TOWN OF KILL DEVIL HILLS
PUBLIC SERVICES

Post Office Box 1719, 107 Town Hall Drive
Kill Devil Hills, NC 27948
Administration (252) 480-4080 Fax (252) 441-6136
Office Hours: 8:00 a.m. – 5:00 p.m. Mon. – Fri.
Water Plant (252) 480-4090
www.kdhnc.com

STEPHEN F. ALBRIGHT
Director

DEREK A. DAIL
Assistant Director

MARCIA K. OLLIS
Administrative Services

ALFRED W. BURTON
Water Plant

WILLIAM H. WATERFIELD
Water Systems

L. RANDOLPH TURNER
Streets

LYNN E. LINDSEY
Solid Waste

December 12, 2022

Memorandum

To: Debora P. Diaz, Town Manager

From: Derek A. Dail, Assistant Public Services Director

Subject: Recommendation for Acceptance of Street Improvements in Indian Drive.

Please find the attached letter from Phillip Harrington with Phillip Harrington Enterprises, LLC requesting acceptance of the recently completed improvements to Indian Drive east of Seminole Street.

The Board of Commissioners approved the conceptual right-of-way improvements plan for these streets at their August 09, 2021 meeting. Phillip Harrington Enterprises worked with Michael W. Robinson, PE, PLS Engineering to provide engineering oversight for the project with utility work completed by H&H Land Development, grading work completed by Phillip Harrington Enterprises, and asphalt paving completed by C&L Concrete Works.

Public Services has received the as-built surveys, testing results and engineering certifications for the improvements. Staff has inspected the improvements, reviewed the as-builts and certification documents and finds the final work to be in general compliance with the approved plans.

Attached you will find a certification package including:

- Street improvements acceptance request from Phillip Harrington Enterprises
- Town Engineer's approval of acceptance
- NCDEQ Public Water Supply Final Approval for water main extensions
- Geotechnical subgrade, base and pavement testing and certifications

Staff recommends approving the acceptance of these street improvements. If the Board of Commissioners agrees with this recommendation, following motion would be appropriate:

1. Accept the street, water main, and right-of-way improvements on Indian Drive;
2. Adopt the official traffic map revised to reflect the improvements;
3. Adopt the Powell Bill Map revised to reflect the improvements.

Thank you for your consideration.

Phillip Harrington Enterprises, LLC
Phillip W Harrington
P O Box 2232
Elizabeth City, NC 27906

Derek A Dail, P E
Assistant Public Services Director
Town of Kill Devil Hills
107 Town Hall Drive
P O Box 1739
Kill Devil Hills, NC 27948

December 5, 2022

Re: Indian Drive Street Improvements

Dear Mr. Dail,

Phillip Harrington Enterprises, LLC has completed all necessary site work for the construction and installation of the street improvement project located on Indian Drive street right of way. It is my understanding that all appropriate paperwork has been provided for acceptance of the water main, storm water network, and roadway installation. Phillip Harrington Enterprises, LLC respectfully requests to be included on the December 12th Board of Commissioners meeting agenda for board review and acceptance of the completed improvements.

Feel free to contact me if you have any questions or concerns.

Sincerely.

Phillip W. Harrington

Phillip W Harrington

Dail, Derek

From: Pete Burkhimer <PBurkhimer@american-ea.com>
Sent: Monday, December 5, 2022 11:30 AM
To: Dail, Derek
Cc: Albright, Steve; Emily Zeltmann; Patrick Lewis
Subject: Indian Drive eastward extension / Highview/Hendricks Addition Lots

Based on our own observations of the site, the As-built survey information prepared by Eastern Geomatics, PLLC, the certification by Mike Robinson, PE, the PWS approval and the TerraCon geotechnical/pavement cores and report, Town Engineer now fully concurs in the acceptance of this 260' eastward extension of Indian Drive from its intersection with Seminole Street, along with related water system and stormwater management improvements, into the Town of Kill Devil Hills' systems for operation.

The revised Powell Bill Map will follow shortly; it has been revised to reflect the 0.05 mile extension, increasing the Town's overall paved street length to 60.65 miles. The Map is dated December 12, 2022, as the new extension is not "in the system" until BOC action to that effect.

Pete Burkhimer, PE
Senior Consultant

830 Greenbrier Circle, Suite 110
Chesapeake, VA 23320
(757) 468-6800 (office), (757) 478-5970 (cell) pburkhimer@american-ea.com

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

November 17, 2022

TOWN OF KILL DEVIL HILLS
ATTN: DEREK A DAIL
107 TOWN HALL DRIVE
KILL DEVIL HILLS, NC 27948

Re: **Final Approval**
Final Approval Date: November 17, 2022
INDIAN DRIVE WATERLINE EXT
Serial No.: 22-00096
Water System Name: KILL DEVIL HILLS, TOWN OF
Water System No.: NC0428015
Dare County

Dear Sir/Madam:

The Department received an Engineer's Certification statement and an Applicant's Certification concerning the above referenced project. The Engineer's Certification verifies that the construction of the referenced project has been completed in accordance with the engineering plans and specifications approved under Department Serial Number 22-00096. The Applicant's Certification verifies that an Operation and Maintenance Plan and Emergency Management Plan have been completed and are accessible to the operator at all times and available to the department upon request and that the system will have a certified operator as required by 15A NCAC 18C .1300.

The Department has determined that the requirements specified in 15A NCAC 18C .0303(a) and (c) have been met, and therefore, issues this **Final Approval** in accordance with Rule .0309(a).

Please contact us at (919) 707-9100 if you have any questions or need additional information.

Sincerely,

Jay Frick

Jay Frick
Deputy Section Chief
Public Water Supply Section
Division of Water Resources

cc: JAMIE MIDGETTE, P.E., Regional Engineer
Dare County Health Department
MICHAEL W ROBINSON, PE

December 2, 2022

TO: **Bear Garden, Inc.**
760 Pitts Chapel Road
Elizabeth City, NC 27927

Attn: Mr. Phillip Harrington
beargarden@embarqmail.com

RE: Field Engineering and Construction Materials Testing Services
Indian Drive Waterline Extension
Kill Devil Hills, North Carolina
Terracon Project No: K5221106
Report No. 1

Dear Mr. Harrington:

As requested, a representative of **Terracon** visited the project site between the dates of October 17, 2022 and November 30, 2022. The purpose of our visits was to observe and evaluate the roadway construction activities within the area of the High View – Hendrics Addition Lots (Indian Drive; approximate STA 0+00 to 2+55 and associated Fire Lanes) with respect to the existing soils as well as the recently placed Aggregate Base Course (ABC) and Asphalt materials.

It is our understanding that the roadway pavement section is to require at least 8 inches of ABC materials overlain by 2 inches of intermediate mix asphalt (Type I-19.0C) and 2 inch of surface mix asphalt (Type S9.5C). The project specifications required testing of the ABC and asphalt materials be performed for quality assurance, in accordance with the NCDOT requirements. This report includes the evaluation of the subgrade materials, evaluation of the ABC materials, as well as the base and surface mix asphalt materials placed within the roadway alignment as they relate to thickness, density, aggregate gradation, and asphalt content.

SCOPE OF SERVICES

For this project, **Terracon** has performed the following tasks:

- During our October 17, 2022 site visit, proofrolling procedures were performed and indicated that the subgrade soil materials (Tan SAND) were found to be firm and stable. Furthermore, deflections beneath the applied wheel loads were observed to be on the order of about 0.5-inch or less.

- Performed bulk soil sampling from the on-site stockpile of the imported Aggregate Base Course materials used as ABC within the observed roadway alignments. The sample was returned to our Elizabeth City, NC laboratory for natural moisture, full sieve, and Proctor testing in general accordance with NCDOT requirements. The laboratory test results indicated the imported ABC materials were in general accordance with NCDOT requirements with respect to gradation. The results of these testing procedures are provided on the "Moisture Density Relationship Proctor Curve" and "Particle Size Distribution" test report sheets attached to this report.

- During our site visits on November 14 and November 17, 2022, compaction and thickness testing procedures were performed on the in-place ABC materials. The compaction testing procedures that were performed on November 14, 2022 indicated that the in-place materials were not compacted to at least 100% of a Standard Proctor (ASTM D698). As such, during our site visit on November 17, 2022, the in-place materials were re-tested. The re-tests indicated that the in-place materials were compacted to at least 100% of a Standard Proctor (ASTM D698) as stipulated by the project plans. Furthermore, the thickness test results indicated an in-place ABC thickness ranging from approximately 8 inches to 8.5 inches.

- Performed coring operations at three (3) locations with the use of a 6-inch diameter core barrel within the requested roadway alignment. The core locations were randomly established in the field by a **Terracon** representative prior to initiating the coring operations.

- Performed laboratory testing procedures at **Terracon's** laboratory located in Elizabeth City, NC. The laboratory testing procedures consisted of average core specimen thickness and bulk specific gravity as well as asphalt content and asphalt aggregate gradation analysis. The laboratory test procedures were executed in general accordance with NCDOT testing procedures. The specific gravity (density) and thickness test results are provided in the following table (Table I – Asphalt Laboratory Test Results). The asphalt content test results are provided in "Table II – Asphalt Content Test Results" and the asphalt aggregate gradation analysis test results are provided on the attached "Particle Size Distribution" sheets.

Table I– Asphalt Laboratory Test Results

Sample #	Sample Location [1]	Asphalt Type	Average Sample Thickness (in.)	Specific Gravity	Percent Compaction (Min. 90%)[2-5]
C-1A	Indian Dr, STA 0+60; approx. 5' from South edge of pavement	RS 9.5C	1.55	2.292	91.2
C-1B	Indian Dr, STA 0+60; approx. 5' from South edge of pavement	I 19.0C	2.79	2.215	90.5
C-2A	Indian Dr, STA 1+85; approx. 5' from North edge of pavement	RS 9.5C	1.89	2.317	92.2
C-2B	Indian Dr, STA 1+85; approx. 5' from North edge of pavement	I 19.0C	2.58	2.227	91.0
C-3A	North Fire Lane; approx. 5' from East edge of pavement	RS 9.5C	1.83	2.342	93.2
C-3B	North Fire Lane; approx. 5' from East edge of pavement	I 19.0C	2.26	2.241	91.5
Average RS 9.5C			**1.8**	**2.317**	**92.2**
Average I 19.0C			**2.5**	**2.228**	**91.0**

Note (1) = Locations provided in the table above are considered to be approximate.
Note (2) = Percent compaction based on the Rice specific gravity values of 2.512 for Type RS 9.5C (JMF: 22-0201-121), furnished by FSC II LLC Kitty Hawk and 2.448 for Type I 19.0C (JMF: 20-0098-121), furnished by C & L Concrete Works, Inc. Camden.
Note (4) = Minimum percent compaction requirement: 92% for Types RS 9.5C and I 19.0C.

Table II – Asphalt Content Test Results

Sample # and Asphalt Type	Sample Location	Asphalt Content (%)[1]
C-2A / RS 9.5C	Indian Dr, STA 1+85; approx. 5' from North edge of pavement	5.6
C-2B / I 19.0C	Indian Dr, STA 1+85; approx. 5' from North edge of pavement	6.0

Note (1) = Percent asphalt requirement for Type RS 9.5C is 5.1% +/- 0.7% per the JMF: 22-0201-121 furnished by FSCII LLC Kitty Hawk and the Percent asphalt requirement for Type I19.0C is 5.0 +/- 0.7% per the JMF: 20-0098-121 furnished by C & L Concrete Works, Inc. Camden and the NCDOT allowable tolerance.

Based on the results of the completed field and laboratory testing procedures, the pavement section constructed within this development appears to have been constructed in general accordance with the applicable NCDOT and project plan requirements with respect to Aggregate Base Course (ABC) gradation, thickness, and compaction. Furthermore, the RS 9.5C asphalt materials appear to have been placed in general accordance with the applicable NCDOT and project plan requirements with respect to compaction, gradation, and asphalt content. Finally, the I 19.0C asphalt materials appear to have been placed in general accordance with the applicable NCDOT and project requirements with regards to thickness and gradation.

As an exception, the RS 9.5C materials did not meet the project plan noted average thickness of 2 inches. Additionally, the I 19.0C materials did not meet the NCDOT minimum average percent compaction requirements of at least 92% and slightly exceeded the allowable production tolerance for asphalt content. However, the average I 19.0C asphalt thickness exceeds the required 2-inch thickness by approximately 0.5 inches and is anticipated to be sufficient to supplement for the slight deviation of RS 9.5C asphalt thickness. Finally, the remaining slight deviations regarding the I 19.0C asphalt compaction and/or asphalt content are not anticipated to significantly affect the pavement section performance and/or lifespan.

We appreciate the opportunity to offer our services to you, and trust that you will call our Elizabeth City office with any questions that you may have.

Respectfully Submitted,
Terracon

Gerald W. Stalls Jr., P.E.
Senior Project Engineer
NC Lic. #034336

NORTH CAROLINA PROFESSIONAL SEAL 034336 ENGINEER GERALD W. STALLS, JR.

Attachments: Moisture Density Relationship Proctor Curve
Particle Size Distribution Test Report(s):
Aggregate Base Course (ABC)
Asphalt Core C-2A
Asphalt Core C-2B

LABORATORY COMPACTION CHARACTERISTICS OF SOIL REPORT

Report Number: K5221106.0004
Service Date: 11/16/22
Report Date: 11/17/22
Task: Office-Laboratory Services

Terracon
106 Capital Trace, Unit E
Elizabeth City, NC 27909-7731
252-335-9765

Client

Bear Garden, Inc.
Attn: Phillip Harrington
760 Pitts Chapel Road
Elizabeth City, NC 27909

Project

Indian Dr. Waterline Extension
Inidian Drive
Kill Devil Hills, NC

Project Number: K5221106

Material Information

Source of Material: INA
Proposed Use: Select Fill

Sample Information

Sample Date: 11/14/22
Sampled By: Tahlik Kellogg
Sample Location: Stockpile

Sample Description: ABC Stone

Laboratory Test Data

Test Procedure: ASTM D698
Test Method: Method C
Sample Preparation: Wet
Rammer Type: Manual

	Result	Specifications
Liquid Limit:	Non-plastic	
Plastic Limit:	Non-plastic	
Plasticity Index:	Non-plastic	
In-Place Moisture (%):		

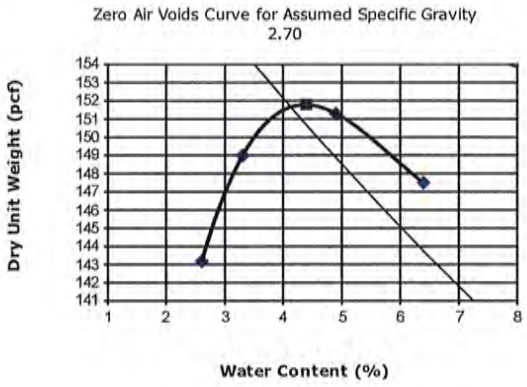
USCS:

Oversized Particles (%): 30.3
Moisture (%): 0.2
Sieve for Oversize Fraction: 3/4

Assumed Bulk Specific Gravity of Oversized Particles: 2.7

Corrected for Oversized Particles (ASTM D4718)
Maximum Dry Unit Weight (pcf): **151.8**
Optimum Water Content (%): **4.4**

Uncorrected Values
Maximum Dry Unit Weight (pcf): **145.7**
Optimum Water Content (%): **6.1**



Comments:

Services: Moisture-Density Relations

Terracon Rep.: Darlene Forehand
Reported To:
Contractor:

Report Distribution:
(1) Bear Garden, Inc., Phillip Harrington

Reviewed By: _____

Jon Meads
Project Manager

Test Methods: ASTM D698, ASTM D4318, ASTM D4647, ASTM D4718

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

PARTICLE SIZE DISTRIBUTION REPORT

Report Number: K5221106.0007
Service Date: 11/17/22
Report Date: 12/02/22
Task: Office-Laboratory Services

106 Capital Trace, Unit E
Elizabeth City, NC 27909-7731
252-335-9765

Client

Bear Garden, Inc.
Attn: Phillip Harrington
760 Pitts Chapel Road
Elizabeth City, NC 27909

Project

Indian Dr. Waterline Extension
Inidian Drive
Kill Devil Hills, NC

Project Number: K5221106

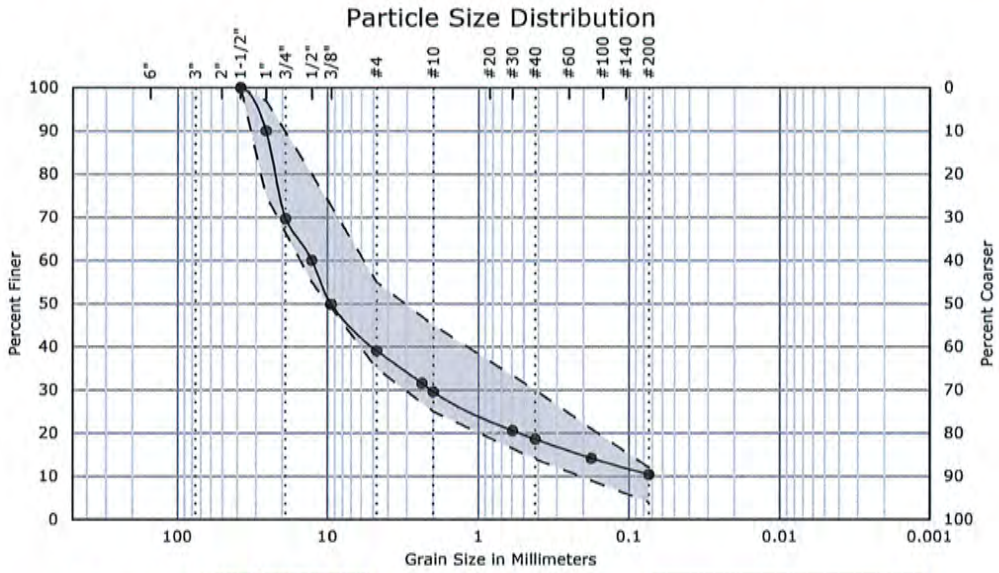
Sample Information

Sample Type: Bulk
Sample Location: Stockpile
Sample Description: ABC Stone
USCS: Poorly-graded gravel with silt and sand (GP-GM)

Laboratory Test Data

Test Method: ASTM D6913
Method: B
Atterberg Limits: Non-Plastic
Sample Preparation:
Sieving Method: Single Sieve-Set Sieving

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
1-1/2"	100	100-100	
1"	90	75-97	
3/4"	70		
1/2"	60	55-80	
3/8"	50		
#4	39	35-55	
#8	32		
#10	30	25-45	
#30	21		
#40	19	14-30	
#80	14		
#200	10	4-12	



% Cobbles	% Gravel - 60.9		% Sand - 28.7			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	30.3	30.6	9.5	10.9	8.2	10.4

* D_{60} = 12.65 | D_{30} = 2.10 | D_{10} = 0.068 (Est.) | C_c = 5.2 | C_u = 187.3 | FM =

Comments:

Services:
Terracon Rep.: Darlene Forehand
Reported To:
Contractor:
Report Distribution:
(1) Bear Garden, Inc., Phillip Harrington

Reviewed By:

Jon Meads
Project Manager

Test

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

FIELD DENSITY TEST REPORT

Report Number: K5221106.0002
Service Date: 11/14/22
Report Date: 11/16/22
Task: Field Services

Terracon
106 Capital Trace, Unit E
Elizabeth City, NC 27909-7731
252-335-9765

Client

Bear Garden, Inc.
Attn: Phillip Harrington
760 Pitts Chapel Road
Elizabeth City, NC 27909

Project

KDH Seminole St, Indian Dr, and Apache St Improvements
Inidian Drive
Kill Devil Hills, NC

Project Number: K5221106

Material Information

Mat. No.	Proctor Ref. No.	Classification and Description	Laboratory Test Method	Lab Test Data: Opt. Water Content (%)	Lab Test Data: Max. Lab Density (pcf)	Project Requirements: Water Content (%)	Project Requirements: Compaction (%)
1	K5221106.0004	ABC Stone	ASTM D698	4.4	151.8		Min 100.0

Field Test Data

Test No.	Test Location	Lift / Elev.	Mat. No.	Probe Depth (in)	Wet Density (pcf)	Water Content (pcf)	Water Content (%)	Dry Density (pcf)	Percent Compaction (%)	
	Indian Drive									
1	South Fire Lane, approx. center	4" BFG	1	6	153.4	7.6	5.2	145.8	96.0	*
	Indian Drive									
2	From Int w/Seminole St, approx. 170' East. 5' off South Edge	4" BFG	1	6	148.1	5.7	4.0	142.4	93.8	*
	Indian Drive									
3	From Int w/Seminole St, approx. 110' East. 9' off North Edge	4" BFG	1	6	144.1	4.1	2.9	140.0	92.2	*
	Indian Drive									
4	From Int w/Seminole St, approx. 15' East. 5' off North Edge	4" BFG	1	6	151.3	5.3	3.6	146.0	96.2	*

Datum: Final grade **Std. Cnt. M:** 715 **Std. Cnt. D:** 1830
S/N: **Make:** **Model:** **Last Cal. Date:**
Comments: **An asterisk (*) appears next to the test results which do not meet the project requirements as noted above.**
Stone was 8 inches thick.

Services: Perform in-place density and moisture content tests to determine degree of compaction and material moisture condition.
Terracon Rep.: Tahlik Kellogg
Reported To: Phillip
Contractor: Bear Garden
Report Distribution:
(1) Bear Garden, Inc., Phillip Harrington

Reviewed By: Jonatha Meads
Jon Meads
Project Manager

Test Methods: ASTM D6938

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

FIELD DENSITY TEST REPORT

Report Number: K5221106.0006
Service Date: 11/17/22
Report Date: 11/17/22
Task: Additional Services-Delays-Cancellations-Retests

Terracon
106 Capital Trace, Unit E
Elizabeth City, NC 27909-7731
252-335-9765

Client

Bear Garden, Inc.
Attn: Phillip Harrington
760 Pitts Chapel Road
Elizabeth City, NC 27909

Project

Indian Dr. Waterline Extension
Inidian Drive
Kill Devil Hills, NC

Project Number: K5221106

Material Information

Mat. No.	Proctor Ref. No.	Classification and Description	Laboratory Test Method	Lab Test Data: Opt. Water Content (%)	Lab Test Data: Max. Lab Density (pcf)	Project Requirements: Water Content (%)	Project Requirements: Compaction (%)
2	K5221106.0008	ABC Stone	ASTM D698	5.2	146.4		

Field Test Data

Test No.	Test Location	Lift / Elev.	Mat. No.	Probe Depth (in)	Wet Density (pcf)	Water Content (pcf)	Water Content (%)	Dry Density (pcf)	Percent Compaction (%)
	Indian Drive								
1	South Fire Lane, approx. center.	4" BFG	2	6	153.1	5.6	3.8	147.5	100+
	Indian Drive								
2	From Int w/ Seminole St., approx. 167' East. 5' off South Edge.	4" BFG	2	6	153.2	6.2	4.2	147.0	100+
	Indian Drive								
3	From Int w/ Seminole St., approx. 105' East. 8' off North Edge.	4" BFG	2	6	153.8	5.9	4.0	147.9	100+
	Indian Drive								
4	From Int w/ Seminole St., approx. 10' East. 6' off North Edge.	4" BFG	2	6	153.7	6.5	4.4	147.2	100+

Datum: Subbase
S/N: 75685 **Make:** Troxler **Model:** 3430 **Last Cal. Date:** 03/07/2022
Comments:

Services: Perform in-place density and moisture content tests to determine degree of compaction and material moisture condition.
Terracon Rep.: Jon Meads
Reported To:
Contractor:
Report Distribution:
(1) Bear Garden, Inc., Phillip Harrington

Reviewed By: Jonatha Meads
Jon Meads
Project Manager

Test Methods: ASTM D6938

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

PARTICLE SIZE DISTRIBUTION REPORT

Report Number: K5221106.0011
Service Date: 12/01/22
Report Date: 12/01/22
Task: Office-Laboratory Services

Terracon
106 Capital Trace, Unit E
Elizabeth City, NC 27909-7731
252-335-9765

Client

Bear Garden, Inc.
Attn: Phillip Harrington
760 Pitts Chapel Road
Elizabeth City, NC 27909

Project

Indian Dr. Waterline Extension
Inidian Drive
Kill Devil Hills, NC

Project Number: K5221106

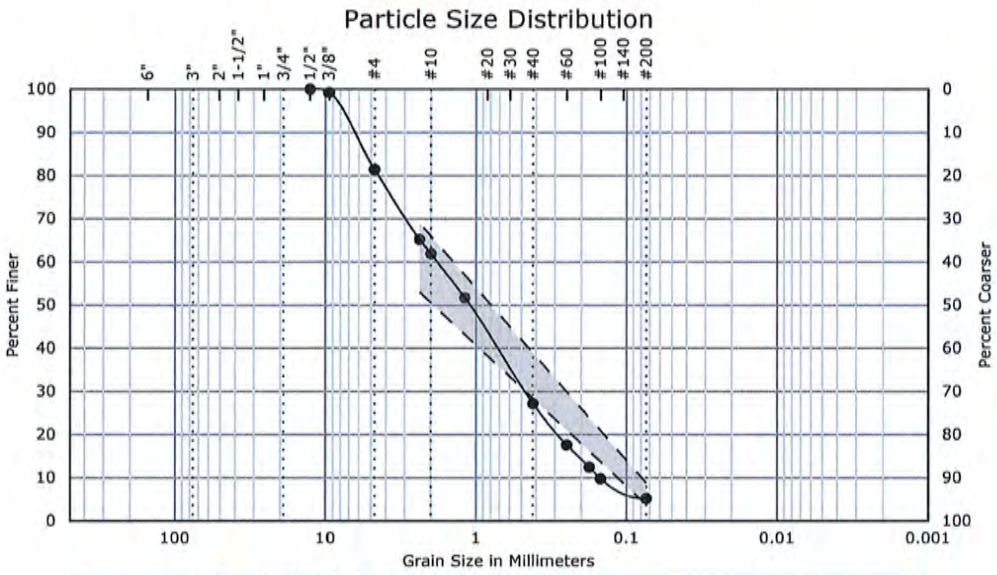
Sample Information

Sample Type: Asphalt Core
Sample Location: C-2A
Sample Description: RS 9.5C

Laboratory Test Data

Test Method: ASTM D6913
Method: B
Atterberg Limits: Non-Plastic
Sample Preparation: Air Dried
Sieving Method: Single Sieve-Set Sieving

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
1/2"	100		
3/8"	99		
#4	81		
#8	65	53-69	
#10	62		
#16	52		
#40	27		
#60	18		
#80	12		
#100	10		
#200	5	3.8-8.8	



% Cobbles	% Gravel - 18.6		% Sand - 76.2			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0		19.5	34.6	22.0	5.2

D_{60} = 1.82	D_{30} = 0.47	D_{10} = 0.151	C_c = 0.8	C_u = 12.1	FM =

*

Comments:

Services:
Terracon Rep.: Darlene Forehand
Reported To:
Contractor:
Report Distribution:
(1) Bear Garden, Inc., Phillip Harrington

Reviewed By:

Jon Meads
Project Manager

Test

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

PARTICLE SIZE DISTRIBUTION REPORT

Report Number: K5221106.0012
Service Date: 12/01/22
Report Date: 12/02/22 Revision 1 - Summary Report
Task: Office-Laboratory Services

Terracon
106 Capital Trace, Unit E
Elizabeth City, NC 27909-7731
252-335-9765

Client

Bear Garden, Inc.
Attn: Phillip Harrington
760 Pitts Chapel Road
Elizabeth City, NC 27909

Project

Indian Dr. Waterline Extension
Inidian Drive
Kill Devil Hills, NC

Project Number: K5221106

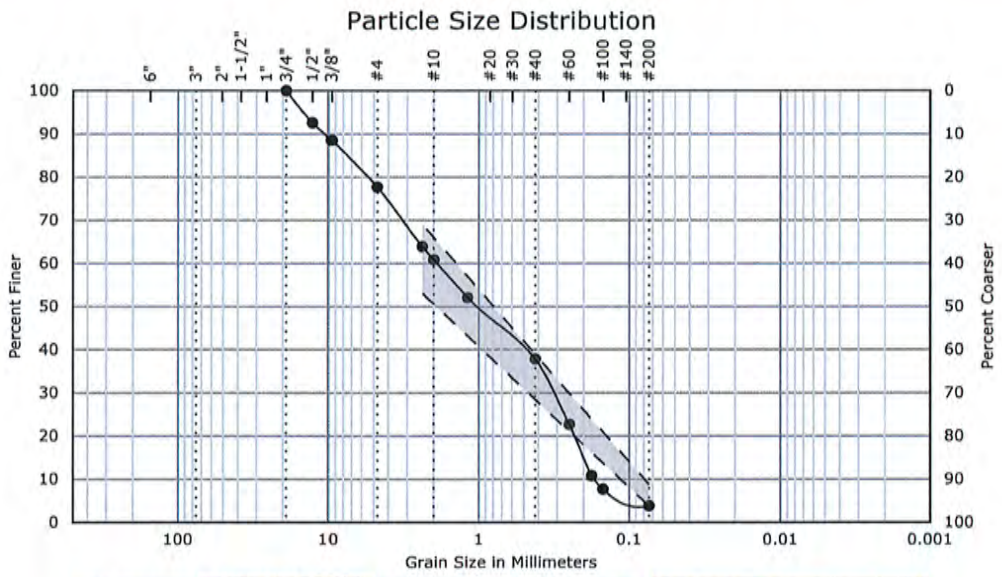
Sample Information

Sample Type:
Sample Location: C-2B
Sample Description: I 19.0C

Laboratory Test Data

Test Method: ASTM D6913
Method: B
Atterberg Limits: Non-Plastic
Sample Preparation: Air Dried
Sieving Method: Single Sieve-Set Sieving

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
3/4"	100		
1/2"	93		
3/8"	89		
#4	78		
#8	64	53-69	
#10	61		
#16	52		
#40	38		
#60	23		
#80	11		
#100	8		
#200	4	3.8-8.8	



% Cobbles	% Gravel - 22.3		% Sand - 73.8			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0	22.3	16.9	23.0	33.9	3.9

*

D_{60} = 1.90	D_{30} = 0.31	D_{10} = 0.172	C_c = 0.3	C_u = 11.1	FM =

Comments:

Services:
Terracon Rep.: Darlene Forehand
Reported To:
Contractor:
Report Distribution:
(1) Bear Garden, Inc., Phillip Harrington

Reviewed By:

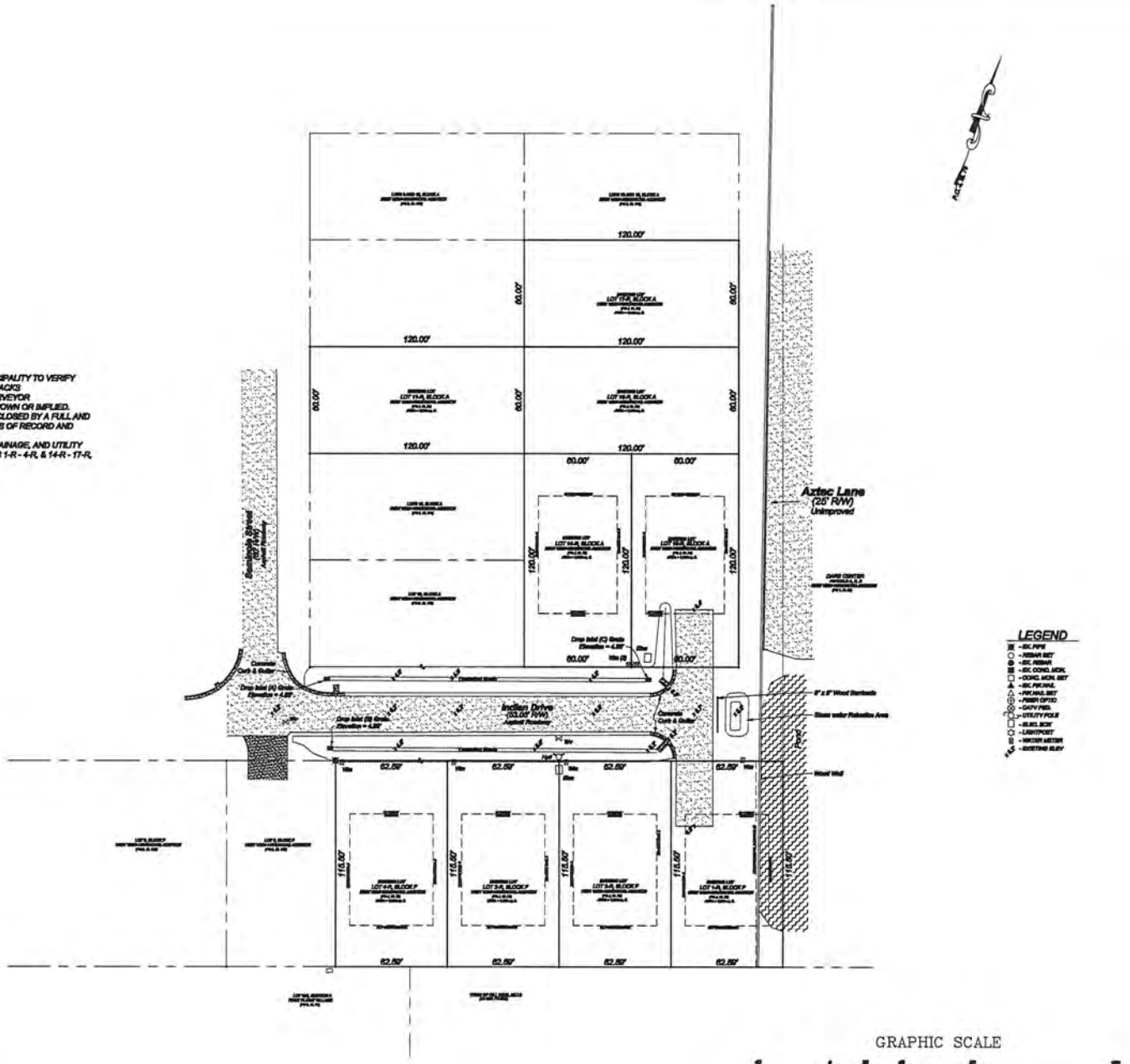
Jon Meads
Project Manager

Test

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

VICINITY MAP
NTS

NOTES
1. AREA BY COORDINATE COMPUTATION AS SHOWN
2. FLOOD ZONE X; PANEL #3720068400K (F.I.R.M. ZONE SUBJECT TO CHANGE BY F.E.M.A.)
3. RECORDED REFERENCES: P.C. J, Pg. 79
4. IT IS THE SOLE RESPONSIBILITY OF THE PERMITTING MUNICIPALITY TO VERIFY SITE COMPLIANCE WITH ALL ORDINANCES, ZONING, & SETBACKS REQUIREMENTS PRIOR TO THE ISSUANCE OF PERMITS. SURVEYOR MAKES NO CERTIFICATION AS TO COMPLIANCES EITHER SHOWN OR IMPLIED.
5. THIS SURVEY IS SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH OTHER RESTRICTIVE COVENANTS OF RECORD AND BUILDING LIMITATIONS MAY APPLY
6. THE PURPOSE OF THIS SURVEY IS TO SHOW ROADWAY, DRAINAGE, AND UTILITY IMPROVEMENTS FOR HIGHVIEW - HEDRICKS ADDITION LOTS 1-R - 4-R, & 14-R - 17-R, BLOCK F



GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

I, JAMIE E. FURR, CERTIFY THAT UNDER MY DIRECTION AND SUPERVISION THIS PLAT WAS DRAWN FROM AN ACTUAL FIELD SURVEY AS PER RECORDED DESCRIPTIONS; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH N.C.A.C. TITLE 21, CHAPTER 56, SECTION 1600.

WITNESS MY HAND AND SEAL THIS
DAY OF DECEMBER, 2022

JAMIE E. FURR
L-4592
P.L.S.

IF THIS SEAL IS ABSENT, THIS PLAT IS TO BE CONSIDERED PRELIMINARY, NOT TO BE USED FOR RECORDATION, CONVEYANCE, OR SUBDIVISION APPROVAL

EASTERN GEOMATICS, PLLC
P.O. BOX 1028
KILL DEVIL HILLS, N.C. 27948
PHONE / FAX: 252-441-4590
FIRM LIC#: P-0733

REVISIONS
NO. | DATE | DESCRIPTION | BY

SURVEY FOR: Indian Drive Extension As-built
LOT(S): High View - Hendricks Addition - Lots 1-R - 4-R, & 14-R - 17-R, Block F
ATLANTIC TOWNSHIP | DARE COUNTY | NORTH CAROLINA

FILE NO.: 19-1632-ASB
SCALE: 1"=40'
SURVEYED: JEF
DRAWN: JEF
CHECKED: JEF
DATE: 12/4/2022

SHEET NO: 1
OF 1 SHEETS

TOWN OF KILL DEVIL HILLS

Land Where Flight Began

Resolution of Acceptance of Street Improvements to Indian Drive, east of Seminole Street

WHEREAS, street, water main, and right-of-way improvements to Indian Drive, east of Seminole Street, has recently been completed; and

WHEREAS, the developer, Phillip Harington, on behalf of Phillip Harrington Enterprises, LLC, has petitioned the Board of Commissioners to accept the street, stormwater, and waterline improvements into the Town of Kill Devil Hills public streets, drainage, and water systems; and

WHEREAS, the Kill Devil Hills Town Code, Chapter 91, Streets, Acceptance and Improvement of Public Streets, and Chapter 51, Water, Data to be Submitted by Developer, establishes the procedure and criteria that must first be met prior to the Town accepting any street or water infrastructure improvements into the Town's public systems; and

WHEREAS, Phillip Harington Enterprises, LLC, and Kill Devil Hills Town Staff have submitted the following:

- Street improvements and acceptance request from Phillip Harrington Enterprises, LLC;
- Town Engineer's approval;
- NCEQ Public Water Supply Final Approval for water main extensions; and
- Geotechnical subgrade, base and pavement testing and certifications;

therefore be it

RESOLVED, That the Board of Commissioners for the Town of Kill Devil Hills approves the following:

1. The street, water main, and right-of-way improvements for Indian Drive are hereby accepted into the Town's public streets and water systems;

2. The Official Traffic Map of the Town of Kill Devil Hills, reflecting these improvements and regulatory signage of the Town of Kill Devil Hills is hereby adopted as amended;

3. The revised Powell Bill Map is hereby adopted as amended.

This 12th day of December, 2022.

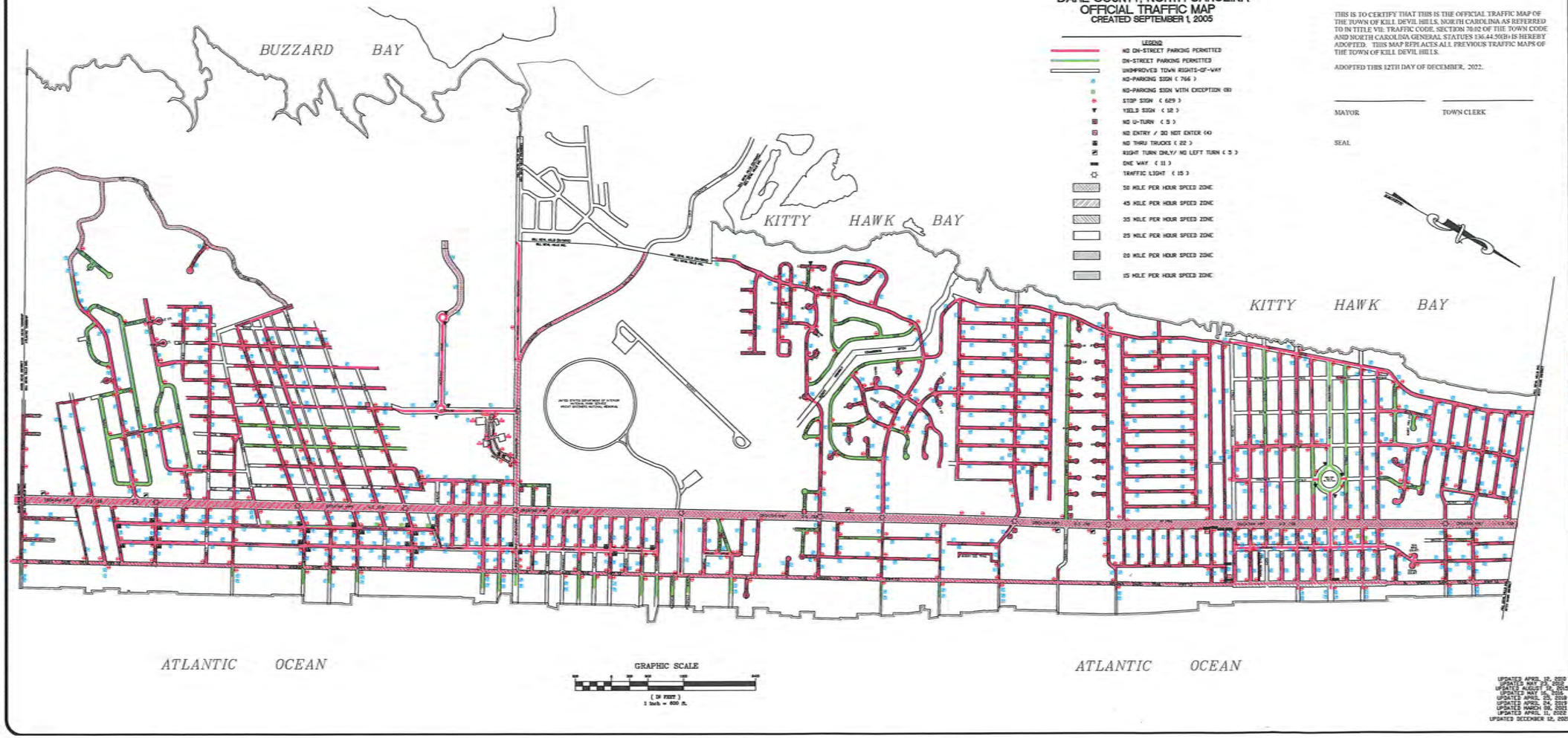
SEAL

Benjamin A. Sproul
Mayor

ATTEST:

James Michael O'Dell
Town Clerk

TOWN OF
KILL DEVIL HILLS
DARE COUNTY, NORTH CAROLINA
OFFICIAL TRAFFIC MAP
CREATED SEPTEMBER 1, 2005



LEGEND

- NO ON-STREET PARKING PERMITTED
- ON-STREET PARKING PERMITTED
- UNIMPROVED TOWN RIGHTS-OF-WAY
- NO-PARKING SIGN (R6 6)
- NO-PARKING SIGN WITH EXCEPTION (R8)
- STOP SIGN (R 62 9)
- YIELD SIGN (R 12)
- NO U-TURN (R 5)
- NO ENTRY / DO NOT ENTER (R 4)
- NO THRU TRUCKS (R 22)
- RIGHT TURN ONLY/ NO LEFT TURN (R 3)
- ONE WAY (R 11)
- TRAFFIC LIGHT (R 15)
- 50 MILE PER HOUR SPEED ZONE
- 45 MILE PER HOUR SPEED ZONE
- 35 MILE PER HOUR SPEED ZONE
- 25 MILE PER HOUR SPEED ZONE
- 20 MILE PER HOUR SPEED ZONE
- 15 MILE PER HOUR SPEED ZONE

THIS IS TO CERTIFY THAT THIS IS THE OFFICIAL TRAFFIC MAP OF THE TOWN OF KILL DEVIL HILLS, NORTH CAROLINA AS REFERRED TO IN TITLE VII: TRAFFIC CODE, SECTION 70.02 OF THE TOWN CODE AND NORTH CAROLINA GENERAL STATUES 136-44.50(H) IS HEREBY ADOPTED. THIS MAP REPLACES ALL PREVIOUS TRAFFIC MAPS OF THE TOWN OF KILL DEVIL HILLS.

ADOPTED THIS 12TH DAY OF DECEMBER, 2022.

MAYOR _____ TOWN CLERK _____

SEAL

UPDATED APRIL 12, 2010
UPDATED MAY 10, 2012
UPDATED AUGUST 13, 2015
UPDATED MAY 16, 2018
UPDATED APRIL 23, 2019
UPDATED APRIL 24, 2019
UPDATED MARCH 09, 2021
UPDATED APRIL 11, 2022
UPDATED DECEMBER 12, 2022

OFFICIAL TRAFFIC MAP
REVISED DECEMBER 12, 2022

NO.	DATE	DESCRIPTION	BY

REVISIONS

KILL DEVIL HILLS, NORTH CAROLINA
ATLANTIC TOWNSHIP DARE COUNTY
SCALE: 1"=600'

KILL DEVIL HILLS
Birthplace of Aviation
NORTH CAROLINA

TOWN OF KILL DEVIL HILLS

OFFICE OF THE TOWN CLERK
PO BOX 1719
KILL DEVIL HILLS, NC 27948
WWW.KDHNC.COM

TOWN OF

KILL DEVIL HILLS

DARE COUNTY, NORTH CAROLINA

OFFICIAL POWELL BILL MAP

UPDATED as of December 12, 2022

	LEGEND
6.645 MILES	HARD SURFACE TOWN STREETS GREATER THAN 16' WIDE
0.10 MILES	HARD SURFACED TOWN STREETS LESS THAN 16' WIDE
3.15 MILES	GRAVEL, STONE OR SOIL TOWN STREETS
	UNIMPROVED TOWN RIGHTS-OF-WAY
	STATE OR COUNTY MAINTAINED STREETS

BUZZARD BAY

KITTY HAWK BAY

KITTY HAWK BAY

ATLANTIC OCEAN

ATLANTIC OCEAN

COMMONWEALTH OF VIRGINIA
CITY OF VIRGINIA BEACH

This is to certify that I, Walton P. Burkhimer, Jr., am a Registered Professional Engineer pursuant to the laws of the State of North Carolina; that I have made actual measurements and examinations of non-State system streets in Kill Devil Hills, NC, and from said measurements and examinations the map and mileage statements are correct within a possible error of one-hundredth of a mile per mile.

Witness my hand and seal this 12th day of December, 2022.

Walton P. Burkhimer, Jr., P. E. #10786

NORTH CAROLINA PROFESSIONAL SEAL 10786 ENGINEER WALTON P. BURKHIMER, JR.

GRAPHIC SCALE

(IN FEET)
1 inch = 600 ft.

OFFICIAL POWELL BILL MAP
DECEMBER 12, 2022 UPDATE

REVISIONS		
NO.	DATE	DESCRIPTION

KILL DEVIL HILLS, NORTH CAROLINA
ATLANTIC TOWNSHIP DARE COUNTY

Powell Bill Mapping and Certification

Base Mapping

AMERICAN Engineering
American Engineering Associates - Southern VA.
Northern NC Engineering & Surveying
830 Greenbrier Circle | Suite 110
Chesapeake, Virginia 23320 (757) 465-4599

TOWN OF KILL DEVIL HILLS
PLANNING AND INSPECTIONS
DEPARTMENT
102 Town Hall Drive
Ph. 252-449-5233 | Fx. 252-441-4102
www.kdhnc.com