

December 13, 2023

Ms. Jennie Turner, CFM  
**Currituck County**  
**Planning & Community Development**  
153 Courthouse Road, Suite 110  
Currituck, North Carolina 27949

Re: Major Site Plan Application  
**Athletic Facility – 1555 Waterlily Rd**  
Coinjock, Currituck County, North Carolina

Ms. Turner,

On behalf of 85 and Sunny, LLC, Quible & Associates, P.C. hereby submits for your review the enclosed digital Major Site Plan application package for the subject referenced project located at 1555 Waterlily Rd, Coinjock, Currituck County.

The following digital documents are included and shall be considered part of this submittal package:

1. A review fee of \$400 (4,000 sf x \$0.10 per sf) made payable to “Currituck County”;
2. A stormwater review escrow fee of \$5,500 made payable to “Currituck County”;
3. One (1) copy of the signed Major Site Plan Application with Major Site Plan Submittal Checklist;
4. One (1) Copy of the Stormwater SW-002 Form;
5. One (1) copy of Lighting Specification cut sheets;
6. One (1) copy of the Site Plan, including Landscaping;
7. One (1) copy of the Architectural Elevations & Floor Plan;
8. One (1) copy of the Needed Fire Flow computation;
9. One (1) copy of the Site Narrative and associated calculations;
10. One (1) copy of the 50 Year Drought Memo;
11. One (1) copy of the Geotechnical Report for the Athletic Facility;
12. One (1) copy of the DRAFT NCDEQ Stormwater Application;
13. One (1) copy of the DRAFT NCDEQ SESC Application;
14. One (1) CD containing digital copies of all the documents and plans.

At your earliest convenience, please review and do not hesitate to contact me at (252) 491-8147 or ndashti@quible.com should you have any questions or require any additional information.

Sincerely,  
**Quible & Associates, P.C.**

  
Nadeen Dashti, E. I.

Encl.: as stated

Cc: 85 and Sunny, LLC



## Major Stormwater Plan Form SW-002 Review Process

### Contact Information

Currituck County  
Planning and Community Development  
153 Courthouse Road, Suite 110  
Currituck, NC 27929

Phone: 252.232.3055  
Fax: 252.232.3026

Website: <http://www.co.currituck.nc.us/planning-community-development.cfm>

Currituck County  
Engineering Department  
153 Courthouse Road, Suite 302  
Currituck, NC 27929

Phone: 252.232.6035

### General

Major stormwater plan approval is required for:

- Major subdivisions.
- Major site plans - development or expansion on a nonresidential, multi-family, or mixed use lot by 5,000 square feet or more of impervious coverage or resulting in 10% or more total impervious coverage.

### Step 1: Application Submittal

The applicant must submit a complete application packet consisting of the following:

- Completed Currituck County Minor Stormwater Plan Form SW-002 (unless submitting a major subdivision or major site plan).
- Completed Rational Method Form SW-003 or NRCS Method Form SW-004.
- Stormwater management plan drawn to scale. The plan shall include the items listed in the major stormwater plan design standards checklist.
- Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable.
- NCDENR permit applications, if applicable.
- Number of Copies Submitted:
  - 3 Copies of required plans
  - 3 Hard copies of ALL documents
  - 1 PDF digital copy (ex. Compact Disk – e-mail not acceptable) of all plans AND documents.

On receiving an application, staff shall determine whether the application is complete or incomplete. A complete application contains all the information and materials listed above, and is in sufficient detail to evaluate and determine whether it complies with appropriate review standards. An application for major stormwater plan must be submitted and approved prior altering an existing drainage system, performing any land disturbing activity or, before construction documents are approved.

### Step 2: Staff Review and Action

Once an application is determined complete staff shall approve, approve subject to conditions or disapprove the application.



# Major Stormwater Plan Form SW-002

OFFICIAL USE ONLY:  
 Permit Number: \_\_\_\_\_  
 Date Filed: \_\_\_\_\_  
 Date Approved: \_\_\_\_\_

### Contact Information

<b>APPLICANT:</b>	<b>PROPERTY OWNER:</b>
Name: <u>85 AND SUNNY LLC</u>	Name: <u>Same</u>
Address: <u>9919 Stephen Decatur Hwy</u>	Address: _____
<u>Ocean City, MD 21842</u>	_____
Telephone: <u>410.213.1900 x 1181</u>	Telephone: _____
E-Mail Address: <u>edemarco@bwdc.com</u>	E-Mail Address: _____

### Property Information

Physical Street Address: 1555 Waterlily Rd

Parcel Identification Number(s): 0079000004A0000

FEMA Flood Zone Designation: AE, X & shaded X

### Request

Project Description: Athletic Facility - 1555 Waterlily Rd

Total land disturbance activity: 263,008 sf      Calculated volume of BMPs: 41,145 CF sf

Maximum lot coverage: 4,037,358.6 sf      Proposed lot coverage: 129,600 sf

#### TYPE OF REQUEST

- Major subdivision (10-year, 24-hour rate)
- Major site plan (5-year, 24-hour rate)

#### METHOD USED TO CALCULATE PEAK DISCHARGE

- Rational Method
- NRCS Method (TR-55 and TR-20)
- Simple volume calculation for small sites (less than 10 acres)
- Alternative stormwater runoff storage analysis
- Downstream drainage capacity analysis

I hereby authorize county officials to enter my property for purposes of determining compliance. All information submitted and required as part of this process shall become public record.

[Signature]  
 Property Owner(s)/Applicant

12/13/2023  
 Date

Major Stormwater Plan Design Standards Checklist

The table below depicts the design standards of the major stormwater plan application. Please make sure to include all applicable listed items to ensure all appropriate standards are reviewed.

# Major Stormwater Plan Design Standards Checklist

Date Received: \_\_\_\_\_

Project Name: Athletic Facility - 1555 Waterlily Rd

Applicant/Property Owner: 85 AND SUNNY LLC

Minor Stormwater Plan Design Standards Checklist		
General		
1	Property owner name and address.	✓
2	Site address and parcel identification number.	✓
3	North arrow and scale to be 1" = 100' or larger.	✓
Site Features		
4	Scaled drawing showing existing and proposed site features: Property lines with dimensions, acreage, streets, easements, structures (dimensions and square footage), fences, bulkheads, septic area (active and repair), utilities, vehicular use areas, driveways, and sidewalks.	✓
5	Approximate location of all designated Areas of Environmental Concern (AEC) or other such areas which are environmentally sensitive on the property, such as Maritime Forest, CAMA, 404, or 401 wetlands as defined by the appropriate agency.	✓
6	Existing and proposed ground elevations shown in one foot intervals. All elevation changes within the past six months shall be shown on the plan.	
8	Limits of all proposed fill, including the toe of fill slope and purpose of fill.	✓
9	Square footage of all existing and proposed impervious areas (structures, sidewalks, walkways, vehicular use areas regardless of surface material), including a description of surface materials.	✓
10	Existing and proposed drainage patterns, including direction of flow.	✓
11	Location, capacity, design plans (detention, retention, infiltration), and design discharge of existing and proposed stormwater management features.	✓
12	Elevation of the seasonal high water level as determined by a licensed soil scientist.	✓
13	Plant selection.	✓
Permits and Other Documentation		
14	NCDENR stormwater permit application (if 10,000sf or more of built upon area).	✓
15	NCDENR erosion and sedimentation control permit application (if one acre or more of land disturbance).	✓
16	NCDENR coastal area management act permit application, if applicable.	N/A
17	Stormwater management narrative with supporting calculations.	✓
18	Rational Method Form SW-003 or NRCS Method Form SW-004	N/A
19	Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable	N/A
20	Design spreadsheets for all BMPs ( <i>Appendix F – Currituck County Stormwater Manual</i> ).	✓
21	Detailed maintenance plan for all proposed BMPs.	

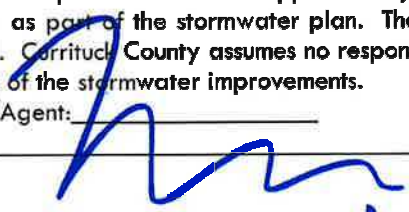


**Certificate**

22 The major stormwater plan shall contain the following certificate:

I, Todd E. Bivase, owner/agent hereby certify the information included on this and attached pages is true and correct to the best of my knowledge.

On the plan entitled Athletic Facility - 1555 Waterlily Rd, stormwater drainage improvements shall be installed according to these plans and specifications and approved by Currituck County. Yearly inspections are required as part of the stormwater plan. The owner is responsible for all maintenance required. Currituck County assumes no responsibility for the design, maintenance, or performance of the stormwater improvements.

Date: 12/13/2023 Owner/Agent: 

**Major Stormwater Plan Submittal Checklist**

Staff will use the following checklist to determine the completeness of your application. Please make sure all of the listed items are included. Staff shall not process an application for further review until it is determined to be complete.

## Major Stormwater Plan Form SW-002 Submittal Checklist

Date Received: \_\_\_\_\_

Project Name: Athletic Facility - 1555 Waterlily Rd

Applicant/Property Owner: 85 AND SUNNY LLC

**Major Stormwater Plan Form SW-002 Submittal Checklist**

1	Completed Major Stormwater Plan Form SW-002	✓
2	Completed Rational Method Form SW-003 or NRCS Method Form SW-004	N/A
3	Stormwater plan	✓
4	NCDENR permit applications, if applicable	N/A
5	3 copies of plans	N/A
6	3 hard copies of ALL documents	N/A
7	1 PDF digital copy of all plans AND documents (ex. Compact Disk – e-mail not acceptable)	✓

**Comments**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## WPA Series

LED Wall Pack Specifications

Project \_\_\_\_\_

Date \_\_\_\_\_ Type \_\_\_\_\_



WPA-xK75-W

### Features

- 120-277 VAC
- L70 rated 50,000 hour lifetime
- IP65 rated water resistance
- 0-10 V dimming
- Full cutoff design
- Adjustable angle for precise aiming

### Construction

Manufactured with a durable aluminum housing and polycarbonate lens.

### Application

Easily replaces inefficient metal-halide fixtures such as those found in warehouses, parking lots and garages, gas stations, and other commercial and industrial spaces. These are also a great solution for entryways and other areas where good lighting is essential for security.

### Output Equivalencies

WPA-xK12-W	50 W metal-halide
WPA-xK35-W	175W metal-halide
WPA-xK75-W	320 W metal-halide
WPA-xK120-W	400 W metal-halide

### Warranty

Five (5) Year Warranty

### Certifications and Compliances

These lights are UL Listed in compliance with UL 1598 (IFAM) and are listed as DLC Premium.



T 866.811.5550  
 F 314.972.6202  
 email: commercial-sales@superbrightleds.com  
 www.superbrightleds.com/cat/industrial-led-lighting/

### Available Models<sup>1</sup>

#### 3000K

- WPA-30K12-W
- WPA-30K35-W
- WPA-30K75-W
- WPA-30K120-W

#### 5000K

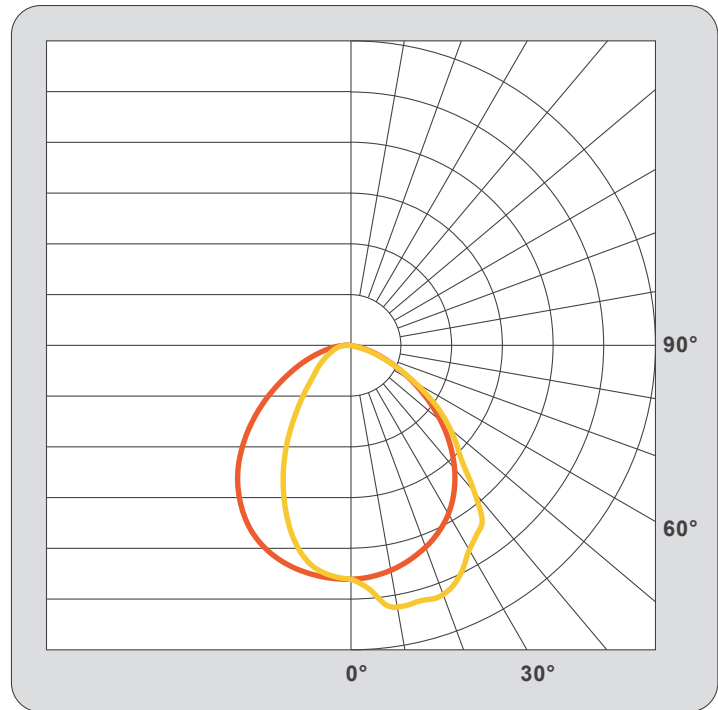
- WPA-50K12-W
- WPA-50K35-W
- WPA-50K75-W
- WPA-50K120-W

### Part Number Breakdown

Example: WPA-50K75-W

Family	Color Temperature	Wattage
WPA	30K [3000K] or 50K [5000K]	12-W [12 W]
		35-W [35 W]
		75-W [75 W]
		120-W [120 W]

### Photometrics - Beam Angle



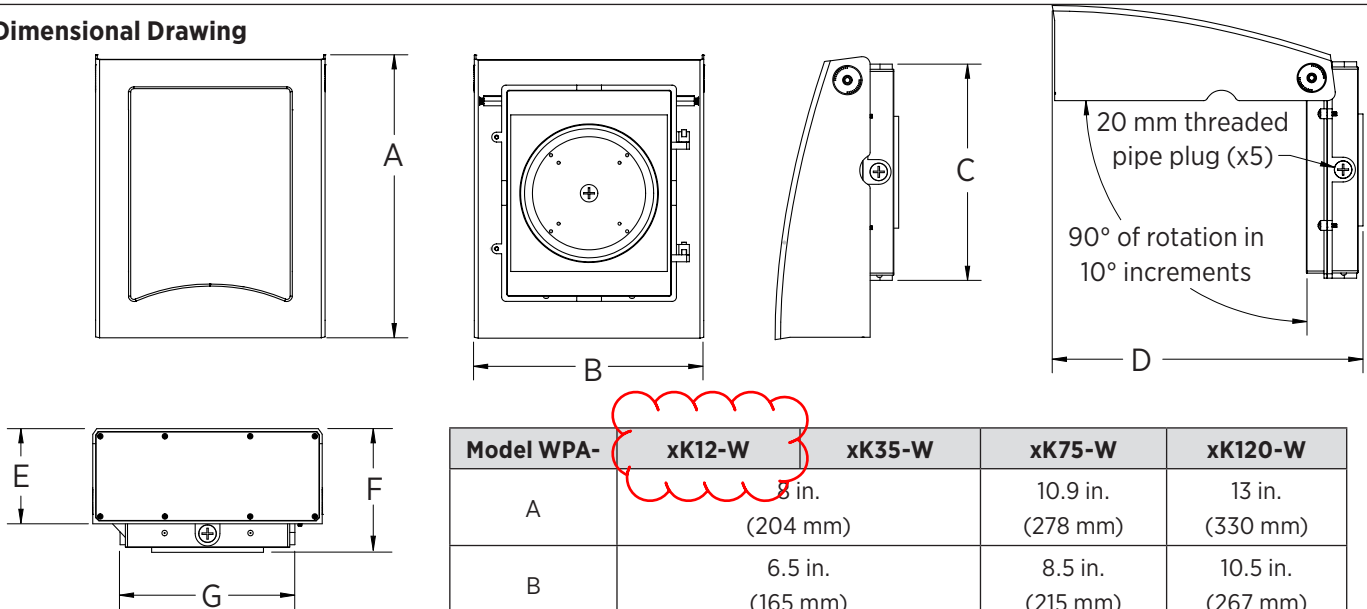
Additional model-specific photometric data available on site or upon request.

<sup>1</sup>Contact customer service if interested in options other than those listed.

## WPA Series

LED Wall Pack Specifications

### Dimensional Drawing



Model WPA-	xK12-W	xK35-W	xK75-W	xK120-W
A	8 in. (204 mm)		10.9 in. (278 mm)	13 in. (330 mm)
B	6.5 in. (165 mm)		8.5 in. (215 mm)	10.5 in. (267 mm)
C	5.9 in. (150 mm)		8.2 in. (207 mm)	9.9 in. (251 mm)
D	8.9 in. (226 mm)		12.1 in. (306 mm)	14.2 in. (361 mm)
E	3.2 in. (81 mm)		4 in. (100 mm)	4.4 in. (110 mm)
F	4.1 in. (98 mm)		4.6 in. (114 mm)	5.1 in. (130 mm)
G	4.3 in. (108 mm)		6 in. (151 mm)	8 in. (202 mm)

### Specifications

Model	WPA-xK12-W	WPA-xK35-W	WPA-xK75-W	WPA-xK120-W
Intensity	1,560 lm	4,550 lm	9,750 lm	15,600 lm
Operating Voltage	120-277 VAC			
Power Consumption	12 W	35 W	75 W	120 W
Current Draw	0.1 A @120 VAC	0.29 A @120 VAC	0.63 A @120 VAC	1 A @120 VAC
Efficacy	130 lm/W			
Color Temperature	3000K or 5000K (as ordered)			
Beam Angle	100° x 75° (NEMA 6 x NEMA 5)			
CRI	70+			
Dimming	0-10 V			
IP Rating	IP65			
Ambient Operating Temperature	-40°-122° F (-40°-50° C)			
Product Weight	3.2 lb (1.5 kg)		5 lb (2.3 kg)	7 lb (3.2 kg)
Rated Life (L70)	50,000 hours			



**Operations**  
**ISO Fire Flow Worksheet**  
**Sample**

<b>Needed Fire Flow Work Sheet (ISO formulas)</b>				NFF = (Ci)(Oi)(Xi+Pi) C=18F(Ai)^0.5
Address:	<b>Waterlily Road, Currituck County, NC</b>			
Project Name:	<b>Athletic Facility</b>	Occupancy Type:	<b>C-2</b>	
Construction Type:	<b>Typical wood construction</b>	Number of Stories:	<b>1</b>	

<b>STEP 1</b>	<p>Take the area, which is 100% sq. ft. of the first floor plus the following percentage of the total area of the other floors.</p> <p><b>First Floor</b> <span style="float: right;"><input type="text" value="1851"/> Sq. Ft. @ 100%</span>          Buildings classified as construction classes I-IV: 25% of all other floors          Buildings classified as construction classes V-VI: 50% of all other floors</p> <p><b>Total other floors</b> <span style="float: right;"><input type="text" value="0"/></span>  <b>Total Area All</b> <span style="float: right;"><input type="text" value="1851"/></span></p>
---------------	--

<b>STEP 2</b>	<p>Take the Square Root of the Area <span style="float: right;"><input type="text" value="43"/></span>          Now multiply by "F", which is the coefficient for the construction type:</p> <p>F = Coefficient related to the class of construction as determined by using the construction type found in SBCCI</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th>Construction Type</th> <th>Class</th> <th>F Value</th> </tr> </thead> <tbody> <tr><td>Frame</td><td>VI</td><td>1.5</td></tr> <tr><td>Joist Masonry</td><td>VI</td><td>1</td></tr> <tr><td>Non-combustible</td><td>IV</td><td>0.8</td></tr> <tr><td>Heavy Timber</td><td>III</td><td>0.8</td></tr> <tr><td>Modified fire resistance</td><td>II</td><td>0.6</td></tr> <tr><td>Fire resistive</td><td>I</td><td>0.6</td></tr> </tbody> </table> <p><b>F Value Selected</b> <span style="float: right;"><input type="text" value="1.5"/></span>  <b>Square Root of the Area x F</b> <span style="float: right;"><input type="text" value="65"/></span>  <b>Square Root of the Area x F x 18</b> <span style="float: right;"><input type="text" value="1162"/> = C Value</span></p>	Construction Type	Class	F Value	Frame	VI	1.5	Joist Masonry	VI	1	Non-combustible	IV	0.8	Heavy Timber	III	0.8	Modified fire resistance	II	0.6	Fire resistive	I	0.6
Construction Type	Class	F Value																				
Frame	VI	1.5																				
Joist Masonry	VI	1																				
Non-combustible	IV	0.8																				
Heavy Timber	III	0.8																				
Modified fire resistance	II	0.6																				
Fire resistive	I	0.6																				

<b>STEP 3</b>	<p>Round off the C value to the nearest 250 GPM (round up or down)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>C values ranging from</th> <th>Use</th> </tr> </thead> <tbody> <tr><td>500 to 625</td><td>500</td></tr> <tr><td>626 to 875</td><td>750</td></tr> <tr><td>876 to 1125</td><td>1000</td></tr> <tr><td>1126 to 1375</td><td>1250</td></tr> <tr><td>1376 to 1625</td><td>1500</td></tr> <tr><td>1626 to 1875</td><td>1750</td></tr> <tr><td>1876 to 2125</td><td>2000</td></tr> <tr><td>2126 to 2375</td><td>2250</td></tr> <tr><td>2376 to 2625</td><td>2500</td></tr> <tr><td>2626 to 2876</td><td>2750</td></tr> <tr><td>2876 to 3125</td><td>3000</td></tr> <tr><td>3126 to 3375</td><td>3250</td></tr> <tr> <td style="text-align: center;"><b>Rounded to the nearest 250 GPM</b></td> <td style="text-align: center;"><b>1250</b></td> </tr> </tbody> </table>	C values ranging from	Use	500 to 625	500	626 to 875	750	876 to 1125	1000	1126 to 1375	1250	1376 to 1625	1500	1626 to 1875	1750	1876 to 2125	2000	2126 to 2375	2250	2376 to 2625	2500	2626 to 2876	2750	2876 to 3125	3000	3126 to 3375	3250	<b>Rounded to the nearest 250 GPM</b>	<b>1250</b>
C values ranging from	Use																												
500 to 625	500																												
626 to 875	750																												
876 to 1125	1000																												
1126 to 1375	1250																												
1376 to 1625	1500																												
1626 to 1875	1750																												
1876 to 2125	2000																												
2126 to 2375	2250																												
2376 to 2625	2500																												
2626 to 2876	2750																												
2876 to 3125	3000																												
3126 to 3375	3250																												
<b>Rounded to the nearest 250 GPM</b>	<b>1250</b>																												

**ISO Fire Flow Worksheet  
Sample Continued**

STEP 4	Multiply result of rounded off GPM by the Occupancy Factor (Oi)	Occupancy Factor
	<p><b>Noncombustible (C-1)</b> = No active fuel loads such as storage of asbestos, clay, glass, marble, stone, or metal products.</p>	0.75
	<p><b>Limited - Combustible (C-2)</b> = Limited fuel loads such as airports, apartments, art studios, auto repair, auto showroom, aviaries, banks, barber shops, beauty shops, churches, clubs, cold storage warehouses, day care center, educational occupancies, gas stations, green houses, health clubs, hospitals, jails, libraries, medical labs, motels, museums, nursing homes, offices, radio stations, recreation centers, and rooming houses.</p>	0.85
	<p><b>Combustible (C-3)</b> = Moderate fuel loads such as auto part stores, auto repair training center, bakery, bookstores, bowling centers, casinos, commercial laundries, contractor equipment storage, dry cleaners with no flammable fluids, leather processing, municipal storage buildings, nursery sales stores, pavilions, pet shops, photographic supplies, printers, restaurants, shoe repair, supermarkets, theaters, vacant buildings, and most wholesale &amp; retail sales occupancies.</p>	1.0
	<p><b>Free-Burning (C-4)</b> = Active fuel loads such as aircraft hangers, cabinet making, combustible metals, dry cleaners using flammable fluids, feed stores, furniture stores, kennels, lumber, packaging and crating, paper products manufacturing, petroleum bulk distribution centers, tire manufacturers, tire recapping or retreading, wax products, and wood working shops.</p>	1.15
	<p><b>Rapid-Burning (C-5)</b> = Contents that burn with great intensity, spontaneously ignite, have flammable or explosive vapors, or large quantities of dust such as ammunition, feed mills, fireworks, flammable compressed gases, flammable liquids, flour mills, highly flammable solids, matches, mattress factories, nitrocellulose-based products, rag storage, upholstery shops, &amp; waste paper storage.</p>	1.25
	<p><b>Occupancy Factor Selected</b></p>	0.85
	<p><b>Rounded GPM x Oi</b></p>	1062.5

### ISO Fire Flow Worksheet Sample Continued

**STEP 5**

Now consider the exposure factor (Xi) - (Separation between buildings)

Distance (feet to the exposed building)	Length-Height	Frame (Xi)
0-10	80-100	0.126
	101-200	0.14
	201-300	0.14
11-20	80-100	.098
	101-200	0.126
	201-300	0.14
21-30	80-100	0.056
	101-200	0.098
	201-300	0.126
31-40	80-100	0.028
	101-200	0.07
	201-300	0.098

Distance Selected 100  
 Xi (from table) 0

\*Length-Height Ratio is less than 80'

Multiply GPM from step 4 by (1+Xi)  
 1062.5 x (1+0)

Fire flow required 1063

**STEP 6**

Approved Fire Sprinkler System Credit 0%

Take fire flow from step 5 and multiply by sprinkler credit of 0.25  
266

Now subtract sprinkler credit from fire flow in step 5

**Fire Flow Required** 796.875 N/A

**STEP 7**

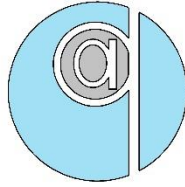
Take value from step 6 and  
 Round to nearest 250 gpm under 2,500 gpm  
 Round to nearest 500 gpm over 2,500 gpm

**Needed Fire Flow** 1000

Notice: Fire hydrant distribution requirements are based on distance from fire hydrant to the structure. The following restrictions for fire flow apply:

Distance from hydrant to structure	Max Flow Credit (gpm per hydrant)
Within 300 feet	1,000
301 to 600 feet	670
601 to 1,000 feet	250

*per LDC 6.4.4 Fire hydrant & flow requirements: Central water systems shall be designed and constructed for an economic service life of not less than 20 years and in accordance with the fire protection requirements of the Insurance Services Office.*



**SITE PLAN NARRATIVE**  
**Athletic Facility – 1555 Waterlily Rd**  
**Coinjock, Currituck County, North Carolina**

Prepared for:  
85 AND SUNNY, LLC  
9919 Stephen Decatur Hwy  
Ocean City, MD 21842

Prepared by:  
Quible & Associates, P.C.  
PO Drawer 870  
Kitty Hawk, NC 27949

December 14, 2023  
P16099



**Table of Contents**

Overview ..... 2

Access ..... 2

Parking ..... 2

Soils ..... 2

Stormwater Management Plan ..... 2

    Collection ..... 3

    Treatment ..... 3

    Storage ..... 4

    Disposal ..... 4

Utilities ..... 4

Buffers and Site Vegetation ..... 5

Appendices

*Appendix A – On-site Soils Report and Memo*

*Appendix B - Stormwater Calculations*

## **Overview**

The subject property is located at 1555 Waterlily Road, Corolla, NC in Currituck County. The applicants propose to construct an athletic facility consisting of a swimming pool, associated decking, 900 sf mechanical building serving the pool, 1,860 sf bathhouse, pickleball court, fitness walking/jogging paths, and associated utilities and required infrastructure as shown on the attached plan set. The property is zoned Single Family Mainland (SFM) and athletic facilities are permitted use.

## **Access**

The athletic facility would be accessed from Waterlily Road.

A loading space is not required per Currituck County UDO, Section 5.1.8. for this use. However, if needed, the open drive aisle opposite of the swimming pool entrance could be utilized for loading (and designated, if required) as it would not block any through traffic along the adjacent drive aisle and parking.

## **Parking**

The Currituck County UDO does not provide a parking schedule for this use. Therefore, an alternative parking plan is being provided at the request of the Director based upon anticipated parking demands. The applicant owns and operates similar facilities and based on their understanding of parking needs and the proposed use, 98 parking spaces would be adequate. The relevant maximum occupant capacity used to calculate parking needs for each use is 200 swimmers, 16 pickle ball players, and 10 employees at peak shift. Based on maximum occupancy numbers and assuming one parking space for every 3 swimmers, 1 parking space per pickle ball player, and 1 parking space per employee. Using these figures, a total of 98 parking spaces are needed and 102 are provided.

## **Lighting**

Use of the facility is during daytime only, and as such no parking lot or other exterior lighting is proposed other than security lighting being provided at the buildings as required. The site lighting plan consists of the provided full cut off lighting fixture submittals for the required security lighting.

## **Soils**

The USDA NRCS Soil Survey lists the soil in the vicinity of the stormwater infiltration and wet retention basins as described below. Geotechnical reports for the site indicate the seasonal high-water table is approximately at elevation 3.7. A copy of on-site soils analysis are provided within **Appendix A**. On-site soils analysis was performed by Hardin-Kight Associates, Inc.

- BoA – Bojac Loamy Sand  
This soil typically has 0 to 3 percent slopes. Bojac Loamy Sand typically has a very low runoff rate and is well drained. This soil is categorized in Hydrologic Soil Group: A

## **Stormwater Management Plan**

Per 15A NCAC 02H.1005 (a) (3) (B) High Density Coastal Development is required to meet particular criteria. This development is proposed to have 0.96% of impervious coverage within the existing parcel. The proposed infiltration basin onsite is designed in accordance with

NCDEQ Requirements and is designed to store, control, and treat the stormwater runoff from all surfaces, within its drainage area, generated by the one and one-half inch of rainfall event. The majority of stormwater runoff from the project area is proposed to be directed to the proposed wet retention basin designed in accordance with NCDEQ requirements. The basin has been designed to capture runoff into a forebay prior to the main pond which stores, controls, and treats stormwater runoff from the 5-year post-development storm event to the 2-year pre-development wooded condition. In addition to these requirements, a minimum of 50' vegetative buffer from surface waters is provided.

### Collection

Runoff from the proposed access drive will be directed into grassed roadside swales which flow down gradient to a cross-culvert and into the wet retention basin forebay. Runoff from the southern portion of the proposed swimming pool deck and pickle ball court area will be collected into grassed swales which flow gently toward the cross-culvert and into the forebay, allowing for infiltration and uptake along its path. The parking and vehicular area is to be collected and conveyed to the proposed wet detention basin via sheet flow whereby the parking area drains to a centralized flowline prior to being directed into the forebay. Runoff draining from the proposed buildings will be directed into the proposed infiltration swales that ultimately flow into the wet retention basin forebay.

### Treatment

The proposed system will offer several methods of treatment prior to release.

Runoff from concrete deck areas will sheet flow over vegetation (grass) and be directed to the wet detention basin. The grassed areas will provide the first level of treatment for these areas and will provide filtration of small particulates and nutrients prior to entering the wet detention basin.

The primary treatment of runoff from the northern portion of swimming pool decking will be provided within a dry infiltration basin and a wet retention basin. The infiltration basin bottom and side slopes will be grassed according to general seeding specifications. The runoff will undergo filtration of fine particulates and pollutants by the vegetation within the basin. The filtration by vegetation is considered the primary method of treatment. A secondary method of treatment is also available when the stormwater runoff infiltrates into the subsurface. The soil particles between the basin bottom and the season high water table (SHWT) will offer additional filtration and/or absorption of particulates and pollutants prior to reaching the water table. The seasonal high water table (SHWT) is at an elevation of 3.7'. Separation of greater than 18" between the seasonal high-water table and the bottom of the basin has been provided, a supporting soils analysis has been provided to justify the 1' of separation.

The remainder and majority of the project area will be managed by the proposed wet retention basin. The wet basin is designed with a forebay which initially receives incoming runoff from multiple directions to allow for energy dissipation and initial settling prior to entering the main pond. The entire wet retention basin is designed to have vegetative shelving and a depth adequate to allow for some sedimentation. The overall depth of the basin allows for water quality treatment but also doubles as fire protection storage volume for a proposed dry hydrant.

## Storage

The proposed infiltration basin has been sized to allow for a local requirement of routing the 5-year post developed condition back to the 2-year predeveloped wooded condition. This storage capacity is in excess of the State required 1.5 inch storage of impervious surface runoff. The temporary storage capacity has been calculated between the bottom of the basin and the overflow spillway invert elevation. In addition to the above grade storage for State water quality, the County's stormwater storage is also accounted for within the subsurface soil voids below the bottom of the basin and seasonal high water elevation.

The majority of the stormwater storage volume is provided within the proposed wet retention basin. The temporary storage volume is computed within the basin above the main pool elevation of 3.7'. The County stormwater storage volume requirement based upon routing the 5-year post-development rainfall event to the 2-year pre-development wooded condition is approximately 25,805 CF. The proposed wet retention basin provided storage volume is approximately 41,145 CF, equivalent to the 7.4 inch rainfall event.

The season high water table (SHWT) is at an elevation of 3.7' ft., per the attached soils analysis in **Appendix B**.

## Disposal

The infiltration basin's primary mode of disposal is through infiltration. Per an onsite soils information (provided in **Appendix A**), infiltration rates appear to be approximately >20 inches per hour for the anticipated soils at the site. This infiltration rate will allow the basin to drawdown within well within the required 3 days.

Calculations for the proposed wet retention basin have been provided in **Appendix B**. Currituck County calculations have been provided to demonstrate that the 5-yr post developed storms have been routed to 2-yr pre-developed wooded conditions. The basin would discharge into the downstream ditch having greater than a 30' vegetative buffer. A summary of the storage available within the basin is available in **Appendix B**.

## **Utilities**

A water meter and associated service are proposed to connect to the existing PVC waterline at Waterlily Road. A backflow prevention device will be provided behind the new water meter. The building will be designed for the Needed Fire Flow to be within the Available Fire Flow. There is no nearby existing fire hydrant, so the applicants propose to rely on a dry hydrant that will draw from a strainer located within the deep portion of the new wet retention basin for fire flow. A copy of the Needed Fire Flow based upon ISO Method is included within the appendix demonstrating a NFF of 1,000 gpm. Based upon a standard 2 hour duration, the required fire storage volume is 120,000 gallons or 16,042 CF. Accounting for the 50 year drought conditions, 2' of freeboard over the top of the available fire storage volume, and keeping the strainer off of the bottom of the basin, the provided fire storage volume (or Available Fire Flow) is greater than the required 16,042 CF.

Changes to the existing waterline within the right-of-way are not proposed, therefore, a permit to construct from NC DEQ Public Water Supply is not required. The proposed water service shall be installed per Currituck County standard water specifications and details. An RPZ would be installed in the location as shown on the attached Site Plan.

The proposed on-site wastewater system is designed to handle 2,880 gallons per day. This anticipated amount is based on 200 Swimmers at 10 GPD each, 10 employees at 25 GPD each, 16 pickleballers at 25 GPD each, and up to 11 seats at 20 GPD each. An onsite evaluation has been requested of Albemarle Regional Health Services to determine acceptable site characteristics. A copy of the preliminary geotechnical report including copies of boring logs is included within the Appendix for reference.

### **Buffers and Site Vegetation**

The Currituck County UDO defines a heritage tree as any live oak greater than 12" diameter at breast height and trees or other tree species greater than 24" diameter at breast height, with the exception of pine trees. Heritage trees are shown within the enclosed site plan. It should be noted that no heritage trees are proposed to be impacted. The majority of the heritage trees were located in the western portion of the subject property, and the majority of the impacted trees were not qualified as heritage trees.

### **Adjacent Property Zoning**

Surrounding properties are zoned Single Family Mainland. Buffer yards are not required as adjacent properties are also zoned SFM. Site Landscaping and Vehicular Landscaping are provided on the plans, along with refuse area screening adjacent to the proposed dumpster enclosure. The vehicular landscape buffer around the proposed parking lot will provide a minimum of 2" ACI canopy tree and 1 shrub per 8 ft. The Site Landscape buffer will provide 2 caliper inches of canopy tree per acre and 1 shrub per 8 ft.

## **Appendix A – State Stormwater Calculations**

**Athletic Facility Wet Retention Basin  
 NCDEQ Stormwater Calculations**

**Drainage Area Calculations**

	Combined Drainage Area	
	(sq.ft.)	(acre)
Drainage Area =	331,153.00	7.60
Open Space	275,201.00	6.32
Concrete =	53,192.00	1.22
Building=	2,760.00	0.06
Gravel =	0.00	0.00
Impervious =	55,952.00	1.28

**Runoff generated by 1.5" Rainfall Event (NCDEQ Simplified Method)**

la = Impervious Percentage = Impervious Area/Drainage Area  
 Rv= Runoff Coefficient, 0.05+0.9la  
 Rd= Rain fall depth (1.5 in.)  
 V= Runoff Volume, 3630\*Rd\*Rv\*A

	Area 1
la =	16.9%
Rv=	0.20
Rd (in.)=	1.5
A (ac.)=	7.60
V (cf.)=	<b>8362</b>

**Total Storage Required by NCDEQ = 8,400.00 cf**  
**Total Storage Required by Currituck County = 25,810.00 cf**      **4.63 in**

**Above Grade Storage Provided In Wet Basin**

Infiltration Basin 1 (FRONT) - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
3.70	28749			0
		29884	8965	
4.00	31018			8965
		32180	32180	
5.00	33342			41145


**Above Grade Storage Provided = 41145 cf**  
**Total Storage Provided (above & below) = 41145 cf**  
**Total Storage Rainfall Equivalent Storage = 7.4 in**



Project Name: Athletic Facility  
 Quible Project Number: P16099  
 Date: 12/13/2023

**Currituck County Stormwater Calculations (In Lieu of Forms SW-002 and SW-003)**

---

<b>Step 1:</b> Drainage Area	331,153.00 square feet
	7.60 acres

---

<b>Step 2:</b> Determine Runoff Coefficient
C = 0.15

---

<b>Step 3:</b> Determine Time of Concentration
<b>Sheet Flow</b>
$T_{c1} = \frac{0.42(nL)^{0.8}}{p^{0.5}S^{0.4}}$
n = 0.1 (woods)
L = 300 feet
P = 4 inch
S = 0.004 ft/ft
$T_{c1} = 30.6$ mins
<b>Shallow Concentrated Flow</b>
(n/a)

**Channel Flow**  
(n/a)

$T_c = T_{c1} + T_{c2}$   
 $T_c = 30.6$  mins

---

<b>Step 4:</b> Determine Peak Rainfall Intensity
Time of Concentration

T (yrs)	5 mins	10 mins	15 mins	30 mins	1 hr	2 hr	3 hr
2	6.11	4.88	4.09	<u>2.82</u>	<u>1.77</u>	1.04	0.737
5	6.83	5.47	4.61	3.28	2.1	1.26	0.893
10	7.9	6.32	5.32	3.86	2.51	1.53	1.09

I = 2.80 in/hr

Interpolation Formula =

$$y_2 = \frac{(x_2 - x_1)(y_3 - y_1)}{(x_3 - x_1)} + y_1$$

X	Y
1	30 <u>2.82</u>
2	<u>30.64</u>
3	60 <u>1.77</u>

$y_2 = 2.80$

---

<b>Step 5:</b> Determine the 2-year Pre-Development peak discharge, Q
Q = CIA
Q 2 = 3.19 cfs

---

<b>Step 6:</b> Determine the weighted runoff coefficient, Cw for post-development	
	C - Value
Impervious Area = 55,952.00 sq.ft.	0.95
Open Area = 275,201.00 sq.ft.	0.25

Total =  sq.ft.

Cw =

**Step 7:** Determine Time of Concentration for post-development

**Sheet Flow**

$$T_{c1} = \frac{0.42(nL)^{0.8}}{p^{0.5}S^{0.4}}$$

n =  (smooth pavement)

L =  feet

P =  inch (From NOAA Rainfall Depth Data)

S =  ft/ft

T<sub>c1</sub> =  mins

**Shallow Concentrated Flow**

T<sub>c2</sub> = L =  ft

Slope =  ft/ft

Paved Areas  $V = 1302(S^{0.53})$

Unpaved Areas  $V = 972(S^{0.53})$

V =  ft/min

T<sub>c2</sub> =  mins

**Channel Flow**

(n/a)

$$T_c = T_{c1} + T_{c2}$$

T<sub>c</sub> =  mins

\*5 min minimum T<sub>c</sub> (worst case scenario)

**Step 8:** Determine Peak Rainfall Intensity

T (yrs)	Time of Concentration						
	5 mins	10 mins	15 mins	30 mins	1 hr	2 hr	3 hr
2	6.11	4.88	4.09	2.82	1.77	1.04	0.737
5	<u>6.83</u>	5.47	4.61	3.28	2.1	1.26	0.893
10	7.9	6.32	5.32	3.86	2.51	1.53	1.09

I<sub>5</sub> =

**Step 9:** Determine the 5-year Post-Development peak discharge, Q

$$Q = CIA$$

Q<sub>5</sub> =  cfs

**Step 10:** Determine the weighted curve number, CN, for the post-development conditions.

Hydrologic Soil Type: A/D (From NRCS Soils Report)

Land Use	CN	Area
Impervious Area	98	55,952.00
Open Space	49	275,201.00

Total =	331,153.00
CN <sub>w</sub> =	57.28

**Step 11:** Determine the 5-year post-development runoff depth, Q

$$Q = \frac{(P-0.2S)^2}{(P+0.8S)} \quad S = \frac{1000}{CN} - 10$$

P =	5 in
S =	7.46
Q =	1.12 in

**Step 12:** Determine the Runoff Volume, V<sub>r</sub>

$$V_r = \frac{Q}{12} * A$$

Q =	1.12 in
A =	7.60 acres
V <sub>r</sub> =	0.71 ac-ft

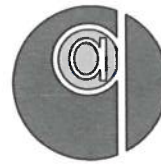
**Step 13:** Determine the Required Storage Volume, V<sub>s</sub>

$$V_s = 1613.33 * V_r * \left(1 - \frac{Q_{2\_pre}}{Q_{10\_post}}\right)$$

V <sub>r</sub> =	0.71 ac-ft
Q <sub>2-pre</sub> =	3.19 cfs
Q <sub>5-post</sub> =	19.12 cfs
V <sub>s</sub> =	955.74 CY
	25,804.85 CF

**Appendix B – On-site Soils Report and Memo**

# MEMORANDUM



**Quible** SINCE 1959  
**& Associates, P.C.**

ENGINEERING \* CONSULTING \* PLANNING  
ENVIRONMENTAL SCIENCES \* SURVEYING

Phone: (252) 261-3300

Fax: (252) 261-1260

Web: [www.quible.com](http://www.quible.com)

To: Nadeen Dashti,

From: Warren D. Eadus, P.G.

Date: December 12, 2023

Re: **50 Year Drought Water Level Determination-Athletic Facility 1555 Waterlily Road**



A review of available historic groundwater data (available from USGS:

[http://www.ncwater.org/GWMS/openlayers/ol.php?entrance=home\\_page&menulist=bl#map=11/-8447016.91/4317555.92/0](http://www.ncwater.org/GWMS/openlayers/ol.php?entrance=home_page&menulist=bl#map=11/-8447016.91/4317555.92/0) and USGS Scientific Investigations Report 2005-5053 (Weaver, J.C., The Drought of 1998-2002 in North Carolina-Precipitation and hydrologic conditions: US Geological Survey Scientific Investigations Report 2005-5053, 88p.) indicates that groundwater levels (and surface water levels which correspond with some lag depending on soils) in the eastern or outer coastal plain dropped between +/-2.0 feet to nearly 2.85 feet in response to the drought conditions that were experienced between 1998-2002. This period is recognized as being a "50 Year Drought".

Therefore, and conservatively, we can use the 2.85 feet fluctuation as a "50 Year Drought" elevation benchmark for groundwater and any surficial aquifer pond that would be constructed (construction of wet pond proposed with permanent pool elevation) to provide a permanent water source. Given our history and the normal water level conditions observed in the past in a nearby pond (OBX KOA property) and based on a recent geotechnical analysis with soil borings and recorded depths to water (normal conditions permanent pool elevation) it is our opinion that the normal groundwater table elevation at the Site is 3.7 feet (NAVD 88). This places the "50 Year Drought" elevation at 0.85 feet NAVD 88.

This is a conservative approach that is derived from the best data available including the USGS Paper cited above, along with queries of the US Drought Monitor, USACE Antecedent Precipitation Tool, NC Drought.gov websites and a working knowledge of the Site and groundwater conditions in the region.

There is limited relevant data that we can draw upon for this analysis and a conservative approach has been taken. We also reviewed a composite of wetlands elevations around the Site, elevations of the adjacent Currituck Sound, biological markers of water level elevations in the Sound (Normal Water Level) and adjacent marsh.



December 11, 2023

Our Job No.: 23793

**OBX KOA WEST**  
**c/o Bluewater Development**  
**9919 Stephen Decatur Highway**  
**Ocean City, Maryland 21842**

Attention: Mr. Mike O'Neil

Reference: OBX Koa West – Athletic Complex  
1631 Waterlily Road – Coinjock, North Carolina  
Preliminary Subsurface Investigation and Geotechnical Evaluation

Dear Mr. O'Neil:

Following your email authorization, we have completed an investigation and geotechnical evaluation for the Athletic Complex proposed for construction at the OBX KOA West Campground, located in Coinjock, North Carolina. This investigation was performed to evaluate the general soil and groundwater conditions on the project site and develop preliminary recommendations for the design and construction of foundations and slabs. Our findings, analysis and preliminary recommendations are presented herein.

For this investigation we were provided with an electronic copy of a concept site plan entitled *Athletic Facility – Currituck Sound Waterlily Road – Coinjock, North Carolina*, prepared by Endeavor Engineering, dated November 20, 2023. The site plan was used in the preparation of this report.

## **SITE DESCRIPTION**

OBX KOA West is a waterfront campground located at the end of Waterlily Road, on the Currituck Sound, in Coinjock, North Carolina. The Athletic Complex is proposed on the west side of Waterlily Road, just north of the entrance to the campground. The site is currently forested and contains various walking trails throughout the woods. From review of Google Earth, the site surface is relatively flat at approximately 12 feet above Mean Sea Level (MSL). At the time of this investigation the ground surface was dry and stable.

## **PROPOSED CONSTRUCTION**

The proposed construction is for an athletic facility to include an in-ground swimming pool, walking paths, a bathhouse, pickle ball courts, as well as parking and utilities usually associated with this type of development. From review of the previously referenced site



plan, the pool is proposed in the center of the wooded area west of Waterlily Road. Construction drawings were not available at the time of this investigation, however from our recent conversation we understand that the pool will consist of a gunite concrete shell, ranging from zero to 4.5 feet in depth, and will be surrounded by poured-in-place concrete slabs-on-grade. The bathhouse will be a 1-story wood framed building with a concrete slab-on-grade. Limited site grading is anticipated with fill depths on the order of 1 to 2 feet. Excavations of approximately 4 to 5 feet will be required for the pool's construction.

## INVESTIGATION

In order to examine the soil conditions on the site we have directed the drilling of three (3) hand-auger probes within the proposed facility. The auger probes are labeled as Auger Probe AP-1 through AP-3 and were drilled to a depth of 10 feet below the existing ground surface. Dynamic Cone Penetration (DCP) tests were conducted at 12-inch intervals. DCP testing involves driving a 1.5-inch diameter cone, with a 15-pound hammer, free-falling 20-inches. The DCP-value, given as blows per increment (bpi), is defined as the total number of blows required to drive the cone from 2-inches to 3 ¾-inches. Representative samples were obtained and transported to our laboratory for review and classification. The samples were visually identified in accordance with *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)* ASTM Designation D-2488. Detailed descriptions of the soils are indicated on the attached auger probe logs. The auger probe locations are shown on the Auger Probe Location Plan, attached as Figure 1. The auger probe location plan is a version of the previously referenced site drawing, modified to illustrate the auger probe locations.

## GEOLOGY

According to the *Geologic Map of North Carolina (NCGS, 1985)*, the geologic unit at the surface of the athletic complex site is Surficial deposits, undivided. These deposits are described as sand, clay, gravel, and peat deposits derived from marine, fluvial, eolian, and lacustrine environments. These deposits are typically below elevation 25 feet above mean sea level. The thickness of the unit is not listed. By correlation with Virginia and Maryland, Onshore and Barrier Island Deposits, the thickness of the Surficial deposits, undivided unit is significantly greater than 100 feet.

## FINDINGS

The soil conditions encountered are consistent with the geology as noted above and consist primarily of sand with trace amounts of silt. The sands extend to the bottom of the probes. Based on the DCP test resistance N values, the sand can be characterized as loose to medium dense.

At the time of test drilling, water was encountered at a depth of 9.5 to 10.0 feet below the existing ground surface. After several hours of completion of test drilling, the groundwater levels remained between approximately 9.5 to 10.0 feet below the surface.



## **ANALYSIS / DISCUSSION**

Based on our findings the site is satisfactory for the proposed construction. The soil conditions encountered are satisfactory to support conventional spread footing foundations and ground supported concrete slabs, given that the recommendations presented herein are followed. Based on our analysis of the DCP test resistance N values, the subsurface conditions are satisfactory to support spread footings proportioned for an allowable soil contact pressure equal to 2,000 psf.

We do not anticipate that groundwater will impact the pool design or construction. We anticipate that groundwater will be encountered in excavations made below a depth of about 9.0 to 10.0 feet below the existing surface. Since the bottom of the pool excavation will be founded in Sand, isolated loose conditions may be encountered and may require compaction with mechanical tampers.

The side wall for the pool will not restrict the lateral movement of soil backfill, and as a result, the full internal resistance of the soil will be mobilized. We recommend the use of “active” lateral earth pressure criteria for the pool design, which assumes a yielding wall.

## **PRELIMINARY RECOMMENDATIONS**

In consideration of the above data and our understanding of the proposed construction, we offer the following recommendations for your consideration. These recommendations are considered preliminary, pending our review of the final construction drawings. Once the construction drawings become available, our office should be contacted for additional review and comment.

### **Earthwork**

1. Prior to placement of fill, we recommend that the existing surface in fill areas be stripped of all vegetation and topsoil and be approved by the geotechnical engineer.
2. We recommend that fill be placed in horizontal layers not exceeding 8 inches thick, and compacted. We recommend that backfill for utilities and foundations be placed in 6-inch maximum thickness layers and compacted.
3. We recommend that the structural fill be compacted to a minimum of 95% of the maximum dry density as determined in accordance with the standard moisture density relationship test (ASTM D-698/AASHTO T99), with the exception that the last 12 inches at pavement subgrade be compacted to a minimum of 100%.
4. We recommend that each layer of fill be tested and approved prior to placement

of the succeeding layer. Fill which fails to meet the minimum compaction requirements shall be reworked until satisfactory compaction is obtained.

5. We recommend that the material proposed for use as fill meet the classification requirements for AASHTO designations A-1 through A-3, inclusive, be free of deleterious materials, and possess a natural moisture content within 3 percentage points of the optimum moisture content for compaction. Approval of the fill materials by HKA will be necessary prior to use.
6. We recommend that both permanent fill and cut slopes be constructed on a maximum gradient of 2:1 (horizontal to vertical). Flatter slopes are suggested where possible to aid in the establishment of vegetative cover, reduce the potential for erosion, and facilitate maintenance.

### **Foundations**

1. We recommend that the Bathhouse building be supported on conventional spread footing foundations, bearing on firm natural subsoil, or suitably compacted fill, designed for an allowable soil contact pressure equal to 2,000 psf.
2. We recommend the footings be located at a minimum depth of 18-inches below the finished grade for frost protection. We recommend that the footings contain a minimum of two #4 steel reinforcing bars placed continuously in the footings.
3. We recommend that the footing excavations be inspected, tested, and approved by a representative of HKA, prior to concrete placement. HKA shall confirm that the soils below the foundations are satisfactory for the support of the foundations as designed. If the soils below the foundations are found to be unsatisfactory, the footing shall be modified by HKA, in conjunction with the structural engineer.

### **Slab-On-Grade**

1. We recommend that ground floor slabs be designed as floating slabs, not rigidly connected to bearing walls or foundations to accommodate differential settlement. The slab may rest on the wall or foundation but should not be structurally connected. The slabs may be structurally connected if the structural engineer takes into consideration differential settlement which may be on the order of ½ - inch. The slab may be designed based on a modulus of subgrade reaction  $k = 200$  PCI, provided the slab subgrade is constructed with granular soils compacted to a minimum of 95% of a standard proctor (ASTM D698).
2. We recommend that a minimum 4-inch-thick drainage layer, consisting of free draining sand or gravel, be placed beneath floor slabs to improve drainage and provide a firm level surface for concrete placement. We recommend that a plastic



vapor barrier be provided between the concrete and drainage layer.

3. We recommend that slab-on-grade subgrade soils be compacted to a minimum of 95% of ASTM D698. We recommend that the prepared slab subgrade be tested and approved by the geotechnical engineer prior to placement of slab concrete.

### **Pool Structure**

1. We recommend that the pool be supported on spread footings or a mat foundation bearing on firm natural ground or engineered fill and designed for an allowable bearing pressure equal to 2,000 psf.
2. For computation of design pressures, we recommend the following design parameters:

Angle of Internal Friction = 28 degrees

Bulk (wet) Density = 120 PCF

Coefficient of Active Earth Pressure = 0.36

Equivalent Active Pressure = 43 PCF/FT (for swimming pool side walls)

3. We recommend that the pool excavation be inspected and tested by a representative of the geotechnical engineer prior to concrete placement.

### **Construction Inspection and Testing**

We recommend that the owner retain the services of Hardin-Kight Associates, Inc. to:

1. Monitor earthwork grading operations including approval of the ground surface, monitoring fill placement, and performance of compaction tests
2. Observe foundation construction, including inspection of the footing excavations, and perform penetration tests to confirm subfoundation soil suitability, to a minimum depth of 3 feet below the bottom of the footing.

### **CONCLUSIONS**

Based on the findings of this investigation, the site is satisfactory for the proposed construction. The subsurface conditions are satisfactory for support of conventional foundations and concrete slabs-on-grade.

The recommendations included in this report are based on the findings at the auger probe locations and the understanding that we will be retained to monitor foundation construction.

### LIMITATIONS

This report was prepared in accordance with generally accepted practice for geotechnical engineering in this area. It is intended for the use of the client for the specific site, as shown on the Auger Probe Location Plan. The recommendations are based on the general description of the proposed pool construction as characterized above. If the project is substantially modified, this office should be notified so that we can review our recommendations to determine what impact the changes will have.

The soil and water conditions discussed herein represent the conditions encountered at the locations of the exploratory auger probes as shown on the Auger Probe Location Plan. Variations in the soils between the probe locations and below the depths explored should be anticipated.

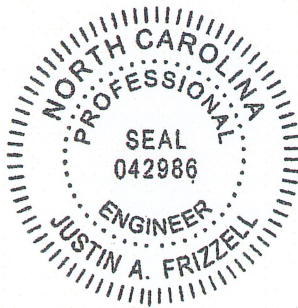
A copy of the auger probe logs, and location plan are enclosed for your reference. If you have any questions concerning this report, please feel free to contact us.

Very truly yours,

**HARDIN-KIGHT ASSOCIATES, INC**

  
Paul M. Till

  
Justin A. Frizzell, P.E.



# Record of Soil Exploration

Contracted With: BLUE WATER DEVELOPMENT  
 Projects Name: OBX WEST POOL  
 Location: COINJOCK, NORTH CAROLINA

Auger Probe: AP - 1 (page 1 of 2)  
 Job #: 23793

	Sampler		
Datum	-	Foreman	-
Surf. Elev.	12.0+/-*	Inspector	PT/PT2
Date Started	12/6/2023	Date Finished	12/6/2023

Elev.	Soil Description <small>Color, Moisture, Density Plasticity, Size Proportions</small>	Strata Depth	Depth Scale	DCP Blows	Boring & Sample Notes
11.5	Topsoil	0.5			
10.5	Tan/brown, moist, loose, fine to medium SAND with trace silt (SP)	1.5	1.0		2.0 inches Vegetation at surface
	Tan to rust, moist to wet, loose to medium dense, fine to medium SAND with trace silt (SP)		2.0	3-5-5	Water encountered at 9.5 feet while drilling probe
			3.0	3-6-6	Water at completion 9.5 feet
			4.0	5-6-7	Rust mottles at 8.5 feet
			5.0	7-7-8	
			6.0	4-7-7	
			7.0	3-5-9	*surface elevation estimated from Google Earth
			8.0	7-10-15+	

**Sampler Type**

- DS - DRIVEN SPLIT SPOON
- PT - PRESSED SHELBY TUBE
- CA - CONTINUOUS FLIGHT AUGER
- RC - ROCK CORE

**Sample Conditions**

- D - DISINTEGRATED
- I - INTACT
- U - UNDISTURBED
- L - LOST

**Ground Water Depth**

- AT COMPLETION 9.5 FT
- AFTER HRS        FT
- AFTER 24 HRS        FT

**Boring Method**

- HSA - HOLLOW STEM AUGERS
- CFA - CONTINUOUS FLIGHT AUGERS
- DC - DRIVEN CASING
- MD - MUD DRILLING

# Record of Soil Exploration

Contracted With: BLUE WATER DEVELOPMENT  
 Projects Name: OBX WEST POOL  
 Location: COINJOCK, NORTH CAROLINA

Auger Probe: AP- 1 (page 2 of 2)  
 Job #: 23793

Datum -	Foreman -	
Surf. Elev. 12.0+/-*	Inspector PT/PT2	
Date Started 12/6/2023	Date Finished 12/6/2023	

Elev.	Soil Description <small>Color, Moisture, Density Plasticity, Size Proportions</small>	Strata Depth	Depth Scale	DCP Blows	Boring & Sample Notes
2.0	Tan to rust, moist to wet, loose to medium dense, fine to medium SAND with trace silt (SP)		9.0	4-5-15+	
		10.0	10.0		
	Bottom of Auger Probe at 10.0 feet		11.0		
			12.0		
			13.0		
			14.0		
			15.0		*surface elevation estimated from Google Earth
			16.0		

<b>Sampler Type</b> DS - DRIVEN SPLIT SPOON PT - PRESSED SHELBY TUBE CA - CONTINUOUS FLIGHT AUGER RC - ROCK CORE	<b>Sample Conditions</b> D - DISINTEGRATED I - INTACT U - UNDISTURBED L - LOST	<b>Ground Water Depth</b> AT COMPLETION _____ FT AFTER HRS _____ FT AFTER 24 HRS _____ FT	<b>Boring Method</b> HSA - HOLLOW STEM AUGERS CFA - CONTINUOUS FLIGHT AUGERS DC - DRIVEN CASING MD - MUD DRILLING
--	--	--	---

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

# Record of Soil Exploration

Contracted With: BLUE WATER DEVELOPMENT  
 Projects Name: OBX WEST POOL  
 Location: COINJOCK, NORTH CAROLINA

Auger Probe: AP - 2 (page 1 of 2)  
 Job #: 23793

**Sampler**

Datum: -  
 Surf. Elev.: 12.0+/-\*  
 Date Started: 12/6/2023

Foreman: -  
 Inspector: PT/PT2  
 Date Finished: 12/6/2023

Elev.	Soil Description <small>Color, Moisture, Density Plasticity, Size Proportions</small>	Strata Depth	Depth Scale	DCP Blows	Boring & Sample Notes
11.0	Topsoil	1.0	1.0		3.0 inches Vegetation at surface
	Tan/brown to tan/grey, moist to wet, medium dense, fine to medium SAND with trace silt (SP)		2.0	6-10-15+	Water encountered at 10.0 feet while drilling probe
			3.0	10-15+	Water at completion 10.0 feet
			4.0	8-10-15+	
			5.0	7-9-11	Rust mottles at 7.5 feet
			6.0	10-14-15+	
			7.0	5-9-15+	
			8.0	10-15+	
		*Rust mottles			

**Sampler Type**

- DS - DRIVEN SPLIT SPOON
- PT - PRESSED SHELBY TUBE
- CA - CONTINUOUS FLIGHT AUGER
- RC - ROCK CORE

**Sample Conditions**

- D - DISINTEGRATED
- I - INTACT
- U - UNDISTURBED
- L - LOST

**Ground Water Depth**

- AT COMPLETION \_\_\_\_\_ FT
- AFTER HRS \_\_\_\_\_ FT
- AFTER 24 HRS \_\_\_\_\_ FT

**Boring Method**

- HSA - HOLLOW STEM AUGERS
- CFA - CONTINUOUS FLIGHT AUGERS
- DC - DRIVEN CASING
- MD - MUD DRILLING



# Record of Soil Exploration

Contracted With: BLUE WATER DEVELOPMENT  
 Projects Name: OBX WEST POOL  
 Location: COINJOCK, NORTH CAROLINA

Auger Probe: AP- 2 (page 2 of 2)  
 Job #: 23793

### Sampler

Datum: -  
 Surf. Elev.: 12.0+/-\*  
 Date Started: 12/6/2023

Foreman: -  
 Inspector: PT/PT2  
 Date Finished: 12/6/2023

Elev.	Soil Description <small>Color, Moisture, Density Plasticity, Size Proportions</small>	Strata Depth	Depth Scale	DCP Blows	Boring & Sample Notes
2.0	Tan/brown to tan/grey, moist to wet, medium dense, fine to medium SAND with trace silt (SP)	10.0	9.0 10.0	8-15+	
	Bottom of Auger Probe at 10.0 feet		11.0 12.0 13.0 14.0 15.0 16.0		*surface elevation estimated from Google Earth

**Sampler Type**

- DS - DRIVEN SPLIT SPOON
- PT - PRESSED SHELBY TUBE
- CA - CONTINUOUS FLIGHT AUGER
- RC - ROCK CORE

**Sample Conditions**

- D - DISINTEGRATED
- I - INTACT
- U - UNDISTURBED
- L - LOST

**Ground Water Depth**

- AT COMPLETION \_10.0\_ FT
- AFTER HRS \_\_\_\_\_ FT
- AFTER 24 HRS \_\_\_\_\_ FT

**Boring Method**

- HSA - HOLLOW STEM AUGERS
- CFA - CONTINUOUS FLIGHT AUGERS
- DC - DRIVEN CASING
- MD - MUD DRILLING

# Record of Soil Exploration

Contracted With: BLUE WATER DEVELOPMENT  
 Projects Name: OBX WEST POOL  
 Location: COINJOCK, NORTH CAROLINA

Auger Probe: AP - 3 (page 1 of 2)  
 Job #: 23793

### Sampler

Datum: -  
 Surf. Elev.: 12.0+/-\*  
 Date Started: 12/6/2023

Foreman: -  
 Inspector: PT/PT2  
 Date Finished: 12/6/2023

Elev.	Soil Description <small>Color, Moisture, Density Plasticity, Size Proportions</small>	Strata Depth	Depth Scale	DCP Blows	Boring & Sample Notes
11.0	Topsoil	1.0	1.0		3.0 inches Vegetation at surface
	Tan/brown to grey/tan, moist to wet, loose to medium dense, fine to medium SAND with trace silt (SP)		2.0	2-6-7	Water encountered at 10.0 feet while drilling probe
			3.0	10-10-15+	Water at completion 10.0 feet
			4.0	9-15+	
			5.0	7-12-15+	
			6.0	12-15+	
5.0			7.0	8-11-14	
	Grey, moist to wet, medium dense, fine SAND with trace silt (SP)		8.0	9-10-15	

**Sampler Type**

- DS - DRIVEN SPLIT SPOON
- PT - PRESSED SHELBY TUBE
- CA - CONTINUOUS FLIGHT AUGER
- RC - ROCK CORE

**Sample Conditions**

- D - DISINTEGRATED
- I - INTACT
- U - UNDISTURBED
- L - LOST

**Ground Water Depth**

- AT COMPLETION \_\_\_\_\_ FT
- AFTER HRS \_\_\_\_\_ FT
- AFTER 24 HRS \_\_\_\_\_ FT

**Boring Method**

- HSA - HOLLOW STEM AUGERS
- CFA - CONTINUOUS FLIGHT AUGERS
- DC - DRIVEN CASING
- MD - MUD DRILLING

# Record of Soil Exploration

Contracted With: BLUE WATER DEVELOPMENT  
 Projects Name: OBX WEST POOL  
 Location: COINJOCK, NORTH CAROLINA

Auger Probe: AP- 3 (page 2 of 2)  
 Job #: 23793

## Sampler

Datum: -  
 Surf. Elev.: 12.0+/-\*  
 Date Started: 12/6/2023

Foreman: -  
 Inspector: PT/PT2  
 Date Finished: 12/6/2023

Elev.	Soil Description <small>Color, Moisture, Density Plasticity, Size Proportions</small>	Strata Depth	Depth Scale	DCP Blows	Boring & Sample Notes
2.0	Grey, moist to wet, medium dense, fine SAND with trace silt (SP)	10.0	9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0	8-11-15+	*surface elevation estimated from Google Earth
	Bottom of Auger Probe at 10.0 feet				

**Sampler Type**

- DS - DRIVEN SPLIT SPOON
- PT - PRESSED SHELBY TUBE
- CA - CONTINUOUS FLIGHT AUGER
- RC - ROCK CORE

**Sample Conditions**

- D - DISINTEGRATED
- I - INTACT
- U - UNDISTURBED
- L - LOST

**Ground Water Depth**

- AT COMPLETION \_\_\_\_\_ FT
- AFTER HRS \_\_\_\_\_ FT
- AFTER 24 HRS \_\_\_\_\_ FT

**Boring Method**

- HSA - HOLLOW STEM AUGERS
- CFA - CONTINUOUS FLIGHT AUGERS
- DC - DRIVEN CASING
- MD - MUD DRILLING

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

DEMLR USE ONLY		
Date Received	Fee Paid	Permit Number
Applicable Rules: <input type="checkbox"/> Coastal SW - 1995 <input type="checkbox"/> Coastal SW - 2008 <input type="checkbox"/> Ph II - Post Construction (select all that apply) <input type="checkbox"/> Non-Coastal SW- HQW/ORW Waters <input type="checkbox"/> Universal Stormwater Management Plan <input type="checkbox"/> Other WQ Mgmt Plan: _____		

**State of North Carolina**  
**Department of Environment and Natural Resources**  
**Division of Energy, Mineral and Land Resources**

**STORMWATER MANAGEMENT PERMIT APPLICATION FORM**

*This form may be photocopied for use as an original*

**I. GENERAL INFORMATION**

1. Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):

Athletic Facility - 1555 Waterlily Rd

2. Location of Project (street address):

1555 Waterlily Rd

City: Coinjock

County: Currituck

Zip: 27923

3. Directions to project (from nearest major intersection):

The project is located to the west of Waterlily Rd approximately 7.5 miles from Caratoke Hwy

4. Latitude: 36° 25' 12.6228" N Longitude: 75° 55' 29.7876" W of the main entrance to the project.

**II. PERMIT INFORMATION:**

1. a. Specify whether project is (check one):  New       Modification       Renewal w/ Modification†

†Renewals with modifications also requires SWU-102 - Renewal Application Form

b. If this application is being submitted as the result of a **modification** to an existing permit, list the existing permit number \_\_\_\_\_, its issue date (if known) \_\_\_\_\_, and the status of construction:  Not Started       Partially Completed\*       Completed\*      \*provide a designer's certification

2. Specify the type of project (check one):

Low Density       High Density       Drains to an Offsite Stormwater System       Other

3. If this application is being submitted as the result of a **previously returned application** or a **letter from DEMLR requesting a state stormwater management permit application**, list the stormwater project number, if assigned, N/A and the previous name of the project, if different than currently proposed, \_\_\_\_\_.

4. a. Additional Project Requirements (check applicable blanks; information on required state permits can be obtained by contacting the Customer Service Center at 1-877-623-6748):

CAMA Major       Sedimentation/Erosion Control: 6.04 ac of Disturbed Area

NPDES Industrial Stormwater       404/401 Permit: Proposed Impacts \_\_\_\_\_

b. If any of these permits have already been acquired please provide the Project Name, Project/Permit Number, issue date and the type of each permit: \_\_\_\_\_

5. Is the project located within 5 miles of a public airport?  No       Yes

If yes, see S.L. 2012-200, Part VI: <http://portal.ncdenr.org/web/lr/rules-and-regulations>

**III. CONTACT INFORMATION**

1. a. Print Applicant / Signing Official's name and title (specifically the developer, property owner, lessee, designated government official, individual, etc. who owns the project):

Applicant/Organization:85' and Sunny, LLC

Signing Official & Title:Todd E. Burbage, Managing Member

b. Contact information for person listed in item 1a above:

Street Address:9919 Stephen Decatur Highway

City:Ocean City State:MD Zip:21842

Mailing Address (if applicable):9919 Stephen Decatur Highway

City:Ocean City State:MD Zip:21842

Phone: (410 ) 213-1900 Fax: ( )

Email:tburbage@bwdc.com

c. Please check the appropriate box. The applicant listed above is:

- The property owner (Skip to Contact Information, item 3a)
- Lessee\* (Attach a copy of the lease agreement and complete Contact Information, item 2a and 2b below)
- Purchaser\* (Attach a copy of the pending sales agreement and complete Contact Information, item 2a and 2b below)
- Developer\* (Complete Contact Information, item 2a and 2b below.)

2. a. Print Property Owner's name and title below, if you are the lessee, purchaser or developer. (This is the person who owns the property that the project is located on):

Property Owner/Organization:\_\_\_\_\_

Signing Official & Title:\_\_\_\_\_

b. Contact information for person listed in item 2a above:

Street Address:\_\_\_\_\_

City:\_\_\_\_\_ State:\_\_\_\_\_ Zip:\_\_\_\_\_

Mailing Address (if applicable):\_\_\_\_\_

City:\_\_\_\_\_ State:\_\_\_\_\_ Zip:\_\_\_\_\_

Phone: ( ) Fax: ( )

Email:\_\_\_\_\_

3. a. (Optional) Print the name and title of another contact such as the project's construction supervisor or other person who can answer questions about the project:

Other Contact Person/Organization:\_\_\_\_\_

Signing Official & Title:\_\_\_\_\_

b. Contact information for person listed in item 3a above:

Mailing Address:\_\_\_\_\_

City:\_\_\_\_\_ State:\_\_\_\_\_ Zip:\_\_\_\_\_

Phone: ( ) Fax: ( )

Email:\_\_\_\_\_

4. Local jurisdiction for building permits: Currituck County

Point of Contact:Bill News Phone #: (252 ) 202-5398

**IV. PROJECT INFORMATION**

1. In the space provided below, briefly summarize how the stormwater runoff will be treated.

The runoff will be treated onsite via a wet detention basin and dry infiltration area

2. a. **If claiming vested rights**, identify the supporting documents provided and the date they were approved:

- Approval of a Site Specific Development Plan or PUD      Approval Date: \_\_\_\_\_
- Valid Building Permit      Issued Date: \_\_\_\_\_
- Other: \_\_\_\_\_      Date: \_\_\_\_\_

b. **If claiming vested rights**, identify the regulation(s) the project has been designed in accordance with:

- Coastal SW - 1995       Ph II - Post Construction

3. Stormwater runoff from this project drains to the Pasquotank River basin.

4. Total Property Area: 308.95 acres      5. Total Coastal Wetlands Area: \_\_\_\_\_ acres  
 6. Total Surface Water Area: \_\_\_\_\_ acres

7. Total Property Area (4) - Total Coastal Wetlands Area (5) - Total Surface Water Area (6) = Total Project Area\*: 308.95 acres

\* Total project area shall be calculated to exclude the following: the normal pool of impounded structures, the area between the banks of streams and rivers, the area below the Normal High Water (NHW) line or Mean High Water (MHW) line, and coastal wetlands landward from the NHW (or MHW) line. The resultant project area is used to calculate overall percent built upon area (BUA). Non-coastal wetlands landward of the NHW (or MHW) line may be included in the total project area.

8. Project percent of impervious area: (Total Impervious Area / Total Project Area) X 100 = 0.96 %

9. How many drainage areas does the project have? 1 (For high density, count 1 for each proposed engineered stormwater BMP. For low density and other projects, use 1 for the whole property area)

10. Complete the following information for each drainage area identified in Project Information item 9. If there are more than four drainage areas in the project, attach an additional sheet with the information for each area provided in the same format as below.

Basin Information	Drainage Area <u>1</u>	Drainage Area <u>  </u>	Drainage Area <u>  </u>	Drainage Area <u>  </u>
Receiving Stream Name	Currituck Sound			
Stream Class *	SC			
Stream Index Number *	30-1			
Total Drainage Area (sf)	331,153			
On-site Drainage Area (sf)	331,153			
Off-site Drainage Area (sf)	0			
Proposed Impervious Area ** (sf)	55,952			
% Impervious Area ** (total)	16.9			

Impervious** Surface Area	Drainage Area <u>  </u>	Drainage Area <u>  </u>	Drainage Area <u>  </u>	Drainage Area <u>  </u>
On-site Buildings/Lots (sf)	2,760			
On-site Streets (sf)				
On-site Parking (sf)	53,192			
On-site Sidewalks (sf)				
Other on-site (sf)				
Future (sf)				
Off-site (sf)				
Existing BUA*** (sf)				
Total (sf):	55,952			

\* Stream Class and Index Number can be determined at: <http://portal.ncdenr.org/web/wq/ps/csu/classifications>

\*\* Impervious area is defined as the built upon area including, but not limited to, buildings, roads, parking areas, sidewalks, gravel areas, etc.

\*\*\* Report only that amount of existing BUA that will remain after development. Do not report any existing BUA that is to be removed and which will be replaced by new BUA.

11. How was the off-site impervious area listed above determined? Provide documentation. N/A

**Projects in Union County:** Contact DEMLR Central Office staff to check if the project is located within a Threatened & Endangered Species watershed that may be subject to more stringent stormwater requirements as per 15A NCAC 02B .0600.

## V. SUPPLEMENT AND O&M FORMS

The applicable state stormwater management permit supplement and operation and maintenance (O&M) forms must be submitted for each BMP specified for this project. The latest versions of the forms can be downloaded from <http://portal.ncdenr.org/web/wq/ws/su/bmp-manual>.

## VI. SUBMITTAL REQUIREMENTS

**Only complete application packages will be accepted and reviewed by the Division of Energy, Mineral and Land Resources (DEMLR). A complete package includes all of the items listed below. A detailed application instruction sheet and BMP checklists are available from [http://portal.ncdenr.org/web/wq/ws/su/statesw/forms\\_docs](http://portal.ncdenr.org/web/wq/ws/su/statesw/forms_docs). The complete application package should be submitted to the appropriate DEMLR Office.** (The appropriate office may be found by locating project on the interactive online map at <http://portal.ncdenr.org/web/wq/ws/su/maps>.)

Please **indicate that the following required information have been provided by initialing** in the space provided for each item. All original documents **MUST** be signed and initialed in **blue ink**. **Download the latest versions for each submitted application package** from [http://portal.ncdenr.org/web/wq/ws/su/statesw/forms\\_docs](http://portal.ncdenr.org/web/wq/ws/su/statesw/forms_docs).

Initials

1. *Original and one copy* of the Stormwater Management Permit Application Form. \_\_\_\_\_
2. *Original and one copy* of the signed and notarized Deed Restrictions & Protective Covenants Form. (if required as per Part VII below) \_\_\_\_\_
3. *Original* of the applicable Supplement Form(s) (sealed, signed and dated) **and** O&M agreement(s) for each BMP. \_\_\_\_\_
4. Permit application processing fee of \$505 payable to NCDENR. (For an Express review, refer to <http://www.envhelp.org/pages/onestopexpress.html> for information on the Express program and the associated fees. Contact the appropriate regional office Express Permit Coordinator for additional information and to schedule the required application meeting.) \_\_\_\_\_
5. A detailed narrative (one to two pages) describing the stormwater treatment/management for \_\_\_\_\_
6. A USGS map identifying the site location. If the receiving stream is reported as class SA or the receiving stream drains to class SA waters within ½ mile of the site boundary, include the ½ mile radius on the map. \_\_\_\_\_
7. Sealed, signed and dated calculations (one copy). \_\_\_\_\_
8. Two sets of plans folded to 8.5" x 14" (sealed, signed, & dated), including: \_\_\_\_\_
  - a. Development/Project name.
  - b. Engineer and firm.
  - c. Location map with named streets and NCSR numbers.
  - d. Legend.
  - e. North arrow.
  - f. Scale.
  - g. Revision number and dates.
  - h. Identify all surface waters on the plans by delineating the normal pool elevation of impounded structures, the banks of streams and rivers, the MHW or NHW line of tidal waters, and any coastal wetlands landward of the MHW or NHW lines.
    - Delineate the vegetated buffer landward from the normal pool elevation of impounded structures, the banks of streams or rivers, and the MHW (or NHW) of tidal waters.
  - i. Dimensioned property/project boundary with bearings & distances.
  - j. Site Layout with all BUA identified and dimensioned.
  - k. Existing contours, proposed contours, spot elevations, finished floor elevations.
  - l. Details of roads, drainage features, collection systems, and stormwater control measures.
  - m. Wetlands delineated, or a note on the plans that none exist. (Must be delineated by a qualified person. Provide documentation of qualifications and identify the person who made the determination on the plans.
  - n. Existing drainage (including off-site), drainage easements, pipe sizes, runoff calculations.
  - o. Drainage areas delineated (included in the main set of plans, not as a separate document).

- p. Vegetated buffers (where required).
9. Copy of any applicable soils report with the associated SHWT elevations (Please identify elevations in addition to depths) as well as a map of the boring locations with the existing elevations and boring logs. Include an 8.5" x11" copy of the NRCS County Soils map with the project area clearly delineated. For projects with infiltration BMPs, the report should also include the soil type, expected infiltration rate, and the method of determining the infiltration rate. **(Infiltration Devices submitted to WiRO: Schedule a site visit for DEMLR to verify the SHWT prior to submittal, (910) 796-7378.)**
10. A copy of the most current property deed. Deed book: \_\_\_\_\_ Page No: \_\_\_\_\_
11. For corporations and limited liability corporations (LLC): Provide documentation from the NC Secretary of State or other official documentation, which supports the titles and positions held by the persons listed in Contact Information, item 1a, 2a, and/or 3a per 15A NCAC 2H.1003(e). The corporation or LLC must be listed as an active corporation in good standing with the NC Secretary of State, otherwise the application will be returned.  
<http://www.secretary.state.nc.us/Corporations/CSearch.aspx>

**VII. DEED RESTRICTIONS AND PROTECTIVE COVENANTS**

For all subdivisions, outparcels, and future development, the appropriate property restrictions and protective covenants are required to be recorded prior to the sale of any lot. If lot sizes vary significantly or the proposed BUA allocations vary, a table listing each lot number, lot size, and the allowable built-upon area must be provided as an attachment to the completed and notarized deed restriction form. The appropriate deed restrictions and protective covenants forms can be downloaded from [http://portal.ncdenr.org/web/lr/state-stormwater-forms\\_docs](http://portal.ncdenr.org/web/lr/state-stormwater-forms_docs). Download the latest versions for each submittal.

In the instances where the applicant is different than the property owner, it is the responsibility of the property owner to sign the deed restrictions and protective covenants form while the applicant is responsible for ensuring that the deed restrictions are recorded.

**By the notarized signature(s) below, the permit holder(s) certify that the recorded property restrictions and protective covenants for this project, if required, shall include all the items required in the permit and listed on the forms available on the website, that the covenants will be binding on all parties and persons claiming under them, that they will run with the land, that the required covenants cannot be changed or deleted without concurrence from the NC DEMLR, and that they will be recorded prior to the sale of any lot.**

**VIII. CONSULTANT INFORMATION AND AUTHORIZATION**

Applicant: Complete this section if you wish to designate authority to another individual and/or firm (such as a consulting engineer and/or firm) so that they may provide information on your behalf for this project (such as addressing requests for additional information).

Consulting Engineer: Michael W. Strader, Jr.

Consulting Firm: Quible & Associates, P.C.

Mailing Address: PO Drawer 870

City: Kitty Hawk State: NC Zip: 27949

Phone: (252 ) 491-8147 Fax: ( )

Email: mstrader@quible.com

**IX. PROPERTY OWNER AUTHORIZATION** (if Contact Information, item 2 has been filled out, complete this section)

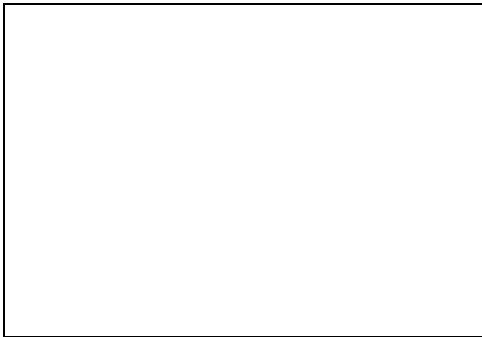
I, (print or type name of person listed in Contact Information, item 2a) \_\_\_\_\_, certify that I own the property identified in this permit application, and thus give permission to (print or type name of person listed in Contact Information, item 1a) \_\_\_\_\_ with (print or type name of organization listed in Contact Information, item 1a) \_\_\_\_\_ to develop the project as currently proposed. A copy of the lease agreement or pending property sales contract has been provided with the submittal, which indicates the party responsible for the operation and maintenance of the stormwater system.



As the legal property owner I acknowledge, understand, and agree by my signature below, that if my designated agent (entity listed in Contact Information, item 1) dissolves their company and/or cancels or defaults on their lease agreement, or pending sale, responsibility for compliance with the DEMLR Stormwater permit reverts back to me, the property owner. As the property owner, it is my responsibility to notify DEMLR immediately and submit a completed Name/Ownership Change Form within 30 days; otherwise I will be operating a stormwater treatment facility without a valid permit. I understand that the operation of a stormwater treatment facility without a valid permit is a violation of NC General Statute 143-215.1 and may result in appropriate enforcement action including the assessment of civil penalties of up to \$25,000 per day, pursuant to NCGS 143-215.6.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public for the State of \_\_\_\_\_, County of \_\_\_\_\_, do hereby certify that \_\_\_\_\_ personally appeared before me this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal, \_\_\_\_\_



SEAL

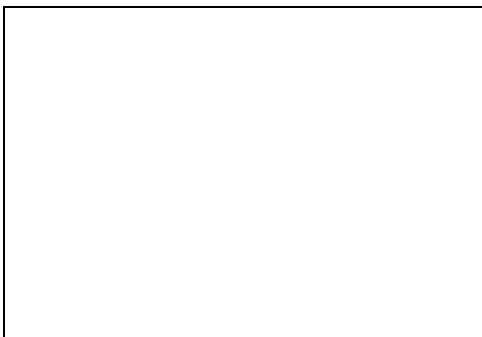
My commission expires \_\_\_\_\_

**X. APPLICANT'S CERTIFICATION**

I, (print or type name of person listed in Contact Information, item 1a) \_\_\_\_\_, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans, that the required deed restrictions and protective covenants will be recorded, and that the proposed project complies with the requirements of the applicable stormwater rules under 15A NCAC 2H .1000 and any other applicable state stormwater requirements.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public for the State of \_\_\_\_\_, County of \_\_\_\_\_, do hereby certify that \_\_\_\_\_ personally appeared before me this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal, \_\_\_\_\_



SEAL

My commission expires \_\_\_\_\_

**FINANCIAL RESPONSIBILITY/OWNERSHIP FORM  
SEDIMENTATION POLLUTION CONTROL ACT**

No person may initiate any land-disturbing activity on one or more acres as covered by the Act before this form and an acceptable erosion and sedimentation control plan have been completed and approved by the Land Quality Section, N.C. Department of Environmental Quality. Submit the completed form to the appropriate Regional Office. (Please type or print and, if the question is not applicable or the e-mail and/or fax information unavailable, place N/A in the blank.)

**Part A.**

1. Project Name Athletic Facility - 1555 Waterlily Rd
2. Location of land-disturbing activity: County Currituck City or Township Coinjock  
Highway/Street Waterlily Rd Latitude 36.4201729317171 Longitude -75.92494050914998
3. Approximate date land-disturbing activity will commence: Summer 2024
4. Purpose of development (residential, commercial, industrial, institutional, etc.): Athletic Facility
5. Total acreage disturbed or uncovered (including off-site borrow and waste areas): 6.04 AC
6. Amount of fee enclosed: \$ 700. The application fee of \$100.00 per acre (rounded up to the next acre) is assessed without a ceiling amount (Example: 8.10 ac = \$900.00).
7. Has an erosion and sediment control plan been filed? Yes \_\_\_\_\_ No \_\_\_\_\_ Enclosed X
8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:  
Name Emily Demarco E-mail Address edemarco@bwdc.com  
Telephone 410-213-1900 x 1181 Cell # \_\_\_\_\_ Fax # \_\_\_\_\_
9. Landowner(s) of Record (attach accompanied page to list additional owners):  

<u>85' and Sunny, LLC</u> Name	<u>410-213-1900 x 1181</u> Telephone	 Fax Number
<u>9919 Stephen Decatur Highway</u> Current Mailing Address	<u>9919 Stephen Decatur Highway</u> Current Street Address	
<u>Ocean City MD 21842</u> City State Zip	<u>Ocean City MD 21842</u> City State Zip	
10. Deed Book No. 1449 Page No. 396 Provide a copy of the most current deed.

**Part B.**

1. Company(ies) or firm(s) who are financially responsible for the land-disturbing activity (Provide a comprehensive list of all responsible parties on an attached sheet.) *If the company or firm is a sole proprietorship, the name of the owner or manager may be listed as the financially responsible party.*

<u>85' and Sunny, LLC</u> Name	<u>edemarco@bwdc.com</u> E-mail Address
<u>9919 Stephen Decatur Highway</u> Current Mailing Address	<u>9919 Stephen Decatur Highway</u> Current Street Address
<u>Ocean City MD 21842</u> City State Zip	<u>Ocean City MD 21842</u> City State Zip
Telephone <u>410-213-1900 x 1181</u>	Fax Number _____

2. (a) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina Agent:

_____			_____		
Name			E-mail Address		
_____			_____		
Current Mailing Address			Current Street Address		
_____	_____	_____	_____	_____	_____
City	State	Zip	City	State	Zip
Telephone _____			Fax Number _____		

(b) If the Financially Responsible Party is a Partnership or other person engaging in business under an assumed name, **attach a copy of the Certificate of Assumed Name**. If the Financially Responsible Party is a Corporation, give name and street address of the Registered Agent:

_____			_____		
Name of Registered Agent			E-mail Address		
_____			_____		
9919 Stephen Decatur Highway			9919 Stephen Decatur Highway		
Current Mailing Address			Current Street Address		
_____	_____	_____	_____	_____	_____
Ocean City	MD	21842	Ocean City	MD	21842
City	State	Zip	City	State	Zip
Telephone _____			Fax Number _____		

The above information is true and correct to the best of my knowledge and belief and was provided by me under oath (This form must be signed by the Financially Responsible Person if an individual or his attorney-in-fact, or if not an individual, by an officer, director, partner, or registered agent with the authority to execute instruments for the Financially Responsible Person). I agree to provide corrected information should there be any change in the information provided herein.

\_\_\_\_\_  
Type or print name

\_\_\_\_\_  
Title or Authority

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

I, \_\_\_\_\_, a Notary Public of the County of \_\_\_\_\_

State of North Carolina, hereby certify that \_\_\_\_\_ appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him.

Witness my hand and notarial seal, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

Seal

\_\_\_\_\_  
Notary

My commission expires \_\_\_\_\_

ALBEMARLE REGIONAL HEALTH SERVICES

403840

**Applicant:**

Quible & Associates P.C.  
PO Box 870  
Kitty Hawk, NC 27949

**Owner:**

85 & Sunny LLC  
9919 Stephen Decatur Hwy  
Ocean City, MD 21842

**Site Location:**

1555 Waterlily Rd - Athletic Facility  
Coinjock, NC 27923

**GPD:** 2,880      **LTAR:** 0.250      **Classification:** PS Shallow Placement

**If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):**

**To obtain an Authorization to Construct:**

- \* Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- \* Submit a copy of deed or contract to purchase
- \* Sign legal documents agreeing to the inspection and maintenance requirements of the Albemarle Regional Health Services Management Entity
- \* Pay permit fee of \$1600

**Comments:**

- \*\*A benchmark should be established prior to clearing of trees so original grade is known . Removal of trees typically lowers original ground elevation, therefore, sand fill will be needed to bring grades back up to original grade.
- \*\*Two sets of final plans, stamped and sealed by designing engineer shall be submitted for approval
- \*\*Seasonal Soil Wetness was found at 24 inches, top of lines to be at original grade surface

**EHS:**



Carver, Kevin

**Date:** 12/14/2023

**THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.**

ALBEMARLE REGIONAL HEALTH SERVICES

403840

**Applicant:**

Quible & Associates P.C.  
PO Box 870  
Kitty Hawk, NC 27949

**Owner:**

85 & Sunny LLC  
9919 Stephen Decatur Hwy  
Ocean City, MD 21842

**Site Location:**

1555 Waterlily Rd - Athletic Facility  
Coinjock, NC 27923

**GPD:** 2,880      **LTAR:** 0.250      **Classification:** PS Shallow Placement

**If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):**

**To obtain an Authorization to Construct:**

- \* Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- \* Submit a copy of deed or contract to purchase
- \* Sign legal documents agreeing to the inspection and maintenance requirements of the Albemarle Regional Health Services Management Entity
- \* Pay permit fee of \$1600

**Comments:**

- \*\*A benchmark should be established prior to clearing of trees so original grade is known . Removal of trees typically lowers original ground elevation, therefore, sand fill will be needed to bring grades back up to original grade.
- \*\*Two sets of final plans, stamped and sealed by designing engineer shall be submitted for approval
- \*\*Seasonal Soil Wetness was found at 24 inches, top of lines to be at original grade surface

**EHS:**



Carver, Kevin

**Date:** 12/14/2023

**THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.**