui 1.77	ne			
	Heigh	t of Wat	er Level abov	e Rim of T	est Basin (incl	nes)		
	At be At	ginning end of i	of interval: nterval:	4 4	H_1 H_2			
3.	Test Data							
_	Time Begin,	T ₁	Time End,	T ₂	Test Length	(min)	∆ Height	(in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permeability	Calcula	ition K	(in/hr) = 6	0 min/hr * r²/R²	* L (in)/T (m	iin) * In (H ₁ /H ₂)	
	K = 0.0	0	in/hr =	Soil Perme	ability Class	K0		
5.	Any Defects	in Sam	ple:	No				
6. I	hereby certify th	nat the i	nformation on	Form 3b o	of this applicat	ion is true ar	nd accurate. I	am av

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name	e: Hights	stown Redeve	elopment		Projec	Project Number: 1600		
Block:	:	21			Munic	ipality:	Hightstov	wn
Lot:	:	21			Count	y:	Merce	r
Test Number	r:	S-3			Date	Collected:	6/15/20	17
Material Test	ted:	TP-2			Replic	ate:	В	
Depth of Sam	ple:	144"			Samp	le Type:	Undisturbed	
1.	Sample	Dimensions	Radius = Length =	:	2.54 4.500	cm in		
2.	Meas t	surements	Tube We Total We Soil Weig	ight = ight = ght =	355.14 767.59 412.45	g g g		
	Volume Volume	= Le	ength * 2.54 cm 23	n/inch * π * 31.55	Radius ²			
	Bulk De Bulk De	nsity = nsity =	Soil We	eight / Volur 1.78	ne			
		Height of W	ater Level abov	ve Rim of T	est Basin (inch	ies)		
		At beginning At end of	g of interval: interval:	4 4	H_1 H_2			
3.	Test [Data						
	Time Be	gin, T ₁	Time End,	T_2	Test Length	_ (min)	∆ Height	(in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Perme	ability Calcu	lation K	(in/hr) = 6	0 min/hr * r²/R²	* L (in)/T (m	in) * In (H ₁ /H ₂)	
	K =	0.00	in/hr =	Soil Perme	ability Class	K0		
5.	Any D	efects in Sar	nple:	No				
6.	I hereby o	certify that the	information or	Form 3b c	of this applicati	on is true ar	d accurate.	am a

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name	e: Hights	town Redeve	lopment		Proje	Project Number: 1600		
Block:	2	1			Muni	cipality:	Hightstov	wn
Lot:	2	1			Cour	ity:	Merce	r
Test Number		S-1			Date	Collected:	6/15/201	17
Material Test	ted:	TP-3			Repli	cate:	А	
Depth of Sam	ple:	68"			Sam	ole Type:	Undisturbe	d
1.	Sample	Dimensions	Radius = Length =		2.54 3.75	cm in		
2.	Meas tu	urements lbe #: Ay-17	Tube Wei Total Wei Soil Weig	ght = ght = ht =	358.45 732.88 374.43	g g		
	Volume Volume	= Le =	ngth * 2.54 cm 192	/inch * π * 2.96	Radius ²			
	Bulk Der Bulk Der	usity = usity =	Soil Wei	ght / Volu 1.94	me			
		Height of Wa	ater Level abov	e Rim of T	est Basin (inc	hes)		
		At beginning At end of	of interval: interval:	3.875 3.875	H_1 H_2			
3.	Test D	ata						
	Time Beg	iin, T ₁	Time End,	T ₂	Test Length	<u>n</u> (min)	∆ Height	_ (in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permea	ability Calcul	ation K	(in/hr) = 6	0 min/hr * r²/R²	* L (in)/T (m	iin) * In (н₁/н₂)	
	K =	0.00	in/hr = S	Soil Perme	ability Class	K0		
5.	Any De	efects in San	nple:	No				
6.	I hereby c	ertify that the	information on	Form 3b o	of this applicat	ion is true ar	nd accurate. I	am a

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	Hightst	own Redeve	elopment		Proje	ect Number:	1600109	4A
Block:	2	1			Muni	cipality:	Hightsto	wn
Lot:	2	1			Cour	nty:	Merce	r
Test Number:		S-1			Date	Collected:	6/15/20 ⁻	17
Material Teste	ed:	TP-3			Repl	icate:	В	
Depth of Sampl	le:	68"			Sam	ple Type:	Undisturbe	d
1.	Sample [Dimensions	Radius = Length =	=	2.54 4.750	cm in		
2.	Measu tul	i rements be #: AV- ⁻	Tube We Total We 1 Soil Wei	eight = eight = ght =	368.01 830.87 462.86	g g		
	Volume = Volume =	= Le =	ength * 2.54 cr 24	m/inch * π * 44.41	Radius ²			
	Bulk Den Bulk Den	sity = sity =	Soil We	eight / Volu 1.89	me			
		Height of W	ater Level abo	ve Rim of T	est Basin (inc	hes)		
		At beginning At end of	g of interval: f interval:	4.125 4.125	H ₁ H ₂			
3.	Test Da	ata						
-	Time Begi	<u>п,</u> Т ₁	Time End,	T_2	Test Lengt	<u>n</u> (min)	Δ Height	(in)
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0	
4.	Permea	bility Calcu	lation	< (in/hr) = 6	60 min/hr * r²/R	² * L (in)/T (m	nin) * In (н₁/н₂)	
	K =	0.00	in/hr =	Soil Perme	eability Class	K0		
5.	Any De	fects in Sar	mple:	No				
6.	I hereby ce	ertify that the	information o	n Form 3b	of this applica	tion is true a	nd accurate. I	am a

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name	: Hightstown R	edevelopn	nent		F	Project N	lumber:	16001094	16001094A	
Block:	21				Ν	Aunicipa	lity:	Hightstow	'n	
Lot:	21				(County:		Mercer		
Test Number:	S-1				[Date Col	lected:	6/15/201	7	
Material Teste	ed: Ti	P-4			F	Replicate):	А		
Depth of Samp	le: 39"				S	Sample 7	Гуре:	Undisturbed	I	
1.	Sample Dimen	sions	Radius Length	=	2.54 4.625		cm in			
2.	Measureme	n ts Bm-43	Tube We	eight = eight = abt =	356.47 818.05 461.58	7	g g			
	Volume = Volume =	Length	1 * 2.54 cr 2	m/inch * π ' 37.98	* Radius ²	,	9			
	Bulk Density = Bulk Density =		Soil W	eight / Volu 1.94	ime					
	Height	of Water	Level abo	ve Rim of 1	Fest Basin	(inches)			
	At beg At	inning of i end of inte	nterval: rval:	4 2.875	H ₁ H ₂					
3.	Test Data									
	Time Begin,	Г ₁	Γime End,	T ₂	Test Le	ength (i	min)	Δ Height	(in)	
a. b. c. d.	0:00 0:00 0:00 0:00		00:16:15 00:14:30 00:16:45 00:17:30	av =	16.2 14. 16.7 17. 16.2	25 5 75 5 25		1.125 1.125 1.125 1.125 1.125 1.125		
4.	Permeability	Calculatio	on l	< (in/hr) = 6	60 min/hr *	r²/R² * L	(in)/T (n	nin) * In (H ₁ /H ₂)		
	K = 5.64	4 i	n/hr =	Soil Perme	eability Cla	ass	K3			
5.	Any Defects	in Sample	:	No						
6.	I hereby certify th	at the info	rmation o	n Form 3b	of this app	lication	is true a	nd accurate. I	am av	

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	roject Name: Hightstown Redevelopment					Project Number: 16001094		
Block:	21			Munici	pality:	Hightstow	'n	
Lot:	21			County	/:	Mercer		
Test Number:	S-1			Date C	collected:	6/15/2017		
Material Teste			Replic	ate:	В			
Depth of Sampl	le: 39"			Sampl	е Туре:	Undisturbed		
1.	Sample Dimensior	ns Radius Length	= =	2.54 4.625	cm in			
2.	Measurements tube #: Bm	Tube W Total W -74 Soil We	eight = eight = ight =	350.17 781.94 431.77	g g g			
	Volume = Volume =	Length * 2.54 c 2	m/inch * π * 37.98	Radius ²				
	Bulk Density = Bulk Density =	Soil W	Soil Weight / Volume 1.81					
	Height of \	Vater Level abo	ove Rim of T	est Basin (inch	es)			
	At beginni At end	ng of interval: of interval:	4.125 3.25	H ₁ H ₂				
3.	Test Data							
-	Time Begin, T ₁	Time End	, T ₂	Test Length	(min)	∆ Height	(in)	
a. b. c. d.	0:00 0:00 0:00 0:00	00:16:10 00:18:38 00:19:00 00:18:10	av =	16.17 18.63 19 18.17 17.9925		0.875 0.875 0.875 0.875 0.875		
4.	Permeability Calo	ulation	K (in/hr) = 6	0 min/hr * r²/R² *	L (in)/T (mi	in) * In (H ₁ /H ₂)		
	K = 3.68	in/hr =	Soil Perme	eability Class	K3			
5.	Any Defects in S	ample:	No					
6.	I hereby certify that the	ne information of	on Form 3b	of this applicatio	on is true an	d accurate. La	am av	

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	ect Name: Hightstown Redevelopment					Project Number: 16001094A			
Block:	21				Munic	cipality:	Hightstown		
Lot:	21				Coun	ty:	Mercer		
Test Number:	est Number: S-2				Date	Collected:	6/15/2017		
Material Tested: TP-4					Replie	cate:	А		
Depth of Sample	e: 96"				Samp	le Type:	Undisturbe	d	
1.	Sample Din	nensions	Radius = Length =	=	2.54 4	cm in			
2.	Measurements tube #: A14		Tube We Total We Soil Weig	eight = eight = ght =	365.8 746.63 380.83	g g g			
	Volume = Volume =	Lei	ngth * 2.54 cn 20	n/inch * π *)5.82	Radius ²				
	Bulk Density Bulk Density	/ = / =	Soil We	Soil Weight / Volume 1.85					
	Не	ight of Wa	ter Level abo	ve Rim of T	est Basin (incl	nes)			
	At beginning of At end of int			4 4	H_1 H_2				
3.	Test Data	I							
-	Time Begin,	- T ₁	Time End,	T_2	Test Length	_ (min)	∆ Height	_ (in)	
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:00	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0		
4.	Permeabil	ity Calcula	ation k	(in/hr) = 6	0 min/hr * r²/R²	* L (in)/T (m	iin) * In (н₁/н₂)		
	K =	0.00	in/hr =	Soil Perme	ability Class	K0			
5.	Any Defects in Sample:			No					
6.	I hereby certify that the information on Form 3b of this application is true and accurate. I am a								

6. I hereby certify that the information on Form 3b of this application is true and accurate. I am aware that falsification of data is a violation of the water polution Control Act (NJSA 59:10A-1 et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.



TUBE PERMEAMETER TEST DATA

Project Name:	oject Name: Hightstown Redevelopment					Project Number: 16001094			
Block:	21				M	unicipality:	Hightsto	Hightstown	
Lot:	21				Co	ounty:	Merce	Mercer	
Test Number: S-2					Da	ate Collected	l: 6/15/20	6/15/2017	
Material Tested: TP-4					Re	eplicate:	В	В	
Depth of Samp	le: 96	n			Sa	ample Type:	Undisturbe	d	
1.	Sample Dir	nensions	Radius = Length =		2.54 4.125	cm in			
2.	Measurements tube #: Bm551		Tube Wei Total Weig Soil Weig	Tube Weight = Total Weight = Soil Weight =		g g g			
	Volume = Volume =	Len	gth * 2.54 cm 212	/inch * π ' 2.25	⁷ Radius ²				
	Bulk Densit Bulk Densit	y = y =	Soil Wei	Soil Weight / Volume 1.84					
	He	eight of Wate	er Level abov	e Rim of 1	「est Basin (inches)			
	At	of interval: nterval:	3.875 3.875	H ₁ H ₂					
3.	Test Data	a							
-	Time Begin,	T	Time End,	T_2	Test Len	i <u>gth</u> (min)	Δ Height	_ (in)	
a. b. c. d.	0:00 0:00 0:00 0:00		02:00:00 02:00:00 02:00:00 02:00:10	av =	120 120 120 120 120		0.000 0.000 0.000 0.000 0		
4.	Permeabi	lity Calcula	tion K	(in/hr) = 6	60 min/h r * r	²/R² * L (in)/T	(min) * In (н₁/н₂)		
	K =	0.00	in/hr = S	Soil Perme	eability Clas	ss Ko	0		
5.	Any Defects in Sample:		No						
6.	I hereby certi	fy that the ir	nformation on	Form 3b	of this appli	cation is true	e and accurate.	l am av	

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