Quible

Quible & Associates, P.C.

ENGINEERING • ENVIRONMENTAL SCIENCES • PLANNING • SURVEYING
SINCE 1959

P.O. Drawer 870
Kitty Hawk, NC 27949
Phone: 252-491-8147
Fax: 252-491-8146
web: quible.com

February 22, 2024

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

Re: Major Site Plan Application Resubmittal
Athletic Facility – 1559 Waterlily Rd
Coinjock, Currituck County, North Carolina

Ms. Turner,

Thank you for your comments on the above referenced project. On behalf of 85 and Sunny, LLC, Quible & Associates, P.C. hereby submits for your review the following digital documents:

1. One (1) digital copy of the lighting plan and cut sheet;
2. One (1) digital copy of the DRAFT State Stormwater package;
3. One (1) digital copy of the DRAFT State SESC package;
4. One (1) digital copy of the revised narrative;
5. One (1) CD containing digital copies of all the documents and plans.

A copy of the TRC review comments dated January 11, 2024, Revised January 12, 2024, are enclosed for reference, and our responses listed below for ease of review:

Planning (Jennie Turner):
Reviewed

1. Please acknowledge that the enclosed existing conditions plan illustrates the current property boundaries. Please further acknowledge that the enclosed proposed site plan illustrates proposed reconfiguration of a small portion of the boundary. A copy of the recombination plat has been prepared and is ready for review officer review and signature, when appropriate, upon approval of the site plan (prior to building permit application).
2. The Applicant has updated the campground map on their website to resolve this issue.
3. Acknowledged. The Athletic Facility will be a stand-alone facility without adjacent campground features, including septic repair areas, water tanks, etc. As noted in response 1 above, the recombination plat proposes to adjust some existing boundary lines. Finally, any existing soil pathways will be allowed to grass over and naturalize, although the Land Use Plan seems to promote pedestrian interconnectivity of greenways and open space for northern mainland park areas.
4. Yes, please refer to response 1 above and the enclosed proposed site plan illustrating the reconfigured boundary line.

5. Yes, GIS does not appear to accurately reflect the latest recorded recombination plat. The approximate 0.41-acre parcel shown on GIS appears to be within Tract A2 as shown on the recorded plat in Cabinet R Pages 288-290 (old parcel lines abandoned).
6. The existing bulkhead in the vicinity of the welcome center is labeled on the enclosed existing conditions plan. If it is decided that no portions of this particular bulkhead can be located within Athletic Facility property, then the recombination plat could be further adjusted to route the Athletic Facility parcel completely around the existing bulkhead.
7. Please acknowledge that the enclosed plans reference both the existing parcel area and the proposed parcel area. Please further acknowledge that the proposed lot coverage is based upon the proposed parcel area. It should be noted that the existing State Low Density Stormwater Permit associated with the Campground is being amended to not include any Athletic Facility parcel area. Likewise, a draft copy of the stormwater permit application for the Athletic Facility is also enclosed for reference.
8. Please refer to the enclosed plans that should not contain text conflicts.
9. Please refer to the enclosed plan illustrating the riparian buffers.
10. Please acknowledge the previously provided full cut-off lighting fixture cut-sheets are being replaced with the enclosed fixtures that are proposed to be utilized for security lighting. No exterior parking lot lighting is proposed for this daytime use only. A photometric plan is enclosed for reference.
11. Please refer to the enclosed landscaping plan (sheet 3 of 9) noting a minimum of 2 ACI of canopy trees per acre.
12. Please refer to the enclosed landscaping plan noting perimeter landscaping strips adjacent to proposed parking spaces.
13. Please refer to the enclosed landscaping plan noting canopy trees within 60' of each parking space.
14. Please refer to the enclosed landscaping plan containing planting islands compliant with UDO Section 5.2.3.E Planting Islands in Vehicular Use Areas. Planting islands have been increased to meet the 360 sf requirement and parkway curb has been added to protect the trees.
15. Acknowledged, please refer to the enclosed landscaping plan.
16. Please refer to the enclosed landscaping plan noting an opaque buffer along the Farmland Buffer to separate the proposed development from the agricultural use.
17. Upon further investigation of current heritage trees, the enclosed plans have been updated to include additional heritage trees. Very few heritage trees are proposed to be impacted but are noted along with required mitigation.
18. Acknowledged. A State High-Density Stormwater Permit and a Soil Erosion and Sedimentation Control Permit are being pursued utilizing the State's Express Permitting option; the plan is under preliminary consideration with NCDEQ for Express Permitting.
19. Please acknowledge that the original application included a proposed alternative parking demand. However, based upon the Applicant's response to the Water Department concerns, which subsequently reduced the overall scope of the proposed athletic facility, an updated alternative parking demand narrative is provided and enclosed for review. We trust that you will find the demands consistent with the UDO.
20. Please refer to the enclosed plans for existing and proposed topography and utilities.

Building and Fire Inspections (Rick Godsey):

Approved

1. Please refer to the enclosed updated Needed Fire Flow worksheet based upon ISO formulas and the reduced scope of the project. The Available Fire Flow (AFF) within the proposed wet basin meets the NFF required. The previously provided explanation within the Utilities section of the narrative has been updated and enclosed for reference. The NFF has been calculated at 750 gpm. Based upon the 50-year drought and pond design, there is greater than 750 gpm available within the wet pond.
2. Acknowledged. Knox box shall be included within building plans.
3. Acknowledged. Soil engineering shall accompany building plans.
4. Acknowledged. Data and quantities of chemicals stored on location shall be provided with building plans.
5. Acknowledged. At the time of building permit, engineering design for the tank and foundation system for appropriate wind zone shall be provided.
6. Acknowledged. The proposed swimming pool includes an appropriate barrier and meets ADA requirements.
7. Please see enclosed plans illustrating proposed water service and wastewater servicing the building.

Currituck Soil and Water Conservation (Dylan Lloyd):
Approved with corrections.

1. Please refer to the enclosed grading and drainage plans illustrating proposed grading indicating areas of proposed fill. No fill is proposed within 10' of property lines.
2. Please refer to the enclosed updated stormwater computations based upon the latest proposed grading.
3. Please refer to the enclosed existing conditions plan indicating all current heritage trees.
4. Please refer to the enclosed grading and drainage plans indicating proposed grading. No existing ponds, basins, or ditches are proposed to be filled.
5. Please refer to the enclosed existing conditions plan and acknowledge that the existing pond is not proposed to be disturbed as it is located off property on the adjacent campground parcel. The existing surface water that is located within the subject parcel is beyond the proposed limits of disturbance shown on sheet 5 of 9, as it will not be impacted.
6. Please refer to the enclosed grading and drainage plan (sheet 4 of 9) illustrating proposed contouring for the site and basin.

Currituck County GIS (Harry Lee):
Reviewed

1. Please acknowledge that due to a scope reduction, only one structure is proposed; the bathhouse which also contains the equipment storage. As such, it is assumed that the address would be 1559 Waterlily Road, but please confirm.

Currituck County Public Utilities - Water (Will Rumsey & Dave Spence):
Recommends Denial for the following reason,

1. Please acknowledge that the Applicant has taken measures to further reduce the proposed scope of the athletic facility to limit demand on the existing water system. The volume of the swimming pool has been reduced, it has been agreed that the pool would

be filled via tanker trucks versus taxing the system, and an on-site water storage tank is proposed to allow for filling during off-peak periods so that the proposed facility does not adversely affect the distribution system and maintain current residual pressures.

2. Please refer to the above response that proposes an on-site storage tank which fills during off-peak periods. This will allow the facility to not draw from the public water system when residual pressure is already low from peak demands.
3. Acknowledged. Please refer to the separate response from Steven Weber, Parker Poe Adams & Bernstein, on behalf of the Applicant.

US Army Corps of Engineers (Anthony Scarbraugh):
No comment

Stormwater Review (McAdams):
Recommends Denial

1. Please refer to the enclosed plans, narrative, and stormwater computations updated to reflect compliance with the Currituck County UDO, Chapter 7.3, Chapter 7.4, Chapter 7.6, Chapter 7.7, and the County Stormwater Manual. Please find the enclosed Currituck County Stormwater Calculations In lieu of Forms SW-002 and SW-003.
2. Please acknowledge that Stormwater Management Permit Application Form SWU-101 is being submitted to NC DEQ under separate cover for a high-density stormwater permit utilizing the Express Permitting Option. It is acknowledged that the major site plan approval cannot be issued until the issuance of the State permits.
3. Please refer to the enclosed stormwater narrative including pre and post drainage maps, contouring, and time of concentration paths.
4. Please refer to the enclosed updated stormwater computations, including runoff coefficient and start and end elevations for slope determination.
5. Please refer to the enclosed grading and drainage plans updated to include existing and proposed grading, limits of fill, and direction of drainage patterns.
6. Please refer to the enclosed plans containing wet detention basin design and details.

Mediacom
See attached letter.

1. Acknowledged.

US Post Office:
Contact the local post office for mail delivery requirements.

1. Acknowledged.

Currituck Fire and Emergency Medical Services (Chief Ralph Melton):
No comment

Albemarle Regional Health Services (Kevin Carver):
No comment

1. Please acknowledge that an application for an on-site septic treatment and disposal system will be applied prior to applying for the building permit. The system is designed in accordance with the prior obtained septic evaluation performed by ARHS.

Please review the enclosed documents and our above responses at your earliest convenience. Please do not hesitate to contact Michael W. Strader, Jr., P.E., or myself at (252) 491-8147, mstrader@quible.com or ndashti@quible.com should you have any questions or require any additional information. We respectfully request that Staff continue reviewing the major site plan application package so that an approval may be issued upon receipt of State Permits and Approvals.

Sincerely,
Quible & Associates, P.C.

Nadeen Dashti, E. I.

Encl.: as stated
Cc: 85 and Sunny, LLC

Currituck County
Planning and Inspections Department
153 Courthouse Road, Suite 110
Currituck, North Carolina 27929
252-232-3055
FAX 252-232-3026

MEMORANDUM

To: Michael Strader, P.E.
Quible & Associates, P.C.

From: Planning Staff

Date: January 11, 2024
Revised January 12,2024

Re: 85 & Sunny Athletic Facility – Major Site Plan - TRC Comments

---

The following comments were received for the January 10, 2024, TRC meeting. Please address all comments and resubmit a corrected plan for review by the TRC. Resubmittals shall be submitted by January 25, 2024, at 12 noon in accordance with the 2024 submittal schedule. TRC comments are valid for six months from the date of the TRC meeting.

Planning (Jennie Turner, 252-232-6031)
Reviewed

1. An athletic facility is an allowable use in the SFM Zoning District. The athletic facility is proposed on property owned by 85 and Sunny, LLC. The athletic facility is proposed on a portion of the property that was designated as the campground on a site plan reviewed by the NC Court of Appeals in deciding 85' and Sunny, LLC v. Currituck County. A recombination plat was recorded in the Currituck County Register of Deeds on August 25, 2022 that established the current parcel configuration.
2. The current map of KOA Outer Banks West campground available on the KOA website appears to show that the parcel proposed for the athletic facility contains a tent area, fishing pond, and trail.
3. All components of the proposed athletic facility shall be independent of the existing nonconforming campground. Any campground supporting facilities (including but not limited to pathways, septic repair areas, temporary water tanks and utilities) shall be located on the campground parcel. Staff requests a site visit to review existing conditions.
4. Is the line on the site plan near the the existing temporary water tanks intended to be a property line?
5. The county's GIS shows a .41 acre parcel in the vicinity of the campground welcome center, were these property lines intended to be vacated with the most recent recombination plat? If not, please explain why.
6. On the existing conditions page, there appears to be a retaining wall crossing the property line in the vicinity of welcome center, please label this on the plans, this may also need to be located entirely on the campground parcel.
7. If the parcel size changes, revisions will be needed to lot information including stormwater calculations.
8. Some of the landscaping notes are covering other notes on the site plan (Ex: area of proposed above ground tank).
9. Show required riparian buffers.
10. Provide an exterior lighting plan with photometrics.

11. For site landscaping, a minimum of 2 ACI of canopy trees are required per acre – if using existing trees, please provide a detailed description and label on site plan.
12. Provide perimeter landscaping strips adjacent to proposed parking spaces.
13. Provide a canopy tree within 60' of each parking space.
14. Confirm that planting islands meet the standards of UDO Section 5.2.3.E Planting Islands in Vehicular Use Areas.
15. Vehicular landscaping is not required along driveways and drive aisles.
16. The standards of UDO Section 5.11.5 Farmland Compatibility Standards apply. It appears that there are plantings and roadway improvements proposed within the 25' undisturbed buffer. Provide additional trees to create an opaque buffer. Incorporate a fence, berm, drainage ditch, or any combination of these features to physically separate the agricultural use from the new development. See prior approved site plan for campground parcel conditionally approved on March 27, 2020. And confirm if the buffer exists as shown on the site plan.
17. Please clarify heritage tree narrative, are any heritage trees proposed to be impacted? The narrative states that the majority of the impacted trees were not qualified as heritage trees. The site plan does not show any heritage trees within the impacted area.
18. Any required federal or state permits shall be submitted prior to the county's approval of a major site plan.
19. The proposed parking demand must be consistent with UDO Section 5.1.3.D. Please provide a narrative on how you propose to establish parking demand in accordance with this section.
20. Show topography and utilities on site plan.

Currituck County Building and Fire Inspections (Rick Godsey, 252-232-6020)

Approved

-Needed fire flow for construction is determined by the ISO method, no new construction can occur that creates a Needed Fire Flow greater than available.

-Provide Knox box on buildings. Use http://www.knoxbox.com for ordering and coordinate with local VFD for mounting location-contact Chris Bailey, 252-435-8120.

-Soil engineering required for footers.

-Provide data and maximum quantities of chemicals to be stored on location.

-Along with the building plans provide design engineering for tank and foundation system for wind zone per ASCE 7-10 or 130 mph.

-Pool must meet barrier requirements and ADA requirements.

-Show utilities to buildings.

Currituck Soil and Water Conservation (Dylan Lloyd, 252-232-3360)

Approved with corrections

1) Show any and all planned fill areas on drawings with 10' setbacks.
2) In rational method stormwater calculations on Step 3 and Step 7 how was slope determined? 30 min time of concentration for small site seems high.
3) Ensure all heritage trees are marked.
4) Ensure any existing ponds, basins or ditches that are to be filled in are noted.
5) Show existing pond on existing conditions page and clarify if it will be disturbed.
6) Show contours for basins, reference SW manual for wet detention basins.

Currituck County GIS (Harry Lee, 252-232-4039)

Reviewed

The address for the proposed Bathhouse is 1559 Waterlily Rd.

The address for the proposed Equipment storage building is 1561 Waterlily Rd.

Currituck County Public Utilities - Water (Will Rumsey 252-232-6065 & Dave Spence, 252-232-4152)

The Currituck County Water department recommends denial for the following reason,

1. documented water pressure issues on Waterlily Rd.
2. The demand on the water system from this project causes concerns that the county will not be able to keep within NCDEQ guidelines for water pressure.

3. The hydraulic study done by Currituck County for Waterlily Rd. Shows there needs to be waterline improvements done before adding additional services/demand on this part of the system.

Improvements on the water system are in the design phase to improve the pressure and supply of water to Waterlily Rd. Until that time, we cannot support additional demand on Waterlily Rd.

Please let me know if you have any questions or comments.

US Army Corps of Engineers (Anthony Scarbraugh, 910-251-4619)

No Comment

Stormwater Review, (McAdams, county consultant)

1. See attached letter

Mediacom (252-482-5583)

See attached letter.

US Post Office

Contact the local post office for mail delivery requirements.

TRC comments have not been received from:

Currituck Fire and Emergency Medical Services (Chief Ralph Melton, 252-232-7746)
Albemarle Regional Health Services (Kevin Carver, 252-232-6603)

Kim Mason, NC Area Director
kmason@mediacomcc.com
216 B Shannonhouse Road
Edenton NC, 27932
Edenton: 252-482-5583
Plymouth: 252-793-2491
Mobile: 252-497-0328

RE: New Build & Development

Dear Development manager;

As you know the key need for all homes in this 21st Century is a solid internet connection, be it for business, education or entertainment, the public demand is here.

With this in mind, as you plan for your development and build out, we would like to encourage you to reach out to us, as you do for other essential utilities. It is most economical and reasonable for you to work with us and have this valuable infrastructure in advance of selling and building the homes. Any build out costs can easily be recouped as the lots are developed and make your neighborhoods more appealing to families and professionals.

We invite, you to partner with us and contact us locally. We will process a ROI for your location to determine partnership feasibility and estimated cost to ensure your development has access to the best internet services available.

Our key contacts are, Kim Mason, Director for North Carolina – information above and our construction coordinator Nathanial Harris at 252- 793-5256 or 252-339-9375.

Mediacom launched 1-Gig broadband speeds in the following areas of North Carolina and operates customer service offices in **Edenton** and **Plymouth**.

Bertie County
- Colerain
- Kelford
- Lewiston
- Powellsville
- Roxobel
- Windsor

Camden County
- Camden
- Shiloh
- South Mills

Martin County
- Jamesville

Northampton County
- Conway
- Galatia
- Jackson
- Rich Square
- Seaboard
- Severn
- Woodland

Chowan County
- Arrowhead / Chowan Beach
- Edenton

Currituck County
- Barco
- Currituck
- Grandy
- Moyock
- Point Harbor
- Poplar Branch
- Tulls Bay

Perquimans County
- Hertford
- Winfall

Tyrrell County
- Columbia

Washington County
- Creswell
- Plymouth
- Roper

About Mediacom Communications

Mediacom Communications Corporation is the 5th largest cable operator in the U.S. serving over 1.3 million customers in smaller markets primarily in the Midwest and Southeast. Mediacom offers a wide array of information, communications and entertainment services to households and businesses, including video, high-speed data, phone, and home security and automation. Through Mediacom Business, the company provides innovative broadband solutions to commercial and public sector customers of all sizes and sells advertising and production services under the OnMedia brand. More information about Mediacom is available at www.mediacomcable.com.

We look forward to partnering with you to ensure your projects are successful and your development has the best services available for your buyers.

Best regards,

Kim Mason

Kim Mason
Operations Director, North Carolina

January 11, 2024

Jennie Turner
Currituck Historic Courthouse
153 Courthouse Road
Suite 110
Currituck, North Carolina 27929

RE: Currituck County Stormwater Development Review - 0SPEC23074.00
Athletic Facility
1555 Waterlily Road, Coinjock, Currituck County, NC [Mainland]
Major Site Plan
First Submittal
SPEC-23074

Dear Ms. Turner,

McAdams has reviewed the above-referenced project that was received on December 18, 2023, and reviewed on January 2, 2024. The project has been reviewed for conformance with:

- The Currituck County Code of Ordinances
- Chapter 7.3 – Stormwater Management, Chapter 7.4 – Flood Damage Prevention, Chapter 7.6 – Riparian Buffers, and Chapter 7.7 – Protection of Significant Dunes of the Unified Development Ordinance
- The Currituck County Stormwater Manual

Based on the review, McAdams does not recommend approving the project. Attached are the Stormwater Development Review comments as well as markups of the submitted Construction Drawings package.

Sincerely,
MCADAMS

Daniel Wiebke PE, CFM
Project Manager, Water Resources

Rebecca Benfield
Designer I, Water Resources

621 Hillsborough Street, Suite 500, Raleigh, NC 27603 / 919. 361. 5000

STORMWATER DEVELOPMENT REVIEW COMMENTS

GENERAL

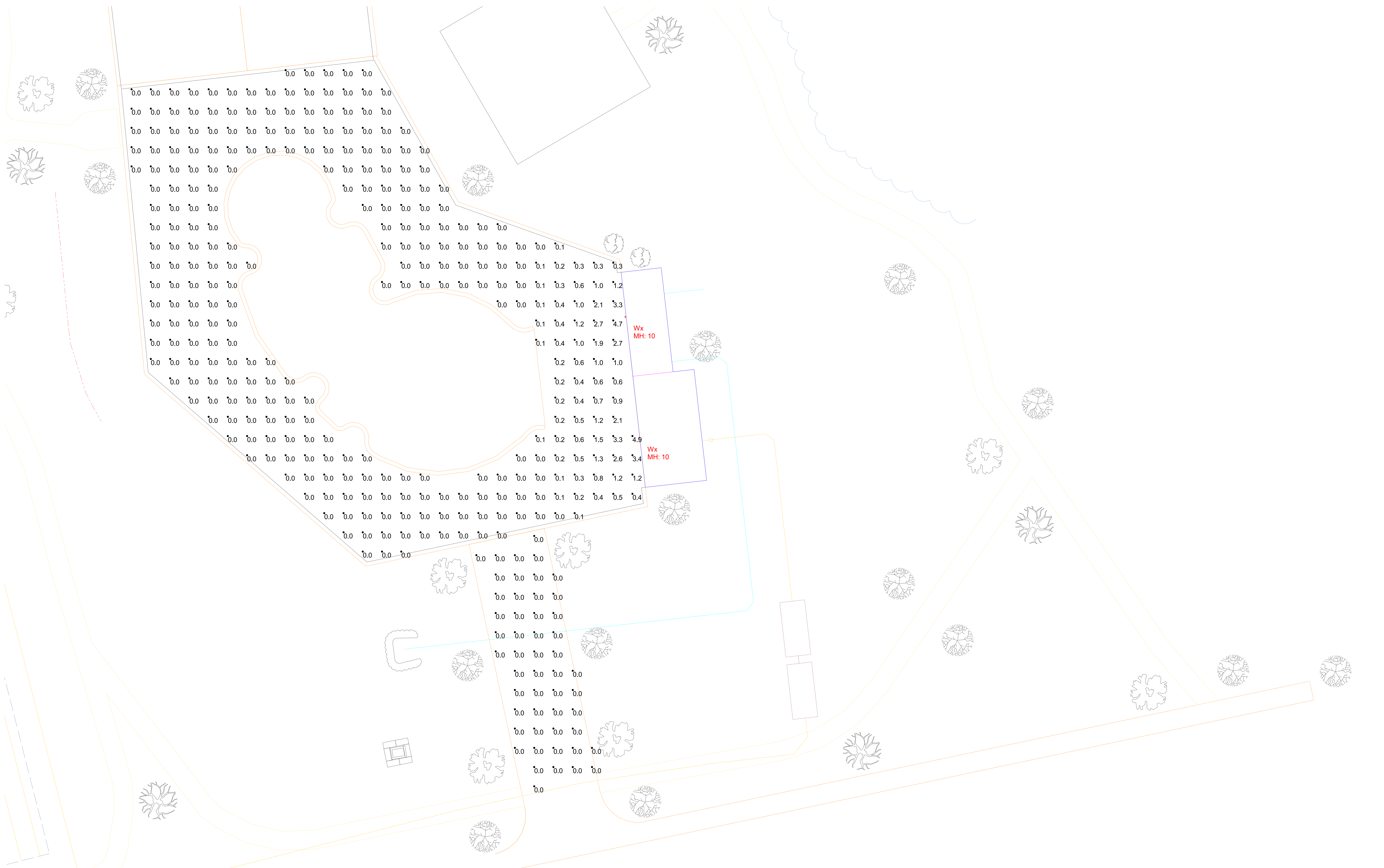
1. Please provide complete copies of the Rational Method Peak Flow Form SW-003 or NRCS Method Peak Flow Form SW-004.
2. Please provide documentation of approval from NCDEQ for the SWU-101 Stormwater Management Application Form.

STORMWATER MANAGEMENT REPORT

3. Please provide a complete Pre and Post Map delineating drainage area, contour lines and labels, and time of concentration paths.
4. Please address the following comments regarding calculation methodology within the report:
    a. Please defend runoff coefficient in Step 2. The Currituck Stormwater Manual provides a list of appropriate runoff coefficients to be used in the Rational Method calculations.
    b. Please provide start and end elevations for the flows used to determine time of concentrations in Steps 3 and 7.

SITE PLAN DRAWINGS

5. Per the Currituck County Stormwater Manual Section 2.4. Major Stormwater Plans
    a. Please provide existing and proposed ground elevations shown in one foot intervals. All elevation changes within the past six months should be shown on the plan.
    b. Please provide the limits of all proposed fill, including toe of fill slope and purpose of fill.
    c. Please note the existing and proposed drainage patterns, including direction of flow.
6. Please provide construction drawings for the stormwater management facility (wet detention pond), including elevation callouts for bottom of pond, normal pool elevation, surface elevations of each considered storm, and top of dam. Provide construction drawings for all appurtenances, including but not limited to inlet and outlet structures, cleanouts, drainage, etc.



Calculation Summary											
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb	Grid Z
Pool Deck	Illuminance	Fc	0.2	4.9	0.0	N.A.	N.A.	5	5	0
Walkway	Illuminance	Fc	0.0	0.0	0.0	N.A.	N.A.	5	5	0

Luminaire Schedule								
Symbol	Label	Qty	Description	Arrangement	LLF	Lum. Watts	Lum. Lumens	Mounting Height
	Wx	2	WPSLS-01L-40	Single	0.900	12.34	1286	10

DISCLAIMER: ---- CALCULATED VALUES:

Calculations have been performed according to IESNA & CIE standards and good practice. Some differences between measured values and calculated results may occur due to changes in the provided information and tolerances in the calculation methods, testing procedures, component performance, measuring techniques and field conditions such as voltage and temperature variations.

Input data used to generate the attached calculations such as room dimensions, reflectance, furniture and architectural elements significantly affect the lighting calculations.

If the real environment conditions do not match the input data furnished provided, such as differences in luminaire locations, area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions or lighting from other sources than listed in layouts, differences will occur between measured values and calculated values.

Comments:

Rev #	Date:
Rev A	02/16/24

Revisions

MB Widerman & Associates

www.mbw-a.com

Athletic Facility
Waterlily Road

Catalog # : _____ Project : _____

Prepared By : _____ Date : _____

Slim Wall Pack (WPSLS)

Small LED Slim Wall Pack

OVERVIEW	
Lumen Range	1,000 - 4,000
Wattage Range	12 - 40
Efficacy Range (LPW)	98 - 122
Weight lbs(kg)	3.8 (1.7)

QUICK LINKS

Ordering Guide | Performance | Dimensions | Photometrics

FEATURES & SPECIFICATIONS

Construction

- Rigid Precision Die cast-aluminum housing for durability and consistency.
- Vertical fins serve as a heat sink and resist accumulation of dust and debris.
- The Patent Pending thermal stacking heat removal technology extracts heat from within the housing moving it away from LEDs and integral components.
- Luminaire hinges open from the bottom to prevent leakage.
- Luminaire is proudly manufactured and tested in the U.S.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory
- Shipping weight: 3.8 lbs in carton.

Optical System

- High-performance Chip On Board (COB) LEDs behind clear tempered glass for maximum light output.
- 3000K | 4000K | 5000K color temperatures.
- Minimum CRI of 71.
- Zero uplight.

Electrical

- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz
- L70 Calculated Life: >100k Hours
- Total harmonic distortion: <20%
- Power factor: >.85
- Input power stays constant over life.
- Driver Off-State Power is 0 watts.
- Chip On Board (COB) LEDs with integrated circuit board mounted directly to the housing to maximize heat dissipation and promote long life.
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.
- Minimum 2.5kV surge rating
- Operating temperature: -40°C to +50°C (-40°F to +122°F)

Controls

- Optional 120V electronic button Photocontol.
- Apertures for field or factory installed photocontrol.

Installation

- Surface mounts direct to J-box or wall.
- Features a bubble level and removable hinged face frame for ease of installation.

Warranty

- LSI LED Fixtures carry a 5-year warranty.
- 1 Year warranty on optional Button Photocell.

Listings

- Listed to UL 1598 and UL 8750.
- CSA Listed
- RoHS Compliant.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- American Recovery and Reinvestment Act Funding Compliant.
- Suitable For Wet Locations.

Specifications and dimensions subject to change without notice.

Small LED Slim Wall Pack (WPSLS)

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: **WPSLS LED 1L UNV DIM 30 PC120 BZA**

Family Prefix	Lumen Package	Color Temp	Controls	Finishes
WPSLS - Small Slim Wall Pack	**1L** - 1000 Lumens	**30** - 3000K	**PC120** - 120V Photocontrol	**BZA** - Bronze
	2L - 2000 Lumens	**40** - 4000K	**PC208-277** - 208-277V Photocontrol	**WHT** - White
	4L - 4000 Lumens	**50** - 5000K		**BLK** - Black

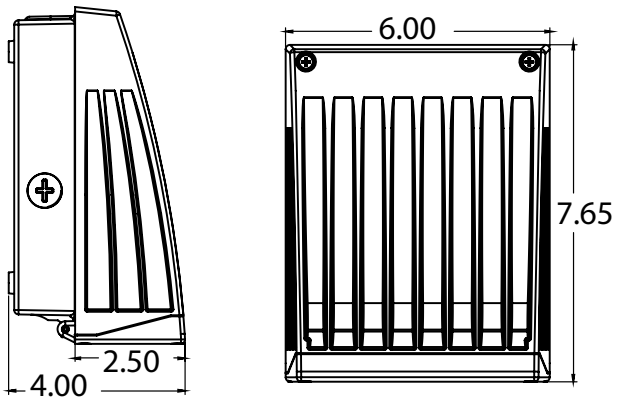
PERFORMANCE

Lumens	3000K		4000K		5000K		Wattage
	Delivered Lumens	Efficacy	Delivered Lumens	Efficacy	Delivered Lumens	Efficacy	
1L	1206	97.79	1206	97.79	1366	111.11	12
2L	2125	107.2	2125	107.2	2418	121.97	20
4L	3712	100.18	3712	100.18	4394	116.21	40

LED		HID			
Wattage	Annual Cost	Source Wattage	Total Wattage Used	Annual Cost	Annual Savings
12	$5	50	72	$52	$47
		70	90	$59	$54
20	$9	50	72	$52	$43
		70	90	$59	$50
		100	129	$77	$68
40	$18	100	129	$77	$59
		150	185	$100	$82
		175	210	$112	$94

PRODUCT DIMENSIONS

Back to Quick Links



PHOTOMETRICS

Back to Quick Links

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%. See http://www.lsi-industries.com/products/led-lighting-solutions.aspx for detailed photometric data.

WPSLS-4L-40

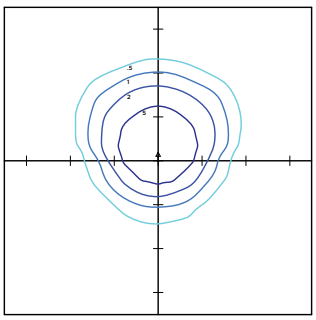
Luminaire Data

Wide Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	4,053
Watts	37.0
Efficacy	109
IES Type	Type III - Very Short
BUG Rating	B1-U0-G1

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30°)	1239.6	30.6%
Medium (30-60°)	2246.2	55.4%
High (60-80°)	559.6	13.8%
Very High (80-90°)	7.3	0.2%
Uplight (90-180°)	0.0	0.0%
Total Flux	4052.7	100%

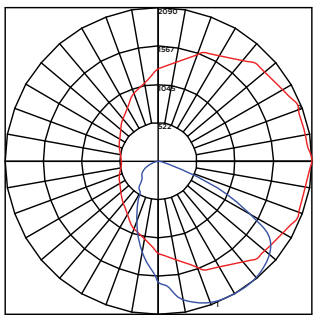
ISO FOOTCANDLE PLOT



10' Mounting Height/10' Grid Spacing

10 FC 5 FC 2 FC 1 FC

POLAR CURVE



February 7, 2024

Carl Dunn, P.E.
Environmental Engineer
Division of Energy, Mineral, and Land Resources
Land Quality Section – Washington Regional Office
North Carolina Department of Environmental Quality
943 Washington Square Mall
Washington, North Carolina 27889

Re: Stormwater Management Plan (High Density Application)
Athletic Facility – 1559 Waterlily Rd
Coinjock, Currituck County, North Carolina

Dear Mr. Dunn,

On behalf of 85 and Sunny, LLC, Quible & Associates, P.C. hereby submits for your review and approval a High-Density Stormwater Management Permit package for the above referenced project located at 1559 Waterlily in Currituck County. The enclosed narrative will explain in detail the stormwater management of this site.

Concurrently, we respectfully request to modify SW7181206 on the adjacent parcel (1555 and 1631 Waterlily). Please note these parcels have been recombined previously (Plat R, Pg 288) and the parcel boundary has changed. Another change is proposed to the parcel boundary and a DRAFT of this recombination plat is included with this package. Due to these changes, the existing stormwater permit needs to be updated to reflect the current property boundary/project area. The percent impervious area has increased to approx. 18% and is still within the threshold of the 24% required per the existing permit. A copy of the existing permit has been included, along with the recombination plat for reference.

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

1. Combined Review Fee Check in the amount of $4,600 (Express Stormwater and SESC; 6 acres disturbance);
2. One (1) original and one (1) copy of the Stormwater Management Permit Application Form (SWU-101) associated with 1559 Waterlily;
3. One (1) original of the Operation & Maintenance Agreement for the Proposed Wet Detention Basin at 1559 Waterlily;
4. One (1) original of the Wet Detention Basin Supplement Form for the Basin at 1559 Waterlily;
5. One (1) copy of the Stormwater Narrative and associated soils data for the Basin at Waterlily;
6. One (1) original and one (1) copy of the Stormwater Management Permit Application Form (SWU-101) Modification Request associated with 1555 & 1631 Waterlily;
7. One (1) copy of existing stormwater permit SW7181206;

8. One (1) copy of Property Deed 1449 Page 390, Plat R Page 288 (Prev. recombination Plat for both parcels);
9. One (1) copy of the Proposed DRAFT Recombination plat;
10. One (1) USGS map with site location identified;
11. One (1) copy of the NC SOS Documentation (note both sites are under the same ownership);
12. Two (2) full size copies of the Plan Set.

Please do not hesitate to contact me at 252.491.8147 should you have any questions and/or concerns. Thank you for your attention to this project.

Sincerely,
Quible & Associates, P.C.

Nadeen Dashti, E.I.
Encl: As stated
Cc: 85 and Sunny, LLC

DEMLR USE ONLY		
Date Received	Fee Paid	Permit Number
Applicable Rules: ☐ Coastal SW – 1995 ☐ Coastal SW – 2008 ☐ Ph II - Post Construction *(select all that apply)* ☐ Non-Coastal SW- HQW/ORW Waters ☐ Universal Stormwater Management Plan ☐ 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 - 1559 Waterlily Rd

2. Location of Project (street address):

   1559 Waterlily Rd

   City:Coinjock County:Currituck Zip:27923

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

   The project os 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, _____ 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: 5.5 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: 620 South Tryon St, Suite 800

City: Charlotte State: NC Zip: 28202

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.

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: 310.55 acres

5. Total Coastal Wetlands Area: 287.36 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+: 23.19 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 = 11 %

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 1	Drainage Area __	Drainage Area __	Drainage Area __
Receiving Stream Name	Currituck Sound			
Stream Class *	SC			
Stream Index Number *	30-1			
Total Drainage Area (sf)	342,330			
On-site Drainage Area (sf)	342,330			
Off-site Drainage Area (sf)	0			
Proposed Impervious Area** (sf)	110,862.9			
% Impervious Area** (total)	32.3			

Impervious** Surface Area	Drainage Area __	Drainage Area __	Drainage Area __	Drainage Area __
On-site Buildings/Lots (sf)	958			
On-site Streets (sf)				
On-site Parking (sf)	96549.5			
On-site Sidewalks (sf)				
Other on-site (sf)	1,583			
Future (sf)				
Off-site (sf)				
Existing BUA*** (sf)	11,772.4			
Total (sf):	110,862.9			

* *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**. 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.

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:** S*chedule 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: 1449 Page No: 395 _____
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. 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: Cathleen M. Saunders

Consulting Firm: Quible & Associates, P.C.

Mailing Address: PO Drawer 870

City: Kitty Hawk State: NC Zip: 27949

Phone: (252) 202-7112 Fax: ( )

Email: csaunders@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 Statue 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_____

Operation & Maintenance Agreement

Project Name:	**Athletic Facility - 1559 Waterlily Rd**
Project Location:	**1559 Waterlily Rd, Coinjock NC 27923**

Cover Page

Maintenance records shall be kept on the following SCM(s). This maintenance record shall be kept in a log in a known set location. Any deficient SCM elements noted in the inspection will be corrected, repaired, or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the pollutant removal efficiency of the SCM(s).

The SCM(s) on this project include (check all that apply & corresponding O&M sheets will be added automatically):

Infiltration Basin	Quantity:		Location(s):	
Infiltration Trench	Quantity:		Location(s):	
Bioretention Cell	Quantity:		Location(s):	
Wet Pond	Quantity:	1	Location(s):	southside of the property adj to wetlands
Stormwater Wetland	Quantity:		Location(s):	
Permeable Pavement	Quantity:		Location(s):	
Sand Filter	Quantity:		Location(s):	
Rainwater Harvesting	Quantity:		Location(s):	
Green Roof	Quantity:		Location(s):	
Level Spreader - Filter Strip	Quantity:		Location(s):	
Proprietary System	Quantity:		Location(s):	
Treatment Swale	Quantity:		Location(s):	
Dry Pond	Quantity:		Location(s):	
Disconnected Impervious Surface	Present:	No	Location(s):	
User Defined SCM	Present:	No	Location(s):	
Low Density	Present:	No	Type:	

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed for each SCM above, and attached O&M tables. I agree to notify NCDEQ of any problems with the system or prior to any changes to the system or responsible party.

Responsible Party:	**Todd E. Burbage**
Title & Organization:	**Managing Member - 85' & Sunny, LLC**
Street address:	**9919 Stephen Decatur Highway**
City, state, zip:	**Ocean City, MD 21842**
Phone number(s):	**410-213-1900**
Email:	**tburbage@bwdc.com**

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 Operations and Maintenance Agreement .

Witness my hand and official seal, _____.

Seal

My commission expires _____

Wet Pond Maintenance Requirements

Important operation and maintenance procedures:

- Immediately after the wet detention basin is established, the plants on the vegetated shelf and perimeter of the basin should be watered twice weekly if needed, until the plants become established (commonly six weeks).
- No portion of the wet pond should be fertilized after the initial fertilization that is required to establish the plants on the vegetated shelf.
- Stable groundcover will be maintained in the drainage area to reduce the sediment load to the wet pond.
- If the pond must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain will be minimized as much as possible.
- At least once annually, a dam safety expert will inspect the embankment. Any problems that are found will be repaired immediately.
- The measuring device used to determine the sediment elevation shall be such that it will give an accurate depth reading and not readily penetrate into accumulated sediments.

After the wet pond is established, it will be inspected **quarterly and within 24 hours after every storm event greater than 1.0 inches (or 1.5 inches if in a Coastal County)**. Records of operation and maintenance shall be kept in a known set location and shall be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

SCM element:	Potential problem:	How to remediate the problem:
The entire wet pond	Trash/debris is present.	Remove the trash/debris.
The perimeter of the wet pond	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, plant ground cover and water until it is established. Provide lime and a one-time fertilizer application.
The inlet device	The inlet pipe is clogged (if applicable).	Unclog the pipe. Dispose of the sediment off-site.
	The inlet pipe is cracked or otherwise damaged (if applicable).	Repair or replace the pipe.
	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.

Wet Pond Maintenance Requirements (Continued)		
SCM element:	**Potential problem:**	**How to remediate the problem:**
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	Algal growth covers over 50% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers and repair any holes or erosion.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair.	Make all needed repairs immediately.
The outlet device	Clogging has occurred.	Clean out the outlet device and dispose of any sediment in a location where it will not cause impacts to streams or the SCM.
	The outlet device is damaged.	Repair or replace the outlet device.
Floating wetland island (if applicable)	Weeds or volunteer trees are growing on the mat.	Remove the weeds or trees.
	The anchor cable is damaged, disconnected or missing.	Restore the anchor cable to its design state.

Wet Pond Maintenance Requirements (Continued)		
SCM element:	**Potential problem:**	**How to remediate the problem:**
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Repair the damage and improve the flow dissipation structure.
	Discharges from the wet pond are causing erosion or sedimentation in the receiving water.	Contact the local NCDEQ Regional Office.

Wet Detention Pond Design Summary

Wet Pond Diagram

WET POND ID	
	Pond 1
Pretreatment other than forebay?	Yes
Has Veg. Filter?	Yes

FOREBAY	
Permanent Pool El.	3.5
Temporary Pool El:	8
Clean Out Depth:	6
Sediment Removal El	-2.5
Bottom Elevation:	-3

MAIN POND	
Permanent Pool El.	3.5
Temporary Pool El:	8
Clean Out Depth:	6
Sediment Removal El	-2.5
Bottom Elevation:	-3

ATTACH ADDITIONAL SHEETS IF NECESSARY

SUPPLEMENT-EZ COVER PAGE

FORMS LOADED

PROJECT INFORMATION		
1	Project Name	**Athletic Facility - 1559 Waterlily Rd**
2	Project Area (ac)	23.19
3	Coastal Wetland Area (ac)	287.36
4	Surface Water Area (ac)	0
5	Is this project High or Low Density?	High
6	Does this project use an off-site SCM?	No

COMPLIANCE WITH 02H .1003(4)		
7	Width of vegetated setbacks provided (feet)	>50'
8	Will the vegetated setback remain vegetated?	Yes
9	If BUA is proposed in the setback, does it meet NCAC 02H.1003(4)(c-d)?	N/A
10	Is streambank stabilization proposed on this project?	No

NUMBER AND TYPE OF SCMs:		
11	Infiltration System	
12	Bioretention Cell	
13	Wet Pond	1
14	Stormwater Wetland	
15	Permeable Pavement	
16	Sand Filter	
17	Rainwater Harvesting (RWH)	
18	Green Roof	
19	Level Spreader-Filter Strip (LS-FS)	
20	Disconnected Impervious Surface (DIS)	
21	Treatment Swale	
22	Dry Pond	
23	StormFilter	
24	Silva Cell	
25	Bayfilter	
26	Filterra	

FORMS LOADED

DESIGNER CERTIFICATION		
27	Name and Title:	Cathleen M. Saunders
28	Organization:	Quible & Associates, PC.
29	Street address:	8466 Caratoke Highway, Bldg 400
30	City, State, Zip:	Powells Point, NC 27966
31	Phone number(s):	252-202-7112
32	Email:	csaunders@quible.com

Certification Statement:
I certify, under penalty of law that this Supplement-EZ form and all supporting information were prepared under my direction or supervision; that the information provided in the form is, to the best of my knowledge and belief, true, accurate, and complete; and that the engineering plans, specifications, operation and maintenance agreements and other supporting information are consistent with the information provided here.

Designer

Seal

_____
Signature of Designer

_____
Date

DRAINAGE AREAS

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	1
3	Does this project have low density areas?	No
4	If so, number of low density drainage areas	0
5	Is all/part of this project subject to previous rule versions?	No

FORMS LOADED

DRAINAGE AREA INFORMATION		Entire Site	1
4	Type of SCM		Wet Pond
5	Total drainage area (sq ft)		342,330
6	Onsite drainage area (sq ft)		342,330
7	Offsite drainage area (sq ft)		0
8	Total BUA in project (sq ft)		99090 sf
9	New BUA on subdivided lots (subject to permitting) (sq ft)		sf
10	New BUA not on subdivided lots (subject to permitting) (sf)		99090 sf
11	Offsite BUA (sq ft)		sf
12	Breakdown of new BUA not on subdivided lots:		
	- Parking (sq ft)		96549 sf
	- Sidewalk (sq ft)		
	- Roof (sq ft)		958 sf
	- Roadway (sq ft)		
	- Future (sq ft)		
	- Other, please specify in the comment box below (sq ft)		1583 sf
13	New infiltrating permeable pavement on subdivided lots (sq ft)		sf
14	New infiltrating permeable pavement not on subdivided lots (sq ft)		sf
15	Existing BUA that will remain (not subject to permitting) (sq ft)		sf
16	Existing BUA that is already permitted (sq ft)		sf
17	Existing BUA that will be removed (sq ft)		sf
18	Percent BUA		29%
19	Design storm (inches)		1.5 in
20	Design volume of SCM (cu ft)		78452 cf
21	Calculation method for design volume		SA/DA

ADDITIONAL INFORMATION	
22	Please use this space to provide any additional information about the drainage area(s):
Other is gravel shoulder	

WET POND

1	Drainage area number	1
2	Minimum required treatment volume (cu ft)	13400 cf
GENERAL MDC FROM 02H .1050		
3	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes
4	Is the SCM located away from contaminated soils?	Yes
5	What are the side slopes of the SCM (H:V)?	3:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	N/A
11	Does the maintenance access comply with General MDC (8)?	Yes
12	Does the drainage easement comply with General MDC (9)?	N/A
13	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	N/A
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes
16	Does the SCM follow the device specific MDC?	Yes
17	Was the SCM designed by an NC licensed professional?	Yes
WET POND MDC FROM 02H .1053		
18	Sizing method used	SA/DA
19	Has a stage/storage table been provided in the calculations?	Yes
20	Elevation of the excavated main pool depth (bottom of sediment removal) (fmsl)	1.00
21	Elevation of the main pool bottom (top of sediment removal) (fmsl)	-3.50
22	Elevation of the bottom of the vegetated shelf (fmsl)	3.00
23	Elevation of the permanent pool (fmsl)	3.50
24	Elevation of the top of the vegetated shelf (fmsl)	4.00
25	Elevation of the temporary pool (fmsl)	8.00
26	Surface area of the main permanent pool (square feet)	13084
27	Volume of the main permanent pool (cubic feet)	60226 cf
28	Average depth of the main pool (feet)	4.60 ft
29	Average depth equation used	Equation 2
30	If using equation 3, main pool perimeter (feet)	
31	If using equation 3, width of submerged veg. shelf (feet)	
32	Volume of the forebay (cubic feet)	9251 cf
33	Is this 15-20% of the volume in the main pool?	Yes
34	Clean-out depth for forebay (inches)	108 in
35	Design volume of SCM (cu ft)	78452 cf
36	Is the outlet an orifice or a weir?	Orifice
37	If orifice, orifice diameter (inches)	3 in
38	If weir, weir height (inches)	n/a
39	If weir, weir length (inches)	n/a
40	Drawdown time for the temporary pool (days)	4
41	Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes
42	Are berms or baffles provided to improve the flow path?	No
43	Depth of forebay at entrance (inches)	76 in
44	Depth of forebay at exit (inches)	24 in
45	Does water flow out of the forebay in a non-erosive manner?	Yes
46	Width of the vegetated shelf (feet)	6 ft
47	Slope of vegetated shelf (H:V)	:1
48	Does the orifice drawdown from below the top surface of the permanent pool?	Yes
49	Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
50	Are fountains proposed? (If Y, please provide documentation that MDC(9) is met.)	No
51	Is a trash rack or other device provided to protect the outlet system?	Yes
52	Are the dam and embankment planted in non-clumping turf grass?	Yes
53	Species of turf that will be used on the dam and embankment	Bermuda
54	Has a planting plan been provided for the vegetated shelf?	Yes

ADDITIONAL INFORMATION	
55	Please use this space to provide any additional information about the wet pond(s):

STORMWATER NARRATIVE

Athletic Facility
1559 Waterlily Rd
Currituck County, North Carolina

Prepared for:
85' and Sunny, LLC
1555 Waterlily Rd
Coinjock, NC 27923

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

February 22, 2024
P16099

Table of Contents

Appendices

Overview

The subject property is located at 1559 Waterlily Road, Corolla, NC in Currituck County. The applicants propose to construct an athletic facility consisting of a swimming pool, associated decking, 285 sf mechanical building serving the pool, 464 sf bathhouse, pickleball court, basketball 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.

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 0.82% of impervious coverage within the existing parcel. The proposed wet detention 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 detention 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 a flowline in the center of the parking area. This flowline coincides with the stormwater network, which collects and discharges 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 a grass swale which collects in an infiltration basin and overflows into the stormwater network. The stormwater network continues to flow toward the forebay The parking and vehicular area is to also be collected and conveyed to the proposed wet detention basin via sheet flow whereby the parking area drains to the centralized flowline prior to being directed into the 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 infiltration 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 stormwater network and subsequently the wet detention basin.

The primary treatment of runoff from the site will be provided within a wet detention basin, but the pool decking and courts will have preliminary treatment through the infiltration basin. The infiltration basin provides treatment above and beyond what is required for State/Local permitting. The bottom and side slopes of the infiltration basin will be grassed according to general seeding specifications. The runoff will undergo filtration of fine particulates and pollutants by the vegetation within the infiltration 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 at 6' elevation has been provided.

The remainder of the project area will be managed by the proposed wet retention basin as primary treatment. 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.

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 36,340 CF. The proposed wet retention basin provided storage volume is approximately 78,452 CF, equivalent to the 8.8-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 wet detention basin's primary mode of disposal for elevations between 3.5 and 8.0 ft. is through a 3" drawdown orifice on a structure located inside of the main pool. The invert elevation of the 3" drawdown orifice is proposed to be at an elevation of 3.5 ft. Elevations between 8.0 and 10.0 feet will utilize a grate with on top of this structure as well as the 3" drawdown orifice. The invert elevation of the grate is proposed to be 8.0 feet in elevation. The total drawdown time from an elevation of 8.0 ft. is 4.05 days. Supporting calculations for the drawdown time and storage of the proposed wet pond have been provided within **Appendix B**.

Calculations for the proposed wet detention 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 wet detention basin design allows for storage above the permanent pool up to elevation 8'. The basin would discharge into the downstream ditch starting at elevation 8'. A summary of the storage available within the basin is available in **Appendix B**.

MEMORANDUM

Quible & Associates, P.C. SINCE 1959
ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING
Phone: (252) 261-3300
Fax: (252) 261-1260
Web: www.quible.com

NORTH CAROLINA LICENSED SEAL 1954 GEOLOGIST WARREN DENNIS EADUS

12/12/23

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 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.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Currituck County, North Carolina

1555 Waterlily Road Athletic Facility

December 14, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

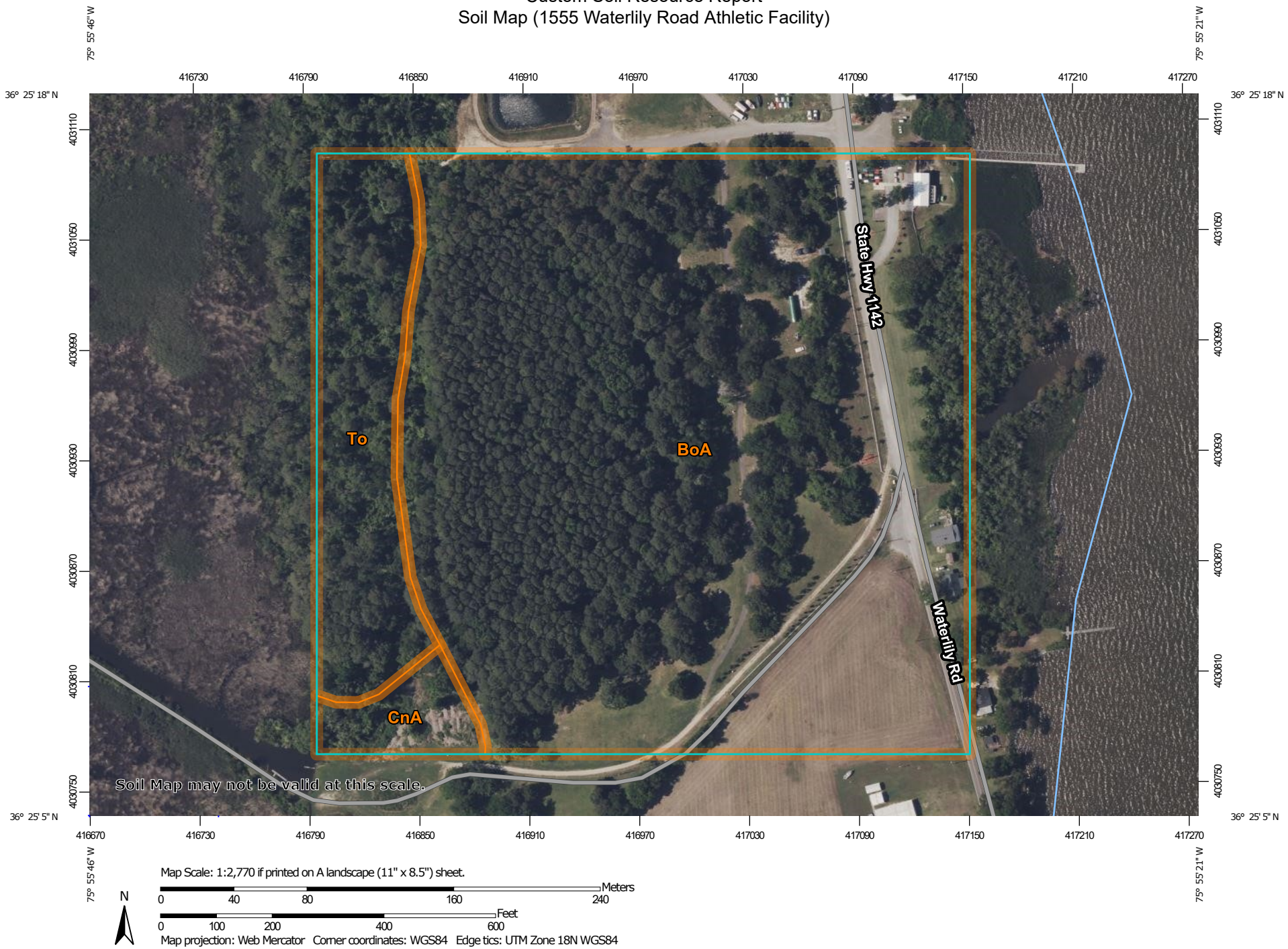
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (1555 Waterlily Road Athletic Facility)



Map Scale: 1:2,770 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Currituck County, North Carolina
Survey Area Data: Version 23, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (1555 Waterlily Road Athletic Facility)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BoA	Bojac loamy sand, 0 to 3 percent slopes	24.3	84.2%
CnA	Conetoe loamy sand, 0 to 3 percent slopes	0.8	2.9%
To	Tomotley fine sandy loam	3.7	12.9%
Totals for Area of Interest		**28.9**	**100.0%**

Map Unit Descriptions (1555 Waterlily Road Athletic Facility)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Currituck County, North Carolina

BoA—Bojac loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3rnb
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bojac and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Ridges on marine terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and sandy fluviomarine deposits

Typical profile

Ap - 0 to 8 inches: loamy fine sand
Bt - 8 to 47 inches: fine sandy loam
C - 47 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Conetoe

Percent of map unit: 4 percent
Landform: Ridges on stream terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest

Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Seabrook

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY020NC - Moist Sands
Hydric soil rating: No

Munden

Percent of map unit: 3 percent
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

CnA—Conetoe loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3rnf
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Conetoe and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Conetoe

Setting

Landform: Ridges on stream terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 8 inches: loamy sand
E - 8 to 22 inches: loamy sand
Bt - 22 to 40 inches: sandy loam
BC - 40 to 46 inches: loamy sand

C - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F153AY030NC - Dry Loamy Rises and Flats, F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Leon

Percent of map unit: 5 percent
Landform: Flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153BY070NC - Wet Spodosol Flats and Depressions, F153AY070NC - Wet Spodosol Flats and Depressions
Hydric soil rating: Yes

To—Tomotley fine sandy loam

Map Unit Setting

National map unit symbol: 3rp4
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Tomotley, drained, and similar soils: 75 percent
Tomotley, undrained, and similar soils: 10 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomotley, Drained

Setting

Landform: Flats on marine terraces, depressions on stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Btg1 - 7 to 12 inches: fine sandy loam
Btg2 - 12 to 42 inches: sandy clay loam
BCg - 42 to 50 inches: sandy loam
Cg - 50 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY090NC - Flooded Mineral Soil Floodplains and Terraces
Hydric soil rating: Yes

Description of Tomotley, Undrained

Setting

Landform: Depressions on stream terraces, flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 7 inches: fine sandy loam
Btg1 - 7 to 12 inches: fine sandy loam
Btg2 - 12 to 42 inches: sandy clay loam
BCg - 42 to 50 inches: sandy loam
Cg - 50 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)

Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY090NC - Flooded Mineral Soil Floodplains and Terraces
Hydric soil rating: Yes

Minor Components

Nimmo, undrained

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, flats on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Arapahoe, undrained

Percent of map unit: 3 percent
Landform: Flats, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY090NC - Flooded Mineral Soil Floodplains and Terraces
Hydric soil rating: Yes

Dragston, undrained

Percent of map unit: 1 percent
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Project Name: Athletic Facility
Quible Project Number: P16099
Date: 1/31/2024

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

Step 1: Drainage Area — 342,330.00 square feet; **7.86** acres

Step 2: Determine Runoff Coefficient

C = 0.20

Step 3: Determine Time of Concentration

Sheet Flow

$Tc_1 = \frac{0.42(nL)^{0.8}}{P^{0.5}S^{0.4}}$

n =	0.1 (woods)	Elev. Start =	15.62
L =	300 feet	Elev. End =	11
P =	4 inch		
S =	0.010 ft/ft		
Tc_1 =	**20.1** mins		

Shallow Concentrated Flow

L =	379	feet
S =	0.01	ft/ft
	unpaved	
$V_{unpaved}$ =	134.64	fpm
Tc2=	**2.8**	mins

Channel Flow

(n/a)

Tc = Tc1 + Tc2

Tc = **22.9** mins

Step 4: Determine Peak Rainfall Intensity

Time of Concentration

T (yrs)	5 mins	10 mins	15 mins	30 mins	1 hr	2 hr	3 hr
2	6.06	4.84	4.06	2.8	1.76	1.03	0.731
5	6.82	5.46	4.6	3.27	2.1	1.26	0.897
10	7.82	6.26	5.28	3.82	2.49	1.51	1.09

I = **3.29** in/hr

Interpolation Formula =

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

X		Y
1	12	4.06
2	22.95	
3	30	2.80

y_2 = **3.29**

Step 5: Determine the 2-year Pre-Development peak discharge, Q

Q = CIA

Q 2= **5.18** cfs

Step 6: Determine the weighted runoff coefficient, Cw for post-development

			C - Value
Impervious Area =	99,090.55	sq.ft.	0.95
Open Area =	243,239.45	sq.ft.	0.25
Total =	**342,330.00**	sq.ft.	
Cw =	**0.45**		

Step 7: Determine Time of Concentration for post-development

Sheet Flow

$Tc_1 = \frac{0.42(nL)^{0.8}}{P^{0.5}S^{0.4}}$

n =	0.011	(smooth pavement)
L =	300.00	feet
P =	5	inch *(From NOAA Rainfall Depth Data)*
S =	0.010	ft/ft
Tc_1 =	**3.1**	mins

Shallow Concentrated Flow

Tc_2 = L =	10.00	ft
	paved	
Slope =	0.024	ft/ft

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

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

V =	**180.4**	ft/min
Tc_2 =	**0.1**	mins

Channel Flow

(n/a)

Tc = Tc1 + Tc2

Tc = **5.0** mins **5 min minimum Tc (worst case scenario)*

Step 8: Determine Peak Rainfall Intensity

	Time of Concentration						
T (yrs)	5 mins	10 mins	15 mins	30 mins	1 hr	2 hr	3 hr
2	6.06	4.84	4.06	2.8	1.76	1.03	0.731
5	6.82	5.46	4.6	3.27	2.1	1.26	0.897
10	7.82	6.26	5.28	3.82	2.49	1.51	1.09

I5= **6.82**

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

Q = CIA

Q5 = **24.26** cfs

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

Hydrologic Soil Type: A *(From NRCS Soils Report)*

Land Use	CN	Area
Impervious Area	98	99,090.55
Open Space	49	243,239.45
	Total =	**342,330.00**
	CN_W =	**63.18**

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

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

P =	5	in
S =	**5.83**	
Q =	**1.52**	in

Step 12: Determine the Runoff Volume, V_r

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

Q =	1.52	in
A =	7.86	acres
V_r =	**1.00**	ac-ft

Step 13: Determine the Required Storage Volume, V_s

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

V_r =	1.00	ac-ft
$Q_{2\text{-pre}}$ =	5.18	cfs
$Q_{5\text{-post}}$ =	24.26	cfs
V_s =	**1264.89**	CY
	34,152.09	CF

P16099
Athletic Facility - Currituck, NC
2/16/2024

Athletic Facility Wet Detention Basin
NCDEQ Stormwater Calculations

Drainage Area Calculations

	Combined Drainage Area	
	(sq.ft.)	(acre)
Drainage Area =	342,330.00	7.86
Open Space	243,239.45	5.58
Roadway/Parking =	96,549.55	2.22
Building=	958.00	0.02
Gravel =	1,583.00	0.04
Impervious =	99,090.55	2.27

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

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

	Area 1
Ia =	29.0%
Rv=	0.31
Rd (in.)=	1.5
A (ac.) =	7.86
V (cf.)=	**13308**

Total Storage Required by NCDEQ = 13,400.00 cf
Total Storage Required by Currituck County = 36,400.00 cf

Permanent pool Storage Provided In Wet Detention Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
-3	6509			0
		7725.5	23177	
0	8942			23177
		10289.5	30869	
3	11637			54046
		12360.5	6180	
3.5	13084			60226

Total Storage (cf.) Provided in Basin 1: **60226**

P16099
Athletic Facility - Currituck, NC
2/16/2024

Above Permanent Pool Storage Provided In Wet Detention Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
3.5	13084			0
		13839.5	6920	
4	14595			6920
		15383.5	15384	
5	16172			22304
		18716	56148	
8	21260			78452

Total Storage (cf.) Provided in Basin 1: **78452** 8.79

Volume in Forebay for Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
1	214			0
		387	774	
3	560			774
		737.5	738	
4	915			1512
		1392.5	2785	
6	1870			4297
		2166	2166	
7	2462			6463
		2787.5	2788	
8	3113			9251

Total Storage (cf.) Provided in Basin 1: **9251**

15%

P16099
Athletic Facility - Currituck, NC
2/16/2024

A_{bot_shelf} =	5615	sf
A_{perm_pool} =	13084	sf
A_{bot_pond} =	6509	sf
V_{perm_pool} =	60226	cf
Depth =	6.5	

Option 1	Dav =	4.6	feet	**SA/DA =**	1.52
				DA =	342,330.00
				Req'd SA =	5,186.30
Option 2	Dav =	7.4	feet		

Wet Detention Basin Supplement Calculations

Orifice Draw Down Calculations Basin 1

Q = CA(2gH)^0.5		
H=Driving Head = D/3 =	0.90	ft.
C = orific coefficient =	0.6	
Try orifice diameter =	3	in
A = Area = 3.14*(d^2)/4 =	0.049	sf
Q = CA(2gH)^0.5 =	0.224	cfs

Required Storage Volume = 13400.0 cf

Drawdown = Storage Volume / Q = **4.05 days**

DEMLR USE ONLY		
Date Received	Fee Paid	Permit Number
Applicable Rules: ☐ Coastal SW – 1995 ☐ Coastal SW – 2008 ☐ Ph II - Post Construction *(select all that apply)* ☐ Non-Coastal SW- HQW/ORW Waters ☐ Universal Stormwater Management Plan ☐ 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.):

   Hampton Lodge Campground

2. Location of Project (street address):

   1631 & 1555 Waterlily Road

   City:Coinjock County:Currituck Zip:27923

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

   Approximately 0.9 miles north of the intersection of Never Sail Way and Waterlily Road in Coinjock, Currituck County.

4. Latitude:36° 25′ 18.59″ N Longitude:75° 55′ 30.63″ 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 numberSW7181206 , its issue date (if known)12/21/2018 , 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, _____ 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: 5.5 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 Burbage, Manager

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

Street Address: 805 North US Hwy 64

City: Manteo State: NC Zip: 27954

Mailing Address (*if applicable*): PO Box 339

City: Manteo State: NC Zip: 27954

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 Newns Phone #: (252) 202-5398

IV. PROJECT INFORMATION

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

   Stormwater runoff from impervious surfaces will be directed via overland flow to natural depressions and swales onsite and will infiltrate to groundwater. Runoff will be treated through vegetated uplift and settlement/filtration in the natural depressions and swales.

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: 147.23 acres

5. Total Coastal Wetlands Area: 102.84 acres

6. Total Surface Water Area: 0 acres

7. Total Property Area (4) – Total Coastal Wetlands Area (5) – Total Surface Water Area (6) = Total Project Area+: 44.39 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 = 18.13 %

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 1	Drainage Area __	Drainage Area __	Drainage Area __
Receiving Stream Name	Currituck Sound			
Stream Class *	SC			
Stream Index Number *	30-1			
Total Drainage Area (sf)	6,413,274			
On-site Drainage Area (sf)	6,413,274			
Off-site Drainage Area (sf)	0			
Proposed Impervious Area** (sf)	0			
% Impervious Area** (total)	18.13			

Impervious** Surface Area	Drainage Area 1	Drainage Area __	Drainage Area __	Drainage Area __
On-site Buildings/Lots (sf)	0			
On-site Streets (sf)	0			
On-site Parking (sf)	0			
On-site Sidewalks (sf)	0			
Other on-site (sf)	0			
Future (sf)	0			
Off-site (sf)	0			
Existing BUA*** (sf)	350,799.6			
Total (sf):	350,799.6			

* *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**. 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.

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:** S*chedule 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: 1449 Page No: 381 _____
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. 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: Cathleen M. Saunders, P.E.

Consulting Firm: Quible & Associate, P.C.

Mailing Address: PO Drawer 870

City: Kitty Hawk State: NC Zip: 27949

Phone: (252) 491-8147 Fax: (252) 491-8146

Email: csaunders@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 Statue 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)* *Todd Burbage, 85' and Sunny, LLC*, 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_____

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
WILLIAM E. (TOBY) VINSON, JR.
Interim Director

NORTH CAROLINA
Environmental Quality

December 21, 2018

85 and Sunny, LLC
Attn: Todd Burbage, Managing Member
9919 Stephen Decatur Hwy
Ocean City, MD 21842

Subject: **Stormwater Permit No. SW7181206**
85 and Sunny (Hampton Lodge Campground)
Low Density Stormwater Project
Currituck County

Dear Todd Burbage:

The Washington Regional Office received a complete Stormwater Management Permit Application for the 85 and Sunny (Hampton Lodge Campground Craven) project on December 21, 2018. Staff review of the plans and specifications has determined that the project, as proposed, will comply with the Stormwater Regulations set forth in Title 15A NCAC 2H.1000. We are forwarding Permit No. SW7181206 dated December 21, 2018 for the construction of the subject project.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the conditions and limitations as specified therein, and does not supercede any other agency permit that may be required. Please pay special attention to the conditions listed in this permit regarding the Operation and Maintenance of the SCM(s), recordation of deed restrictions, certification of the SCM's, procedures for changing ownership, and transferring the permit. Failure to establish an adequate system for operation and maintenance of the stormwater management system, to record deed restrictions, to certify the SCM's, to transfer the permit, or to renew the permit, will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made this permit shall be final and binding.

Please contact me at (252) 946-6481 if you have any questions.

Sincerely,

William Carl Dunn, PE
Environmental Engineer

cc: Cathleen Saunders, PE – Quible & Associates, PC (PO Drawer 870, Kitty Hawk, NC 27949)
Currituck County Inspections (153 Courthouse Rd, Suite 100, Currituck, NC 27929)
Washington Regional Office

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES

STATE STORMWATER MANAGEMENT PERMIT

LOW DENSITY DEVELOPMENT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations

PERMISSION IS HEREBY GRANTED TO

85 and Sunny, LLC

85 and Sunny (Hampton Lodge Campground)

1631 Waterlily Rd, Coinjock, Currituck County

FOR THE

construction, operation and maintenance of a low density project in compliance with the provisions of 15A NCAC 2H .1000 (hereafter referred to as the *"stormwater rules")* and the approved stormwater management plans and specifications, and other supporting data as attached and on file with and approved by the Division of Energy, Mineral, and Land Resources (Division) and considered a part of this permit.

The Permit shall be effective from the date of issuance until rescinded and shall be subject to the following specific conditions and limitations:

I. DESIGN STANDARDS

1. This permit covers the construction of 211,693 square feet of new build-upon area and 111,072 square feet of existing build-upon area for a total of 322,765 square feet of build-upon area on this 80.86 acre project site.

2. The overall tract built-upon area percentage for the project must be maintained at or below 24%, as required by Section 2H .1005 of the stormwater rules.

3. Approved plans and specifications for projects covered by this permit are incorporated by reference and are enforceable parts of the permit and shall be kept on file by the permittee at all times.

4. The only runoff conveyance systems allowed will be vegetated conveyances such as swales with minimum side slopes of 3:1 (H:V) as defined in the stormwater rules and approved by the Division.

5. No piping is allowed except that minimum amount necessary to direct runoff beneath an impervious surface such as a road or to provide access.

6. The built-upon areas associated with this project shall be located at least 50 feet landward of all perennial and intermittent streams or other surface waters.

II. SCHEDULE OF COMPLIANCE

1. The permittee is responsible for verifying that the proposed built-upon area does not exceed the allowable built-upon area.

2. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the Director that the changes have been made.

3. This project may not be sold or subdivided in whole or in part without first receiving a permit modification from the Division.

4. Filling in or piping of any vegetative conveyances (ditches, swales, etc.) associated with the permitted development, except for average driveway crossings, is strictly prohibited by any persons.

5. The permittee shall submit to the Director and shall have received approval for revised plans, specifications, and calculations prior to construction, for any modifications to the approved plans, including, but not limited to, those listed below:

   a. Any revision to the approved plans, regardless of size.
   b. Project name change.
   c. Transfer of ownership.
   d. Redesign or addition to the approved amount of built-upon area.
   e. Further subdivision, acquisition, or sale of the project area in whole or in part. The project area is defined as all property owned by the permittee, for which Sedimentation and Erosion Control Plan approval was sought.
   f. Filling in, altering or piping any vegetative conveyance shown on the approved plan.

6. Swales and other vegetated conveyances shall be constructed in their entirety, vegetated, and be operational for their intended use prior to the construction of any built-upon surface.

7. During construction, erosion shall be kept to a minimum and any eroded areas of the swales or other vegetated conveyances will be repaired immediately.

8. The permittee shall at all times provide the operation and maintenance necessary to operate the permitted stormwater management systems at optimum efficiency to include:

   a. Inspections
   b Sediment removal.
   c. Mowing, and re-vegetating of the side slopes.
   d. Immediate repair of eroded areas.
   e. Maintenance of side slopes in accordance with approved plans and specifications.

9. Within 30 days of completion of the project, the permittee shall certify in writing that the project has been constructed in accordance with the approved plans.

10. The permittee shall submit all information requested by the Director or his representative within the time frame specified in the written information request.

III. GENERAL CONDITIONS

1. This permit is not transferable to any person or entity except after notice to and approval by the Director. The Director may require modification or revocation and re-issuance of the permit to change the name and incorporate such other requirements as may be necessary. In the event of a name or ownership change, a completed Name/Ownership Change form, signed by both parties, must be submitted to the Division accompanied by the supporting documentation as listed on page 2 of the form. The approval of this request will be considered on its merits, and may or may not be approved.

2. The permittee is responsible for compliance with all permit conditions until the Director approves a transfer of ownership. Neither the sale of the project nor the transfer of common areas to a third party, such as a homeowner's association, constitutes an approved transfer of the stormwater permit.

3. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division, in accordance with North Carolina General Statutes 143-215.6A to 143-215.6C.

4. The issuance of this permit does not prohibit the Director from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit as allowed by the laws, rules, and regulations contained in Title 15A NCAC 2H.1000 of the North Carolina Administrative Code, Subchapter 2H.1000; and North Carolina General Statute 143-215.1 et. al.

5. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by the Division, such as the construction of additional or replacement stormwater management systems.

6. The permittee grants permission to DEQ Staff to enter the property during normal business hours, for the purpose of inspecting all components of the stormwater management facility.

7. The permit issued shall continue in force and effect until revoked or terminated. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and re-issuance, or termination does not stay any permit condition.

8. Unless specified elsewhere, permanent seeding requirements for the swales must follow the guidelines established in the North Carolina Erosion and Sediment Control Planning and Design Manual.

9. Approved plans and specifications for this project are incorporated by reference and are enforceable parts of the permit.

10. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other government agencies (local, state and federal), which have jurisdiction.

11. The permittee shall notify the Division in writing of any name, ownership or mailing address changes at least 30 days prior to making such changes.

Permit issued this the 21st day of December, 2018.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

For Danny Smith, Interim Director
Division of Energy, Mineral and Land Resources
By Authority of the Environmental Management Commission

Permit Number SW7181206

TRANSFER TAX AMOUNT 8,000.00 JJ
DATE/COLLECTOR 6-28-2018-EHC

Tax Collector Certification That No Delinquent Taxes Are Due. Date 6/28/18 By JJ :Certification expires Jan. 6th of the year following certification date.

Doc No: 336915
Recorded: 06/28/2018 09:54:17 AM
Fee Amt: $26.00 Page 1 of 6
Excise Tax: $1.600.00
Currituck County North Carolina
Denise A. Hall, Register of Deeds
BK 1449 PG 390 - 395 (6)

NORTH CAROLINA SPECIAL WARRANTY DEED

Excise Tax:

Parcel Identification No. 0079-0000003-0000 Verified by _____County on the ___ day of _____20__

Mail/Box to: Christopher L. Seawell, Aldridge and Seawell PLLC, P. O. Box 339, Manteo, NC 27954

This instrument was prepared by: Christopher L. Seawell

Brief description for the Index: Metes and Bounds Poplar Branch Township.

THIS DEED made this 20th day of June, 2018, by and between:

GRANTOR	GRANTEE
BGP PROPERTIES, LLC, a NC Limited Liability Company	85'and SUNNY, LLC, a NC Limited Liability Company
P. O. Box 1398 Portsmouth, VA 23705	9919 Stephen Decatur Highway Ocean City, MD 21842

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in Poplar Branch Township, Currituck County, North Carolina and more particularly described as:

See Exhibit "A"

The property hereinabove described was acquired by the Grantor by instrument recorded in Book 1139, Page 14, Currituck County Registry.

All or a portion of the property herein conveyed ___ includes or X does not include the primary residence of a Grantor.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor has done nothing to impair such title as Grantor received, and Grantor will warrant and defend the title against the lawful claims of all persons claiming by, under or through Grantor, except for the exceptions hereinafter stated.

Title to the property hereinabove described is subject to the following exceptions:

Easements and restrictions appearing of record, and all zoning ordinances and other land regulations applicable thereto and ad valorem taxes for 2018.

SIGNATURES ON FOLLOWING PAGES

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed the day and year first above written.

BGP PROPERTIES, LLC

By: _____
John E. Pappas, Manager

By: S. Earl Griffin
S. Earl Griffin, Manager

By: Lewis W. Bridgforth
Lewis W. Bridgforth, Manager

STATE OF VIRGINIA
~~COUNTY~~/CITY OF NORFOLK

I, the undersigned Notary Public of the County and State aforesaid, certify that John E. Pappas, as Manager of BGP Properties, LLC, a NC Limited Liability Company, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and Notarial stamp or seal this the 25th day of June, 2018.

Christine Pierrall
Notary Public

(NOTARY STAMP/SEAL)

My commission expires:
12/31/2018

CHRISTINE PIERRALL
NOTARY PUBLIC
REGISTRATION NUMBER
324937
COMMONWEALTH OF VIRGINIA

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed the day and year first above written.

BGP PROPERTIES, LLC

By: _____
John E. Pappas, Manager

By: S. Earl Griffin
S. Earl Griffin, Manager

By: _____
Lewis W. Bridgforth, Manager

STATE OF VIRGINIA
~~COUNTY~~/CITY OF Norfolk

I, the undersigned Notary Public of the County and State aforesaid, certify that S. Earl Griffin, as Manager of BGP Properties, LLC, a NC Limited Liability Company, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and Notarial stamp or seal this the 28th day of June, 2018.

(NOTARY STAMP/SEAL)

Notary Public

My commission expires:

12/31/2018

CHRISTINE PIERSALL
NOTARY PUBLIC
REGISTRATION NUMBER
324937
COMMONWEALTH OF VIRGINIA

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed the day and year first above written.

BGP PROPERTIES, LLC

By: _____
John E. Pappas, Manager

By: S. Earl Griffin
S. Earl Griffin, Manager

By: _____
Lewis W. Bridgforth, Manager

STATE OF VIRGINIA
~~COUNTY~~/CITY OF NORFOLK

I, the undersigned Notary Public of the County and State aforesaid, certify that Lewis W. Bridgforth, as Manager of BGP Properties, LLC, a NC Limited Liability Company, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and Notarial stamp or seal this the 25th day of June, 2018.

_____
Notary Public

(NOTARY STAMP/SEAL)

CHRISTINE PIERSALL
NOTARY PUBLIC
REGISTRATION NUMBER
324937
COMMONWEALTH OF VIRGINIA

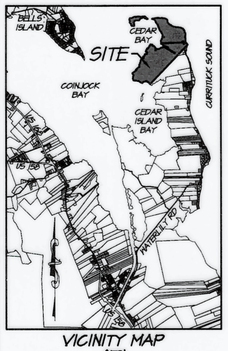
My commission expires:

12/31/2018

BGP PROPERTIES, LLC
Exhibit "A"

All that certain tract, piece or parcel of land lying, situate and being in Currituck County, North Carolina, containing 1.97 acres of land, more or less, as shown on that certain plat entitled "Plat Showing Survey of Property to Be Conveyed to Harvey Jamerson, Church's Island - Poplar Branch Township, Currituck County, North Carolina," dated March 12, 1981, by Robert T. Addison & Associates, Ltd. and recorded in the Office of the Register of Deeds of Currituck County, North Carolina in Book 177, Page 699, to which plat reference is hereby made for a more complete and accurate description by metes and bounds.

Doc No 378290
Recorded 08/25/2022 11:07:48 AM
Fee Amt: $63.00 Page 1 of 3
Currituck County North Carolina
Denise A. Hall, Register of Deeds
BK R PG 288 - 290 (3)



CURRITUCK SOUND

SHORELINE (L355-L425)

CL BULKHEAD (L322-L354)

NOT ALL IMPROVEMENTS SHOWN FOR CLARITY

WATERLILY RD 60' PUBLIC R/W

SHEET 2

TRACT A2
6,483,250.25 SF
148.83 AC

NEW PROPERTY LINE

CANAL

TRACT A
19,940,940 SF
457.78 AC

NC GRID NAD83(2011)

N 38° 31' 43" W
9.28' (L199 END-CALC)

N 38° 31' 43" W
86.07' (CALC-L200 END)

TRACT A1
13,457,690.07 SF
308.95 AC

FIRM ZONE X

FIRM ZONE SHADED X (0.2%)

FIRM ZONE LINE NOT SURVEYED

FIRM ZONE AE (EL.4')

N/F
JAMES L. MARKERT
RESIDUAL PARCEL
PC M, SL 100

FIRM ZONE AE (EL.5')

CEDAR BAY

TIE FROM "A-C"
N 47° 27' 10" W
4845.10'

"C"
N 988,977.82 sFT
E 2,901,309.27 sFT

"D"
N 989,007.30 sFT
E 2,900,690.71 sFT

TIE FROM "A-D"
N 51° 42' 55" W
5335.50'

TRACT B
575,194 SF
13.20 AC

SHORELINE (L465-L546)

WATERFRONT PARCEL OWNERSHIP TO SHORELINE. WATER BODY BOUNDARIES ARE DYNAMIC AND WILL CHANGE OVER TIME.

SHORELINE (L3-L321)

FIRM ZONE AE (EL.4') / FIRM ZONE AE (EL.5')

NO APPROVAL REQUIRED

Donna Voliva for 8.24.22
PLANNING DIRECTOR DATE

REVIEW OFFICER'S CERTIFICATE

STATE OF NORTH CAROLINA
COUNTY OF CURRITUCK

I, Donna W. Voliva, REVIEW OFFICER OF CURRITUCK COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

Donna W. Voliva 8-24-22
REVIEW OFFICER DATE

NOTES:
1. CURRENT OWNERS: 85° AND SUNNY, LLC
   9919 STEPHEN DECATUR HWY
   OCEAN CITY, MD 21842
2. PIN / PID: 9908-37-3501 / 0079000000010000 (1631 WATERLILY RD)
   9908-46-7483 / 0079000000020000 (WATERLILY RD)
   9908-46-9314 / 0079000000030000 (1566 WATERLILY RD)
   9908-14-8224 / 0079000000040000 (1555 WATERLILY RD)
3. TOTAL PARCEL AREA = 20,516,134 SF / 470.98 AC (AREAS BY COORDINATE METHOD.)
   9908-37-3501 = 160.48 AC
   9908-46-7483 / 9908-46-9314 = 1.82 AC
   (PARCELS ARE THE SAME PROPERTY AS PER DEED BUT SHOWN AS SEPARATE ON COUNTY GIS)
   9908-14-8224 = 302.24 AC
   DB 178, PG 641 (NO PIN PROVIDED) = 6.44 AC
4. SUBJECT REFERENCES: DB 1449, PG 381 & 390; PC P, SL 123
5. ADDITIONAL REFERENCES: DB 110, PG 345; DB 178, PG 641; DB 177, PG 697; DB 1139, PG 14; PC M, SL 100; DB 75, PG 321 (UTILITY EASEMENT NOT PLOTTABLE)
6. FIELD SURVEY DATES: 01/22/18 - 02/07/18, 04/15/19 - 05/09/19 & 08/05/22.
7. MERIDIAN BASED ON A-B.
8. HORIZONTAL DATUM IS NAD83(2011), DERIVED FROM NC GNSS RTN.
9. VERTICAL DATUM IS NAVD 1988, DERIVED FROM NC GNSS RTN.
10. ALL DISTANCES ARE IN US SURVEY FEET AND HORIZONTAL GROUND.
11. PROPERTY IS LOCATED IN NFIP FLOOD ZONES AS SHOWN AND SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9908; SUFFIX K. (MAP NUMBER 37209908OOK) EFFECTIVE DATE: 12/21/2018

GRAPHIC SCALE

400' 0 200' 400' 800'

(IN FEET)
1 inch = 400 ft.

SURVEYOR'S CERTIFICATE

I, JOHN M. HURDLE, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (SEE NOTES); THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN AS DASHED LINES AND ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN (SEE ADDITIONAL REFERENCES IN NOTES); THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY AS CALCULATED IS 2-CENTIMETERS; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

CLASS OF SURVEY: CLASS A
POSITIONAL ACCURACY: 2-CENTIMETERS
TYPE OF GPS FIELD PROCEDURE: NC GNSS RTN
DATES OF SURVEY: JAN. - FEB. 2018, APR - MAY 2019 & 08/05/22
DATUM/EPOCH: NC GRID - NAD 83 / EPOCH 2011
PUBLISHED/FIXED-CONTROL USE: NC GNSS RTN
GEOID MODEL: 2012
COMBINATION GRID FACTOR(S): 1.00008043
UNITS: US SURVEY FEET

THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXEMPTION OR EXCEPTION TO THE DEFINITION OF SUBDIVISION.

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 24TH DAY OF AUGUST, 2022, A.D.

JOHN M. HURDLE, PLS NC L-5209

NC License#: C-0208
Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 669-8707
administrator@quible.com

NORTH CAROLINA PROFESSIONAL SEAL L-5209 LAND SURVEYOR JOHN M. HURDLE
CERTIFICATION

RECOMBINATION PLAT (1 of 3)

85° AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	1" = 400'
ISSUE DATE	08/24/22

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/24/2022 2:20 PM Mhurdle

R1289

CURRITUCK SOUND

NC GRID NADB3(2011)

L420 S 47° 22' 36" W 304.81'

N/F DELORES MYERS DB 201, PG 945 PC P, SL 110

5/8"EIR (0.2BG)

S 45° 18' 16" W 128.95'

"A" 5/8"EIR (FLUSH) N 985,701.582 FT E 2,904,878.755 FT NAD83(2011)

L410 61.90'

3.07' (CALC-L410 END)

N 65° 53' 15" E 310.37'

L400

FIRM ZONE AE (EL.5')

FIRM ZONE SHADED X (0.2%)

FIRM ZONE LINE NOT SURVEYED

L420

S 08° 27' 45" E 12.39' (TIE)

S 12° 49' 09" E 24.20' (TIE "A"-MAG)

MAG

S 16° 42' 19" E 210.00' (TIE)

WATERLILY RD 60' PUBLIC R/W

1/2"EIR (0.2BG)

1/2"EIR (0.2BG)

S 16° 54' 10" E 397.27' (TIE)

N/F JAMES L. MARKERT LOT 1 PC M, SL 100

S 14° 36' 54" W 210.00' (TIE)

1/2"EIR (0.2BG)

PROPERTY LINES TO BE ABANDONED

FIRM ZONE X

463.48'

N 12° 34' 41" W

16.39'

36.16'

1/2"EIR (0.2BG)

5/8"SIR (FLUSH)

29.43'

N 12° 34' 41" W 483.90'

N 77° 51' 01" E 118.82'

59.39'

30.00'

PROPOSED 30' ACCESS EASEMENT OVER EXISTING DRIVE FOR TRACT A2

60' ACCESS EASEMENT (APPROX. LOCATION) DB 177, PG 647 & DB 178, PG 641 (TO BE ABANDONED, SEE SUBSEQUENT DEED)

20' ACCESS EASEMENT DB 178, 641 (TO BE ABANDONED, SEE SUBSEQUENT DEED.)

S 45° 20' 59" W (TOTAL) 454.99' 396.05'

N 81° 59' 23" E 60.00'

S 08° 00' 37" E 230.83'

N 08° 00' 37" W 144.21'

5/8"SIR (FLUSH)

PROPERTY LINES TO BE ABANDONED

B 5/8"EIR (0.8BG) N 985,371.419 sFT E 2,904,565.687 sFT

N/F JAMES L. MARKERT LOT 2 PC M, SL 100

641.67'

N/F JAMES L. MARKERT RESIDUAL PARCEL PC M, SL 100

1/2"EIR (0.1BG)

S 43° 45' 43" W 5016.81' (T) 4435.14'

L160

NOT ALL IMPROVEMENTS SHOWN FOR CLARITY

TRACT A2
6,483,250.25 SF
148.83 AC

TRACT A1
13,457,690.07 SF
308.95 AC

FIRM ZONE LINE NOT SURVEYED

FIRM ZONE X

FIRM ZONE SHADED X (0.2%)

FIRM ZONE AE (EL.4')

PROPERTY LINES TO BE ABANDONED

N 84° 28' 26" E 2062.47'

LEGEND:
- EXISTING IRON ROD, EIR
- MAG NAIL
- CALCULATED POINT
- SET IRON ROD, SIR
(T) - TOTAL DISTANCE
AG - ABOVE GRADE
BG - BELOW GRADE

GRAPHIC SCALE
100' 0 50' 100' 200'
(IN FEET)
1 inch = 100 ft.

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/24/2022 2:20 PM Mhurdle

Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE

NC License#: C-0208

8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com

90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

NORTH CAROLINA PROFESSIONAL SEAL L-5209 LAND SURVEYOR JOHN W. HURDLE

CERTIFICATION

RECOMBINATION PLAT (2 of 3)

85° AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	1" = 100'
ISSUE DATE	08/24/22

R1290

LINE TABLE

LINE#	LENGTH	DIRECTION
L1	454.99'	S 43° 28' 39" W
L2	5076.81'	S 43° 45' 43" W
L3	30.60'	N 11° 30' 17" E
L4	104.70'	N 38° 21' 44" W
L5	105.76'	N 48° 37' 41" W
L6	127.13'	N 52° 34' 51" W
L7	139.06'	N 72° 24' 46" W
L8	98.70'	N 21° 33' 44" W
L9	45.94'	S 88° 25' 55" W
L10	23.48'	S 18° 00' 19" W
L11	49.75'	S 08° 26' 38" W
L12	96.74'	S 76° 32' 20" W
L13	86.61'	N 75° 02' 12" W
L14	117.13'	S 74° 57' 52" W
L15	73.73'	S 09° 29' 18" W
L16	168.63'	S 61° 41' 55" W
L17	213.56'	N 67° 32' 21" W
L18	95.85'	N 42° 10' 57" W
L19	99.33'	N 55° 33' 05" W
L20	74.65'	N 66° 12' 49" W
L21	81.21'	N 87° 10' 03" W
L22	54.04'	N 77° 57' 02" W
L23	61.80'	S 82° 13' 49" W
L24	64.42'	S 79° 53' 43" W
L25	37.16'	S 84° 01' 12" W
L26	262.05'	N 73° 17' 39" W
L27	77.44'	N 21° 06' 16" W
L28	83.64'	N 38° 25' 05" W
L29	111.20'	N 14° 15' 29" E
L30	75.01'	N 27° 00' 08" E
L31	68.10'	N 07° 16' 47" W
L32	116.87'	N 24° 01' 02" E
L33	68.75'	N 04° 27' 03" W
L34	236.24'	N 32° 16' 20" W
L35	124.68'	N 32° 12' 05" E
L36	126.71'	N 50° 09' 25" E
L37	155.27'	N 58° 06' 46" E
L38	62.03'	N 61° 24' 30" E
L39	71.22'	N 14° 57' 39" E
L40	150.69'	N 38° 26' 36" E
L41	184.97'	N 40° 05' 35" E
L42	88.20'	N 46° 18' 00" E
L43	54.25'	S 77° 04' 36" E
L44	59.65'	N 77° 33' 32" E
L45	66.41'	N 05° 29' 15" E
L46	36.29'	N 36° 36' 00" E
L47	35.87'	N 34° 42' 54" W
L48	23.80'	N 06° 38' 38" W
L49	56.11'	N 40° 28' 47" E
L50	55.32'	N 18° 06' 25" W
L51	79.93'	N 26° 05' 17" W
L52	112.35'	N 34° 30' 33" E
L53	122.47'	N 24° 52' 43" E
L54	58.39'	N 22° 53' 08" E
L55	66.37'	N 39° 14' 29" E
L56	94.41'	N 05° 44' 59" W
L57	176.58'	N 15° 24' 17" E
L58	138.53'	N 44° 17' 45" E
L59	91.41'	N 40° 07' 24" E
L60	129.99'	N 88° 36' 40" E
L61	55.32'	N 13° 47' 16" E
L62	67.95'	N 20° 22' 09" W
L63	109.40'	N 29° 45' 57" E
L64	76.27'	N 58° 01' 51" E
L65	55.56'	N 10° 46' 42" W
L66	171.48'	N 30° 30' 36" E
L67	55.93'	N 82° 11' 30" E
L68	96.42'	S 82° 26' 05" E
L69	56.79'	N 57° 27' 51" E
L70	82.49'	N 26° 30' 14" W
L71	70.73'	N 14° 17' 52" E
L72	56.51'	N 14° 13' 51" W
L73	72.80'	N 79° 21' 04" W
L74	139.02'	N 02° 17' 19" E
L75	43.37'	N 13° 18' 24" E
L76	80.35'	N 63° 48' 34" E
L77	65.50'	N 24° 14' 37" E
L78	43.77'	N 28° 33' 01" W
L79	42.13'	N 14° 45' 39" E
L80	126.72'	N 73° 54' 47" E
L81	101.01'	N 41° 57' 02" E
L82	165.70'	N 33° 22' 27" E
L83	64.33'	N 01° 58' 44" E
L84	81.28'	N 57° 07' 00" E
L85	90.40'	N 22° 16' 20" E
L86	32.24'	N 59° 51' 01" E
L87	76.47'	S 70° 19' 32" E
L88	65.81'	N 78° 53' 10" E
L89	165.03'	S 37° 56' 09" E
L90	134.74'	S 77° 54' 49" E
L91	36.24'	S 07° 54' 06" E
L92	52.67'	S 36° 58' 17" E
L93	79.90'	S 54° 24' 31" E
L94	122.36'	S 26° 40' 53" E
L95	54.00'	S 14° 28' 19" E
L96	40.78'	S 34° 02' 11" E
L97	24.56'	S 02° 39' 53" W
L98	17.50'	S 18° 23' 26" W
L99	24.74'	S 83° 03' 11" E
L100	55.34'	N 49° 24' 08" E
L101	65.22'	N 73° 49' 00" E
L102	46.02'	S 24° 49' 02" E
L103	45.32'	S 39° 16' 11" E
L104	50.36'	N 49° 45' 29" E
L105	102.13'	S 87° 08' 42" E
L106	67.73'	N 70° 43' 24" E
L107	50.86'	N 60° 25' 33" E
L108	148.55'	N 76° 55' 45" E
L109	106.04'	N 41° 46' 10" E
L110	39.65'	S 70° 50' 58" E
L111	26.72'	S 19° 49' 52" E
L112	59.00'	N 49° 50' 57" E
L113	16.67'	S 82° 58' 36" E
L114	43.88'	N 47° 55' 53" E
L115	48.56'	N 46° 10' 41" E
L116	47.51'	N 25° 49' 18" E
L117	14.54'	N 08° 02' 05" E
L118	13.39'	N 69° 07' 26" E
L119	27.52'	S 80° 21' 30" E
L120	31.21'	S 65° 57' 04" E
L121	29.33'	S 57° 49' 35" E
L122	70.59'	S 62° 02' 12" E
L123	57.63'	S 59° 58' 38" E
L124	39.18'	S 59° 01' 24" E
L125	37.95'	S 61° 01' 49" E
L126	47.35'	S 58° 10' 34" E
L127	15.47'	S 60° 55' 41" E
L128	23.40'	S 49° 02' 00" E
L129	14.66'	S 55° 13' 29" E
L130	11.90'	S 65° 43' 11" E
L131	33.89'	S 62° 31' 12" E
L132	27.29'	S 62° 25' 25" E
L133	27.75'	S 49° 20' 40" E
L134	26.39'	S 58° 37' 44" E
L135	37.91'	S 66° 38' 29" E
L136	52.80'	S 58° 57' 37" E
L137	44.73'	S 56° 30' 56" E
L138	56.42'	S 61° 55' 27" E
L139	33.97'	S 53° 55' 42" E
L140	49.97'	S 62° 40' 57" E
L141	52.10'	S 61° 51' 57" E
L142	38.23'	S 56° 51' 05" E
L143	40.54'	S 59° 46' 22" E
L144	34.97'	S 58° 14' 15" E
L145	67.47'	S 60° 35' 32" E
L146	63.47'	S 54° 37' 44" E
L147	69.34'	S 62° 29' 06" E
L148	61.80'	S 57° 17' 24" E
L149	54.86'	S 59° 05' 26" E
L150	46.10'	S 56° 30' 17" E
L151	32.73'	S 59° 49' 12" E
L152	25.38'	S 59° 42' 06" E
L153	44.84'	S 57° 29' 59" E
L154	23.69'	S 57° 05' 02" E
L155	19.41'	S 74° 22' 15" E
L156	12.60'	N 64° 59' 19" E
L157	9.28'	N 23° 51' 57" E
L158	7.61'	N 07° 57' 01" E
L159	11.45'	N 06° 32' 47" W
L160	2.76'	N 01° 39' 50" E
L161	4.50'	N 33° 58' 22" E
L162	6.06'	N 01° 33' 05" E
L163	7.24'	N 12° 21' 01" E
L164	3.82'	N 24° 22' 46" E
L165	6.34'	N 67° 41' 35" E
L166	7.95'	S 89° 38' 22" E
L167	14.73'	N 02° 50' 44" W
L168	15.33'	N 72° 34' 50" W
L169	130.51'	N 75° 14' 06" W
L170	141.90'	N 61° 19' 29" W
L171	138.21'	N 58° 23' 20" W
L172	122.04'	N 60° 37' 52" W
L173	151.96'	N 59° 06' 25" W
L174	136.83'	N 58° 36' 45" W
L175	141.02'	N 59° 32' 28" W
L176	155.61'	N 58° 10' 34" W
L177	138.34'	N 56° 51' 56" W
L178	42.33'	N 54° 06' 42" W
L179	12.49'	N 55° 25' 36" E
L180	102.94'	S 89° 13' 55" E
L181	113.82'	S 78° 09' 03" E
L182	93.78'	S 78° 17' 55" E
L183	43.52'	S 62° 39' 51" E
L184	47.28'	N 72° 07' 38" E
L185	37.93'	S 68° 20' 02" E
L186	50.48'	S 78° 28' 44" E
L187	5.46'	N 32° 41' 21" E
L188	51.36'	N 77° 09' 47" W
L189	38.91'	N 64° 07' 03" W
L190	38.69'	S 78° 20' 15" W
L191	18.12'	S 84° 01' 55" W
L192	42.58'	N 57° 58' 34" W
L193	69.40'	N 74° 41' 47" W
L194	104.76'	N 75° 57' 09" W
L195	93.55'	N 74° 31' 50" W
L196	25.48'	N 57° 18' 17" W
L197	31.08'	N 38° 26' 13" W
L198	55.84'	N 80° 25' 30" W
L199	77.08'	N 80° 31' 55" W
L200	95.34'	N 38° 31' 43" W
L201	107.86'	N 28° 02' 33" W
L202	26.16'	N 33° 15' 36" E
L203	35.39'	N 72° 59' 30" E
L204	31.14'	N 81° 49' 05" E
L205	43.23'	N 81° 20' 55" E
L206	22.68'	N 83° 23' 41" E
L207	4.49'	N 12° 12' 42" W
L208	9.57'	N 80° 20' 38" W
L209	47.01'	S 86° 45' 32" W
L210	53.72'	S 87° 27' 15" W
L211	41.31'	N 67° 15' 43" W
L212	117.56'	N 86° 53' 50" W
L213	50.79'	N 50° 43' 20" W
L214	48.71'	N 02° 06' 26" W
L215	70.48'	N 14° 58' 20" W
L216	42.34'	N 15° 30' 42" E
L217	76.86'	N 12° 22' 35" W
L218	91.56'	N 05° 57' 09" E
L219	31.43'	N 60° 15' 16" E
L220	68.47'	N 14° 36' 27" E
L221	71.43'	N 57° 18' 10" E
L222	39.18'	N 02° 37' 12" W
L223	36.66'	N 26° 59' 47" W
L224	113.54'	N 46° 36' 48" E
L225	101.12'	N 15° 10' 24" E
L226	49.22'	N 70° 26' 37" E
L227	66.59'	N 87° 51' 47" E
L228	95.33'	S 79° 44' 57" E
L229	20.57'	N 45° 30' 01" W
L230	63.01'	N 78° 08' 14" W
L231	89.95'	N 74° 02' 29" W
L232	31.38'	N 20° 16' 11" W
L233	33.36'	S 88° 21' 16" W
L234	54.66'	N 03° 03' 32" E
L235	44.05'	N 08° 29' 13" W
L236	42.65'	N 26° 55' 24" W
L237	61.11'	N 04° 53' 48" E
L238	97.77'	N 26° 39' 08" W
L239	69.97'	N 32° 56' 45" W
L240	30.09'	S 88° 53' 48" W
L241	45.70'	N 04° 57' 38" E
L242	84.84'	N 24° 36' 55" W
L243	23.40'	N 72° 31' 48" W
L244	23.79'	N 50° 08' 26" W
L245	72.90'	N 09° 28' 47" W
L246	31.11'	N 29° 34' 20" W
L247	81.41'	N 71° 34' 09" W
L248	20.69'	N 12° 37' 07" W
L249	23.50'	N 61° 10' 12" E
L250	35.97'	N 74° 49' 44" W
L251	51.79'	N 50° 14' 13" W
L252	142.71'	N 14° 43' 16" W
L253	112.24'	N 11° 19' 48" W
L254	52.19'	N 25° 10' 50" E
L255	30.76'	S 85° 20' 03" W
L256	29.30'	N 69° 00' 56" W
L257	26.33'	N 28° 29' 23" W
L258	38.55'	N 00° 09' 39" E
L259	31.98'	N 36° 35' 37" W
L260	59.45'	N 24° 24' 21" W
L261	82.31'	N 36° 00' 35" W
L262	100.68'	N 04° 37' 00" W
L263	47.18'	N 43° 43' 57" W
L264	67.58'	N 60° 19' 58" W
L265	24.40'	N 15° 21' 45" W
L266	31.41'	N 32° 18' 46" W
L267	31.07'	N 06° 14' 59" W
L268	27.62'	N 46° 00' 14" W
L269	65.52'	N 23° 30' 45" W
L270	41.97'	N 48° 56' 08" W
L271	56.40'	N 34° 07' 44" W
L272	83.60'	N 05° 47' 27" W
L273	122.62'	N 38° 05' 14" W
L274	30.60'	N 27° 03' 03" W
L275	20.01'	N 77° 05' 04" W
L276	49.92'	N 53° 59' 58" W
L277	41.07'	N 52° 31' 42" W
L278	56.65'	N 62° 08' 09" W
L279	29.34'	N 38° 28' 09" W
L280	46.20'	S 86° 55' 19" W
L281	34.23'	N 78° 12' 21" W
L282	28.43'	N 50° 10' 37" W
L283	47.91'	N 62° 56' 38" E
L284	103.87'	N 71° 32' 41" E
L285	51.14'	N 86° 46' 50" E
L286	171.24'	N 83° 52' 54" E
L287	190.18'	N 78° 43' 21" E
L288	183.75'	N 84° 06' 32" E
L289	43.34'	S 27° 50' 27" E
L290	36.10'	S 61° 07' 55" E
L291	33.68'	S 74° 12' 11" E
L292	48.05'	N 86° 35' 52" E
L293	47.44'	S 78° 32' 33" E
L294	31.43'	S 81° 59' 38" E
L295	135.13'	N 71° 31' 37" E
L296	92.88'	S 66° 49' 56" E
L297	131.98'	S 88° 42' 14" E
L298	177.15'	S 77° 15' 30" E
L299	32.41'	S 39° 02' 54" E
L300	54.32'	S 73° 30' 39" E
L301	101.52'	S 49° 18' 33" E
L302	69.06'	S 39° 21' 35" E
L303	40.27'	S 10° 08' 57" E
L304	42.12'	S 02° 31' 22" E
L305	21.10'	S 17° 32' 16" W
L306	25.87'	S 19° 29' 40" E
L307	64.28'	S 15° 09' 18" E
L308	62.64'	S 06° 47' 59" E
L309	30.62'	S 32° 30' 40" E
L310	56.27'	S 33° 05' 07" E
L311	96.85'	S 48° 08' 20" E
L312	52.57'	S 44° 09' 24" E
L313	41.19'	S 13° 12' 38" E
L314	25.37'	S 60° 35' 49" E
L315	45.14'	S 43° 17' 21" E
L316	35.16'	S 63° 41' 18" E
L317	38.75'	S 38° 24' 24" E
L318	28.31'	S 61° 55' 37" E
L319	23.61'	S 88° 53' 05" E
L320	22.87'	N 70° 25' 17" E
L321	26.67'	N 48° 44' 27" E
L322	14.36'	S 33° 14' 15" E
L323	22.39'	S 11° 19' 57" W
L324	31.37'	S 69° 35' 23" E
L325	27.27'	S 69° 19' 35" E
L326	8.51'	N 88° 06' 46" E
L327	88.66'	S 71° 10' 01" E
L328	107.70'	S 71° 02' 26" E
L329	22.21'	S 36° 13' 57" E
L330	94.90'	S 77° 23' 35" E
L331	11.97'	S 78° 19' 41" E
L332	95.69'	S 80° 33' 01" E
L333	78.04'	S 80° 30' 04" E
L334	84.14'	S 84° 36' 33" E
L335	77.72'	S 85° 01' 21" E
L336	101.04'	S 77° 25' 13" E
L337	78.18'	S 82° 58' 48" E
L338	60.22'	S 78° 29' 21" E
L339	90.06'	S 79° 40' 12" E
L340	48.15'	S 82° 13' 41" E
L341	30.24'	S 86° 52' 58" E
L342	36.22'	S 79° 59' 58" E
L343	60.25'	S 69° 43' 25" E
L344	23.39'	S 59° 09' 36" E
L345	53.37'	S 64° 08' 38" E
L346	48.04'	S 54° 46' 12" E
L347	59.74'	S 49° 02' 28" E
L348	125.73'	S 44° 06' 52" E
L349	69.16'	S 41° 51' 50" E
L350	27.50'	S 04° 06' 49" W
L351	129.17'	S 29° 57' 15" E
L352	21.70'	S 70° 13' 34" E
L353	25.21'	S 19° 21' 06" W
L354	18.23'	N 66° 36' 07" W
L355	29.22'	S 47° 37' 24" W
L356	13.28'	S 40° 01' 43" E
L357	15.66'	S 03° 47' 38" W
L358	19.69'	S 12° 45' 40" E
L359	32.14'	S 05° 53' 10" W
L360	23.58'	S 35° 08' 47" E
L361	26.68'	S 16° 06' 06" E
L362	29.71'	S 63° 07' 22" E
L363	29.74'	S 28° 56' 25" E
L364	27.81'	S 42° 56' 55" E
L365	32.94'	S 02° 41' 30" W
L366	21.72'	S 07° 13' 55" W
L367	31.56'	S 05° 39' 27" W
L368	23.93'	S 17° 19' 52" W
L369	10.74'	S 08° 34' 23" E
L370	14.46'	S 44° 21' 19" E
L371	19.13'	S 62° 20' 07" E
L372	33.21'	S 05° 55' 32" E
L373	39.67'	S 16° 57' 49" W
L374	26.22'	S 04° 15' 21" E
L375	49.29'	S 17° 48' 06" W
L376	13.30'	S 07° 37' 40" E
L377	48.50'	S 10° 07' 31" W
L378	53.73'	S 08° 53' 47" W
L379	30.39'	S 05° 07' 12" E
L380	41.27'	S 00° 07' 00" E
L381	49.03'	S 14° 52' 51" E
L382	32.46'	S 15° 31' 59" E
L383	5.98'	S 75° 21' 27" W
L384	10.48'	S 07° 07' 37" E
L385	10.75'	S 50° 39' 06" E
L386	14.11'	S 06° 02' 09" E
L387	20.56'	S 20° 12' 16" W
L388	18.48'	S 15° 15' 15" E
L389	52.67'	S 09° 03' 07" E
L390	26.91'	S 08° 43' 18" E
L391	23.79'	S 08° 38' 39" E
L392	27.27'	S 01° 41' 44" W
L393	31.97'	S 04° 54' 48" E
L394	28.05'	S 16° 18' 01" W
L395	24.23'	S 26° 34' 21" W
L396	24.78'	S 02° 41' 15" W
L397	29.44'	S 20° 16' 35" W
L398	29.01'	S 08° 49' 58" W
L399	41.56'	S 24° 26' 08" W
L400	21.05'	S 04° 58' 43" W
L401	18.73'	S 00° 32' 40" E
L402	3.82'	S 55° 32' 27" E
L403	17.93'	S 11° 33' 43" W
L404	25.59'	S 16° 06' 43" E
L405	11.97'	S 85° 26' 54" W
L406	17.13'	S 10° 01' 10" W
L407	26.28'	S 87° 27' 17" E
L408	50.65'	S 89° 10' 43" E
L409	59.56'	S 88° 47' 16" E
L410	64.98'	S 09° 47' 04" E
L411	70.65'	S 37° 43' 38" E
L412	54.24'	S 28° 34' 32" E
L413	56.94'	S 27° 44' 34" E
L414	22.06'	S 31° 58' 31" E
L415	85.07'	S 54° 28' 58" W
L416	42.93'	S 34° 07' 02" W
L417	82.89'	S 46° 02' 44" W
L418	105.25'	S 44° 18' 20" W
L419	16.61'	S 01° 45' 47" E
L420	15.98'	S 47° 32' 11" E
L421	21.86'	S 88° 14' 36" E
L422	70.79'	N 52° 13' 54" E
L423	93.65'	N 43° 54' 43" E
L424	86.30'	N 51° 23' 59" E
L425	22.64'	S 44° 37' 53" E
L426	309.81'	S 47° 22' 36" W
L427	128.95'	S 45° 18' 16" W
L428	26.32'	N 82° 51' 38" W
L429	46.45'	N 51° 08' 17" W
L430	39.23'	N 64° 37' 52" W
L431	50.00'	N 66° 32' 05" W
L432	63.75'	N 50° 08' 58" W
L433	51.62'	S 76° 28' 11" W
L434	69.31'	N 67° 28' 57" W
L435	30.73'	N 09° 54' 02" W
L436	112.68'	N 78° 27' 36" W
L437	73.09'	N 84° 17' 33" W
L438	130.81'	S 59° 08' 46" W
L439	102.04'	S 66° 53' 21" W
L440	129.96'	S 55° 57' 05" W
L441	102.26'	S 30° 24' 49" W
L442	72.40'	S 67° 43' 18" W
L443	87.08'	S 77° 40' 41" W
L444	103.66'	S 79° 24' 06" W
L445	93.30'	S 86° 37' 56" W
L446	46.26'	S 80° 04' 09" W
L447	16.71'	N 42° 49' 53" W
L448	60.41'	N 44° 58' 23" W
L449	13.03'	N 66° 57' 31" W
L450	71.94'	S 05° 26' 41" W
L451	73.43'	S 52° 34' 50" W
L452	48.15'	S 47° 05' 53" W
L453	82.56'	S 38° 48' 06" W
L454	48.84'	N 66° 26' 51" W
L455	32.36'	N 74° 44' 29" W
L456	4.85'	S 18° 45' 35" W
L457	11.53'	S 43° 01' 03" E
L458	33.81'	S 69° 42' 34" E
L459	19.39'	S 42° 10' 58" E
L460	19.99'	S 31° 41' 55" E
L461	54.03'	S 03° 20' 28" W
L462	101.97'	S 09° 51' 47" W
L463	130.17'	S 22° 46' 38" E
L464	56.76'	S 00° 04' 11" W
L465	63.30'	S 16° 12' 51" E
L466	42.09'	S 46° 56' 54" W
L467	59.46'	S 58° 06' 14" W
L468	29.88'	N 61° 07' 27" W
L469	31.35'	S 86° 11' 10" W
L470	16.12'	S 60° 39' 42" W
L471	17.45'	N 20° 41' 21" W
L472	33.68'	N 54° 51' 20" W
L473	56.67'	S 69° 00' 23" W
L474	70.82'	N 48° 09' 36" W
L475	92.54'	N 08° 24' 30" W
L476	76.86'	N 31° 31' 40" W
L477	152.10'	N 44° 50' 20" W
L478	63.09'	N 13° 44' 58" W
L479	71.48'	N 16° 01' 09" E
L480	31.05'	N 17° 50' 21" E
L481	56.02'	N 06° 44' 07" W
L482	114.78'	N 15° 40' 47" W
L483	108.04'	N 07° 48' 48" E
L484	29.94'	N 07° 30' 24" E
L485	23.41'	N 46° 40' 32" E
L486	52.08'	S 87° 28' 28" E
L487	48.07'	S 62° 12' 38" E
L488	20.76'	N 80° 06' 24" E
L489	106.69'	N 68° 29' 21" E
L490	184.38'	N 68° 00' 47" E
L491	149.41'	N 63° 57' 02" E
L492	93.79'	N 86° 58' 40" E
L493	85.65'	N 83° 32' 38" E
L494	80.57'	S 80° 03' 01" E
L495	79.75'	N 74° 54' 30" E
L496	134.12'	N 84° 38' 55" E
L497	85.00'	S 72° 01' 57" E
L498	100.64'	N 82° 06' 46" E
L499	109.47'	N 85° 19' 43" E
L500	117.57'	N 86° 23' 02" E
L501	86.72'	S 88° 15' 29" E
L502	55.88'	N 80° 04' 44" E
L503	89.72'	S 81° 37' 37" E
L504	33.32'	N 72° 03' 30" E
L505	84.69'	S 63° 25' 46" E
L506	74.40'	S 21° 39' 39" E
L507	80.42'	S 51° 14' 49" E
L508	74.38'	S 49° 58' 59" E
L509	4.39'	S 08° 47' 34" W

NC License#: C-0208

Quible & Associates, P.C.

SINCE 1959

ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE

8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com

90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR
SEAL
L-5209
JOHN M. HURDLE

CERTIFICATION

THIS DOCUMENT IS THE PROPERTY OF QUIBLE & ASSOCIATES, P.C. ANY ALTERATION OF THIS DOCUMENT IS PROHIBITED.

IF THIS DOCUMENT IS NOT SIGNED AND SEALED BY A LICENSED PROFESSIONAL THEN THIS DOCUMENT SHALL BE CONSIDERED PRELIMINARY, NOT A CERTIFIED DOCUMENT AND SHALL NOT BE USED FOR CONSTRUCTION, RECORDATION, SALES OR LAND CONVEYANCES, UNLESS OTHERWISE NOTED.

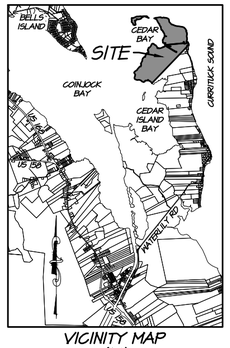
RECOMBINATION PLAT (3 of 3)

85° AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO. P16099
DRAWN BY JMH
CHECKED BY DLT/JMH
SCALE N.T.S.
ISSUE DATE 08/24/22

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/24/2022 2:20 PM Mhurdle



VICINITY MAP
(NTS)

CURRITUCK SOUND

SHORELINE (L355-L425)

CL BULKHEAD (L322-L354)

NOT ALL IMPROVEMENTS SHOWN FOR CLARITY

SHEET 2

WATERLILY RD
60' PUBLIC R/W

FIRM ZONE X

FIRM ZONE SHADED X (0.2%)

FIRM ZONE LINE NOT SURVEYED

FIRM ZONE AE (EL.4)

TRACT A2
6,413,274 SF
147.23 AC

NEW PROPERTY LINE

CANAL

NF
JAMES L. MARKERT
RESIDUAL PARCEL
PC M, SL 100

NC GRID NAD83(2011)

N 38° 31' 43" W
62.93' (L199 END-CALC)

N 38° 31' 43" W
32.41' (CALC-L200 END)

TRACT A1
13,527,666 SF
310.55 AC

FIRM ZONE AE (EL.4)

FIRM ZONE AE (EL.5)

CEDAR BAY

TIE FROM "A-C"
N 47° 27' 10" W
4845.10'

"C"
N 988,977.82 sFT
E 2,901,309.27 sFT

"D"
N 989,007.30 sFT
E 2,900,890.71 sFT

TIE FROM "A-D"
N 51° 42' 55" W
5335.50'

NO APPROVAL REQUIRED

PLANNING DIRECTOR DATE

REVIEW OFFICER'S CERTIFICATE

STATE OF NORTH CAROLINA
COUNTY OF CURRITUCK

I, _____, REVIEW OFFICER OF CURRITUCK COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

REVIEW OFFICER DATE

WATERFRONT PARCEL OWNERSHIP TO SHORELINE. WATER BODY BOUNDARIES ARE DYNAMIC AND WILL CHANGE OVER TIME.

SHORELINE (L3-L321)

SHORELINE (L465-L546)

TRACT B
575,194 SF
13.20 AC

NOTES:

1. CURRENT OWNERS: 85° AND SUNNY, LLC
   9919 STEPHEN DECATUR HWY
   OCEAN CITY, MD 21842
2. PIN / PID: 9908-14-7146 / 007900000A0000 (1555 WATERLILY RD) LOT A1
   9908-37-3430 / 007900000I0A0000 (1631 WATERLILY RD) LOT A2
3. TOTAL PARCEL AREA = 20,516,134 SF / 470.98 AC (AREAS BY COORDINATE METHOD)
4. SUBJECT REFERENCES: DB 1449, PG 381 & 390; PC P, SL 123; PC R, SL 288
5. ADDITIONAL REFERENCES: DB 110, PG 345; DB 178, PG 641; DB 177, PG 647; DB 1139, PG 14; PC M, SL 100; DB 75, PG 321 (UTILITY EASEMENT NOT PLOTTABLE)
6. FIELD SURVEY DATES: 01/22/18 - 02/07/18, 04/15/19 - 05/09/19, 08/05/22 & 08/XX/23.
7. MERIDIAN BASED ON A-B.
8. HORIZONTAL DATUM IS NAD83(2011), DERIVED FROM NC GNSS RTN.
9. VERTICAL DATUM IS NAVD 1988, DERIVED FROM NC GNSS RTN.
10. ALL DISTANCES ARE IN US SURVEY FEET AND HORIZONTAL GROUND.
11. PROPERTY IS LOCATED IN NFIP FLOOD ZONES AS SHOWN AND SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9908; SUFFIX K, (MAP NUMBER 37200990800K) EFFECTIVE DATE: 12/21/2018

GRAPHIC SCALE

400' 0 200' 400' 800'

(IN FEET)
1 inch = 400 ft.

SURVEYOR'S CERTIFICATE

I, JOHN M. HURDLE, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (SEE NOTES); THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN AS DASHED LINES AND ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN (SEE ADDITIONAL REFERENCES IN NOTES); THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY AS CALCULATED IS 2-CENTIMETERS; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

CLASS OF SURVEY: CLASS A
POSITIONAL ACCURACY: 2-CENTIMETERS
TYPE OF GPS FIELD PROCEDURE: NC GNSS RTN
DATES OF SURVEY: JAN. - FEB. 2018, APR - MAY 2019, 08/05/22 & 08/XX/23
DATUM/EPOCH: NC GRID - NAD 83 / EPOCH 2011
PUBLISHED/FIXED-CONTROL USE: NC GNSS RTN
GEOID MODEL: 2012
COMBINATION GRID FACTOR(S): 1.00008043
UNITS: US SURVEY FEET

THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXEMPTION OR EXCEPTION TO THE DEFINITION OF SUBDIVISION.

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 11TH DAY OF AUGUST, 2023, A.D.

_____
JOHN M. HURDLE, PLS NC L-5209

NOTE: THIS DOCUMENT IS PRELIMINARY – NOT FOR CONSTRUCTION, RECORDATION, SALES OR CONVEYANCES – THIS DOCUMENT IS FOR DISCUSSION PURPOSES ONLY! EXISTING INFORMATION SHOWN ON THIS DOCUMENT IS BASED ON BEST AVAILABLE DATA AND IS NOT A CERTIFIED SURVEY. ALL INFORMATION SHOWN ON THIS DOCUMENT IS SUBJECT TO ANY REQUIREMENTS BY ANY REGULATORY AGENCY, ENTITY OR AUTHORITY.

QUIBLE & ASSOCIATES, P.C. DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF ANY INFORMATION IN THIS DOCUMENT AND IS NOT RESPONSIBLE FOR ANY ERROR OR OMISSION OR ANY LOSSES OR DAMAGES RESULTING FROM THE USE OF THIS INFORMATION.

Quible & Associates, P.C.
NC License#: C-0208 SINCE 1959
ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

PRELIMINARY PLAT-NOT FOR RECORDATION CONVEYANCES OR SALES

CERTIFICATION

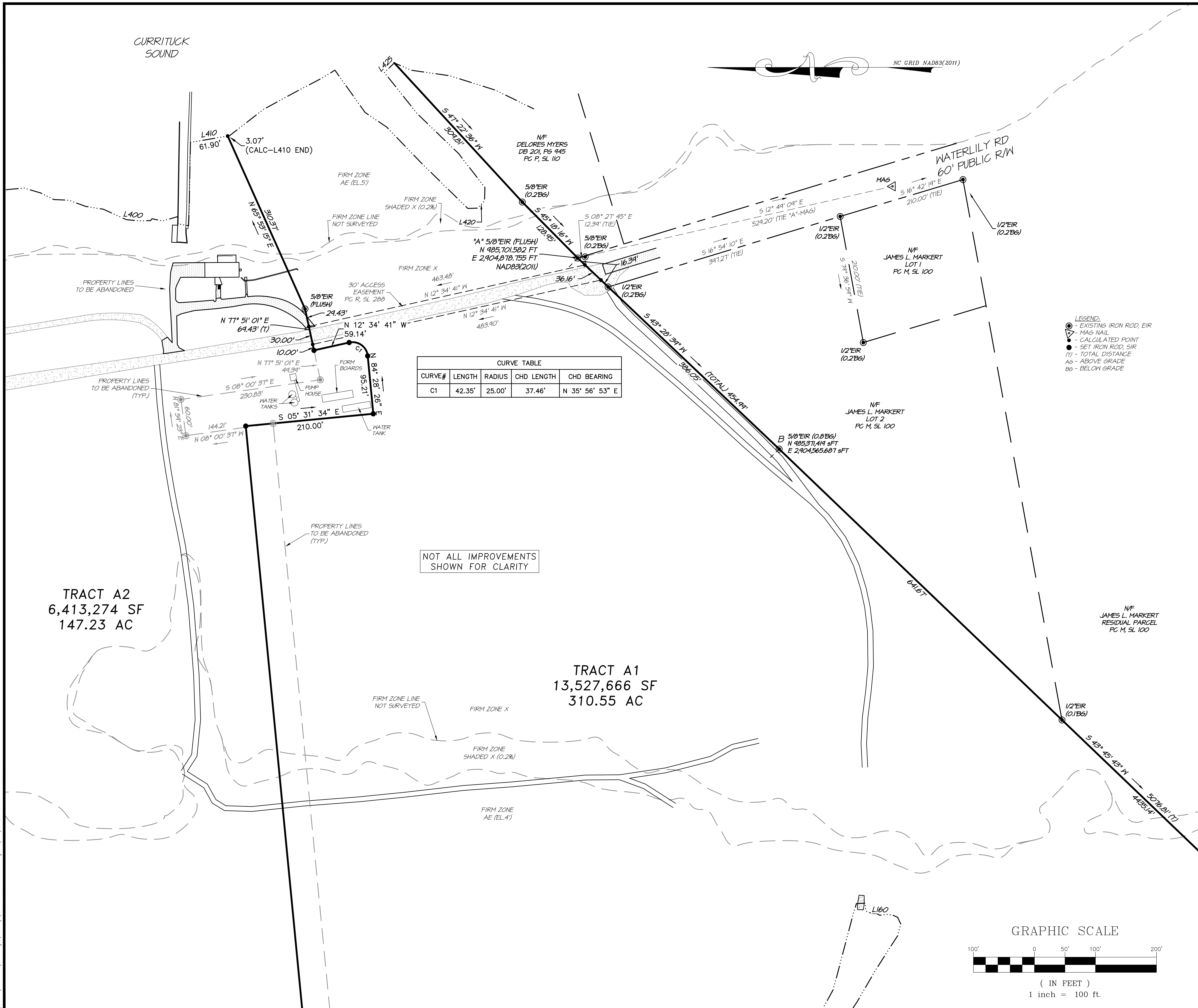
RECOMBINATION PLAT (1 of 3)

85 AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	1" = 400'
ISSUE DATE	08/11/23

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/11/2023 8:53 AM Mhurdle



CURRITUCK SOUND
NC GRID NAD83(2011)
L410 61.90'
3.07' (CALC–L410 END)
L425
S 47° 22' 36" W 304.81'
N/F DELORES MYERS DB 201, PG 945 PC P, SL 110
WATERLILY RD 60' PUBLIC R/W
FIRM ZONE AE (EL.5')
FIRM ZONE SHADED X (0.2%)
FIRM ZONE LINE NOT SURVEYED
L400
L420
N 65° 53' 15" E 310.37'
5/8"EIR (0.2'BG)
S 45° 18' 16" W 128.95'
S 08° 27' 45" E 12.39' (TIE)
5/8"EIR (0.2'BG)
"A" 5/8"EIR (FLUSH) N 985,701.582 FT E 2,904,878.755 FT NAD83(2011)
16.34'
36.16'
MAG
S 16° 42' 19" E 210.00' (TIE)
S 12° 49' 09" E 524.20' (TIE "A"–MAG)
S 16° 54' 10" E 347.27' (TIE)
1/2"EIR (0.2'BG)
N/F JAMES L. MARKERT LOT 1 PC M, SL 100
S 74° 36' 54" W 210.00' (TIE)
PROPERTY LINES TO BE ABANDONED
FIRM ZONE X
30' ACCESS EASEMENT PC R, SL 288
N 12° 34' 41" W 463.48'
N 12° 34' 41" W 483.90'
5/8"EIR (FLUSH)
29.43'
N 77° 51' 01" E 69.43' (T)
N 12° 34' 41" W
59.14'
30.00'
10.00'
C1
N 77° 51' 01" E 49.39'
FORM BOARDS
N 84° 28' 26" E 95.21'
S 08° 00' 37" E 230.83'
PUMP HOUSE
WATER TANKS
WATER TANK
S 05° 31' 34" E 210.00'
N 81° 59' 23" E 60.00'
144.21' N 08° 00' 37" W
PROPERTY LINES TO BE ABANDONED (TYP.)
S 43° 28' 39" W 306.05' (TOTAL) 454.94'
N/F JAMES L. MARKERT LOT 2 PC M, SL 100
B 5/8"EIR (0.8'BG) N 985,371.414 sFT E 2,904,565.687 sFT
LEGEND:
- EXISTING IRON ROD, EIR
- MAG NAIL
- CALCULATED POINT
- SET IRON ROD, SIR
(T) - TOTAL DISTANCE
AG - ABOVE GRADE
BG - BELOW GRADE
NOT ALL IMPROVEMENTS SHOWN FOR CLARITY
TRACT A2 6,413,274 SF 147.23 AC
TRACT A1 13,527,666 SF 310.55 AC
641.67'
N/F JAMES L. MARKERT RESIDUAL PARCEL PC M, SL 100
1/2"EIR (0.1'BG)
S 43° 45' 43" W 4435.14' 5076.81' (T)
FIRM ZONE LINE NOT SURVEYED
FIRM ZONE X
FIRM ZONE SHADED X (0.2%)
FIRM ZONE AE (EL.4')
L160
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

CURVE TABLE

CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C1	42.35'	25.00'	37.46'	N 35° 56' 53" E

NC License#: C-0208
SINCE 1959
Quible & Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY, BLDG 400, POWELLS POINT, NC 27966, Phone: (252) 491-8147, admin@quible.com
90 CHURCH STREET, SUITE B, BLACK MOUNTAIN, NC 28711, Phone: (828) 357-5149, admin@quible.com

PRELIMINARY PLAT-NOT FOR RECORDATION, CONVEYANCES OR SALES

CERTIFICATION

RECOMBINATION PLAT (2 of 3)

85 AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	1" = 100'
ISSUE DATE	08/11/23

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/11/2023 8:53 AM Mhurdle

LINE TABLE		
LINE#	LENGTH	DIRECTION
L1	454.99'	S 43° 28' 39" W
L2	5076.81'	S 43° 45' 43" W
L3	30.60'	N 11° 30' 17" E
L4	104.70'	N 38° 21' 44" W
L5	105.76'	N 48° 37' 41" W
L6	127.13'	N 52° 34' 51" W
L7	139.06'	N 72° 24' 46" W
L8	98.70'	N 21° 33' 44" W
L9	45.94'	S 88° 25' 55" W
L10	23.48'	S 18° 00' 19" W
L11	49.75'	S 08° 26' 38" W
L12	96.74'	S 76° 32' 20" W
L13	86.61'	N 75° 02' 12" W
L14	117.13'	S 74° 57' 52" W
L15	73.73'	S 09° 29' 18" W
L16	168.63'	S 61° 41' 55" W
L17	213.56'	N 67° 32' 21" W
L18	95.85'	N 42° 10' 57" W
L19	99.33'	N 55° 33' 05" W
L20	74.65'	N 66° 12' 49" W
L21	81.21'	N 87° 10' 03" W
L22	54.04'	N 77° 57' 02" W
L23	61.80'	S 82° 13' 49" W
L24	64.42'	S 79° 53' 43" W
L25	37.16'	S 84° 01' 12" W
L26	262.05'	N 73° 17' 39" W
L27	77.44'	N 21° 06' 16" W
L28	83.64'	N 38° 25' 05" W
L29	111.20'	N 14° 15' 29" E
L30	75.01'	N 27° 00' 08" E
L31	68.10'	N 07° 16' 47" W
L32	116.87'	N 24° 01' 02" E
L33	68.75'	N 04° 27' 03" W
L34	236.24'	N 32° 16' 20" W
L35	124.68'	N 32° 12' 05" E
L36	126.71'	N 50° 09' 25" E
L37	155.27'	N 58° 06' 46" E
L38	62.03'	N 61° 24' 30" E
L39	71.22'	N 14° 57' 39" E
L40	150.69'	N 38° 26' 36" E
L41	184.97'	N 40° 05' 35" E
L42	88.20'	N 46° 18' 00" E
L43	54.25'	S 77° 04' 36" E
L44	59.65'	N 77° 33' 32" E
L45	66.41'	N 05° 29' 15" E
L46	36.29'	N 36° 36' 00" E
L47	35.87'	N 34° 42' 54" W
L48	23.80'	N 06° 38' 38" W
L49	56.11'	N 40° 28' 47" E
L50	55.32'	N 18° 06' 25" W
L51	79.93'	N 26° 05' 17" W
L52	112.35'	N 34° 30' 33" E
L53	122.47'	N 24° 52' 43" E
L54	58.39'	N 22° 53' 08" E
L55	66.37'	N 39° 14' 29" E
L56	94.41'	N 05° 44' 59" W
L57	176.58'	N 15° 24' 17" E
L58	138.53'	N 44° 17' 45" E
L59	91.41'	N 40° 07' 24" E
L60	129.99'	N 88° 36' 40" E
L61	55.32'	N 13° 47' 16" E
L62	67.95'	N 20° 22' 09" W
L63	109.40'	N 29° 45' 57" E
L64	76.27'	N 58° 01' 51" E
L65	55.56'	N 10° 46' 42" W
L66	171.48'	N 30° 30' 36" E
L67	55.93'	N 82° 11' 30" E
L68	96.42'	S 82° 26' 05" E
L69	56.79'	N 57° 27' 51" E
L70	82.49'	N 26° 30' 14" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L71	70.73'	N 14° 17' 52" E
L72	56.51'	N 14° 13' 51" W
L73	72.80'	N 79° 21' 04" W
L74	139.02'	N 02° 17' 19" E
L75	43.37'	N 13° 18' 24" E
L76	80.35'	N 63° 48' 34" E
L77	65.50'	N 24° 14' 37" E
L78	43.77'	N 28° 33' 01" W
L79	42.13'	N 14° 45' 39" E
L80	126.72'	N 73° 54' 47" E
L81	101.01'	N 41° 57' 02" E
L82	165.70'	N 33° 22' 27" E
L83	64.33'	N 01° 58' 44" E
L84	81.28'	N 57° 07' 00" E
L85	90.40'	N 22° 16' 20" E
L86	32.24'	N 59° 51' 01" E
L87	76.47'	S 70° 19' 32" E
L88	65.81'	N 78° 53' 10" E
L89	165.03'	S 37° 56' 09" E
L90	134.74'	S 77° 54' 49" E
L91	36.24'	S 07° 54' 06" E
L92	52.67'	S 36° 58' 17" E
L93	79.90'	S 54° 24' 31" E
L94	122.36'	S 26° 40' 53" E
L95	54.00'	S 14° 28' 19" E
L96	40.78'	S 34° 02' 11" E
L97	24.56'	S 02° 39' 53" W
L98	17.50'	S 18° 23' 26" W
L99	24.74'	S 83° 03' 11" E
L100	55.34'	N 49° 24' 08" E
L101	65.22'	N 73° 49' 00" E
L102	46.02'	S 24° 49' 02" E
L103	45.32'	S 39° 16' 11" E
L104	50.36'	N 49° 45' 29" E
L105	102.13'	S 87° 08' 42" E
L106	67.73'	N 70° 43' 24" E
L107	50.86'	N 60° 25' 33" E
L108	148.55'	N 76° 55' 45" E
L109	106.04'	N 41° 46' 10" E
L110	39.65'	S 70° 50' 58" E
L111	26.72'	S 19° 49' 52" E
L112	59.00'	N 49° 50' 57" E
L113	16.67'	S 82° 58' 36" E
L114	43.88'	N 47° 55' 53" E
L115	48.56'	N 46° 10' 41" E
L116	47.51'	N 25° 49' 18" E
L117	14.54'	N 08° 02' 05" E
L118	13.39'	N 69° 07' 26" E
L119	27.52'	S 80° 21' 30" E
L120	31.21'	S 65° 57' 04" E
L121	29.33'	S 57° 49' 35" E
L122	70.59'	S 62° 02' 12" E
L123	57.63'	S 59° 58' 38" E
L124	39.18'	S 59° 01' 24" E
L125	37.95'	S 61° 01' 49" E
L126	47.35'	S 58° 10' 34" E
L127	15.47'	S 60° 55' 41" E
L128	23.40'	S 49° 02' 00" E
L129	14.66'	S 55° 13' 29" E
L130	11.90'	S 65° 43' 11" E
L131	33.89'	S 62° 31' 12" E
L132	27.29'	S 62° 25' 25" E
L133	27.75'	S 49° 20' 40" E
L134	26.39'	S 58° 37' 44" E
L135	37.91'	S 66° 38' 29" E
L136	52.80'	S 58° 57' 37" E
L137	44.73'	S 56° 30' 56" E
L138	56.42'	S 61° 55' 27" E
L139	33.97'	S 53° 55' 42" E
L140	49.97'	S 62° 40' 57" E

LINE TABLE		
LINE#	LENGTH	DIRECTION
L141	52.10'	S 61° 51' 57" E
L142	38.23'	S 56° 51' 05" E
L143	40.54'	S 59° 46' 22" E
L144	34.97'	S 58° 14' 15" E
L145	67.47'	S 60° 35' 32" E
L146	63.47'	S 54° 37' 44" E
L147	69.34'	S 62° 29' 06" E
L148	61.80'	S 57° 17' 24" E
L149	54.86'	S 59° 05' 26" E
L150	46.10'	S 56° 30' 17" E
L151	32.73'	S 59° 49' 12" E
L152	25.38'	S 59° 42' 06" E
L153	44.84'	S 57° 29' 59" E
L154	23.69'	S 57° 05' 02" E
L155	19.41'	S 74° 22' 15" E
L156	12.60'	N 64° 59' 19" E
L157	9.28'	N 23° 51' 57" E
L158	7.61'	N 07° 57' 01" E
L159	11.45'	N 06° 32' 47" W
L160	2.76'	N 01° 39' 50" E
L161	4.50'	N 33° 58' 22" E
L162	6.06'	N 01° 33' 05" E
L163	7.24'	N 12° 21' 01" E
L164	3.82'	N 24° 22' 46" E
L165	6.34'	N 67° 41' 35" E
L166	7.95'	S 89° 38' 22" E
L167	14.73'	N 02° 50' 44" W
L168	15.33'	N 72° 34' 50" W
L169	130.51'	N 75° 14' 06" W
L170	141.90'	N 61° 19' 29" W
L171	138.21'	N 58° 23' 20" W
L172	122.04'	N 60° 37' 52" W
L173	151.96'	N 59° 06' 25" W
L174	136.83'	N 58° 36' 45" W
L175	141.02'	N 59° 32' 28" W
L176	155.61'	N 58° 10' 34" W
L177	138.34'	N 56° 51' 56" W
L178	42.33'	N 54° 06' 42" W
L179	12.49'	N 55° 25' 36" E
L180	102.94'	S 89° 13' 55" E
L181	113.82'	S 78° 09' 03" E
L182	93.78'	S 78° 17' 55" E
L183	43.52'	S 62° 39' 51" E
L184	47.28'	N 72° 07' 38" E
L185	37.93'	S 68° 20' 02" E
L186	50.48'	S 78° 28' 44" E
L187	5.46'	N 32° 41' 21" E
L188	51.36'	N 77° 09' 47" W
L189	38.91'	N 64° 07' 03" W
L190	38.69'	S 78° 20' 15" W
L191	18.12'	S 84° 01' 55" W
L192	42.58'	N 57° 58' 34" W
L193	69.40'	N 74° 41' 47" W
L194	104.76'	N 75° 57' 09" W
L195	93.55'	N 74° 31' 50" W
L196	25.48'	N 57° 18' 17" W
L197	31.08'	N 38° 26' 13" W
L198	55.84'	N 80° 25' 30" W
L199	77.08'	N 80° 31' 55" W
L200	95.34'	N 38° 31' 43" W
L201	107.86'	N 28° 02' 33" W
L202	26.16'	N 33° 15' 36" E
L203	35.39'	N 72° 59' 30" E
L204	31.14'	N 81° 49' 05" E
L205	43.23'	N 81° 20' 55" E
L206	22.68'	N 83° 23' 41" E
L207	4.49'	N 12° 12' 42" W
L208	9.57'	N 80° 20' 38" W
L209	47.01'	S 86° 45' 32" W
L210	53.72'	S 87° 27' 15" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L211	41.31'	N 67° 15' 43" W
L212	117.56'	N 86° 53' 50" W
L213	50.79'	N 50° 43' 20" W
L214	48.71'	N 02° 06' 26" W
L215	70.48'	N 14° 58' 20" W
L216	42.34'	N 15° 30' 42" E
L217	76.86'	N 12° 22' 35" W
L218	91.56'	N 05° 57' 09" E
L219	31.43'	N 60° 15' 16" E
L220	68.47'	N 14° 36' 27" E
L221	71.43'	N 57° 18' 10" E
L222	39.18'	N 02° 37' 12" W
L223	36.66'	N 26° 59' 47" W
L224	113.54'	N 46° 36' 48" E
L225	101.12'	N 15° 10' 24" E
L226	49.22'	N 70° 26' 37" E
L227	66.59'	N 87° 51' 47" E
L228	95.33'	S 79° 44' 57" E
L229	20.57'	N 45° 30' 01" W
L230	63.01'	N 78° 08' 14" W
L231	89.95'	N 74° 02' 29" W
L232	31.38'	N 20° 16' 11" W
L233	33.36'	S 88° 21' 16" W
L234	54.66'	N 03° 03' 32" E
L235	44.05'	N 08° 29' 13" W
L236	42.65'	N 26° 55' 24" W
L237	61.11'	N 04° 53' 48" E
L238	97.77'	N 26° 39' 08" W
L239	69.97'	N 32° 56' 45" W
L240	30.09'	S 88° 53' 48" W
L241	45.70'	N 04° 57' 38" E
L242	84.84'	N 24° 36' 55" W
L243	23.40'	N 72° 31' 48" W
L244	23.79'	N 50° 08' 26" W
L245	72.90'	N 09° 28' 47" W
L246	31.11'	N 29° 34' 20" W
L247	81.41'	N 71° 34' 09" W
L248	20.69'	N 12° 37' 07" W
L249	23.50'	N 61° 10' 12" E
L250	35.97'	N 74° 49' 44" W
L251	51.79'	N 50° 14' 13" W
L252	142.71'	N 14° 43' 16" W
L253	112.24'	N 11° 19' 48" W
L254	52.19'	N 25° 10' 50" E
L255	30.76'	S 85° 20' 03" W
L256	29.30'	N 69° 00' 56" W
L257	26.33'	N 28° 29' 23" W
L258	38.55'	N 00° 09' 39" E
L259	31.98'	N 36° 35' 37" W
L260	59.45'	N 24° 24' 21" W
L261	82.31'	N 36° 00' 35" W
L262	100.68'	N 04° 37' 00" W
L263	47.18'	N 43° 43' 57" W
L264	67.58'	N 60° 19' 58" W
L265	24.40'	N 15° 21' 45" W
L266	31.41'	N 32° 18' 46" W
L267	31.07'	N 06° 14' 59" W
L268	27.62'	N 46° 00' 14" W
L269	65.52'	N 23° 30' 45" W
L270	41.97'	N 48° 56' 08" W
L271	56.40'	N 34° 07' 44" W
L272	83.60'	N 05° 47' 27" W
L273	122.62'	N 38° 05' 14" W
L274	30.60'	N 27° 03' 03" W
L275	20.01'	N 77° 05' 04" W
L276	49.92'	N 53° 59' 58" W
L277	41.07'	N 52° 31' 42" W
L278	56.65'	N 62° 08' 09" W
L279	29.34'	N 38° 28' 09" W
L280	46.20'	S 86° 55' 19" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L281	34.23'	N 78° 12' 21" W
L282	28.43'	N 50° 10' 37" W
L283	47.91'	N 62° 56' 38" E
L284	103.87'	N 71° 32' 41" E
L285	51.14'	N 86° 46' 50" E
L286	171.24'	N 83° 52' 54" E
L287	190.18'	N 78° 43' 21" E
L288	183.75'	N 84° 06' 32" E
L289	43.34'	S 27° 50' 27" E
L290	36.10'	S 61° 07' 55" E
L291	33.68'	S 74° 12' 11" E
L292	48.05'	N 86° 35' 52" E
L293	47.44'	S 78° 32' 33" E
L294	31.43'	S 81° 59' 38" E
L295	135.13'	N 71° 31' 37" E
L296	92.88'	S 66° 49' 56" E
L297	131.98'	S 88° 42' 14" E
L298	177.15'	S 77° 15' 30" E
L299	32.41'	S 39° 02' 54" E
L300	54.32'	S 73° 30' 39" E
L301	101.52'	S 49° 18' 33" E
L302	69.06'	S 39° 21' 35" E
L303	40.27'	S 10° 08' 57" E
L304	42.12'	S 02° 31' 22" E
L305	21.10'	S 17° 32' 16" W
L306	25.87'	S 19° 29' 40" E
L307	64.28'	S 15° 09' 18" E
L308	62.64'	S 06° 47' 59" E
L309	30.62'	S 32° 30' 40" E
L310	56.27'	S 33° 05' 07" E
L311	96.85'	S 48° 08' 20" E
L312	52.57'	S 44° 09' 24" E
L313	41.19'	S 13° 12' 38" E
L314	25.37'	S 60° 35' 49" E
L315	45.14'	S 43° 17' 21" E
L316	35.16'	S 63° 41' 18" E
L317	38.75'	S 38° 24' 24" E
L318	28.31'	S 61° 55' 37" E
L319	23.61'	S 88° 53' 05" E
L320	22.87'	N 70° 25' 17" E
L321	26.67'	N 48° 44' 27" E
L322	14.36'	S 33° 14' 15" E
L323	22.39'	S 11° 19' 57" W
L324	31.37'	S 69° 35' 23" E
L325	27.27'	S 69° 19' 35" E
L326	8.51'	N 88° 06' 46" E
L327	88.66'	S 71° 10' 01" E
L328	107.70'	S 71° 02' 26" E
L329	22.21'	S 36° 13' 57" E
L330	94.90'	S 77° 23' 35" E
L331	11.97'	S 78° 19' 41" E
L332	95.69'	S 80° 33' 01" E
L333	78.04'	S 80° 30' 04" E
L334	84.14'	S 84° 36' 33" E
L335	77.72'	S 85° 01' 21" E
L336	101.04'	S 77° 25' 13" E
L337	78.18'	S 82° 58' 48" E
L338	60.22'	S 78° 29' 21" E
L339	90.06'	S 79° 40' 12" E
L340	48.15'	S 82° 13' 41" E
L341	30.24'	S 86° 52' 58" E
L342	36.22'	S 79° 59' 58" E
L343	60.25'	S 69° 43' 25" E
L344	23.39'	S 59° 09' 36" E
L345	53.37'	S 64° 08' 38" E
L346	48.04'	S 54° 46' 12" E
L347	59.74'	S 49° 02' 28" E
L348	125.73'	S 44° 06' 52" E
L349	69.16'	S 41° 51' 50" E
L350	27.50'	S 04° 06' 49" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L351	129.17'	S 29° 57' 15" E
L352	21.70'	S 70° 13' 34" E
L353	25.21'	S 19° 21' 06" W
L354	18.23'	N 66° 36' 07" W
L355	29.22'	S 47° 37' 24" W
L356	13.28'	S 40° 01' 43" E
L357	15.66'	S 03° 47' 38" W
L358	19.69'	S 12° 45' 40" E
L359	32.14'	S 05° 53' 10" W
L360	23.58'	S 35° 08' 47" E
L361	26.68'	S 16° 06' 06" E
L362	29.71'	S 63° 07' 22" E
L363	29.74'	S 28° 56' 25" E
L364	27.81'	S 42° 56' 55" E
L365	32.94'	S 02° 41' 30" W
L366	21.72'	S 07° 13' 55" W
L367	31.56'	S 05° 39' 27" W
L368	23.93'	S 17° 19' 52" W
L369	10.74'	S 08° 34' 23" E
L370	14.46'	S 44° 21' 19" E
L371	19.13'	S 62° 20' 07" E
L372	33.21'	S 05° 55' 32" E
L373	39.67'	S 16° 57' 49" W
L374	26.22'	S 04° 15' 21" E
L375	49.29'	S 17° 48' 06" W
L376	13.30'	S 07° 37' 40" E
L377	48.50'	S 10° 07' 31" W
L378	53.73'	S 08° 53' 47" W
L379	30.39'	S 05° 07' 12" E
L380	41.27'	S 00° 07' 00" E
L381	49.03'	S 14° 52' 51" E
L382	32.46'	S 15° 31' 59" E
L383	5.98'	S 75° 21' 27" W
L384	10.48'	S 07° 07' 37" E
L385	10.75'	S 50° 39' 06" E
L386	14.11'	S 06° 02' 09" E
L387	20.56'	S 20° 12' 16" W
L388	18.48'	S 15° 15' 15" E
L389	52.67'	S 09° 03' 07" E
L390	26.91'	S 08° 43' 18" E
L391	23.79'	S 08° 38' 39" E
L392	27.27'	S 01° 41' 44" W
L393	31.97'	S 04° 54' 48" E
L394	28.05'	S 16° 18' 01" W
L395	24.23'	S 26° 34' 21" W
L396	24.78'	S 02° 41' 15" W
L397	29.44'	S 20° 16' 35" W
L398	29.01'	S 08° 49' 58" W
L399	41.56'	S 24° 26' 08" W
L400	21.05'	S 04° 58' 43" W
L401	18.73'	S 00° 32' 40" E
L402	3.82'	S 55° 32' 27" E
L403	17.93'	S 11° 33' 43" W
L404	25.59'	S 16° 06' 43" E
L405	11.97'	S 85° 26' 54" W
L406	17.13'	S 10° 01' 10" W
L407	26.28'	S 87° 27' 17" E
L408	50.65'	S 89° 10' 43" E
L409	59.56'	S 88° 47' 16" E
L410	64.98'	S 09° 47' 04" E
L411	70.65'	S 37° 43' 38" E
L412	54.24'	S 28° 34' 32" E
L413	56.94'	S 27° 44' 34" E
L414	22.06'	S 31° 58' 31" E
L415	85.07'	S 54° 28' 58" W
L416	42.93'	S 34° 07' 02" W
L417	82.89'	S 46° 02' 44" W
L418	105.25'	S 44° 18' 20" W
L419	16.61'	S 01° 45' 47" E
L420	15.98'	S 47° 32' 11" E

LINE TABLE		
LINE#	LENGTH	DIRECTION
L421	21.86'	S 88° 14' 36" E
L422	70.79'	N 52° 13' 54" E
L423	93.65'	N 43° 54' 43" E
L424	86.30'	N 51° 23' 59" E
L425	22.64'	S 44° 37' 53" E
L426	309.81'	S 47° 22' 36" W
L427	128.95'	S 45° 18' 16" W
L428	26.32'	N 82° 51' 38" W
L429	46.45'	N 51° 08' 17" W
L430	39.23'	N 64° 37' 52" W
L431	50.00'	N 66° 32' 05" W
L432	63.75'	N 50° 08' 58" W
L433	51.62'	S 76° 28' 11" W
L434	69.31'	N 67° 28' 57" W
L435	30.73'	N 09° 54' 02" W
L436	112.68'	N 78° 27' 36" W
L437	73.09'	N 84° 17' 33" W
L438	130.81'	S 59° 08' 46" W
L439	102.04'	S 66° 53' 21" W
L440	129.96'	S 55° 57' 05" W
L441	102.26'	S 30° 24' 49" W
L442	72.40'	S 67° 43' 18" W
L443	87.08'	S 77° 40' 41" W
L444	103.66'	S 79° 24' 06" W
L445	93.30'	S 86° 37' 56" W
L446	46.26'	S 80° 04' 09" W
L447	16.71'	N 42° 49' 53" W
L448	60.41'	N 44° 58' 23" W
L449	13.03'	N 66° 57' 31" W
L450	71.94'	S 05° 26' 41" W
L451	73.43'	S 52° 34' 50" W
L452	48.15'	S 47° 05' 53" W
L453	82.56'	S 38° 48' 06" W
L454	48.84'	N 66° 26' 51" W
L455	32.36'	N 74° 44' 29" W
L456	4.85'	S 18° 45' 35" W
L457	11.53'	S 43° 01' 03" E
L458	33.81'	S 69° 42' 34" E
L459	19.39'	S 42° 10' 58" E
L460	19.99'	S 31° 41' 55" E
L461	54.03'	S 03° 20' 28" W
L462	101.97'	S 09° 51' 47" W
L463	130.17'	S 22° 46' 38" E
L464	56.76'	S 00° 04' 11" W
L465	63.30'	S 16° 12' 51" E
L466	42.09'	S 46° 56' 54" W
L467	59.46'	S 58° 06' 14" W
L468	29.88'	N 61° 07' 27" W
L469	31.35'	S 86° 11' 10" W
L470	16.12'	S 60° 39' 42" W
L471	17.45'	N 20° 41' 21" W
L472	33.68'	N 54° 51' 20" W
L473	56.67'	S 69° 00' 23" W
L474	70.82'	N 48° 09' 36" W
L475	92.54'	N 08° 24' 30" W
L476	76.86'	N 31° 31' 40" W
L477	152.10'	N 44° 50' 20" W
L478	63.09'	N 13° 44' 58" W
L479	71.48'	N 16° 01' 09" E
L480	31.05'	N 17° 50' 21" E
L481	56.02'	N 06° 44' 07" W
L482	114.78'	N 15° 40' 47" W
L483	108.04'	N 07° 48' 48" E
L484	29.94'	N 07° 30' 24" E
L485	23.41'	N 46° 40' 32" E
L486	52.08'	S 87° 28' 28" E
L487	48.07'	S 62° 12' 38" E
L488	20.76'	N 80° 06' 24" E
L489	106.69'	N 68° 29' 21" E
L490	184.38'	N 68° 00' 47" E

LINE TABLE		
LINE#	LENGTH	DIRECTION
L491	149.41'	N 63° 57' 02" E
L492	93.79'	N 86° 58' 40" E
L493	85.65'	N 83° 32' 38" E
L494	80.57'	S 80° 03' 01" E
L495	79.75'	N 74° 54' 30" E
L496	134.12'	N 84° 38' 55" E
L497	85.00'	S 72° 01' 57" E
L498	100.64'	N 82° 06' 46" E
L499	109.47'	N 85° 19' 43" E
L500	117.57'	N 86° 23' 02" E
L501	86.72'	S 88° 15' 29" E
L502	55.88'	N 80° 04' 44" E
L503	89.72'	S 81° 37' 37" E
L504	33.32'	N 72° 03' 30" E
L505	84.69'	S 63° 25' 46" E
L506	74.40'	S 21° 39' 39" E
L507	80.42'	S 51° 14' 49" E
L508	74.38'	S 49° 58' 59" E
L509	4.39'	S 08° 47' 34" W

NC License#: C-0208
SINCE 1959
Quible & Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE

8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com

90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

PRELIMINARY PLAT-NOT FOR RECORDATION CONVEYANCES OR SALES

CERTIFICATION

IF THIS DOCUMENT IS NOT SIGNED AND SEALED BY A LICENSED PROFESSIONAL, THEN THIS DOCUMENT SHALL BE CONSIDERED PRELIMINARY, NOT A CERTIFIED DOCUMENT AND SHALL NOT BE USED FOR CONSTRUCTION, RECORDATION, SALES OR LAND CONVEYANCES, UNLESS OTHERWISE NOTED.

RECOMBINATION PLAT (3 of 3)

85 AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP
CURRITUCK COUNTY
NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	N.T.S.
ISSUE DATE	08/11/23

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/11/2023 8:53 AM Mhurdle

ATHLETIC FACILITY

1555 Waterlily Rd USGS TOPO

Quible & Associates, P.C. SINCE 1959
ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING
Phone: (252) 491-8147
Fax: (252) 491-8146
Web: www.quible.com

Legend

- 1555 Waterlily Rd
- Barco

• File an Annual Report/Amend an Annual Report • Upload a PDF Filing • Order a Document Online • Add Entity to My Email Notification List • View Filings • Print a Pre-Populated Annual Report form • Print an Amended a Annual Report form

Limited Liability Company

Legal Name
85' and Sunny, LLC

Information

SosId: 1659641
Status: Current-Active ⓘ
Date Formed: 1/31/2018
Citizenship: Domestic
Annual Report Due Date: April 15th
Current**Annual Report Status:**
Registered Agent: Coats, Kevin T,

Addresses

Reg Office
620 South Tryon Street, Suite 800
Charlotte, NC 28202

Reg Mailing
620 South Tryon Street, Suite 800
Charlotte, NC 28202

Mailing
9919 Stephen Decatur Highway
Ocean City, MD 21842

Principal Office
9919 Stephen Decatur Highway
Ocean City, MD 21842

Company Officials

All LLCs are managed by their managers pursuant to N.C.G.S. 57D-3-20.

Managing Member
Todd E Burbage
9919 Stephen Decatur Highway
Ocean City MD 21842

February 22, 2024

Randall Jones, P.E.
Division of Energy, Mineral, and Land Resources
Land Quality Section – Washington Regional Office
North Carolina Department of Environmental Quality
943 Washington Square Mall
Washington, North Carolina 27889

Re: Soil Erosion and Sedimentation Control Permit Application
Athletic Facility – 1555 Waterlily Rd
Coinjock, Currituck County, North Carolina

Dear Mr. Jones,

On behalf of 85 and Sunny, LLC, Quible and Associates, P.C. hereby submits for review and approval a Soil Erosion and Sedimentation Control Permit Application package for the above referenced project located in Currituck County.

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

1. Combined Review Fee Check in the amount of $4,600 (Express Stormwater and SESC; 5.6 acres disturbance);
2. One (1) original and one (1) copy of the Financial Responsibility Ownership Form;
3. One (1) copy of the NCDEQ checklist;
4. One (1) copy of a 8.5”x11” USGS Topographic Project Location Map;
5. One (1) copy of the NC Secretary of State Documentation;
6. One (1) Erosion and Sediment Control Narrative including Soils Report with Supporting Data;
7. One (1) copy of Property Deed 1449 Page 390, Plat R Slide 288;
8. Two (2) full size copies of the Plan Set.

Please do not hesitate to contact me at (252) 491-8147, or ndashti@quible.com should you have any questions or concerns.

Sincerely,
Quible & Associates, P.C.

Nadeen Dashti, E.I.

cc: 85 and Sunny, LLC

FINANCIAL RESPONSIBILITY/OWNERSHIP FORM
SEDIMENTATION POLLUTION CONTROL ACT
EXPRESS PERMITTING OPTION

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 address or phone number is 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 1555 Waterlily Rd Latitude(decimal degrees) 36.4201729317171 Longitude(decimal degrees) -75.92494050914998

3. Approximate date land-disturbing activity will commence: Winter 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): 5.5

6. Amount of fee enclosed 600. The Express Permitting application fee is a dual charge. The normal fee of $100.00 per acre (rounded up to the next acre) is assessed without a ceiling amount. In addition, the Express Permitting supplement is $250 per acre up to eight acres, after which the Express Permitting supplemental fee is a fixed $2,000.00 (Example: 8.10-acre application fee is $2,900). Checks should be addressed to NCDEQ. Separate $4,000 combined fee to be provided for SESC and Stormwater express review

7. Has an erosion and sediment control plan been filed? Yes ☐ Enclosed ☒ No ☐

8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:

   Name _____ E-mail Address _____

   Phone: Office # _____ Mobile # _____

9. Landowner(s) of Record (attach accompanied page to list additional owners):

85' and Sunny, LLC	410.213.1900 x 1181	
Name	Phone: Office #	Mobile #
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	

10. Deed Book No. 1449 Page No. 396 Provide a copy of the most current deed.

Part B.

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

85' and Sunny, LLC
Company Name

edemarco@bwdc.com
E-mail Address

9919 Stephen Decatur Highway
Current Mailing Address

9919 Stephen Decatur Highway
Current Street Address

Ocean City MD 21842
City State Zip

Ocean City MD 21842
City State Zip

Phone: Office # 410-213-1900 x 1181

Mobile # _____

Note: If the Financially Responsible Party is not the owner of the land to be disturbed, include with this form the landowner's signed and dated written consent for the applicant to submit a draft erosion and sedimentation control plan and to conduct the anticipated land disturbing activity.

2. (a) If the Financially Responsible Party is a domestic company registered on the NC Secretary of State business registry, give name and street address of the Registered Agent:

Todd E. Burbage
Name of Registered Agent

_____
E-mail Address

9919 Stephen Decatur Highway
Current Mailing Address

9919 Stephen Decatur Highway
Current Street Address

Ocean City MD 21842
City State Zip

Ocean City MD 21842
City State Zip

Phone: Office # _____

Mobile # _____

_____
Name of Individual to Contact (if Registered Agent is a company)

(b) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina agent who is registered on the NC Secretary of State business registry:

_____
Name of Registered Agent

_____
E-mail Address

_____
Current Mailing Address

_____
Current Street Address

_____
City State Zip

_____
City State Zip

Phone: Office # _____

Mobile # _____

_____
Name of Individual to Contact (if Registered Agent is a company)

(c) If the Financially Responsible Party is engaging in business under an assumed name, give name under which the company is Doing Business As. If the Financially Responsible Party is an individual, General

Partnership, or other company not registered and doing business under an assumed name, **attach a copy of the Certificate of Assumed Name.**

Company DBA Name

(d) If order to facilitate **Express Permitting**, it is necessary to be able to contact the engineer or other consultant who can assist in providing any necessary information regarding the plan and its preparation:

Quible & Associates, PC	csaunders@quible.com	
Engineering firm or other consultant	E-mail Address	
Cathleen M. Saunders, PE	252-491-8147	252-202-7112
Individual contact person (type or print)	Phone: Office #	Mobile #

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(s) 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 Party). I agree to provide corrected information should there be any change in the information provided herein.

Todd E. Burbage	Managing Member
Type or print name	Title or Authority
	2.14.2024
Signature	Date

I, Andrea Dawn Gillen, a Notary Public of the County of Worcester State of ~~North Carolina~~ Maryland (EDT), hereby certify that Todd E. Burbage appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him/her.

Witness my hand and notarial seal, this 14th day of February, 2024

ANDREA DAWN GILLEN
Notary Public - State of Maryland
Worcester County
My Commission Expires Oct 10, 2027
Seal

Andrea Dawn Gillen
Notary

My commission expires 10/10/27

Continued from Items 9 & 10 in Part A of the Financial Responsibility/Ownership Form for multiple owners. Attach copies of this page as needed to list all landowners.

Landowner 2 of Record:

Name | Phone: Office # | Mobile #

Current Mailing Address | Current Street Address

City State Zip | City State Zip

Deed Book No._____ Page No._____ Provide a copy of the most current deed.

Landowner 3 of Record:

Name | Phone: Office # | Mobile #

Current Mailing Address | Current Street Address

City State Zip | City State Zip

Deed Book No._____ Page No._____ Provide a copy of the most current deed.

Landowner 4 of Record:

Name | Phone: Office # | Mobile #

Current Mailing Address | Current Street Address

City State Zip | City State Zip

Deed Book No._____ Page No._____ Provide a copy of the most current deed.

Landowner 5 of Record:

Name | Phone: Office # | Mobile #

Current Mailing Address | Current Street Address

City State Zip | City State Zip

Deed Book No._____ Page No._____ Provide a copy of the most current deed.

Continued from Item 1 in Part B of the Financial Responsibility/Ownership Form for multiple parties. Attach copies of this page as needed to list all financially responsible parties.

Company 2 Name _____ E-mail Address _____

Current Mailing Address _____ Current Street Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Phone: Office # _____ Mobile # _____

Company 3 Name _____ E-mail Address _____

Current Mailing Address _____ Current Street Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Phone: Office # _____ Mobile # _____

Company 4 Name _____ E-mail Address _____

Current Mailing Address _____ Current Street Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Phone: Office # _____ Mobile # _____

Company 5 Name _____ E-mail Address _____

Current Mailing Address _____ Current Street Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Phone: Office # _____ Mobile # _____

EROSION and SEDIMENTATION CONTROL PLAN PRELIMINARY REVIEW CHECKLIST

The following items shall be incorporated with respect to specific site conditions, in an erosion & sedimentation control plan:

NPDES Construction Stormwater General Permit NCG010000

8 Designation on the plans where the 7 or 14 day ground stabilization requirements apply per Part II.E.1 of the permit.
4/5 Design of basins with one acre or more of drainage area for surface withdrawal as per Part II.B.8 of the permit.

LOCATION INFORMATION

✓ Project location & labeled vicinity map (roads, streets, landmarks)
✓ North arrow and scale
4 Identify River Basin.
✓ Provide a copy of site located on applicable USGS quadrangle and NRCS Soils maps if it is in a River Basin with Riparian Buffer requirements.

GENERAL SITE FEATURES (Plan elements)

1 Property lines & ownership ID for adjoining properties
1 Existing contours (topographic lines)
4 Proposed contours
5 Limits of disturbed area (provide acreage total, delineate limits, and label). Be sure to include all access to measures, lots that will be disturbed, and utilities that may extend offsite.
4 Planned and existing building locations and elevations
4 Planned & existing road locations & elevations, including temporary access roads
N/A Lot and/or building numbers
1 Hydrogeologic features: rock outcrops, seeps, springs, wetland and their limits, streams, lakes, ponds, dams, etc. (include all required local or state buffer zones and any DWQ Riparian Buffer determinations)
1 Easements and drainageways, particularly required for offsite affected areas. Include copies of any recorded easements and/or agreements with adjoining property owners.
4 Profiles of streets, utilities, ditch lines, etc.
5 Stockpiled topsoil or subsoil locations
N/A If the same person conducts the land-disturbing activity & any related borrow or waste activity, the related borrow or waste activity shall constitute part of the land-disturbing activity unless the borrow or waste activity is regulated under the Mining Act of 1971, or is a landfill regulated by the Division of Waste Management. If the land-disturbing activity and any related borrow or waste activity are not conducted by the same person, they shall be considered separate land-disturbing activities and must be permitted either through the Sedimentation Pollution Control Act as a one-use borrow site or through the Mining Act.
N/A Location and details associated with any onsite stone crushing or other processing of material excavated. If the affected area associated with excavation, processing, stockpiles and transport of such materials will comprise 1 or more acres, and materials will be leaving the development tract, a mining permit will be required.
N/A Required Army Corps 404 permit and Water Quality 401 certification (e.g. stream disturbances over 150 linear feet)

EROSION & SEDIMENT CONTROL MEASURES (on plan)

✓ Legend (provide appropriate symbols for all measures and reference them to the construction details)
5 Location of temporary measures
4/5 Location of permanent measures
5 Construction drawings and details for temporary and permanent measures. Show measures to scale on plan and include proposed contours where necessary. Ensure design storage requirements are maintained through all phases of construction.
✓ Maintenance requirements for measures
✓ Contact person responsible for maintenance

SITE DRAINAGE FEATURES

✓ Existing and planned drainage patterns (include off-site areas that drain through project and address temporary and permanent conveyance of stormwater over graded slopes)
✓ Method used to determine acreage of land being disturbed and drainage areas to all proposed measures (e.g. delineation map)
4 Size, pipe material and location of culverts and sewers
NARR Soil information: type, special characteristics
NARR Soil information below culvert storm outlets
4 Name and classification of receiving water course or name of municipal operator (only where stormwater discharges are to occur)

STORMWATER CALCULATIONS

NARR
___ Pre-construction runoff calculations for each outlet from the site (at peak discharge points). Be sure to provide all supporting data for the computation methods used (rainfall data for required storm events, time of concentration/storm duration, and runoff coefficients).
___ Design calculations for peak discharges of runoff (including the construction phase & the final runoff coefficients for the site)
___ Design calcs for culverts and storm sewers (include HW, TW and outlet velocities)
___ Discharge and velocity calculations for open channel and ditch flows (easement & rights-of-way)
___ Design calcs for cross sections and method of stabilization for existing and planned channels (include temporary linings). Include appropriate permissible velocity and/or shear stress data.
___ Design calcs and construction details for energy dissipaters below culvert and storm sewer outlets (include stone/material specs & apron dimensions). Avoid discharges on fill slopes.
___ Design calcs and dimension of sediment basins (note current surface area and dewatering standards as well as diversion of runoff to the basins). Be sure that all surface drains, including ditches and berms, will have positive drainage to the basins.

VEGETATIVE STABILIZATION

✓ Area & acreage to be stabilized with vegetation
✓ Method of soil preparation
✓ Seed type & rates (temporary & permanent)
✓ Fertilizer type and rates
✓ Mulch type and rates (include mulch anchoring methods)

NOTE: Plan should include provisions for groundcover in accordance with NPDES Construction Stormwater General Permit NCG010000.

FINANCIAL RESPONSIBILITY/OWNERSHIP FORM

✓ Completed, signed & notarized FR/O Form
✓ Accurate application fee payable to NCDEQ ($100.00 per acre rounded up the next acre with no ceiling amount)
✓ Certificate of assumed name, if the owner is a partnership
✓ Name of Registered Agent (if applicable)
✓ Copy of the most current Deed for the site. Please make sure the deed(s) and ownership information are consistent between the plan sheets, local records and this form.
✓ Provide latitude & longitude (in decimal degrees) at the project entrance.
✓ Two hard-copies of the plans (some regional offices require additional plans or multiple sizes; please contact the regional coordinator prior to such submittal.)

NOTE: For the Express Permitting Option, inquire at the local Regional Office for availability. Express Reviews are performed by appointment only.

NARRATIVE AND CONSTRUCTION SEQUENCE

✓ Narrative describing the nature & purpose of the construction activity.
N/A Pre-construction conference, if requested.
5 Construction sequence related to erosion and sediment control (including installation of critical measures prior to the initiation of the land-disturbing activity & removal of measures after areas they serve are permanently stabilized). Address all phases of construction and necessary practices associated with temporary stream bypasses and/or crossings.
✓ Bid specifications related only to erosion control

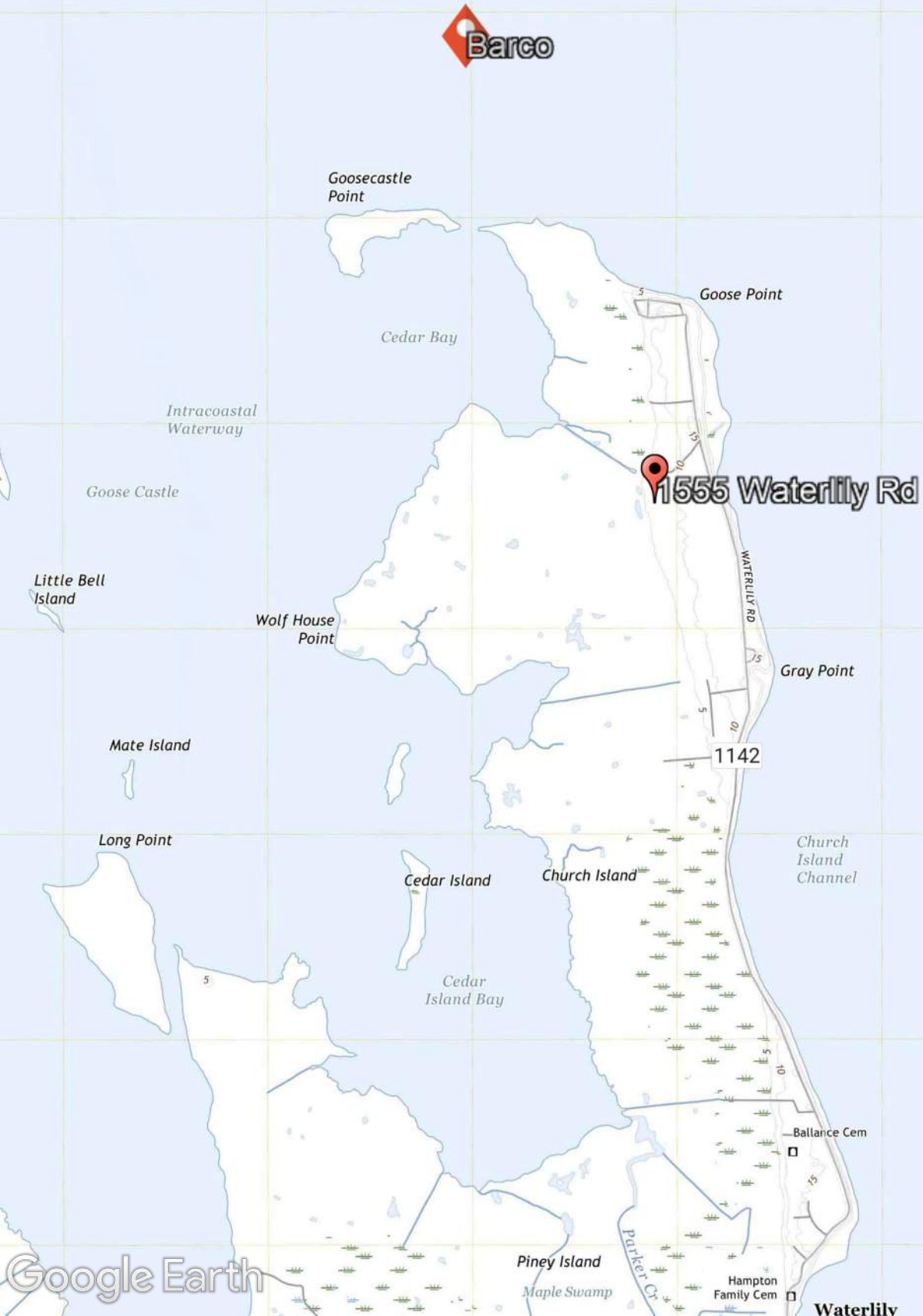
ATHLETIC FACILITY

1555 Waterlily Rd USGS TOPO

Quible & Associates, P.C. SINCE 1959
ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING
Phone: (252) 491-8147
Fax: (252) 491-8146
Web: www.quible.com

Legend

- 1555 Waterlily Rd
- Barco



• File an Annual Report/Amend an Annual Report • Upload a PDF Filing • Order a Document Online • Add Entity to My Email Notification List • View Filings • Print a Pre-Populated Annual Report form • Print an Amended a Annual Report form

Limited Liability Company

Legal Name
85' and Sunny, LLC

Information

SosId: 1659641
Status: Current-Active ⓘ
Date Formed: 1/31/2018
Citizenship: Domestic
Annual Report Due Date: April 15th
Current**Annual Report Status:**
Registered Agent: Coats, Kevin T,

Addresses

Reg Office
620 South Tryon Street, Suite 800
Charlotte, NC 28202

Reg Mailing
620 South Tryon Street, Suite 800
Charlotte, NC 28202

Mailing
9919 Stephen Decatur Highway
Ocean City, MD 21842

Principal Office
9919 Stephen Decatur Highway
Ocean City, MD 21842

Company Officials

All LLCs are managed by their managers pursuant to N.C.G.S. 57D-3-20.

Managing Member
Todd E Burbage
9919 Stephen Decatur Highway
Ocean City MD 21842

Erosion and Sediment Control Narrative

Athletic Facility
1555 Waterlily Rd
February 2024

Project Description
The subject property is located at 1555 Waterlily Rd, Coinjock, NC in Currituck County. The site development proposes the construction of a 21,173.5 sf athletic facility. The project development will include the associated parking, water booster pump station, and drainage improvements for the development of a portion of the 308.95 acre lot. The site is zoned Single Family Mainland (SFM).

Existing Site
The 308.95-acre project area is currently wooded with utility and roadway access for the adjacent campground. This site was previously a part of the adjacent campground and used for camping throughout. Previously existing buildings have been removed, but existing bulkheading and a boat ramp are to remain. Ground elevations range between 3' and 14' with surface slopes varying from 1.1% to 3.1%. Existing stormwater runoff is via sheet flow to surrounding wetlands/Currituck Sound.

Adjacent Property
The property is adjacent to agricultural development to the South. The Currituck Sound/wetlands are located to the east, and west of the property. The northern property is an existing campground on property zoned single family mainland (SFM).

Offsite Areas
Construction Staging and any temporary soil stockpiling will take place on-site. Any off-site areas used for disposal or borrow material shall be approved and permitted in accordance with applicable local, state, and federal regulations.

Critical Erosion Areas
The onsite soils' erosion hazards is moderate. There are no critical erosion areas anticipated and adequate erosion control measures will be employed to minimize potential erosion problems.

Soils
The USDA NRCS Soil Survey lists the soil in the vicinity of the stormwater wet detention basin 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

Erosion and Sediment Control Measures
Proposed land disturbance for the site is approximately 5.6 acres. All erosion and sediment control practices shall be constructed and maintained according to minimum standards and

specifications of the NCESC Planning and Design Manual, latest edition.

Structural Practices

1. Temporary Construction Entrance (CE) – 6.06.1
   A construction entrance will be installed off of the proposed asphalt drive.
2. Sediment Basin (SB) – 6.61.1
   A sediment basin is proposed at the west side of the property. Calculations are available within this report.
3. Silt Fence (SF) – 6.62.1
   Silt fence will be installed down slope of areas with minimal grades to filter sediment runoff from sheet flow as shown on the plans.
4. Inlet Protection (IP) – 6.50
   All storm sewer inlets shall be protected during construction. Sediment-laden water shall be filtered before entering these structures.
5. Outlet Protection (OP) – 6.40
   Outlet protection should be provided to lower velocities prior to discharge of stormwater to avoid potential erosion.
6. Tree Protection (TP) – 6.05.1
   Tree protection will be placed around trees and vegetated areas that are not to be disturbed during construction. This will provide protection from construction equipment.
7. Dust Control – 6.84.1
   Dust control measures will be used to prevent surface and air movement of dust from exposed soil surfaces and reduce the presence of airborne substances, which may present health hazards, traffic safety problems or harm animals or plant life.

Vegetative Practices

1. Topsoiling (TO) – 6.04.1
   Topsoil shall be used to provide a suitable growth medium for vegetation used to stabilize disturbed areas. It is applicable where preservation or importation of topsoil is the most cost-effective method of providing suitable growth medium.
2. Temporary Seeding (TS) – 6.10.1
   All denuded areas which will be left dormant for longer than 21 days shall be seeded with fast germinating temporary vegetation immediately following rough grading of the area.
3. Permanent Seeding (PS) – 6.11.1
   Permanent seeding shall be applied to all denuded areas that will be left dormant for more than one year and to all areas where final grade has been established.
4. Sodding (S) – 6.12.1
   Sodding shall be provided along the bottom of the proposed swale bottom to the edge of Eighth Street.
5. Mulching (MU) – 6.14.1
   Mulching shall be applied to all seeding operations, other plant materials which do not provide adequate soil protection by themselves, and bare areas which cannot be seeded (See Std. & Spec. 6.11.1) and mulch shall be used in conjunction with temporary seeding operations as specified in Temporary Seeding Std. & Spec. 6.10.1.

Management Strategies

The following sequence of events and erosion control measures shall be incorporated into the construction schedule for this project and shall apply to all construction activities.

1. All hard surface public roads shall be clean at the end of each workday. Temporary construction entrance(s) are required at all points of access where any material may be spilled, dropped, washed, or tracked off-site.

2. Erosion and sediment control devices shall be constructed and installed as a first step in any land disturbing activity and shall be made functional before upslope land disturbing activity takes place.

3. Right-of-way diversions, sediment barriers, fill diversions, construction entrances, and erosion control stone are to be placed during clearing and grubbing.

4. Permanent or temporary soil stabilization shall be applied to denuded areas within fifteen (15) days after final grade is reached on any portion of the site.

5. During construction of the project, any soil stock piles shall be stabilized or protected with sediment trapping measures.

6. Additional erosion and sediment control measures to those found on the plans may be required by NCDEQ if deemed necessary.

7. All temporary erosion and sediment control measures shall be removed and disposed of after final site stabilization.

Maintenance
Structural Practices

1. Temporary Construction Entrance (CE) – 6.06.1
   The construction entrance shall be maintained in a condition which will prevent tracking or flow of mud onto private or public streets. This may require periodic top dressing with additional stone or the washing and reworking of existing stone as conditions demand and repair and/or cleaning of any structures used to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately. The use of water trucks to remove materials dropped, washed, or tracked onto roadways will not be permitted under any circumstances.

2. Sediment Basin (SB) – 6.61.1
   a. The proposed wet detention basin shall be used as a sediment basin during construction. The wet detention basin shall be cleaned, and grades restored to original design elevations prior to demobilization.

   b. Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.

3. Silt Fence (SF) – 6.62.1
   a. Silt fence shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

   b. Close attention shall be paid to repair of damaged silt fence resulting from end runs and undercutting.

   c. Should the fabric on a silt fence decompose or become ineffective prior to the

end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.

d. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

e. Any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

4. Inlet Protection (IP) – 6.50
   Inlet Protection shall be inspected after each rain and repairs made as needed.

5. Outlet Protection (OP) – 6.40
   Outlet Protection shall be inspected after each rain and repairs made as needed.

6. Dust Control – 6.84.1
   Dust control measures will be used through all dry weather periods until all disturbed areas have been stabilized.

7. Temporary Seeding (6.10.1) and Permanent Seeding (6.11.1)
   The seeded areas will be checked regularly to ensure that a good stand is maintained. For temporary seeding, areas which fail to establish vegetative cover adequate to prevent rill erosion will be re-seeded as soon as such areas are identified. For permanent seeding, when it is clear that plants have not germinated on an area or have died these areas must be reseeded immediately to prevent erosion damage. However, it is extremely important to determine for what reason germination did not take place and make any corrective action necessary prior to reseeding the area.

8. Mulching (MU) – 6.14.1
   All mulching and soil coverings shall be inspected periodically (particularly after rain storms) to check for erosion. Where erosion is observed in mulched areas, additional mulch should be applied. Nets and mats should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, re-install netting matting as necessary after repairing damage to the slope or ditch. Inspections should take place up until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.

Calculations

Drainage Area (Prior to basin installation)
Approximately 3,293 linear feet of silt fence is proposed, which allows for approximately 5.6 acres of disturbance prior to installation of the infiltration basin. The proposed length meets the SESC requirement of ¼ acre drainage per 100 linear feet of fence.

Drainage Area (Once basin is installed)
Runoff from land disturbance will enter the wet detention basin acting as a sediment basin through proposed stormwater network/ditches. With a total disturbed drainage area of 5.6 acres, peak flows of the 5-yr storm are anticipated at Q_{10} = (0.45)(7.82 in/hr)(7.86)= 27.65 cfs. This flow accounts for the site being built out to provide a more conservative design. This requires a minimum surface area 12,031 sf; which is provided as indicated in the table below. Discharge from this basin will be through a stone overflow to a level spreader, greater than 75' from the river.

Minimum basin volume:
V= (1,800 ft^3/acre)* /(5.6 acre) = 10,080 ft^3

Permanent pool Storage Provided In Wet Detention Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
-3	6509			0
		7725.5	23177	
0	8942			23177
		10289.5	30869	
3	11637			54046
		12360.5	6180	
3.5	13084			60226

Total Storage (cf.) Provided in Basin 1: **60226**

Above Permanent Pool Storage Provided In Wet Detention Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
3.5	13084			0
		13839.5	6920	
4	14595			6920
		15383.5	15384	
5	16172			22304
		18716	56148	
8	21260			78452

Total Storage (cf.) Provided in Basin 1: **78452**

Volume in Forebay for Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
1	214			0
		387	774	
3	560			774

		737.5	738	
4	915			1512
		1392.5	2785	
6	1870			4297
		2166	2166	
7	2462			6463
		2787.5	2788	
8	3113			9251

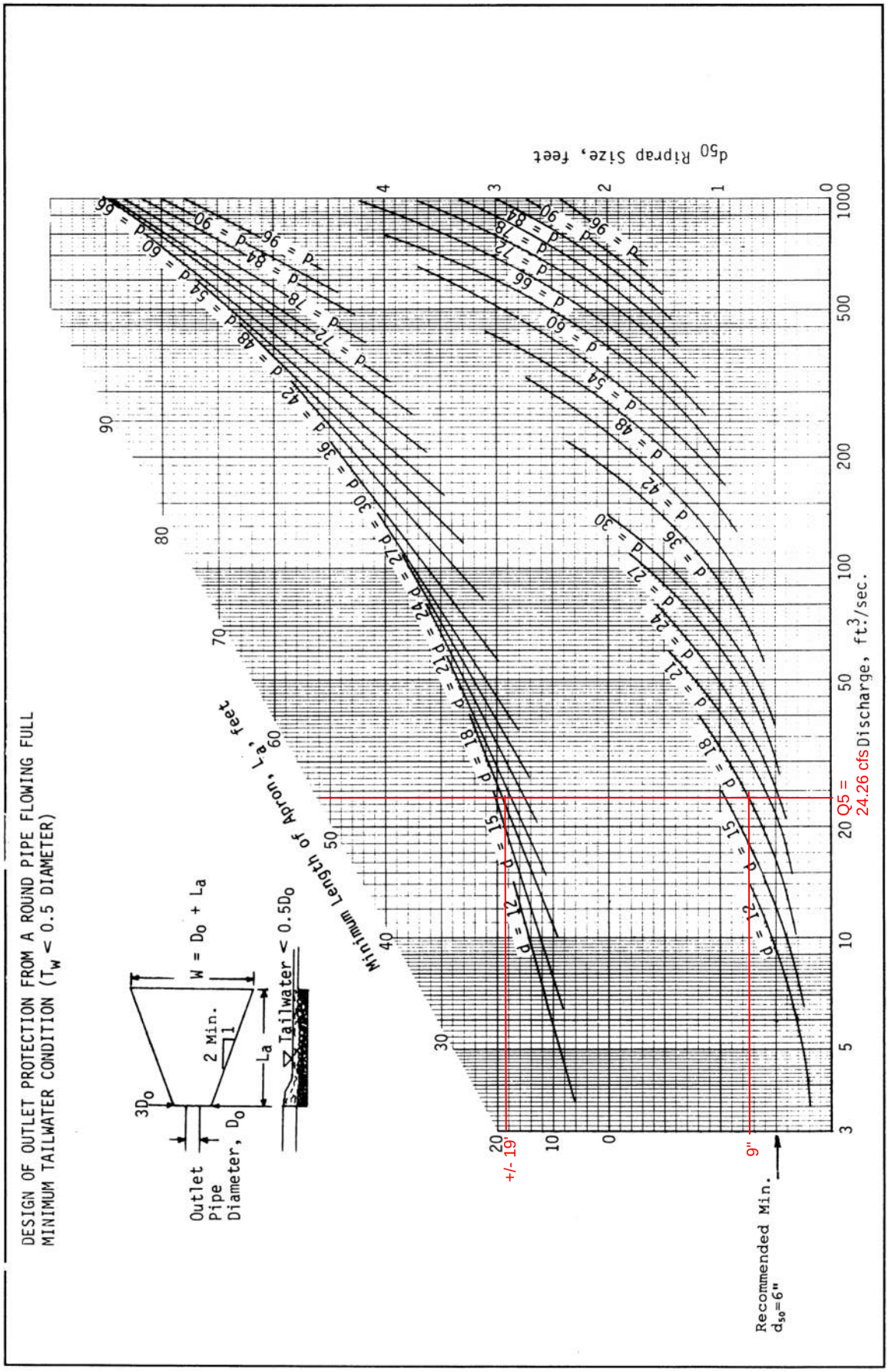
Total Storage (cf.) Provided in Basin 1: **9251**

Approximately 60,226 ft^3 will be provided in the permanent pool storage, 78,452 ft^3 will be provided in the above permanent pool storage and 9,251 ft^3 will be the forebay volume.

Outlet protection has been provided for each outlet into the proposed infiltration basin using the anticipated discharge for the entire site. This is a conservative design, assuming clogged condition in one of the two connections. At 24.26 cfs (5-yr storm), an 18" pipe would require a minimum of 5'x19'x9".

Conclusions

The proposed erosion and sediment control plan for this site will provide an effective system for the proposed site improvements that complies with NCDEQ's Regulations. It should be noted that a State NCDEQ high-density stormwater permit will be applied for concurrently with the requested soil erosion and sediment control permit.



Source: USDA-SCS

Plate 3.18-3

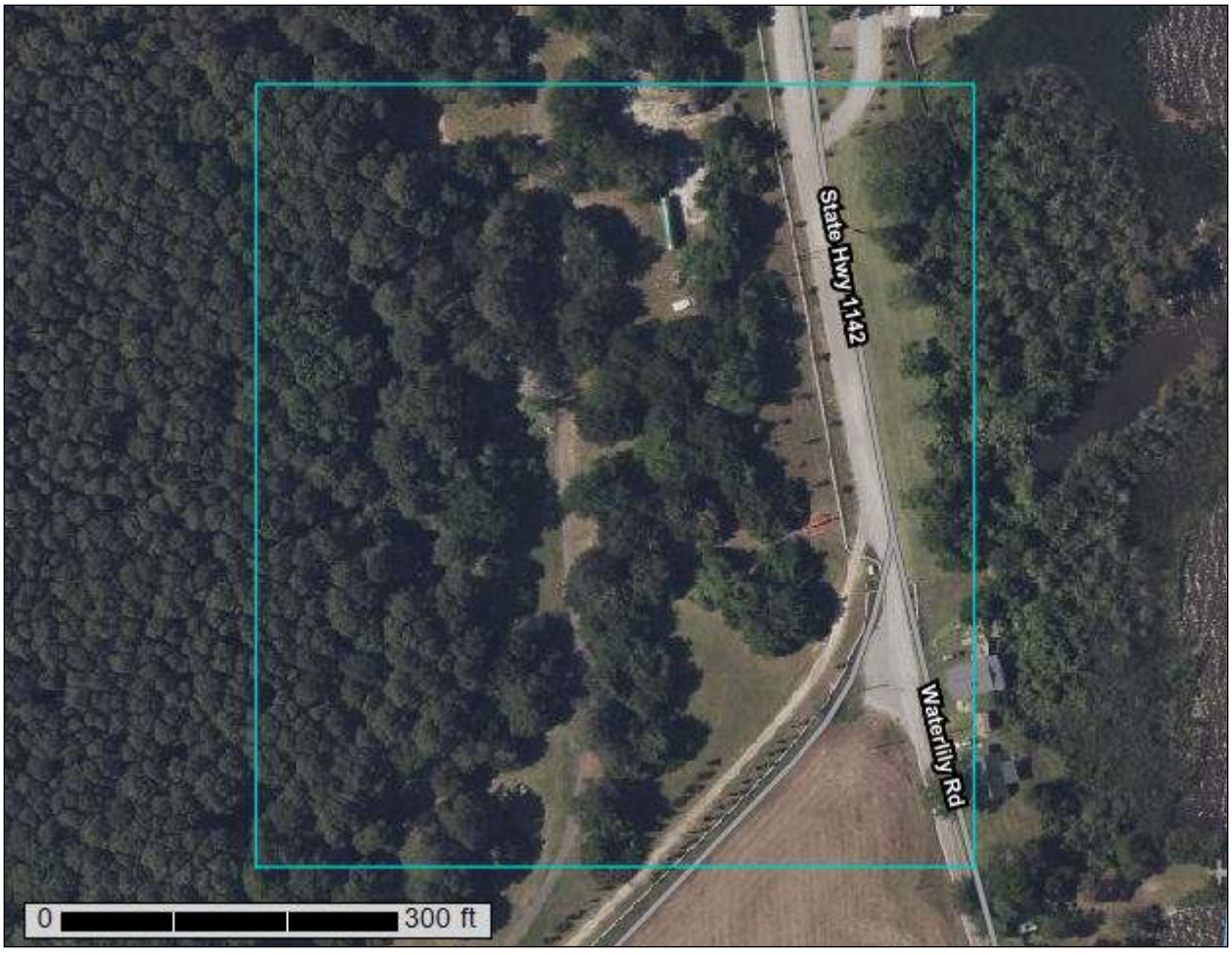
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Currituck County, North Carolina



December 13, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

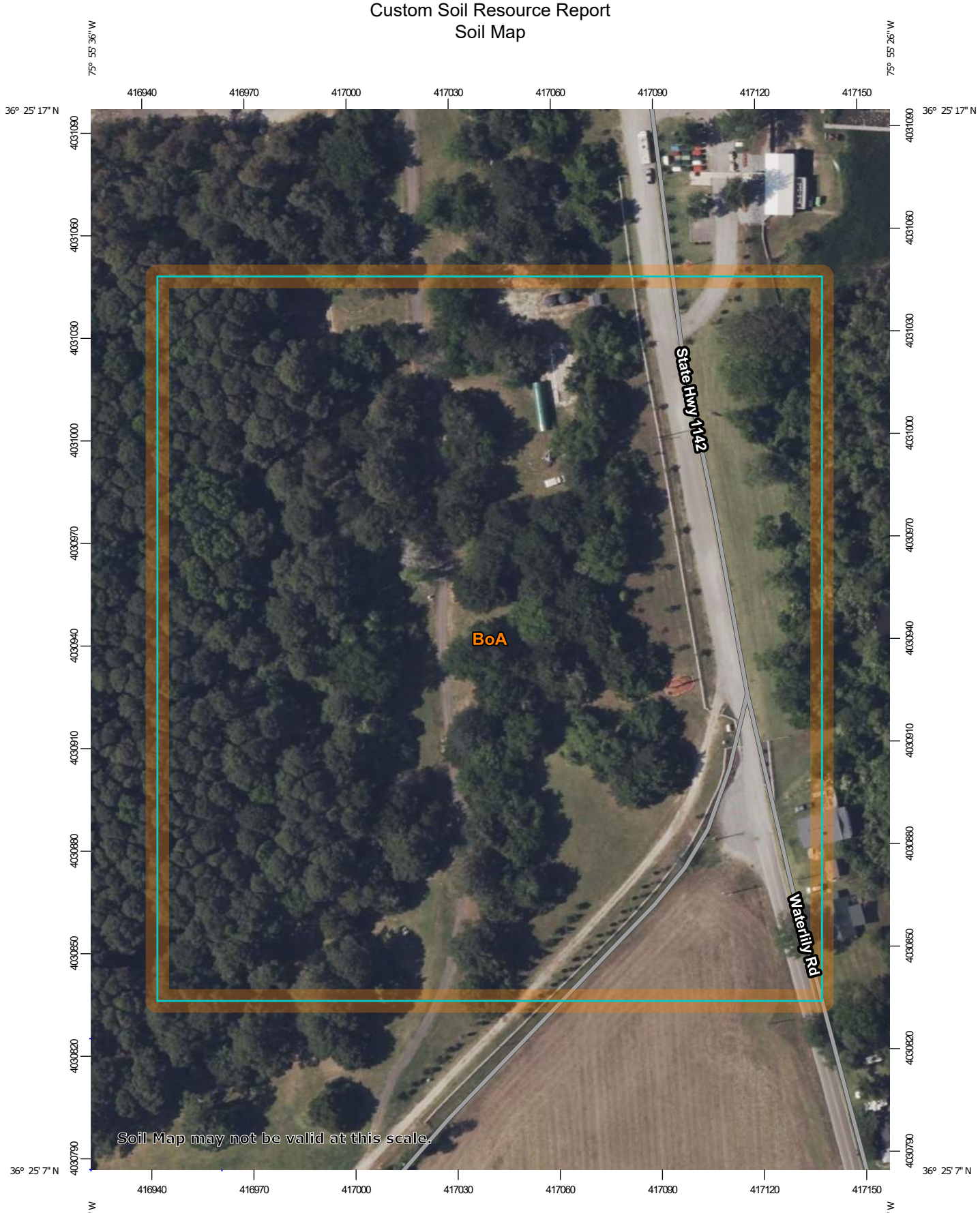
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,510 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Currituck County, North Carolina
Survey Area Data: Version 23, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BoA	Bojac loamy sand, 0 to 3 percent slopes	10.3	100.0%
Totals for Area of Interest		**10.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Currituck County, North Carolina

BoA—Bojac loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3rnb
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bojac and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Ridges on marine terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and sandy fluviomarine deposits

Typical profile

Ap - 0 to 8 inches: loamy fine sand
Bt - 8 to 47 inches: fine sandy loam
C - 47 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Conetoe

Percent of map unit: 4 percent
Landform: Ridges on stream terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest

Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Seabrook

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY020NC - Moist Sands
Hydric soil rating: No

Munden

Percent of map unit: 3 percent
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

TRANSFER TAX AMOUNT 8,000.00 JJ
DATE/COLLECTOR 6-28-2018-EHC

Tax Collector Certification That No Delinquent Taxes Are Due. Date 6/28/18 By JJ :Certification expires Jan. 6th of the year following certification date.

Doc No: 336915
Recorded: 06/28/2018 09:54:17 AM
Fee Amt: $26.00 Page 1 of 6
Excise Tax: $1.600.00
Currituck County North Carolina
Denise A. Hall, Register of Deeds
BK 1449 PG 390 - 395 (6)

NORTH CAROLINA SPECIAL WARRANTY DEED

Excise Tax:

Parcel Identification No. 0079-0000003-0000 Verified by _____County on the ___ day of _____20__

Mail/Box to: Christopher L. Seawell, Aldridge and Seawell PLLC, P. O. Box 339, Manteo, NC 27954

This instrument was prepared by: Christopher L. Seawell

Brief description for the Index: Metes and Bounds Poplar Branch Township.

THIS DEED made this 20th day of June, 2018, by and between:

GRANTOR	GRANTEE
BGP PROPERTIES, LLC, a NC Limited Liability Company	85'and SUNNY, LLC, a NC Limited Liability Company
P. O. Box 1398 Portsmouth, VA 23705	9919 Stephen Decatur Highway Ocean City, MD 21842

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in Poplar Branch Township, Currituck County, North Carolina and more particularly described as:

See Exhibit "A"

The property hereinabove described was acquired by the Grantor by instrument recorded in Book 1139, Page 14, Currituck County Registry.

All or a portion of the property herein conveyed ___ includes or X does not include the primary residence of a Grantor.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor has done nothing to impair such title as Grantor received, and Grantor will warrant and defend the title against the lawful claims of all persons claiming by, under or through Grantor, except for the exceptions hereinafter stated.

Title to the property hereinabove described is subject to the following exceptions:

Easements and restrictions appearing of record, and all zoning ordinances and other land regulations applicable thereto and ad valorem taxes for 2018.

SIGNATURES ON FOLLOWING PAGES

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed the day and year first above written.

BGP PROPERTIES, LLC

By: _____
John E. Pappas, Manager

By: S. Earl Griffin
S. Earl Griffin, Manager

By: Lewis W. Bridgforth
Lewis W. Bridgforth, Manager

STATE OF VIRGINIA
~~COUNTY~~/CITY OF NORFOLK

I, the undersigned Notary Public of the County and State aforesaid, certify that John E. Pappas, as Manager of BGP Properties, LLC, a NC Limited Liability Company, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and Notarial stamp or seal this the 25th day of June, 2018.

Christine Pierrall
Notary Public

(NOTARY STAMP/SEAL)

My commission expires:
12/31/2018

CHRISTINE PIERRALL
NOTARY PUBLIC
REGISTRATION NUMBER
324937
COMMONWEALTH OF VIRGINIA

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed the day and year first above written.

BGP PROPERTIES, LLC

By: _____
John E. Pappas, Manager

By: S. Earl Griffin
S. Earl Griffin, Manager

By: _____
Lewis W. Bridgforth, Manager

STATE OF VIRGINIA
~~COUNTY~~/CITY OF Norfolk

I, the undersigned Notary Public of the County and State aforesaid, certify that S. Earl Griffin, as Manager of BGP Properties, LLC, a NC Limited Liability Company, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and Notarial stamp or seal this the 28th day of June, 2018.

Christine Piersall
Notary Public

(NOTARY STAMP/SEAL)

CHRISTINE PIERSALL
NOTARY PUBLIC
REGISTRATION NUMBER
324937
COMMONWEALTH OF VIRGINIA

My commission expires:

12/31/2018

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed the day and year first above written.

BGP PROPERTIES, LLC

By: _____
John E. Pappas, Manager

By: S. Earl Griffin
S. Earl Griffin, Manager

By: _____
Lewis W. Bridgforth, Manager

STATE OF VIRGINIA
~~COUNTY~~/CITY OF NORFOLK

I, the undersigned Notary Public of the County and State aforesaid, certify that Lewis W. Bridgforth, as Manager of BGP Properties, LLC, a NC Limited Liability Company, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and Notarial stamp or seal this the 25th day of June, 2018.

_____
Notary Public

(NOTARY STAMP/SEAL)

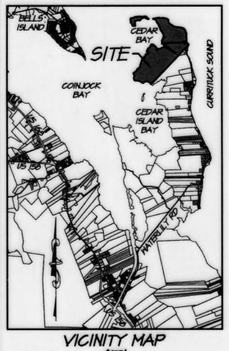
My commission expires:
12/31/2018

CHRISTINE PIERSALL
NOTARY PUBLIC
REGISTRATION NUMBER
324937
COMMONWEALTH OF VIRGINIA

BGP PROPERTIES, LLC
Exhibit "A"

All that certain tract, piece or parcel of land lying, situate and being in Currituck County, North Carolina, containing 1.97 acres of land, more or less, as shown on that certain plat entitled "Plat Showing Survey of Property to Be Conveyed to Harvey Jamerson, Church's Island - Poplar Branch Township, Currituck County, North Carolina," dated March 12, 1981, by Robert T. Addison & Associates, Ltd. and recorded in the Office of the Register of Deeds of Currituck County, North Carolina in Book 177, Page 699, to which plat reference is hereby made for a more complete and accurate description by metes and bounds.

Doc No. 378290
Recorded 08/25/2022 11:07:48 AM
Fee Amt: $53.00 Page 1 of 3
Currituck County North Carolina
Denise A. Hall, Register of Deeds
BK R PG 288 - 290 (3)



VICINITY MAP
(NTS)

CURRITUCK SOUND

SHORELINE (L355-L425)

CL BULKHEAD (L322-L354)

NOT ALL IMPROVEMENTS SHOWN FOR CLARITY

SHEET 2

WATERLILY RD
60' PUBLIC R/W

TRACT A2
6,483,250.25 SF
148.83 AC

TRACT A
19,940,940 SF
457.78 AC

TRACT A1
13,457,690.07 SF
308.95 AC

TRACT B
575,194 SF
13.20 AC

NEW PROPERTY LINE

CANAL

NC GRID NAD83(2011)

N 38° 31' 43" W
9.28' (L199 END-CALC)

N 38° 31' 43" W
86.07' (CALC-L200 END)

FIRM ZONE X

FIRM ZONE SHADED X (0.2%)

FIRM ZONE LINE NOT SURVEYED

FIRM ZONE AE (EL.4')

FIRM ZONE AE (EL.5')

N/F
JAMES L. MARKERT
RESIDUAL PARCEL
PC M, SL 100

FIRM ZONE AE (EL.4')
FIRM ZONE AE (EL.5')

TIE FROM "A-C"
N 47° 27' 10" W
4845.10'

"C"
N 988,977.82 sFT
E 2,901,309.27 sFT

"D"
N 989,007.30 sFT
E 2,900,690.71 sFT

TIE FROM "A-D"
N 51° 42' 55" W
5335.50'

SHORELINE (L465-L546)

CEDAR BAY

WATERFRONT PARCEL OWNERSHIP TO SHORELINE. WATER BODY BOUNDARIES ARE DYNAMIC AND WILL CHANGE OVER TIME.

SHORELINE (L3-L321)

NO APPROVAL REQUIRED

Donna Voliva for 8.24.22
PLANNING DIRECTOR DATE

REVIEW OFFICER'S CERTIFICATE

STATE OF NORTH CAROLINA
COUNTY OF CURRITUCK

I, Donna W. Voliva, REVIEW OFFICER OF CURRITUCK COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

Donna W. Voliva 8-24-22
REVIEW OFFICER DATE

NOTES:
1. CURRENT OWNERS: 85° AND SUNNY, LLC
   9919 STEPHEN DECATUR HWY
   OCEAN CITY, MD 21842
2. PIN / PID: 9908-37-3501 / 007900000010000 (1631 WATERLILY RD)
   9908-46-7483 / 007900000020000 (WATERLILY RD)
   9908-46-9314 / 007900000030000 (1566 WATERLILY RD)
   9908-14-8224 / 007900000040000 (1555 WATERLILY RD)
3. TOTAL PARCEL AREA = 20,516,134 SF / 470.98 AC (AREAS BY COORDINATE METHOD.)
   9908-37-3501 = 160.48 AC
   9908-46-7483 / 9908-46-9314 = 1.82 AC
   (PARCELS ARE THE SAME PROPERTY AS PER DEED BUT SHOWN AS SEPARATE ON COUNTY GIS)
   9908-14-8224 = 302.24 AC
   DB 178, PG 641 (NO PIN PROVIDED) = 6.44 AC
4. SUBJECT REFERENCES: DB 1449, PG 381 & 390; PC P, SL 123
5. ADDITIONAL REFERENCES: DB 110, PG 345; DB 178, PG 641; DB 177, PG 697; DB 1139, PG 14; PC M, SL 100; DB 75, PG 321 (UTILITY EASEMENT NOT PLOTTABLE)
6. FIELD SURVEY DATES: 01/22/18 - 02/07/18, 04/15/19 - 05/09/19 & 08/05/22.
7. MERIDIAN BASED ON A-B.
8. HORIZONTAL DATUM IS NAD83(2011), DERIVED FROM NC GNSS RTN.
9. VERTICAL DATUM IS NAVD 1988, DERIVED FROM NC GNSS RTN.
10. ALL DISTANCES ARE IN US SURVEY FEET AND HORIZONTAL GROUND.
11. PROPERTY IS LOCATED IN NFIP FLOOD ZONES AS SHOWN AND SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9908; SUFFIX K. (MAP NUMBER 37209908OOK) EFFECTIVE DATE: 12/21/2018

GRAPHIC SCALE

400' 0 200' 400' 800'

(IN FEET)
1 inch = 400 ft.

SURVEYOR'S CERTIFICATE

I, JOHN M. HURDLE, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (SEE NOTES); THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN AS DASHED LINES AND ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN (SEE ADDITIONAL REFERENCES IN NOTES); THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY AS CALCULATED IS 2-CENTIMETERS; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

CLASS OF SURVEY: CLASS A
POSITIONAL ACCURACY: 2-CENTIMETERS
TYPE OF GPS FIELD PROCEDURE: NC GNSS RTN
DATES OF SURVEY: JAN. - FEB. 2018, APR - MAY 2019 & 08/05/22
DATUM/EPOCH: NC GRID - NAD 83 / EPOCH 2011
PUBLISHED/FIXED-CONTROL USE: NC GNSS RTN
GEOID MODEL: 2012
COMBINATION GRID FACTOR(S): 1.00008043
UNITS: US SURVEY FEET

THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXEMPTION OR EXCEPTION TO THE DEFINITION OF SUBDIVISION.

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 24TH DAY OF AUGUST, 2022, A.D.

JOHN M. HURDLE, PLS NC L-5209

NC License#: C-0208
Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8855
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-4545
administrator@quible.com

NORTH CAROLINA PROFESSIONAL SEAL L-5209 LAND SURVEYOR JOHN M. HURDLE

CERTIFICATION

RECOMBINATION PLAT (1 of 3)

85° AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	1" = 400'
ISSUE DATE	08/24/22

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/24/2022 2:20 PM Mhurdle

R1289

CURRITUCK SOUND

NC GRID NAD83(2011)

L420 — S 47° 22' 36" W 3041.81'

N/F DELORES MYERS DB 201, PG 945 PC P, SL 110

5/8"EIR (0.2BG)

S 45° 15' 16" W 128.45'

"A" 5/8"EIR (FLUSH) N 985,701.582 FT E 2,904,878.755 FT NAD83(2011)

L410 — 61.90' — 3.07' (CALC–L410 END)

N 65° 53' 15" E 310.37'

L400

FIRM ZONE AE (EL 5')

FIRM ZONE SHADED X (0.2%)

FIRM ZONE LINE NOT SURVEYED

FIRM ZONE X

PROPERTY LINES TO BE ABANDONED

463.48'

N 12° 34' 41" W

483.90'

5/8"SIR (FLUSH)

29.43'

N 77° 51' 01" E 118.82'

59.39'

30.00'

PROPOSED 30' ACCESS EASEMENT OVER EXISTING DRIVE FOR TRACT A2

60' ACCESS EASEMENT (APPROX. LOCATION) DB 1171, PG 647 & DB 1118, PG 641 (TO BE ABANDONED, SEE SUBSEQUENT DEED)

N 81° 59' 23" E 60.00'

S 08° 00' 37" E 230.83'

N 08° 00' 37" W 144.21'

PROPERTY LINES TO BE ABANDONED

5/8"SIR (FLUSH)

5/8"EIR (0.2BG)

S 08° 27' 45" E 12.39' (TIE)

16.39'

36.16'

1/2"EIR (0.2BG)

S 16° 54' 10" E 397.27' (TIE)

S 12° 49' 09" E 24.20' (TIE "A"-MAG)

MAG

S 16° 42' 19" E 210.00' (TIE)

WATERLILY RD 60' PUBLIC R/W

1/2"EIR (0.2BG)

S 74° 36' 54" W 210.00' (TIE)

N/F JAMES L. MARKERT LOT 1 PC M, SL 100

N/F JAMES L. MARKERT LOT 2 PC M, SL 100

20' ACCESS EASEMENT DB 1118, 641 (TO BE ABANDONED, SEE SUBSEQUENT DEED)

S 43° 28' 59" W 396.05' (TOTAL) 454.99'

B 5/8"EIR (0.8BG) N 985,371.419 sFT E 2,904,565.687 sFT

641.87'

N/F JAMES L. MARKERT RESIDUAL PARCEL PC M, SL 100

1/2"EIR (0.1BG)

S 43° 45' 49" W 5276.84' (T) 4435.14'

PROPERTY LINES TO BE ABANDONED

L160

N 84° 28' 26" E 2062.47'

NOT ALL IMPROVEMENTS SHOWN FOR CLARITY

TRACT A2
6,483,250.25 SF
148.83 AC

TRACT A1
13,457,690.07 SF
308.95 AC

LEGEND:
- EXISTING IRON ROD, EIR
- MAG NAIL
- CALCULATED POINT
- SET IRON ROD, SIR
(T) - TOTAL DISTANCE
AG - ABOVE GRADE
BG - BELOW GRADE

GRAPHIC SCALE
100' 0 50' 100' 200'
(IN FEET)
1 inch = 100 ft.

Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
NC License#: C-0208
8466 CABARRUS HWY BLDG 400 POWELLS POINT, NC 27966 Phone: (252) 491-8147 administrator@quible.com
90 CHURCH STREET SUITE B BLACK MOUNTAIN, NC 28711 Phone: (828) 357-5149 administrator@quible.com

NORTH CAROLINA PROFESSIONAL SEAL L-5209 LAND SURVEYOR JOHN W. HURDLE

CERTIFICATION

RECOMBINATION PLAT (2 of 3)

85° AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	1" = 100'
ISSUE DATE	08/24/22

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/24/2022 2:20 PM Mhurdle

R1290

LINE TABLE		
LINE#	LENGTH	DIRECTION
L1	454.99'	S 43° 28' 39" W
L2	5076.81'	S 43° 45' 43" W
L3	30.60'	N 11° 30' 17" E
L4	104.70'	N 38° 21' 44" W
L5	105.76'	N 48° 37' 41" W
L6	127.13'	N 52° 34' 51" W
L7	139.06'	N 72° 24' 46" W
L8	98.70'	N 21° 33' 44" W
L9	45.94'	S 88° 25' 55" W
L10	23.48'	S 18° 00' 19" W
L11	49.75'	S 08° 26' 38" W
L12	96.74'	S 76° 32' 20" W
L13	86.61'	N 75° 02' 12" W
L14	117.13'	S 74° 57' 52" W
L15	73.73'	S 09° 29' 18" W
L16	168.63'	S 61° 41' 55" W
L17	213.56'	N 67° 32' 21" W
L18	95.85'	N 42° 10' 57" W
L19	99.33'	N 55° 33' 05" W
L20	74.65'	N 66° 12' 49" W
L21	81.21'	N 87° 10' 03" W
L22	54.04'	N 77° 57' 02" W
L23	61.80'	S 82° 13' 49" W
L24	64.42'	S 79° 53' 43" W
L25	37.16'	S 84° 01' 12" W
L26	262.05'	N 73° 17' 39" W
L27	77.44'	N 21° 06' 16" W
L28	83.64'	N 38° 25' 05" W
L29	111.20'	N 14° 15' 29" E
L30	75.01'	N 27° 00' 08" E
L31	68.10'	N 07° 16' 47" W
L32	116.87'	N 24° 01' 02" E
L33	68.75'	N 04° 27' 03" W
L34	236.24'	N 32° 16' 20" W
L35	124.68'	N 32° 12' 05" E
L36	126.71'	N 50° 09' 25" E
L37	155.27'	N 58° 06' 46" E
L38	62.03'	N 61° 24' 30" E
L39	71.22'	N 14° 57' 39" E
L40	150.69'	N 38° 26' 36" E
L41	184.97'	N 40° 05' 35" E
L42	88.20'	N 46° 18' 00" E
L43	54.25'	S 77° 04' 36" E
L44	59.65'	N 77° 33' 32" E
L45	66.41'	N 05° 29' 15" E
L46	36.29'	N 36° 36' 00" E
L47	35.87'	N 34° 42' 54" W
L48	23.80'	N 06° 38' 38" W
L49	56.11'	N 40° 28' 47" E
L50	55.32'	N 18° 06' 25" W
L51	79.93'	N 26° 05' 17" W
L52	112.35'	N 34° 30' 33" E
L53	122.47'	N 24° 52' 43" E
L54	58.39'	N 22° 53' 08" E
L55	66.37'	N 39° 14' 29" E
L56	94.41'	N 05° 44' 59" W
L57	176.58'	N 15° 24' 17" E
L58	138.53'	N 44° 17' 45" E
L59	91.41'	N 40° 07' 24" E
L60	129.99'	N 88° 36' 40" E
L61	55.32'	N 13° 47' 16" E
L62	67.95'	N 20° 22' 09" W
L63	109.40'	N 29° 45' 57" E
L64	76.27'	N 58° 01' 51" E
L65	55.56'	N 10° 46' 42" W
L66	171.48'	N 30° 30' 36" E
L67	55.93'	N 82° 11' 30" E
L68	96.42'	S 82° 26' 05" E
L69	56.79'	N 57° 27' 51" E
L70	82.49'	N 26° 30' 14" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L71	70.73'	N 14° 17' 52" E
L72	56.51'	N 14° 13' 51" W
L73	72.80'	N 79° 21' 04" W
L74	139.02'	N 02° 17' 19" E
L75	43.37'	N 13° 18' 24" E
L76	80.35'	N 63° 48' 34" E
L77	65.50'	N 24° 14' 37" E
L78	43.77'	N 28° 33' 01" W
L79	42.13'	N 14° 45' 39" E
L80	126.72'	N 73° 54' 47" E
L81	101.01'	N 41° 57' 02" E
L82	165.70'	N 33° 22' 27" E
L83	64.33'	N 01° 58' 44" E
L84	81.28'	N 57° 07' 00" E
L85	90.40'	N 22° 16' 20" E
L86	32.24'	N 59° 51' 01" E
L87	76.47'	S 70° 19' 32" E
L88	65.81'	N 78° 53' 10" E
L89	165.03'	S 37° 56' 09" E
L90	134.74'	S 77° 54' 49" E
L91	36.24'	S 07° 54' 06" E
L92	52.67'	S 36° 58' 17" E
L93	79.90'	S 54° 24' 31" E
L94	122.36'	S 26° 40' 53" E
L95	54.00'	S 14° 28' 19" E
L96	40.78'	S 34° 02' 11" E
L97	24.56'	S 02° 39' 53" W
L98	17.50'	S 18° 23' 26" W
L99	24.74'	S 83° 03' 11" E
L100	55.34'	N 49° 24' 08" E
L101	65.22'	N 73° 49' 00" E
L102	46.02'	S 24° 49' 02" E
L103	45.32'	S 39° 16' 11" E
L104	50.36'	N 49° 45' 29" E
L105	102.13'	S 87° 08' 42" E
L106	67.73'	N 70° 43' 24" E
L107	50.86'	N 60° 25' 33" E
L108	148.55'	N 76° 55' 45" E
L109	106.04'	N 41° 46' 10" E
L110	39.65'	S 70° 50' 58" E
L111	26.72'	S 19° 49' 52" E
L112	59.00'	N 49° 50' 57" E
L113	16.67'	S 82° 58' 36" E
L114	43.88'	N 47° 55' 53" E
L115	48.56'	N 46° 10' 41" E
L116	47.51'	N 25° 44' 18" E
L117	14.54'	N 08° 02' 05" E
L118	13.39'	N 69° 07' 26" E
L119	27.52'	S 80° 21' 30" E
L120	31.21'	S 65° 57' 04" E
L121	29.33'	S 57° 49' 35" E
L122	70.54'	S 62° 02' 12" E
L123	57.63'	S 59° 58' 38" E
L124	39.18'	S 59° 01' 24" E
L125	37.95'	S 61° 01' 49" E
L126	47.35'	S 58° 10' 34" E
L127	15.47'	S 60° 55' 41" E
L128	23.40'	S 49° 02' 00" E
L129	14.66'	S 55° 13' 29" E
L130	11.90'	S 65° 43' 11" E
L131	33.89'	S 62° 31' 12" E
L132	27.29'	S 62° 25' 25" E
L133	27.75'	S 49° 20' 40" E
L134	26.39'	S 58° 37' 44" E
L135	37.91'	S 66° 38' 29" E
L136	52.80'	S 58° 57' 37" E
L137	44.73'	S 56° 30' 56" E
L138	56.42'	S 61° 55' 27" E
L139	33.97'	S 53° 55' 42" E
L140	49.97'	S 62° 40' 57" E

LINE TABLE		
LINE#	LENGTH	DIRECTION
L141	52.10'	S 61° 51' 57" E
L142	38.23'	S 56° 51' 05" E
L143	40.54'	S 59° 46' 22" E
L144	34.97'	S 58° 14' 15" E
L145	67.47'	S 60° 35' 32" E
L146	63.47'	S 54° 37' 44" E
L147	69.34'	S 62° 29' 06" E
L148	61.80'	S 57° 17' 24" E
L149	54.86'	S 59° 05' 26" E
L150	46.10'	S 56° 30' 17" E
L151	32.73'	S 59° 49' 12" E
L152	25.38'	S 59° 42' 06" E
L153	44.84'	S 57° 29' 59" E
L154	23.69'	S 57° 05' 02" E
L155	19.41'	S 74° 22' 15" E
L156	12.60'	N 64° 59' 19" E
L157	9.28'	N 23° 51' 57" E
L158	7.61'	N 07° 57' 01" E
L159	11.45'	N 06° 32' 47" W
L160	2.76'	N 01° 39' 50" E
L161	4.50'	N 33° 58' 22" E
L162	6.06'	N 01° 33' 05" E
L163	7.24'	N 12° 21' 01" E
L164	3.82'	N 24° 22' 46" E
L165	6.34'	N 67° 41' 35" E
L166	7.95'	S 89° 38' 22" E
L167	14.73'	N 02° 50' 44" W
L168	15.33'	N 72° 34' 50" W
L169	130.51'	N 75° 14' 06" W
L170	141.90'	N 61° 19' 29" W
L171	138.21'	N 58° 23' 20" W
L172	122.04'	N 60° 37' 52" W
L173	151.96'	N 59° 06' 25" W
L174	136.83'	N 58° 36' 45" W
L175	141.02'	N 59° 32' 28" W
L176	155.61'	N 58° 10' 34" W
L177	138.34'	N 56° 51' 56" W
L178	42.33'	N 54° 06' 42" W
L179	12.49'	N 55° 25' 36" E
L180	102.94'	S 89° 13' 55" E
L181	113.82'	S 78° 09' 03" E
L182	93.78'	S 78° 17' 55" E
L183	43.52'	S 62° 39' 51" E
L184	47.28'	N 72° 07' 38" E
L185	37.93'	S 68° 20' 02" E
L186	50.48'	S 78° 28' 44" E
L187	5.46'	N 32° 41' 21" E
L188	51.36'	N 77° 09' 47" W
L189	38.91'	N 64° 07' 03" W
L190	38.69'	S 78° 20' 15" W
L191	18.12'	S 84° 01' 55" W
L192	42.58'	N 57° 58' 34" W
L193	69.40'	N 74° 41' 47" W
L194	104.76'	N 75° 57' 09" W
L195	93.55'	N 74° 31' 50" W
L196	25.48'	N 57° 18' 17" W
L197	31.08'	N 38° 26' 13" W
L198	55.84'	N 80° 25' 30" W
L199	77.08'	N 80° 31' 55" W
L200	95.34'	N 38° 31' 43" W
L201	107.86'	N 28° 02' 33" W
L202	26.16'	N 33° 15' 36" E
L203	35.39'	N 72° 59' 30" E
L204	31.14'	N 81° 49' 05" E
L205	43.23'	N 81° 20' 55" E
L206	22.68'	N 83° 23' 41" E
L207	4.49'	N 12° 12' 42" W
L208	9.57'	N 80° 20' 38" W
L209	47.01'	S 86° 45' 32" W
L210	53.72'	S 87° 27' 15" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L211	41.31'	N 67° 15' 43" W
L212	117.56'	N 86° 53' 50" W
L213	50.79'	N 50° 43' 20" W
L214	48.71'	N 02° 06' 26" W
L215	70.48'	N 14° 58' 20" W
L216	42.34'	N 15° 30' 42" E
L217	76.86'	N 12° 22' 35" W
L218	91.56'	N 05° 57' 09" E
L219	31.43'	N 60° 15' 16" E
L220	68.47'	N 14° 36' 27" E
L221	71.43'	N 57° 18' 10" E
L222	39.18'	N 02° 37' 12" W
L223	36.66'	N 26° 59' 47" W
L224	113.54'	N 46° 36' 48" E
L225	101.12'	N 15° 10' 24" E
L226	49.22'	N 70° 26' 37" E
L227	66.59'	N 87° 51' 47" E
L228	95.33'	S 79° 44' 57" E
L229	20.57'	N 45° 30' 01" W
L230	63.01'	N 78° 08' 14" W
L231	89.95'	N 74° 02' 29" W
L232	31.38'	N 20° 16' 11" W
L233	33.36'	S 88° 21' 16" W
L234	54.66'	N 03° 03' 32" E
L235	44.05'	N 08° 29' 13" W
L236	42.65'	N 26° 55' 24" W
L237	61.11'	N 04° 53' 48" E
L238	97.77'	N 26° 39' 08" W
L239	69.97'	N 32° 56' 45" W
L240	30.09'	S 88° 53' 48" W
L241	45.70'	N 04° 57' 38" E
L242	84.84'	N 24° 36' 55" W
L243	23.40'	N 72° 31' 48" W
L244	23.79'	N 50° 08' 26" W
L245	72.90'	N 09° 28' 47" W
L246	31.11'	N 29° 34' 20" W
L247	81.41'	N 71° 34' 09" W
L248	20.69'	N 12° 37' 07" W
L249	23.50'	N 61° 10' 12" E
L250	35.97'	N 74° 49' 44" W
L251	51.79'	N 50° 14' 13" W
L252	142.71'	N 14° 43' 16" W
L253	112.24'	N 11° 19' 48" W
L254	52.19'	N 25° 10' 50" E
L255	30.76'	S 85° 20' 03" W
L256	29.30'	N 69° 00' 56" W
L257	26.33'	N 28° 29' 23" W
L258	38.55'	N 00° 09' 39" E
L259	31.98'	N 36° 35' 37" W
L260	59.45'	N 24° 24' 21" W
L261	82.31'	N 36° 00' 35" W
L262	100.68'	N 04° 37' 00" W
L263	47.18'	N 43° 43' 57" W
L264	67.58'	N 60° 19' 58" W
L265	24.40'	N 15° 21' 45" W
L266	31.41'	N 32° 18' 46" W
L267	31.07'	N 06° 14' 59" W
L268	27.62'	N 46° 00' 14" W
L269	65.52'	N 23° 30' 45" W
L270	41.97'	N 48° 56' 08" W
L271	56.40'	N 34° 07' 44" W
L272	83.60'	N 05° 47' 27" W
L273	122.62'	N 38° 05' 14" W
L274	30.60'	N 27° 03' 03" W
L275	20.01'	N 77° 05' 04" W
L276	49.92'	N 53° 59' 58" W
L277	41.07'	N 52° 31' 42" W
L278	56.65'	N 62° 08' 09" W
L279	29.34'	N 38° 28' 09" W
L280	46.20'	S 86° 55' 19" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L281	34.23'	N 78° 12' 21" W
L282	28.43'	N 50° 10' 37" W
L283	47.91'	N 62° 56' 38" E
L284	103.87'	N 71° 32' 41" E
L285	51.14'	N 86° 46' 50" E
L286	171.24'	N 83° 52' 54" E
L287	190.18'	N 78° 43' 21" E
L288	183.75'	N 84° 06' 32" E
L289	43.34'	S 27° 50' 27" E
L290	36.10'	S 61° 07' 55" E
L291	33.68'	S 74° 12' 11" E
L292	48.05'	N 86° 35' 52" E
L293	47.44'	S 78° 32' 33" E
L294	31.43'	S 81° 59' 38" E
L295	135.13'	N 71° 31' 37" E
L296	92.88'	S 66° 49' 56" E
L297	131.98'	S 88° 42' 14" E
L298	177.15'	S 77° 15' 30" E
L299	32.41'	S 39° 02' 54" E
L300	54.32'	S 73° 30' 39" E
L301	101.52'	S 49° 18' 33" E
L302	69.06'	S 39° 21' 35" E
L303	40.27'	S 10° 08' 57" E
L304	42.12'	S 02° 31' 22" E
L305	21.10'	S 17° 32' 16" W
L306	25.87'	S 19° 29' 40" E
L307	64.28'	S 15° 09' 18" E
L308	62.64'	S 06° 47' 59" E
L309	30.62'	S 32° 30' 40" E
L310	56.27'	S 33° 05' 07" E
L311	96.85'	S 48° 08' 20" E
L312	52.57'	S 44° 09' 24" E
L313	41.19'	S 13° 12' 38" E
L314	25.37'	S 60° 35' 49" E
L315	45.14'	S 43° 17' 21" E
L316	35.16'	S 63° 41' 18" E
L317	38.75'	S 38° 24' 24" E
L318	28.31'	S 61° 55' 37" E
L319	23.61'	S 88° 53' 05" E
L320	22.87'	N 70° 25' 17" E
L321	26.67'	N 48° 44' 27" E
L322	14.36'	S 33° 14' 15" E
L323	22.39'	S 11° 19' 57" W
L324	31.37'	S 69° 35' 23" E
L325	27.27'	S 69° 19' 35" E
L326	8.51'	N 88° 06' 46" E
L327	88.66'	S 71° 10' 01" E
L328	107.70'	S 71° 02' 26" E
L329	22.21'	S 36° 13' 57" E
L330	94.90'	S 77° 23' 35" E
L331	11.97'	S 78° 19' 41" E
L332	95.69'	S 80° 33' 01" E
L333	78.04'	S 80° 30' 04" E
L334	84.14'	S 84° 36' 33" E
L335	77.72'	S 85° 01' 21" E
L336	101.04'	S 77° 25' 13" E
L337	78.18'	S 82° 58' 48" E
L338	60.22'	S 78° 29' 21" E
L339	90.06'	S 79° 40' 12" E
L340	48.15'	S 82° 13' 41" E
L341	30.24'	S 86° 52' 58" E
L342	36.22'	S 79° 59' 58" E
L343	60.25'	S 69° 43' 25" E
L344	23.39'	S 59° 09' 36" E
L345	53.37'	S 64° 08' 38" E
L346	48.04'	S 54° 46' 12" E
L347	59.74'	S 49° 02' 28" E
L348	125.73'	S 44° 06' 52" E
L349	69.16'	S 41° 51' 50" E
L350	27.50'	S 04° 06' 49" W

LINE TABLE		
LINE#	LENGTH	DIRECTION
L351	129.17'	S 29° 57' 15" E
L352	21.70'	S 70° 13' 34" E
L353	25.21'	S 19° 21' 06" W
L354	18.23'	N 66° 36' 07" W
L355	29.22'	S 47° 37' 24" W
L356	13.28'	S 40° 01' 43" E
L357	15.66'	S 03° 47' 38" W
L358	19.69'	S 12° 45' 40" E
L359	32.14'	S 05° 53' 10" W
L360	23.58'	S 35° 08' 47" E
L361	26.68'	S 16° 06' 06" E
L362	29.71'	S 63° 07' 22" E
L363	29.74'	S 28° 56' 25" E
L364	27.81'	S 42° 56' 55" E
L365	32.94'	S 02° 41' 30" W
L366	21.72'	S 07° 13' 55" W
L367	31.56'	S 05° 39' 27" W
L368	23.93'	S 17° 19' 52" W
L369	10.74'	S 08° 34' 23" E
L370	14.46'	S 44° 21' 19" E
L371	19.13'	S 62° 20' 07" E
L372	33.21'	S 05° 55' 32" E
L373	39.67'	S 16° 57' 49" W
L374	26.22'	S 04° 15' 21" E
L375	49.29'	S 17° 48' 06" W
L376	13.30'	S 07° 37' 40" E
L377	48.50'	S 10° 07' 31" W
L378	53.73'	S 08° 53' 47" W
L379	30.39'	S 05° 07' 12" E
L380	41.27'	S 00° 07' 00" E
L381	49.03'	S 14° 52' 51" E
L382	32.46'	S 15° 31' 59" E
L383	5.98'	S 75° 21' 27" W
L384	10.48'	S 07° 07' 37" E
L385	10.75'	S 50° 39' 06" E
L386	14.11'	S 06° 02' 09" E
L387	20.56'	S 20° 12' 16" W
L388	18.48'	S 15° 15' 15" E
L389	52.67'	S 09° 03' 07" E
L390	26.91'	S 08° 43' 18" E
L391	23.79'	S 08° 38' 39" E
L392	27.27'	S 01° 41' 44" W
L393	31.97'	S 04° 54' 48" E
L394	28.05'	S 16° 18' 01" W
L395	24.23'	S 26° 34' 21" W
L396	24.78'	S 02° 41' 15" W
L397	29.44'	S 20° 16' 35" W
L398	29.01'	S 08° 49' 58" W
L399	41.56'	S 24° 26' 08" W
L400	21.05'	S 04° 58' 43" W
L401	18.73'	S 00° 32' 40" E
L402	3.82'	S 55° 32' 27" E
L403	17.93'	S 11° 33' 43" W
L404	25.59'	S 16° 06' 43" E
L405	11.97'	S 85° 26' 54" W
L406	17.13'	S 10° 01' 10" W
L407	26.28'	S 87° 27' 17" E
L408	50.65'	S 89° 10' 43" E
L409	59.56'	S 88° 47' 16" E
L410	64.98'	S 09° 47' 04" E
L411	70.65'	S 37° 43' 38" E
L412	54.24'	S 28° 34' 32" E
L413	56.94'	S 27° 44' 34" E
L414	22.06'	S 31° 58' 31" E
L415	85.07'	S 54° 28' 58" W
L416	42.93'	S 34° 07' 02" W
L417	82.89'	S 46° 02' 44" W
L418	105.25'	S 44° 18' 20" W
L419	16.61'	S 01° 45' 47" E
L420	15.98'	S 47° 32' 11" E

LINE TABLE		
LINE#	LENGTH	DIRECTION
L421	21.86'	S 88° 14' 36" E
L422	70.79'	N 52° 13' 54" E
L423	93.65'	N 43° 54' 43" E
L424	86.30'	N 51° 23' 59" E
L425	22.64'	S 44° 37' 53" E
L426	309.81'	S 47° 22' 36" W
L427	128.95'	S 45° 18' 16" W
L428	26.32'	N 82° 51' 38" W
L429	46.45'	N 51° 08' 17" W
L430	39.23'	N 64° 37' 52" W
L431	50.00'	N 66° 32' 05" W
L432	63.75'	N 50° 08' 58" W
L433	51.62'	S 76° 28' 11" W
L434	69.31'	N 67° 28' 57" W
L435	30.73'	N 09° 54' 02" W
L436	112.68'	N 78° 27' 36" W
L437	73.09'	N 84° 17' 33" W
L438	130.81'	S 59° 08' 46" W
L439	102.04'	S 66° 53' 21" W
L440	129.96'	S 55° 57' 05" W
L441	102.26'	S 30° 24' 49" W
L442	72.40'	S 67° 43' 18" W
L443	87.08'	S 77° 40' 41" W
L444	103.66'	S 79° 24' 06" W
L445	93.30'	S 86° 37' 56" W
L446	46.26'	S 80° 04' 09" W
L447	16.71'	N 42° 49' 53" W
L448	60.41'	N 44° 58' 23" W
L449	13.03'	N 66° 57' 31" W
L450	71.94'	S 05° 26' 41" W
L451	73.43'	S 52° 34' 50" W
L452	48.15'	S 47° 05' 53" W
L453	82.56'	S 38° 48' 06" W
L454	48.84'	N 66° 26' 51" W
L455	32.36'	N 74° 44' 29" W
L456	4.85'	S 18° 45' 35" W
L457	11.53'	S 43° 01' 03" E
L458	33.81'	S 69° 42' 34" E
L459	19.39'	S 42° 10' 58" E
L460	19.99'	S 31° 41' 55" E
L461	54.03'	S 03° 20' 28" W
L462	101.97'	S 09° 51' 47" W
L463	130.17'	S 22° 46' 38" E
L464	56.76'	S 00° 04' 11" W
L465	63.30'	S 16° 12' 51" E
L466	42.09'	S 46° 56' 54" W
L467	59.46'	S 58° 06' 14" W
L468	29.88'	N 61° 07' 27" W
L469	31.35'	S 86° 11' 10" W
L470	16.12'	S 60° 39' 42" W
L471	17.45'	N 20° 41' 21" W
L472	33.68'	N 54° 51' 20" W
L473	56.67'	S 69° 00' 23" W
L474	70.82'	N 48° 09' 36" W
L475	92.54'	N 08° 24' 30" W
L476	76.86'	N 31° 31' 40" W
L477	152.10'	N 44° 50' 20" W
L478	63.09'	N 13° 44' 58" W
L479	71.48'	N 16° 01' 09" E
L480	31.05'	N 17° 50' 21" E
L481	56.02'	N 06° 44' 07" W
L482	114.78'	N 15° 40' 47" W
L483	108.04'	N 07° 48' 48" E
L484	29.94'	N 07° 30' 24" E
L485	23.41'	N 46° 40' 32" E
L486	52.08'	S 87° 28' 28" E
L487	48.07'	S 62° 12' 38" E
L488	20.76'	N 80° 06' 24" E
L489	106.69'	N 68° 29' 21" E
L490	184.38'	N 68° 00' 47" E

LINE TABLE		
LINE#	LENGTH	DIRECTION
L491	149.41'	N 63° 57' 02" E
L492	93.79'	N 86° 58' 40" E
L493	85.65'	N 83° 32' 38" E
L494	80.57'	S 80° 03' 01" E
L495	79.75'	N 74° 54' 30" E
L496	134.12'	N 84° 38' 55" E
L497	85.00'	S 72° 01' 57" E
L498	100.64'	N 82° 06' 46" E
L499	109.47'	N 85° 19' 43" E
L500	117.57'	N 86° 23' 02" E
L501	86.72'	S 88° 15' 29" E
L502	55.88'	N 80° 04' 44" E
L503	89.72'	S 81° 37' 37" E
L504	33.32'	N 72° 03' 30" E
L505	84.69'	S 63° 25' 46" E
L506	74.40'	S 21° 39' 39" E
L507	80.42'	S 51° 14' 49" E
L508	74.38'	S 49° 58' 59" E
L509	4.39'	S 08° 47' 34" W

Q:\2016\P16099\Drawings\Survey\P16099-recombo.dwg 8/24/2022 2:20 PM Mhurdle

NC License#: C-0208

Quible SINCE 1959
& Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK MTN. OFFICE

8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com

90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

L-5209
JOHN M. HURDLE
CERTIFICATION

THIS DOCUMENT IS THE PROPERTY OF QUIBLE & ASSOCIATES, P.C. ANY ALTERATION OF THIS DOCUMENT IS PROHIBITED.

IF THIS DOCUMENT IS NOT SIGNED AND SEALED BY A LICENSED PROFESSIONAL THEN THIS DOCUMENT SHALL BE CONSIDERED PRELIMINARY, NOT A CERTIFIED DOCUMENT AND SHALL NOT BE USED FOR CONSTRUCTION, RECORDATION, SALES OR LAND CONVEYANCES, UNLESS OTHERWISE NOTED.

RECOMBINATION PLAT (3 of 3)

85° AND SUNNY, LLC

POPLAR BRANCH TOWNSHIP
CURRITUCK COUNTY
NORTH CAROLINA

PROJECT NO.	P16099
DRAWN BY	JMH
CHECKED BY	DLT/JMH
SCALE	N.T.S.
ISSUE DATE	08/24/22

SITE PLAN NARRATIVE

Athletic Facility – 1559 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

February 22, 2024
P16099

Table of Contents

Appendices

Overview

The subject property is located at 1559 Waterlily Road, Corolla, NC in Currituck County. The applicants propose to construct an athletic facility consisting of a swimming pool, associated decking, 285 sf mechanical building serving the pool, 464 sf bathhouse, pickleball court, basketball 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 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, 93 parking spaces would be adequate. The relevant maximum occupant capacity used to calculate parking needs for each use is 200 swimmers, 16 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 ball player, and 1 parking space per employee. Using these figures, a total of 93 parking spaces are needed and 104 spaces are provided, including 2 ADA spaces.

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. A lighting plan has been provided to show anticipated lumens throughout the site.

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 0.82% of impervious coverage within

the existing parcel. The proposed wet detention 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 detention 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 a flowline in the center of the parking area. This flowline coincides with the stormwater network, which collects and discharges 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 a grass swale which collects in an infiltration basin and overflows into the stormwater network. The stormwater network continues to flow toward the forebay The parking and vehicular area is to also be collected and conveyed to the proposed wet detention basin via sheet flow whereby the parking area drains to the centralized flowline prior to being directed into the 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 infiltration 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 stormwater network and subsequently the wet detention basin.

The primary treatment of runoff from the site will be provided within a wet detention basin, but the pool decking and courts will have preliminary treatment through the infiltration basin. The infiltration basin provides treatment above and beyond what is required for State/Local permitting. The bottom and side slopes of the infiltration basin will be grassed according to general seeding specifications. The runoff will undergo filtration of fine particulates and pollutants by the vegetation within the infiltration 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 at 6' elevation has been provided.

The remainder of the project area will be managed by the proposed wet retention basin as primary treatment. 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.

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 36,340 CF. The proposed wet retention basin provided storage volume is approximately 78,452 CF, equivalent to the 8.8-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 wet detention basin's primary mode of disposal for elevations between 3.5 and 8.0 ft. is through a 3" drawdown orifice on a structure located inside of the main pool. The invert elevation of the 3" drawdown orifice is proposed to be at an elevation of 3.5 ft. Elevations between 8.0 and 10.0 feet will utilize a grate with on top of this structure as well as the 3" drawdown orifice. The invert elevation of the grate is proposed to be 8.0 feet in elevation. The total drawdown time from an elevation of 8.0 ft. is 4.05 days. Supporting calculations for the drawdown time and storage of the proposed wet pond have been provided within **Appendix B**.

Calculations for the proposed wet detention 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 wet detention basin design allows for storage above the permanent pool up to elevation 8'. The basin would discharge into the downstream ditch starting at elevation 8'. 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 750 gpm. Based upon a standard 2-hour duration, the required fire storage volume is 91,546 gallons or 12,238 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 12,031 CF. Please see **Appendix C** for calculations.

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 1,340 gallons per day. This anticipated amount is based on 104 parking spaces at 10 GPM, 8 employees at 25 GPD each, and 2 courts at 50 GPD each. An onsite evaluation has been requested of Albemarle Regional Health Services to determine acceptable site characteristics.

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 five heritage trees are to be removed with a total mitigation ACI of 68". The majority of the impacted trees do not qualify as heritage trees. Onsite mitigation is to include installation of ten (10) additional 2" ACI Live Oaks and twenty-four (24) 2" ACI Trees within the site.

Adjacent Property Zoning

Surrounding properties are zoned Single Family Mainland. Zoning buffer yards are not required as adjacent properties are also zoned SFM. A 50' farmland buffer is required adjacent to the James L. Markert property. The buffer includes maintaining 12 live oaks and 13 cedars as previously installed and permitted. 16 live oaks and 15 cedars are proposed to be installed within this buffer yard.

Site landscaping and vehicular landscaping are provided on the plans, along with refuse area screening adjacent to the proposed dumpster enclosure. The site landscaping is proposed to be met using existing heritage trees for canopy requirements and two (2) shrubs are proposed adjacent to the proposed buildings.

The vehicular landscape buffer around the proposed parking lot will be met using existing landscaping. A 2" ACI canopy tree will be provided within 60' of all parking spaces.

Appendix A – State Stormwater Calculations

Project Name: Athletic Facility
Quible Project Number: P16099
Date: 1/31/2024

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

Step 1: Drainage Area — 342,330.00 square feet; **7.86** acres

Step 2: Determine Runoff Coefficient

C = 0.20

Step 3: Determine Time of Concentration

Sheet Flow

$Tc_1 = \frac{0.42(nL)^{0.8}}{P^{0.5}S^{0.4}}$

n =	0.1 (woods)	Elev. Start =	15.62
L =	300 feet	Elev. End =	11
P =	4 inch		
S =	0.010 ft/ft		
Tc_1 =	**20.1** mins		

Shallow Concentrated Flow

L =	379	feet
S =	0.01	ft/ft
	unpaved	
$V_{unpaved}$ =	134.64	fpm
Tc2=	**2.8**	mins

Channel Flow

(n/a)

Tc = Tc1 + Tc2

Tc = **22.9** mins

Step 4: Determine Peak Rainfall Intensity

Time of Concentration

T (yrs)	5 mins	10 mins	15 mins	30 mins	1 hr	2 hr	3 hr
2	6.06	4.84	4.06	2.8	1.76	1.03	0.731
5	6.82	5.46	4.6	3.27	2.1	1.26	0.897
10	7.82	6.26	5.28	3.82	2.49	1.51	1.09

I = **3.29** in/hr

Interpolation Formula =

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

X		Y
1	12	4.06
2	22.95	
3	30	2.80

y_2 = **3.29**

Step 5: Determine the 2-year Pre-Development peak discharge, Q

Q = CIA

Q 2= **5.18** cfs

Step 6: Determine the weighted runoff coefficient, Cw for post-development

			C - Value
Impervious Area =	99,090.55	sq.ft.	0.95
Open Area =	243,239.45	sq.ft.	0.25
Total =	**342,330.00**	sq.ft.	
Cw =	**0.45**		

Step 7: Determine Time of Concentration for post-development

Sheet Flow

$Tc_1 = \frac{0.42(nL)^{0.8}}{P^{0.5}S^{0.4}}$

n =	0.011	(smooth pavement)
L =	300.00	feet
P =	5	inch *(From NOAA Rainfall Depth Data)*
S =	0.010	ft/ft
Tc_1 =	**3.1**	mins

Shallow Concentrated Flow

Tc_2 = L =	10.00	ft
	paved	
Slope =	0.024	ft/ft

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

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

V =	**180.4**	ft/min
Tc_2 =	**0.1**	mins

Channel Flow

(n/a)

Tc = Tc1 + Tc2

Tc = **5.0** mins **5 min minimum Tc (worst case scenario)*

Step 8: Determine Peak Rainfall Intensity

	Time of Concentration						
T (yrs)	5 mins	10 mins	15 mins	30 mins	1 hr	2 hr	3 hr
2	6.06	4.84	4.06	2.8	1.76	1.03	0.731
5	6.82	5.46	4.6	3.27	2.1	1.26	0.897
10	7.82	6.26	5.28	3.82	2.49	1.51	1.09

I5= **6.82**

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

Q = CIA

Q5 = **24.26** cfs

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

Hydrologic Soil Type: A *(From NRCS Soils Report)*

Land Use	CN	Area
Impervious Area	98	99,090.55
Open Space	49	243,239.45
	Total =	**342,330.00**
	CN_W =	**63.18**

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

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

P =	5	in
S =	**5.83**	
Q =	**1.52**	in

Step 12: Determine the Runoff Volume, V_r

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

Q =	1.52	in
A =	7.86	acres
V_r =	**1.00**	ac-ft

Step 13: Determine the Required Storage Volume, V_s

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

V_r =	1.00	ac-ft
$Q_{2\text{-pre}}$ =	5.18	cfs
$Q_{5\text{-post}}$ =	24.26	cfs
V_s =	**1264.89**	CY
	34,152.09	CF

P16099
Athletic Facility - Currituck, NC
2/16/2024

Athletic Facility Wet Detention Basin
NCDEQ Stormwater Calculations

Drainage Area Calculations

	Combined Drainage Area	
	(sq.ft.)	(acre)
Drainage Area =	342,330.00	7.86
Open Space	243,239.45	5.58
Roadway/Parking =	96,549.55	2.22
Building=	958.00	0.02
Gravel =	1,583.00	0.04
Impervious =	99,090.55	2.27

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

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

	Area 1
Ia =	29.0%
Rv=	0.31
Rd (in.)=	1.5
A (ac.) =	7.86
V (cf.)=	**13308**

Total Storage Required by NCDEQ = 13,400.00 cf
Total Storage Required by Currituck County = 36,400.00 cf

Permanent pool Storage Provided In Wet Detention Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
-3	6509			0
		7725.5	23177	
0	8942			23177
		10289.5	30869	
3	11637			54046
		12360.5	6180	
3.5	13084			60226

Total Storage (cf.) Provided in Basin 1: **60226**

P16099
Athletic Facility - Currituck, NC
2/16/2024

Above Permanent Pool Storage Provided In Wet Detention Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
3.5	13084			0
		13839.5	6920	
4	14595			6920
		15383.5	15384	
5	16172			22304
		18716	56148	
8	21260			78452

Total Storage (cf.) Provided in Basin 1: **78452** 8.79

Volume in Forebay for Basin 1

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
1	214			0
		387	774	
3	560			774
		737.5	738	
4	915			1512
		1392.5	2785	
6	1870			4297
		2166	2166	
7	2462			6463
		2787.5	2788	
8	3113			9251

Total Storage (cf.) Provided in Basin 1: **9251**

15%

P16099
Athletic Facility - Currituck, NC
2/16/2024

A_{bot_shelf} =	5615	sf
A_{perm_pool} =	13084	sf
A_{bot_pond} =	6509	sf
V_{perm_pool} =	60226	cf
Depth =	6.5	

Option 1	Dav =	4.6	feet	**SA/DA =**	1.52
				DA =	342,330.00
				Req'd SA =	5,186.30
Option 2	Dav =	7.4	feet		

Wet Detention Basin Supplement Calculations

Orifice Draw Down Calculations Basin 1

Q = CA(2gH)^0.5		
H=Driving Head = D/3 =	0.90	ft.
C = orific coefficient =	0.6	
Try orifice diameter =	3	in
A = Area = 3.14*(d^2)/4 =	0.049	sf
Q = CA(2gH)^0.5 =	0.224	cfs

Required Storage Volume = 13400.0 cf

Drawdown = Storage Volume / Q = **4.05 days**

Appendix B – On-site Soils Report and Memo

MEMORANDUM

Quible & Associates, P.C. SINCE 1959
ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING
Phone: (252) 261-3300
Fax: (252) 261-1260
Web: www.quible.com

NORTH CAROLINA LICENSED SEAL 1954 GEOLOGIST WARREN DENNIS EADUS

12/12/23

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 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.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Currituck County, North Carolina

1555 Waterlily Road Athletic Facility

December 14, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

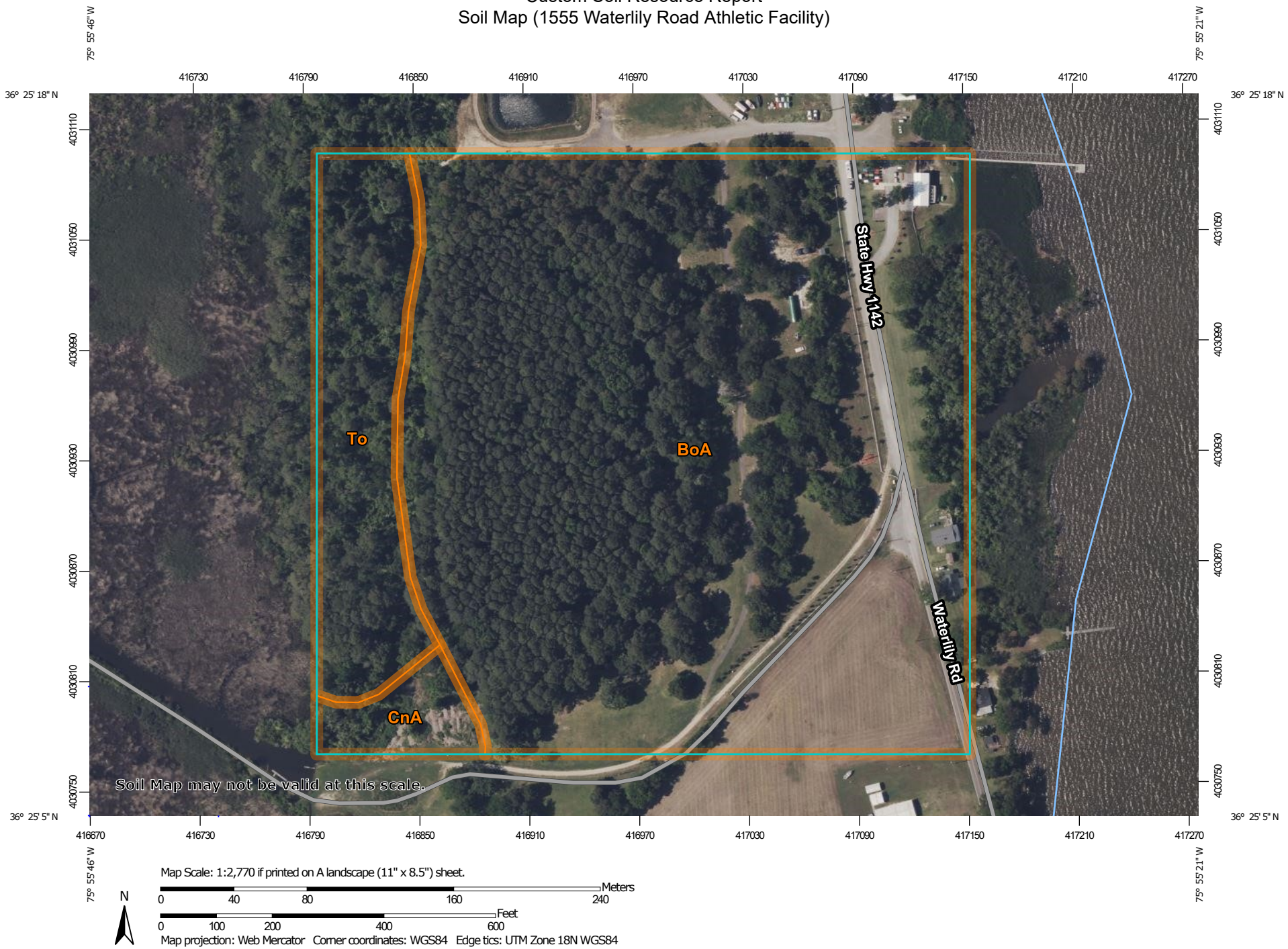
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (1555 Waterlily Road Athletic Facility)



Map Scale: 1:2,770 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Currituck County, North Carolina
Survey Area Data: Version 23, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (1555 Waterlily Road Athletic Facility)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BoA	Bojac loamy sand, 0 to 3 percent slopes	24.3	84.2%
CnA	Conetoe loamy sand, 0 to 3 percent slopes	0.8	2.9%
To	Tomotley fine sandy loam	3.7	12.9%
Totals for Area of Interest		**28.9**	**100.0%**

Map Unit Descriptions (1555 Waterlily Road Athletic Facility)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Currituck County, North Carolina

BoA—Bojac loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3rnb
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bojac and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Ridges on marine terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and sandy fluviomarine deposits

Typical profile

Ap - 0 to 8 inches: loamy fine sand
Bt - 8 to 47 inches: fine sandy loam
C - 47 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Conetoe

Percent of map unit: 4 percent
Landform: Ridges on stream terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest

Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Seabrook

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY020NC - Moist Sands
Hydric soil rating: No

Munden

Percent of map unit: 3 percent
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

CnA—Conetoe loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3rnf
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Conetoe and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Conetoe

Setting

Landform: Ridges on stream terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 8 inches: loamy sand
E - 8 to 22 inches: loamy sand
Bt - 22 to 40 inches: sandy loam
BC - 40 to 46 inches: loamy sand

C - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F153AY030NC - Dry Loamy Rises and Flats, F153BY030NC - Dry Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Leon

Percent of map unit: 5 percent
Landform: Flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153BY070NC - Wet Spodosol Flats and Depressions, F153AY070NC - Wet Spodosol Flats and Depressions
Hydric soil rating: Yes

To—Tomotley fine sandy loam

Map Unit Setting

National map unit symbol: 3rp4
Elevation: 0 to 30 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Tomotley, drained, and similar soils: 75 percent
Tomotley, undrained, and similar soils: 10 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomotley, Drained

Setting

Landform: Flats on marine terraces, depressions on stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Btg1 - 7 to 12 inches: fine sandy loam
Btg2 - 12 to 42 inches: sandy clay loam
BCg - 42 to 50 inches: sandy loam
Cg - 50 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY090NC - Flooded Mineral Soil Floodplains and Terraces
Hydric soil rating: Yes

Description of Tomotley, Undrained

Setting

Landform: Depressions on stream terraces, flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 7 inches: fine sandy loam
Btg1 - 7 to 12 inches: fine sandy loam
Btg2 - 12 to 42 inches: sandy clay loam
BCg - 42 to 50 inches: sandy loam
Cg - 50 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)

Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY090NC - Flooded Mineral Soil Floodplains and Terraces
Hydric soil rating: Yes

Minor Components

Nimmo, undrained

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, flats on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Arapahoe, undrained

Percent of map unit: 3 percent
Landform: Flats, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY090NC - Flooded Mineral Soil Floodplains and Terraces
Hydric soil rating: Yes

Dragston, undrained

Percent of map unit: 1 percent
Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Appendix C – Fire Flow Calculations

AFF Calculations

Total Storage Required for NFF = 12,031.00 cf

Storage Provided In Pond

Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
-0.5	8518			0
		9065.5	12238	
0.85	9613			12238

Total Permanent Pool Storage (cf.) Provided in Basin 1: **12,238.00**

Gallons **91,546.60**

gpm for 2 hours 762.9

Operations
ISO Fire Flow Worksheet
Sample

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

STEP 1 Take the area, which is 100% sq. ft. of the first floor plus the following percentage of the total area of the other floors.

First Floor	750	Sq. Ft. @ 100%

Buildings classified as construction classes I-IV: 25% of all other floors
Buildings classified as construction classes V-VI: 50% of all other floors

Total other floors	0
Total Area All	750

STEP 2 Take the Square Root of the Area: 27

Now mulitiply by "F", which is the coefficient for the construction type:

F = Coefficient related to the class of construction as determined by using the construction type found in SBCCI

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

F Value Selected	1.5	
Square Root of the Area x F	41	
Square Root of the Area x F x 18	739	= C Value

STEP 3 Round off the C value to the nearest 250 GPM (round up or down)

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
Rounded to the nearest 250 GPM	750

ISO Fire Flow Worksheet
Sample Continued

STEP 4	Multiply result of rounded off GPM by the Occupancy Factor (Oi)	**Occupancy Factor**
	Noncombustible (C-1) = No active fuel loads such as storage of asbestos, clay, glass, marble, stone, or metal products.	**0.75**
	Limited - Combustible (C-2) = 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.	**0.85**
	Combustible (C-3) = 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 & retail sales ocuppancies.	**1.0**
	Free-Burning (C-4) = 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.	**1.15**
	Rapid-Burning (C-5) = 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, & waste paper storage.	**1.25**
	Occupancy Factor Selected 0.85	
	Rounded GPM x Oi 637.5	

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)
637.5 x (1+0)

Fire flow required	638

STEP 6 **Approved Fire Sprinkler System Credit** 0%

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

~~159~~

Now subtract sprinkler credit from fire flow in step 5

~~**Fire Flow Required**~~	~~**478.125**~~	**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	**750**

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

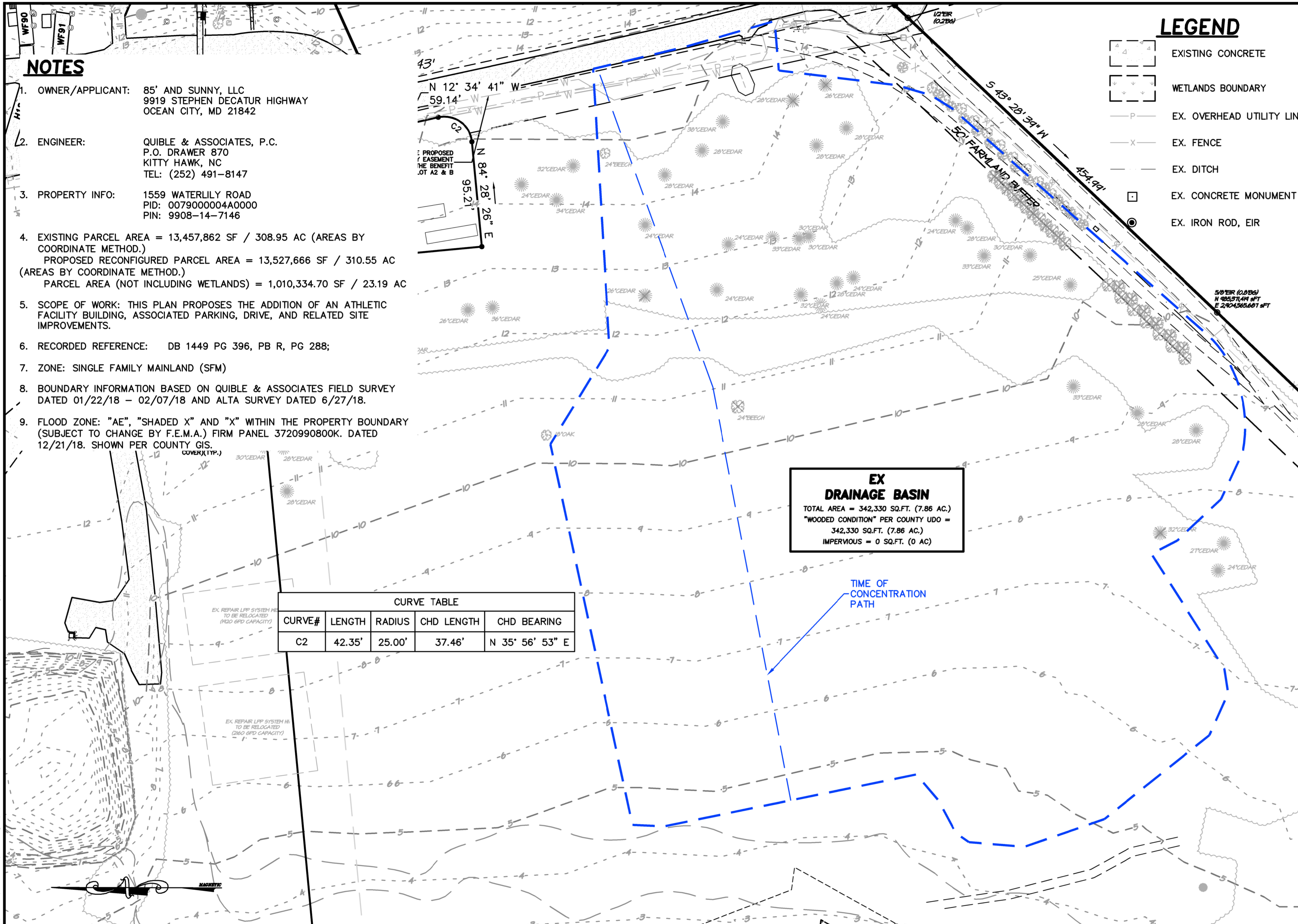
Distance from hydrant to structure	Max Flow Credit (gpm per hydrant)
Within 300 feet	1,000
301 to 600 feet	670
601 to 1,000 feet	250

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.

Appendix D – Drainage Area Maps

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842
2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147
3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908-14-7146
4. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.)
   PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
   PARCEL AREA (NOT INCLUDING WETLANDS) = 1,010,334.70 SF / 23.19 AC
5. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY BUILDING, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.
6. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;
7. ZONE: SINGLE FAMILY MAINLAND (SFM)
8. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 – 02/07/18 AND ALTA SURVEY DATED 6/27/18.
9. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.



LEGEND

- EXISTING CONCRETE
- WETLANDS BOUNDARY
- EX. OVERHEAD UTILITY LINE
- EX. FENCE
- EX. DITCH
- EX. CONCRETE MONUMENT
- EX. IRON ROD, EIR

CURVE TABLE				
CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E

Quible & Associates, P.C.
NC License#: C-0208
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 Caratoke Hwy, Powells Point, NC 27966
Phone: (252) 491-8147
90 Church St., Ste. B, Black Mountain, NC 28711
Phone: (828) 357-5149
administrator@quible.com

PRELIMINARY NOT FOR CONSTRUCTION

EXHIBIT A - PRE DEV. DRAINAGE AREA MAP

ATHLETIC FACILITY
1559 WATERLILY ROAD

COINJOCK | CURRITUCK COUNTY | NORTH CAROLINA

GRAPHIC SCALE IN FEET 1"=80' (0, 80', 160')

PROJECT: P16099.1
DRAWN BY: CMS
CHECKED BY: MWS
DATE: 02/21/24

Q:\2016\P16099\Drawings\Athletic Facility\P16099-BASE-ATHLETIC FACILITY.dwg 2/22/2024 9:43 AM Csaunders

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147

3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908-14-7146

4. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.)
   PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
   PARCEL AREA (NOT INCLUDING WETLANDS) = 1,010,334.70 SF / 23.19 AC

5. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY BUILDING, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.

6. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;

7. ZONE: SINGLE FAMILY MAINLAND (SFM)

8. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 - 02/07/18 AND ALTA SURVEY DATED 6/27/18.

9. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.

CURVE TABLE				
CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E

LEGEND

- EXISTING CONCRETE
- WETLANDS BOUNDARY
- EX. CONCRETE MONUMENT
- EX. IRON ROD, EIR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE (TOP OF ASPHALT UNLESS OTHERWISE NOTED)
- PROPOSED FLOW DIRECTION AND SLOPE

PROPOSED DRAINAGE BASIN
TOTAL AREA = 342,330 SQ.FT. (7.86 AC.)
OPEN SPACE = 243,239 SQ.FT. (5.58 AC.)
IMPERVIOUS = 99,090 SQ.FT. (2.27 AC)

N 12° 34' 41" W 59.14'
N 84° 28' 26" E 95.21'
S 43° 28' 39" W 396.05'
S 43° 28' 39" W O'EIR 454.99'
50' FARMLAND BUFFER
35.0' 154.0' 154.0' 35.0'

Quible & Associates, P.C.
NC License#: C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 Caratoke Hwy, Powells Point, NC 27966
Phone: (252) 491-8147
90 Church St., Ste. B, Black Mountain, NC 28711
Phone: (828) 357-5149
administrator@quible.com

PRELIMINARY NOT FOR CONSTRUCTION

EXHIBIT B - POST DEV. DRAINAGE AREA MAP

ATHLETIC FACILITY
1559 WATERLILY ROAD

COINJOCK — CURRITUCK COUNTY — NORTH CAROLINA

GRAPHIC SCALE IN FEET 1"=80'
0 80' 160'

PROJECT	DRAWN BY	CHECKED BY	DATE
P16099.1	CMS	MWS	02/21/24

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147

3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908-14-7146

4. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.) PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
5. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.
6. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;
7. ZONE: SINGLE FAMILY MAINLAND (SFM)
8. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 – 02/07/18 AND ALTA SURVEY DATED 6/27/18.
9. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.
10. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.
11. ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH CHAPTER 5.2 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE.
12. EXTERIOR LIGHTING PLAN UNDER SEPARATE COVER. ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH CHAPTER 5.4 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE.
13. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.

DEMOLITION NOTES:

1. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND SERVICES – TO INCLUDE BUT NOT LIMITED TO ELECTRIC, CABLE, TELEPHONE, GAS, SANITARY SEWER AND WATER – AND SHALL COORDINATE PROPER PROTECTION AND/OR RELOCATE WITH APPROPRIATE OWNER/UTILITY COMPANY.
2. CONTRACTOR SHALL WALK THE SITE AND BE FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND BE UNCLASSIFIED EXCAVATION.
3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE CURBS AND GUTTERS, BITUMINOUS CONCRETE PAVEMENTS AND ALL MATERIALS OR VEGETATION CLEARED AND STRIPPED TO THE EXTENT NECESSARY FOR THE INSTALLATION OF NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING. COORDINATE WITH APPROPRIATE DRAWINGS.
4. THE CONTRACTOR SHALL PROTECT ALL PROPERTY AND STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO THE PROPERTY DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO THE OWNER.
5. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM PROJECT AREA.
6. EXISTING PAVEMENT, CURB AND GUTTER, LIGHTS, FENCES, TREE/VEGETATION AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED, AND UNDISTURBED DURING DEMOLITION. CONTRACTOR SHALL COORDINATE THE REMOVAL OF BITUMINOUS CONCRETE PAVEMENTS AND CURB AND GUTTER WITH THE SITE PLAN.
7. SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND CURBS AND GUTTERS TO BE DEMOLISHED SHALL BE PROVIDED.
8. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AS WELL AS OSHA REGULATIONS.
9. CONTRACTOR'S ACTIVITIES SHALL NOT IMPEDE USAGE OR INGRESS/EGRESS TO ADJACENT PROPERTIES. COORDINATE WITH OWNER MAINTENANCE OF TRAFFIC/PEDESTRIAN CIRCULATION DURING CONSTRUCTION.
10. MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES DURING DEMOLITION.
11. DEMOLITION SHALL NOT BEGIN UNTIL WRITTEN AUTHORIZATION IS RECEIVED FROM THE OWNER AND CONTRACTOR HAS OBTAINED THE REQUIRED PERMITS FROM ALL LOCAL, STATE, AND FEDERAL AGENCIES HAVING JURISDICTION TO AUTHORIZE DEMOLITION WORK.
12. DEMOLITION PLAN DOES NOT PURPORT TO SHOW ALL OBJECTS OR UTILITIES EXISTING ON THE SITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES AND IMPROVEMENTS WITHIN THE LIMITS OF WORK. CONTRACTOR SHALL COORDINATE ALL UTILITY DISCONNECTION, (I.E. SANITARY SEWER, WATER, GAS, TELEPHONE, ELECTRIC, ETC.) TO BUILDINGS, STRUCTURES AND OTHER CONNECTIONS AS NECESSARY FOR DEMOLITION WITH THEIR RESPECTIVE UTILITY PROVIDER. ALL UTILITIES, ABOVE, ON OR BELOW GROUND SHALL BE REMOVED AS DENOTED ON THE PLAN AND SHALL MEET ALL REQUIREMENTS OF UTILITY OWNERS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO BEGINNING OF WORK. BEFORE ANY DEMOLITION, THE CONTRACTOR SHALL CALL NORTH CAROLINA ONE-CALL 1-800-632-4949 TO HAVE ALL UNDERGROUND UTILITIES LOCATED ON AND NEAR THE VICINITY OF THE SITE.
13. EXISTING WATER METERS, ELECTRICAL TRANSFORMERS, TELECOMMUNICATION TERMINALS, ETC. ARE THE PROPERTY OF THE UTILITY COMPANIES SERVICING THE SITE AND CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH UTILITY OWNERS THE REMOVAL, TRANSPORTATION, AND STORAGE OF THE SAME.
14. WHERE BUILDING FOUNDATION WALLS, FOOTINGS, CONCRETE SLABS, STOOPS, PAVEMENTS, SIDEWALKS, CURB, OR CURB AND GUTTER ARE INDICATED TO BE REMOVED CONTRACTOR SHALL INCLUDE THE REMOVAL OF BASE MATERIAL DOWN TO SUB-GRADE.
15. DEMOLITION PLAN DOES NOT GUARANTEE THE ACCURACY OR QUANTITIES OF THE DEMOLITION STRUCTURES AND MATERIALS; IT WAS DEVELOPED TO ASSIST THE CONTRACTOR. IT IS EXPRESSLY STATED HEREON THAT THE OWNER OR ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY THE CONTRACTOR.
16. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE DAILY IN A MANNER WHICH PREVENTS INJURY OR DAMAGE TO PERSONS, PRIVATE PROPERTY, AND/OR PUBLIC RIGHTS-OF-WAY; CONTRACTOR SHALL LEGALLY DISPOSE OF ALL DESIGNATED DEMOLITION DEBRIS FROM THE PROJECT SITE TO A DISPOSAL SITE APPROVED BY ALL AUTHORITIES HAVING JURISDICTION.

PERMANENT VEGETATION

SEEDING DATES: APRIL 1 – AUGUST 31:

SEED MIXTURE	APPLICATION RATES/ACRE
REBEL II FESCUE	130 LBS.
COMMON BERMUDA 'SAHARA" (HULLED)	215 LBS.

SEEDING DATES: SEPT. 1 – MARCH 31:

SEED MIXTURE	APPLICATION RATES/ACRE
REBEL II FESCUE	250 LBS.
COMMON BERMUDA 'SAHARA" (UNHULLED)	215 LBS.

TEMPORARY VEGETATION

SEEDING DATES: AUG. 16 – APRIL 15:

SEED MIXTURE	APPLICATION RATES/ACRE
RYE GRAIN	120 LBS

SEEDING DATES: APRIL 16 – AUG. 15:

SEED MIXTURE	APPLICATION RATES/ACRE
GERMAN MILLET	40 LBS

SEEDBED PREPARATION:
LOOSEN SOILS TO A DEPTH OF 6–8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW, BREAK UP CLODS, REMOVE UNACCEPTABLE GROWTH (STICKS, ROOTS), STONES (>3"), AND OTHER MATERIALS, AND WORK THE TOP 3–4 INCHES OF THE SOIL INTO A SEEDBED. THE AREA TO BE SEEDED SHALL BE RE-COMPACTED UTILIZING A CULTIPACKER ROLLER AND A SMOOTH EVEN SOIL SURFACE WITH A LOOSE, UNIFORMLY FINE TEXTURE SHALL BE THE FINISHED GRADE.

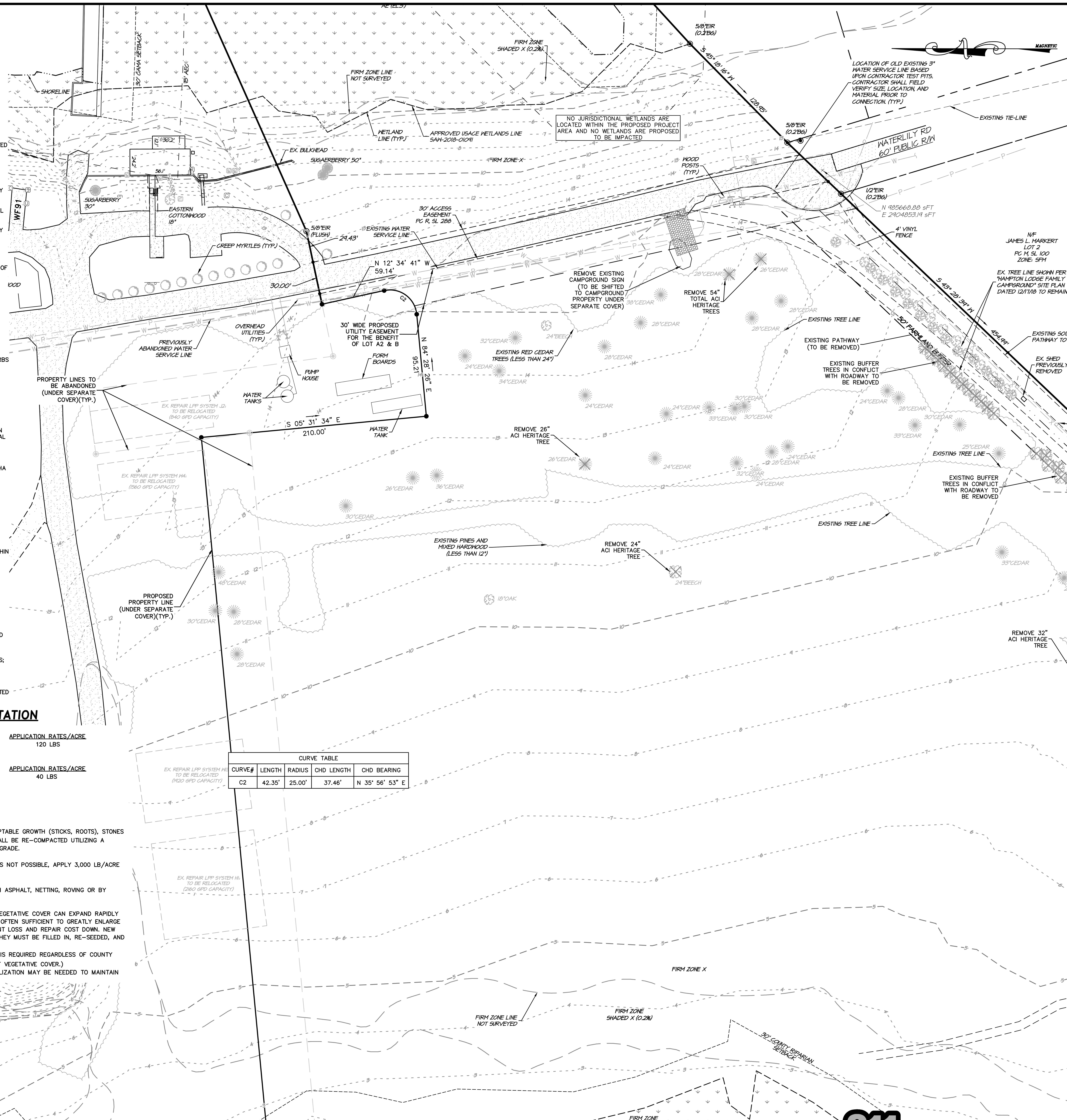
SOIL AMENDMENTS:
OBTAIN A SOIL TEST TO DETERMINE APPLICATION RATES AND FOLLOW RECOMMENDATIONS OF SOIL TESTS. WHEN A SOIL TEST IS NOT POSSIBLE, APPLY 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 STARTER FERTILIZER.

MULCHING:
APPLY 4,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL.

MAINTENANCE:
SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER. EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY AND, IF LEFT UNATTENDED, CAN ALLOW SERIOUS SOIL LOSS FROM AN OTHERWISE STABLE SURFACE. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE BARE SPOTS, AND THE LONGER REPAIRS ARE DELAYED, THE MORE COSTLY THEY BECOME. PROMPT ACTION WILL KEEP SEDIMENT LOSS AND REPAIR COST DOWN. NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLIES DEVELOP, THEY MUST BE FILLED IN, RE-SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD.
MAINTENANCE REQUIREMENTS EXTEND BEYOND THE SEEDING PHASE. (COMPLETE VEGETATIVE COVER IS REQUIRED REGARDLESS OF COUNTY ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND FINAL PAYMENT WILL NOT BE AWARDED UNTIL COMPLETE ESTABLISHMENT OF VEGETATIVE COVER.)
WEAK OR DAMAGED SPOTS MUST BE RELIMED, FERTILIZED, MULCHED, AND RESEEDED AS PROMPTLY AS POSSIBLE. REFERTILIZATION MAY BE NEEDED TO MAINTAIN PRODUCTIVE STANDS.

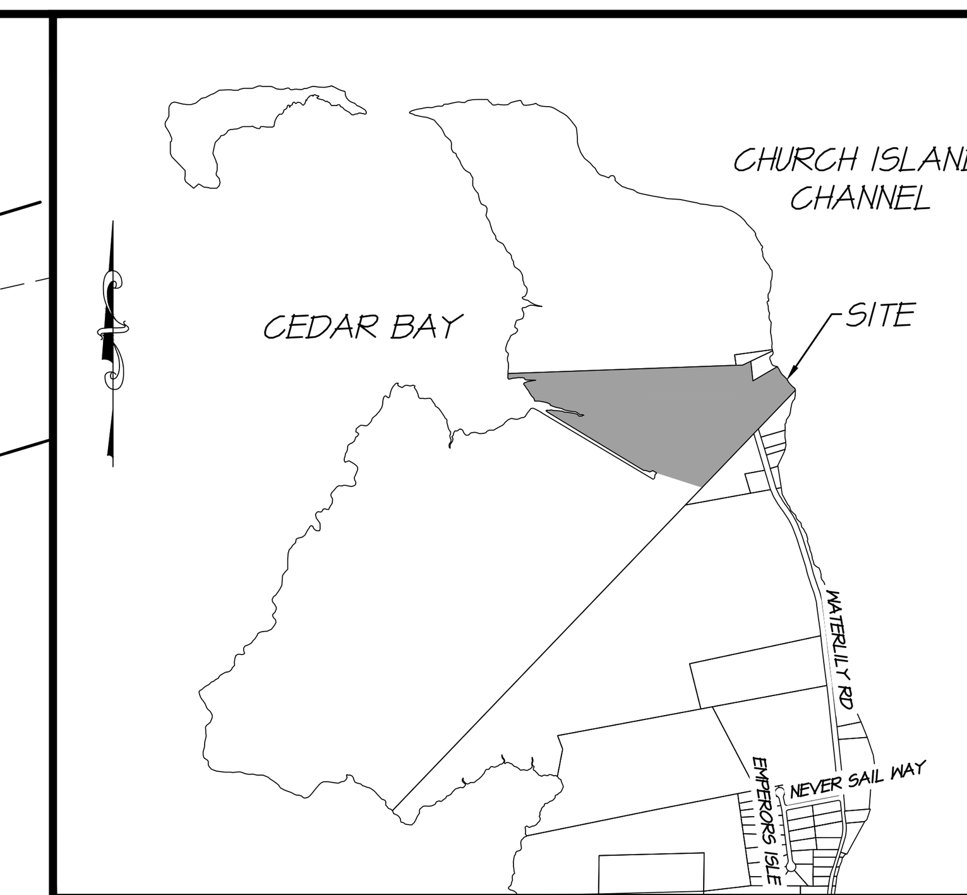
SEEDING SPECIFICATIONS

SHEET INDEX



CURVE TABLE

CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E



VICINITY MAP (POPLAR BRANCH)
N.T.S.

LEGEND

- EXISTING CONCRETE
- WETLANDS BOUNDARY
- EX. OVERHEAD UTILITY LINE
- EX. FENCE
- EX. DITCH
- EX. CONCRETE MONUMENT
- EX. IRON ROD, EIR
- EX. TELEPHONE PEDESTAL
- EX. CABLE TV PED.
- EX. ELECTRICAL PEDESTAL
- EX. SEWER CLEAN-OUT
- EX. BASKETBALL GOAL
- EX. TV DISH
- EX. WATER SERVICE
- EX. LIGHT POST
- EX. UTILITY POLE

NOTE: THIS DOCUMENT IS PRELIMINARY – NOT FOR CONSTRUCTION, RECORDATION, SALES OR CONVEYANCES – THIS DOCUMENT IS FOR DISCUSSION PURPOSES ONLY! EXISTING INFORMATION SHOWN ON THIS DOCUMENT IS BASED ON BEST AVAILABLE DATA AND IS NOT A CERTIFIED SURVEY. ALL INFORMATION SHOWN ON THIS DOCUMENT IS SUBJECT TO ANY REQUIREMENTS BY ANY REGULATORY AGENCY, ENTITY OR AUTHORITY.

QUIBLE & ASSOCIATES, P.C. DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF ANY INFORMATION IN THIS DOCUMENT AND IS NOT RESPONSIBLE FOR ANY ERROR OR OMISSION OR ANY LOSSES OR DAMAGES RESULTING FROM THE USE OF THIS INFORMATION.

Know what's below. Call before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

GRAPHIC SCALE
50' 0 25' 50' 100'
(IN FEET)
1 inch = 50 ft.

NC License#: C-0208
SINCE 1959
Quible & Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047652 CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

REVISIONS
NO. | DATE

EXISTING CONDITIONS

ATHLETIC FACILITY
1559 WATERLILY RD
POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23

SHEET NO. 1 OF 9 SHEETS

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147

3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908-14-7146

4. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY BUILDING, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.

5. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.)
   PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
   PARCEL AREA (NOT INCLUDING WETLANDS) = 1,010,334.70 SF / 23.19 AC

   LOT COVERAGE CALCULATIONS

BUILDINGS	958.0	SQ.FT.
POOL & POOL AREA	20,215.5	SQ.FT.
GRAVEL	1,583.0	Q.FT.
ASPHALT	76,334.0	SQ.FT.
EX. ASPHALT MILLINGS TO REMAIN	11,772.4	SQ.FT.
TOTAL	110,862.9	SQ.FT. (0.82%) (30% ALLOWED)

6. REQUIRED PARKING:
   NO MORE THAN 200 SWIMMERS
   @ 1 PARKING SPACE PER THREE SWIMMERS = 67 SPACES
   16 PLAYERS (PICKLEBALL OR BASKETBALL)
   @ 1 SPACE PER PLAYER = 16 SPACES
   NO MORE THAN 10 EMPLOYEES
   @ PEAK SHIFT @ 1 SPACE PER EMPLOYEE = 15 SPACES
   TOTAL PARKING REQUIRED= 93 SPACES
   TOTAL PARKING PROVIDED= 104 SPACES (2 ADA SPACES)

7. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;

8. ZONE: SINGLE FAMILY MAINLAND (SFM)

9. MAXIMUM BUILDING HEIGHT: 35'

10. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 – 02/07/18 AND ALTA SURVEY DATED 6/27/18.

11. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.

12. ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH CHAPTER 5.2 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE.

13. ALL UTILITIES SERVING THIS SITE WILL BE PLACED UNDERGROUND.

14. STORMWATER MANAGEMENT:
    RUNOFF FROM ALL PROPOSED IMPROVEMENTS WILL BE COLLECTED AND CONVEYED INTO A WET DETENTION BASIN LOCATED ON THE SOUTHERN SIDE OF THE DEVELOPMENT.

15. THIS PLAN SET TO BE UTILIZED FOR THE INSTALLATION OF SITE LAYOUT IMPROVEMENTS INCLUDING BUT NOT LIMITED TO GRADING & DRAINAGE, INSTALLATION OF SEDIMENT CONTROL MEASURES, WASTEWATER IMPROVEMENTS, AND WATER SYSTEM. FOR BUILDING DESIGN AND ASSOCIATED PLUMBING, SEE APPROPRIATE SEPARATE PLANS.

16. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.

17. ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH CHAPTER 5.4 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE. LIGHTING PLAN PROVIDED UNDER SEPARATE COVER.

18. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.

19. PRIOR TO LAND DISTURBANCE, A STATE APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.

20. BUILDING CONSTRUCTION SHALL COMPLY WITH ALL ASPECTS OF THE NORTH CAROLINA BUILDING AND FIRE CODE.

21. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

22. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, APPLICABLE CURRITUCK COUNTY CODES AND ORDINANCES, AND NCDEQ DIVISION OF ENERGY, MINERAL AND LAND RESOURCES REGULATIONS. FILL IS NOT PROPOSED OR ALLOWED WITHIN 10' OF THE PROPERTY LINE.

23. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING STRUCTURES, PIPING, AND UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.

24. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.

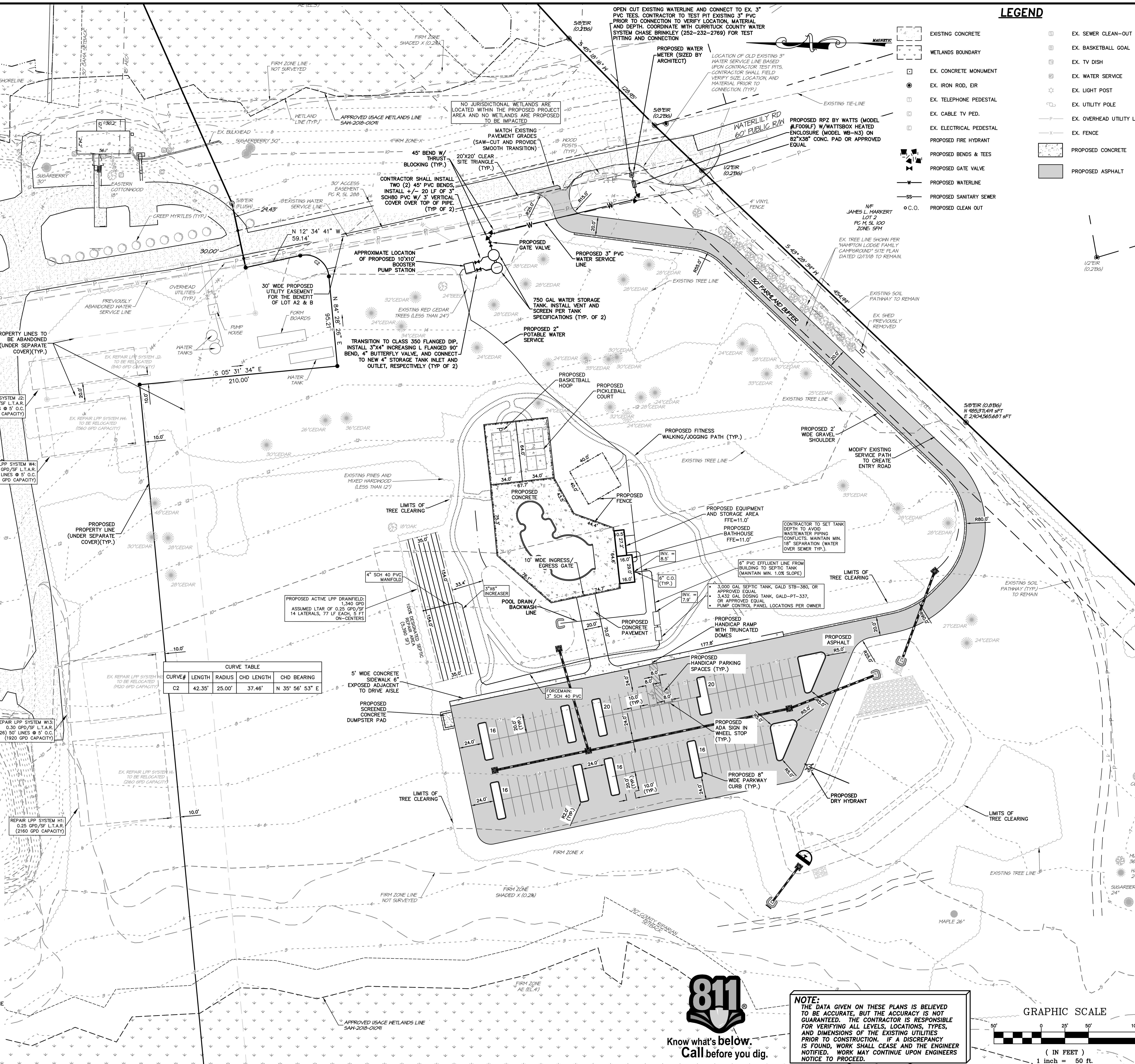
25. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT. ALL WORK WITHIN NCDOT R/W SHALL BE CONSTRUCTED IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.

26. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

27. ALL PAVEMENT MARKINGS, TEXT AND DIRECTIONAL ARROWS SHALL BE PAINTED WHITE. ALL LETTERING SHALL BE 2ft. IN HEIGHT. LINES SHALL BE 4" WIDE. CROSSWALK AND LOADING AREAS, SET 4" WHITE LINES ON A 45° ANGLE.

28. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.

29. WATER IS PROVIDED VIA CURRITUCK COUNTY WATER SYSTEM. ALL WATER IMPROVEMENTS SHALL BE IN ACCORDANCE WITH CURRITUCK COUNTY STANDARD WATER SPECIFICATIONS AND DETAILS.



CURVE TABLE

CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E

WASTEWATER NOTES

1. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UNDERGROUND UTILITIES IN AREAS OF WORK PRIOR TO ANY WORK. PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION IF UTILITIES ARE TO REMAIN IN PLACE.

2. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.

3. NEW WASTEWATER SYSTEM DESIGN PARAMETERS:

   DESIGN FLOW: 104 PARKING SPACES AT 10 GPD, 8 EMPLOYEES AT 25 GPD, AND 2 COURTS AT 50 GPD = 1,340 GPD.

   ACTIVE: LONG TERM APPLICATION RATE (LTAR): 0.25 GPD/SQ.FT. FOR AN LPP SYSTEM.
   (14) 77' LINES @ 5' O.C. (1,078 LN. FT. TOTAL)

   REPAIR: 5,390 SQ. FT.

4. UNLESS OTHERWISE INDICATED ON THE PLAN, CONSTRUCTION OF SEWAGE COLLECTION, TREATMENT AND DISPOSAL SYSTEM IS TO CONFORM WITH SECTION .1900 "LAWS AND RULES FOR SEWAGE TREATMENT AND DISPOSAL SYSTEMS" OF NORTH CAROLINA ADMINISTRATIVE CODE, DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH, ON-SITE WASTEWATER SECTION (15 NCAC 18A.1900).

5. CONSTRUCTION OF SEWAGE COLLECTION SYSTEM, TREATMENT AND DISPOSAL SYSTEM IS TO CONFORM WITH ANY CONDITIONS IMPOSED BY THE LOCAL HEALTH DEPARTMENT.

6. MATERIAL USED FOR COLLECTION AND DISPOSAL SYSTEM SHALL CONFORM WITH SAME REQUIREMENTS AS #4 ABOVE.

7. FILL MATERIAL SHALL HAVE SUCH SOIL TEXTURE TO BE CLASSIFIED AS SAND OR LOAMY SAND (SOIL GROUP I) UP TO THE TOP OF THE NITRIFICATION TRENCHES. THE FINAL SIX INCHES OF FILL USED TO COVER THE SYSTEM SHALL HAVE A FINER TEXTURE (SUCH AS GROUP II, III) FOR THE ESTABLISHMENT OF A VEGETATIVE COVER. THE FILL MATERIAL AND THE EXISTING SOIL SHALL BE MIXED TO A DEPTH OF SIX INCHES BELOW THE INTERFACE. HEAVY VEGETATIVE COVER OR ORGANIC LITTER SHALL BE REMOVED BEFORE THE FILL MATERIAL IS INCORPORATED.

8. ALL SURFACE RUNOFF SHALL BE DIVERTED AROUND AND AWAY FROM THE DRAINFIELD AREA. FINISH GRADE SHALL BE LANDSCAPED TO PREVENT PONDING OF SURFACE WATER. VEGETATE DRAINFIELD AREA AS SPECIFIED IN LANDSCAPE PLAN (BY OTHERS).

9. AN AUTHORIZATION TO CONSTRUCT MUST BE OBTAINED FROM ARHS PRIOR TO INSTALLATION OF ONSITE WASTEWATER SYSTEM.

NC License#: C-0208
Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY, BLDG 400, POWELLS POINT, NC 27966, Phone: (252) 491-8147, administrator@quible.com
90 CHURCH STREET, SUITE B, BLACK MOUNTAIN, NC 28711, Phone: (828) 357-5149, administrator@quible.com

CERTIFICATION
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043652 CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	

PROPOSED SITE & UTILITY PLAN

ATHLETIC FACILITY
1559 WATERLILY RD
POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23

SHEET NO. 2 OF 9 SHEETS

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491–8147

3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908–14–7146

4. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.)
   PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
   PARCEL AREA (NOT INCLUDING WETLANDS) = 1,010,334.70 SF / 23.19 AC

5. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY BUILDING, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.

6. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;

7. ZONE: SINGLE FAMILY MAINLAND (SFM)

8. BUFFERYARDS:
   NORTH N/A
   SOUTH 50' FARMLAND BUFFER (UTILIZE EXISTING VEGETATION, FENCE, 13 PROPOSED LIVE OAKS, AND 13 PROPOSED CEDAR TREES TO BE PROVIDED)
   EAST N/A
   WEST N/A

9. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 – 02/07/18 AND ALTA SURVEY DATED 6/27/18.

10. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.

11. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.

12. ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH CHAPTER 5.2 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE.

13. EXTERIOR LIGHTING PLAN UNDER SEPARATE COVER. ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH CHAPTER 5.4 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE.

14. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.

15. PRIOR TO LAND DISTURBANCE, A STATE APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.

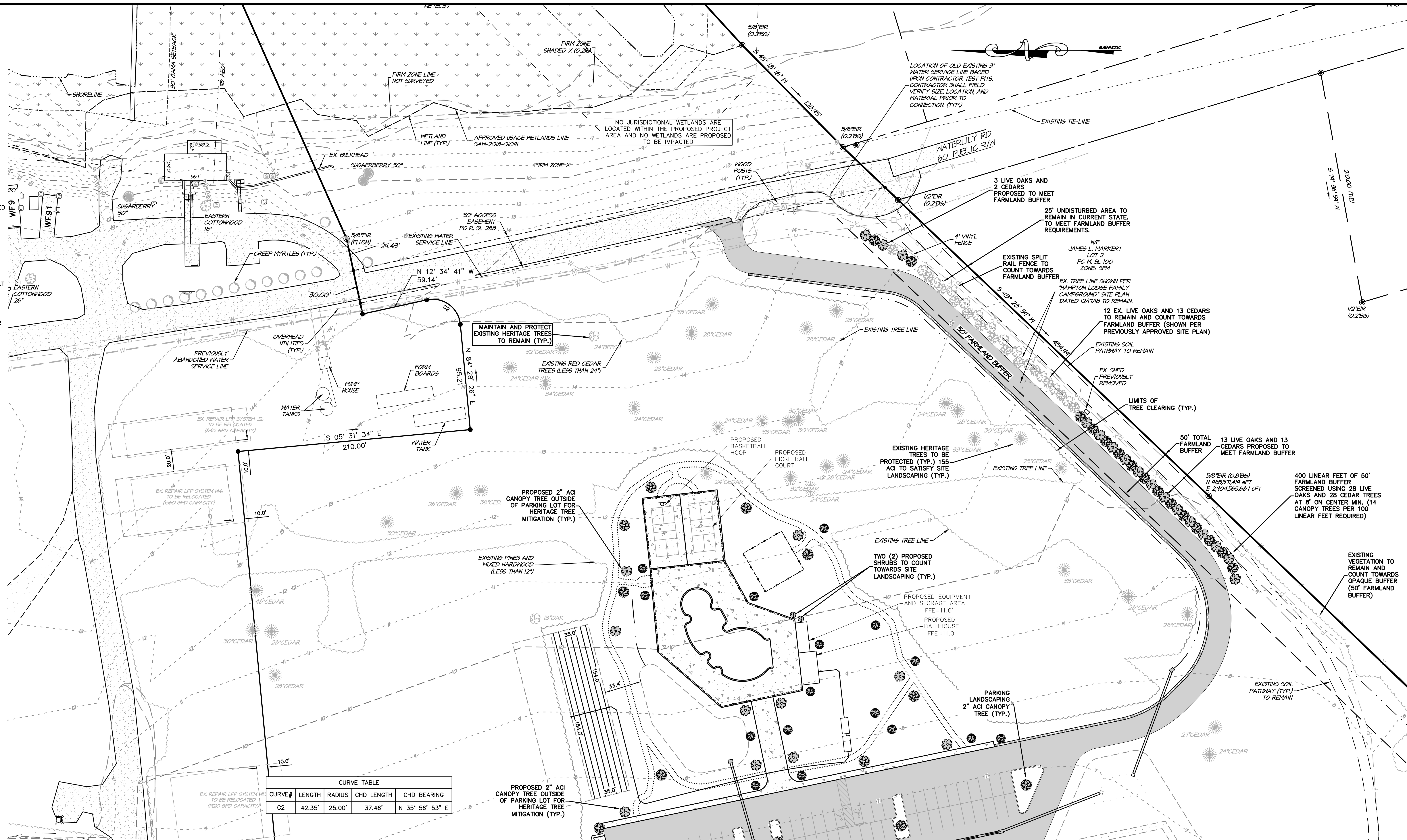
16. FIVE (5) HERITAGE TREES ARE PROPOSED TO BE REMOVED WITH A TOTAL MITIGATION ACI OF 68". ONSITE MITIGATION TO INCLUDE INSTALLATION OF TEN (10) ADDITIONAL 2" ACI LIVE OAKS AND TWENTY–FOUR (24) 2" ACI TREES WITHIN THE SITE.

LEGEND

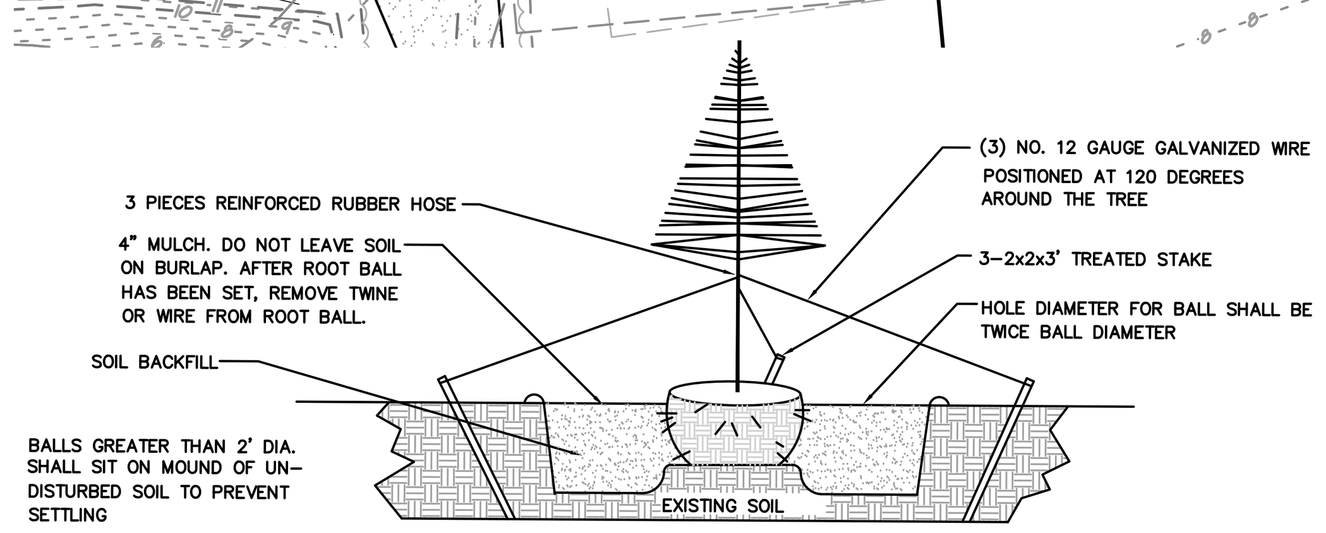
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- WETLANDS BOUNDARY
- EX. CONCRETE MONUMENT
- EX. IRON ROD, EIR
- EX. TELEPHONE PEDESTAL
- EX. CABLE TV PED.
- EX. ELECTRICAL PEDESTAL
- EXISTING TREES
- PROPOSED TREES/SHRUBS
- EX. SEWER CLEAN–OUT
- EX. BASKETBALL GOAL
- EX. TV DISH
- EX. WATER SERVICE
- EX. LIGHT POST
- EX. UTILITY POLE
- EX. OVERHEAD UTILITY LINE
- EX. FENCE
- PROPOSED CONCRETE
- PROPOSED ASPHALT

NOTE: THIS DOCUMENT IS PRELIMINARY – NOT FOR CONSTRUCTION, RECORDATION, SALES OR CONVEYANCES – THIS DOCUMENT IS FOR DISCUSSION PURPOSES ONLY! EXISTING INFORMATION SHOWN ON THIS DOCUMENT IS BASED ON BEST AVAILABLE DATA AND IS NOT A CERTIFIED SURVEY. ALL INFORMATION SHOWN ON THIS DOCUMENT IS SUBJECT TO ANY REQUIREMENTS BY ANY REGULATORY AGENCY, ENTITY OR AUTHORITY.

QUIBLE & ASSOCIATES, P.C. DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF ANY INFORMATION IN THIS DOCUMENT AND IS NOT RESPONSIBLE FOR ANY ERROR OR OMISSION OR ANY LOSSES OR DAMAGES RESULTING FROM THE USE OF THIS INFORMATION.



CURVE TABLE				
CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E



TREE PLANTING DETAIL

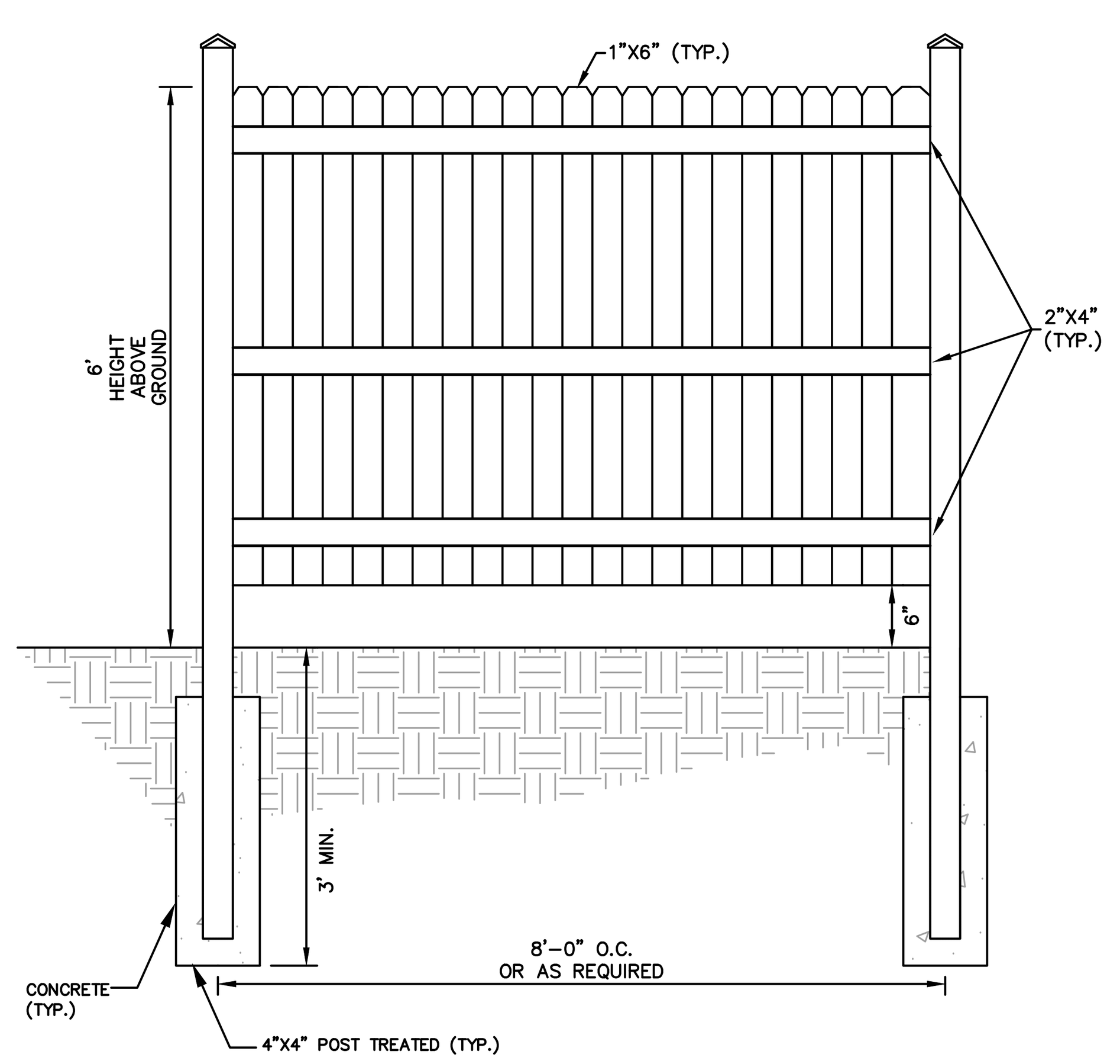
N.T.S.

SYMBOL	QUANTITY	COMMON NAME	HEIGHT	SPREAD	MIN. SIZE @ PLANTING
	26	LIVE OAK	50' – 75'	25' – 40'	2" CAL, 8' HT.
	35	EASTERN RED CEDAR*	30' – 40'	10' – 20'	2" CAL, 8' HT.
	8	BALD CYPRESS*	50' – 100'.	20' – 30'	2" CAL, 8' HT.
	8	RED MAPLE*	40' – 50'	25' – 45'	2" CAL, 8' HT.
	2	DWARF YAUPON HOLLY***	3' – 5'	3' – 6'	3 GALLON

* CANOPY TREE SPECIES MAY BE SUBSTITUTED WITH THE SPECIES IDENTIFIED IN TABLE 3.4.6. OF THE CURRITUCK ADMINISTRATIVE MANUAL WITH COUNTY APPROVAL.

** UNDERSTORY TREE SPECIES MAY BE SUBSTITUTED WITH THE SPECIES IDENTIFIED IN TABLE 3.4.6. OF THE CURRITUCK ADMINISTRATIVE MANUAL WITH COUNTY APPROVAL.

*** COORDINATE INSTALLATION WITH OWNER. ORNAMENTAL SHRUB/GRASS SPECIES MAY BE SUBSTITUTED WITH THE SPECIES IDENTIFIED IN TABLE 3.4.6. OF THE CURRITUCK ADMINISTRATIVE MANUAL WITH COUNTY APPROVAL.



TYPE D BUFFER FENCE DETAIL

N.T.S

NOTES:
1. CONTRACTOR SHALL PROVIDE SUBMITTAL FOR REVIEW BY OWNER.

Know what's below. Call before you dig.

NOTE: THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

NC License#: C–0208
Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY, BLDG 400, POWELLS POINT, NC 27966, Phone: (252) 491–8147, administrator@quible.com
90 CHURCH STREET, SUITE B, BLACK MOUNTAIN, NC 28711, Phone: (828) 357–5149, administrator@quible.com

PRELIMINARY NOT FOR CONSTRUCTION

CERTIFICATION

REVISIONS

NO. | DATE

LANDSCAPING PLAN

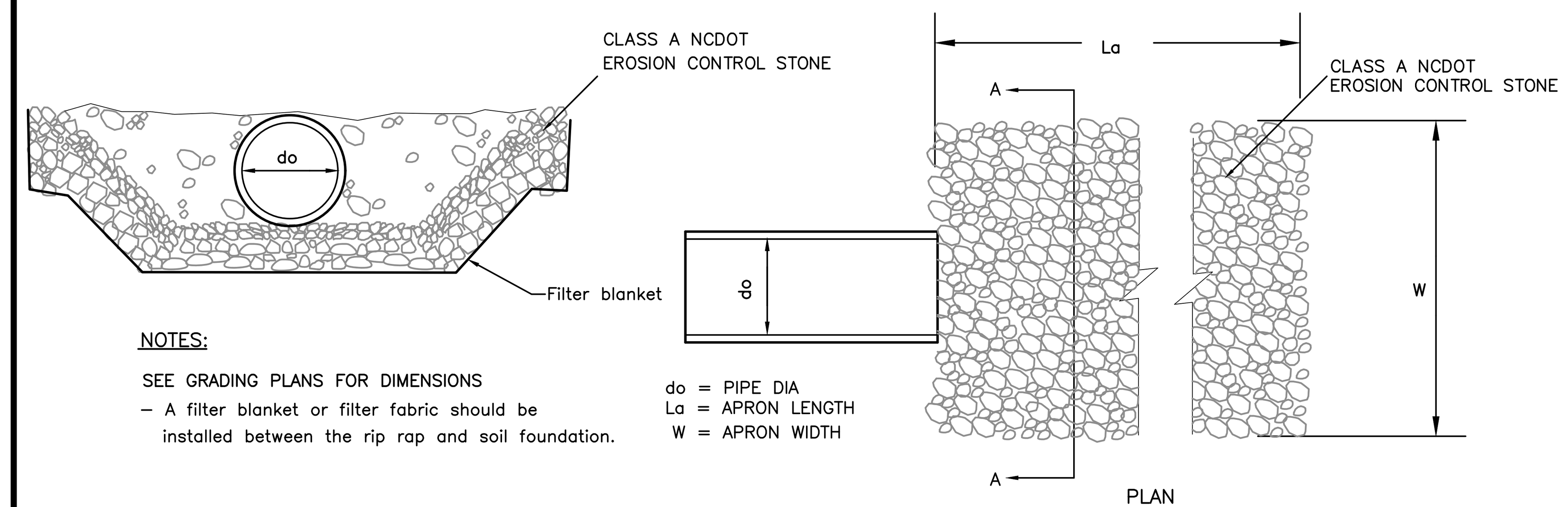
ATHLETIC FACILITY
1559 WATERLILY RD

POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

PROJECT NO. P16099
DESIGNED BY ND
DRAWN BY ND
CHECKED BY MWS
ISSUE DATE 12/12/23

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842
2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491–8147
3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908–14–7146
4. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.)
   PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
   PARCEL AREA (NOT INCLUDING WETLANDS) = 1,010,334.70 SF / 23.19 AC
5. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY BUILDING, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.
6. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;
7. ZONE: SINGLE FAMILY MAINLAND (SFM)
8. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 – 02/07/18 AND ALTA SURVEY DATED 6/27/18.
9. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.
10. STORMWATER MANAGEMENT: RUNOFF FROM ALL PROPOSED IMPROVEMENTS WILL BE COLLECTED AND CONVEYED INTO AN WET POND LOCATED ON THE SOUTHWESTERN SIDE OF THE DEVELOPMENT.
11. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.
12. ALL UTILITIES SERVING THIS SITE WILL BE PLACED UNDERGROUND.
13. HANDICAP PARKING SPACES SHALL NOT EXCEED 2% GRADE.
14. AREAS OF FILL SHALL BE EXCAVATED TO COMPACTED SUBGRADE AND BACKFILLED IN 6" LIFTS.
15. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND PROTECT ALL UNDERGROUND & ABOVE GROUND UTILITIES, EXISTING PAVEMENT SURFACES, EXISTING CULVERTS AND EXISTING PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.
16. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, APPLICABLE CURRITUCK COUNTY CODES AND ORDINANCES, AND NCDEQ DIVISION OF ENERGY, MINERAL AND LAND RESOURCES REGULATIONS.
17. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE–CALL AT TELEPHONE NO. 1–800–632–4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.
18. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
19. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
20. ALL PAVEMENT JOINTS SHALL BE SAW–CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
21. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
22. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN SPOT ELEVATION GRADES AND MAINTAIN POSITIVE DRAINAGE.
23. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.
24. ALL PIPES TO BE CLASS IV REINFORCED CONCRETE, UNLESS OTHERWISE NOTED.
25. ALL REINFORCED CONCRETE PIPES (RCP) TO HAVE END TREATMENTS, EITHER FLARED END SECTIONS (FES) OR END WALLS. END WALLS TO BE CONSTRUCTED AS PER NCDOT STANDARD 838.01.
26. PRIOR TO LAND DISTURBANCE, A STATE APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.
27. THIS DEVELOPMENT REQUIRES THE APPROVAL AND ISSUANCE OF A HIGH DENSITY STORWATER PERMIT FROM NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ). THE PROJECT ULTIMATELY DRAINS TO THE CURRITUCK SOUND (30–1) WITHIN THE PASQUOTANK RIVER BASIN AND IS CLASSIFIED SC.

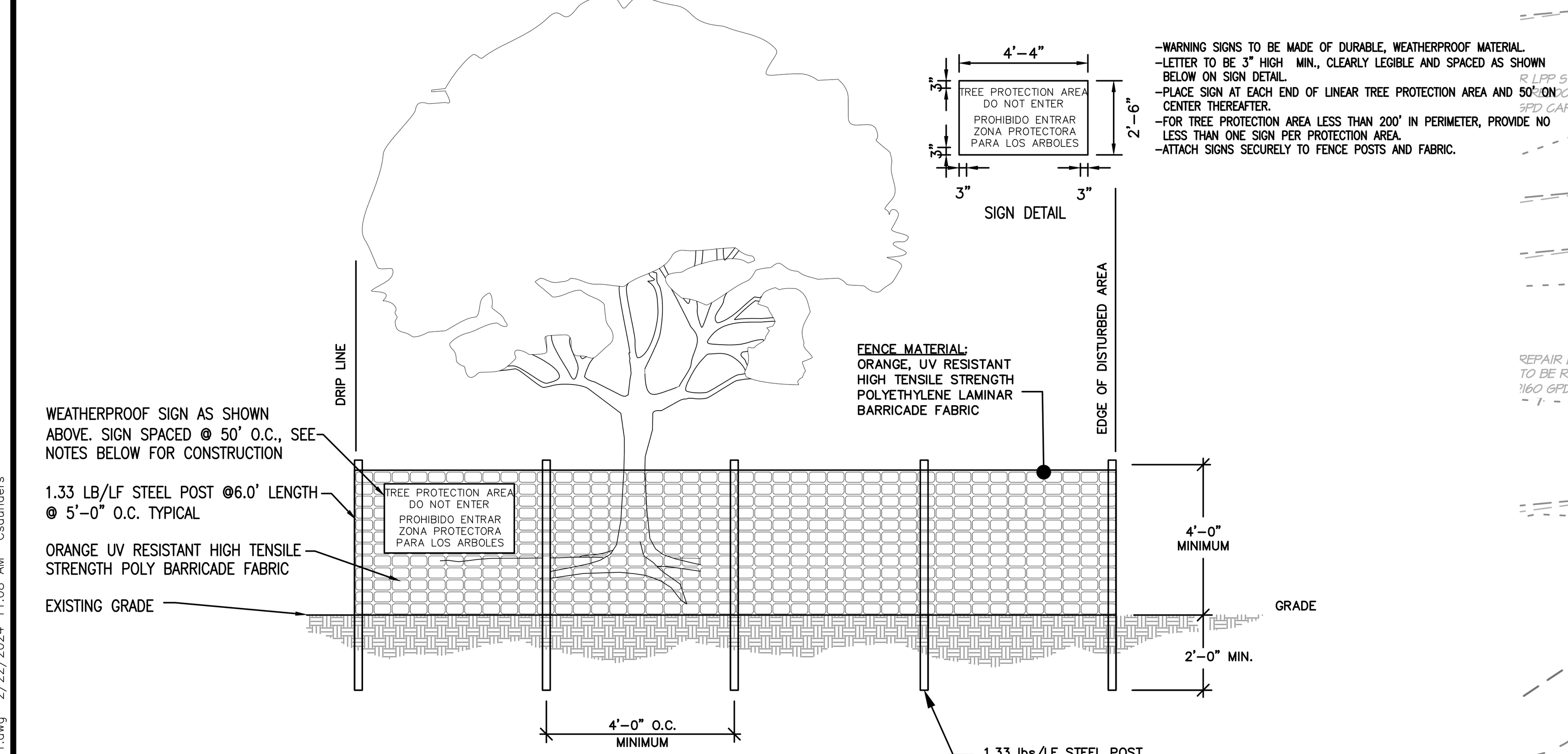


NOTES:

SEE GRADING PLANS FOR DIMENSIONS
– A filter blanket or filter fabric should be installed between the rip rap and soil foundation.

RIP–RAP OUTLET DETAIL

N.T.S.



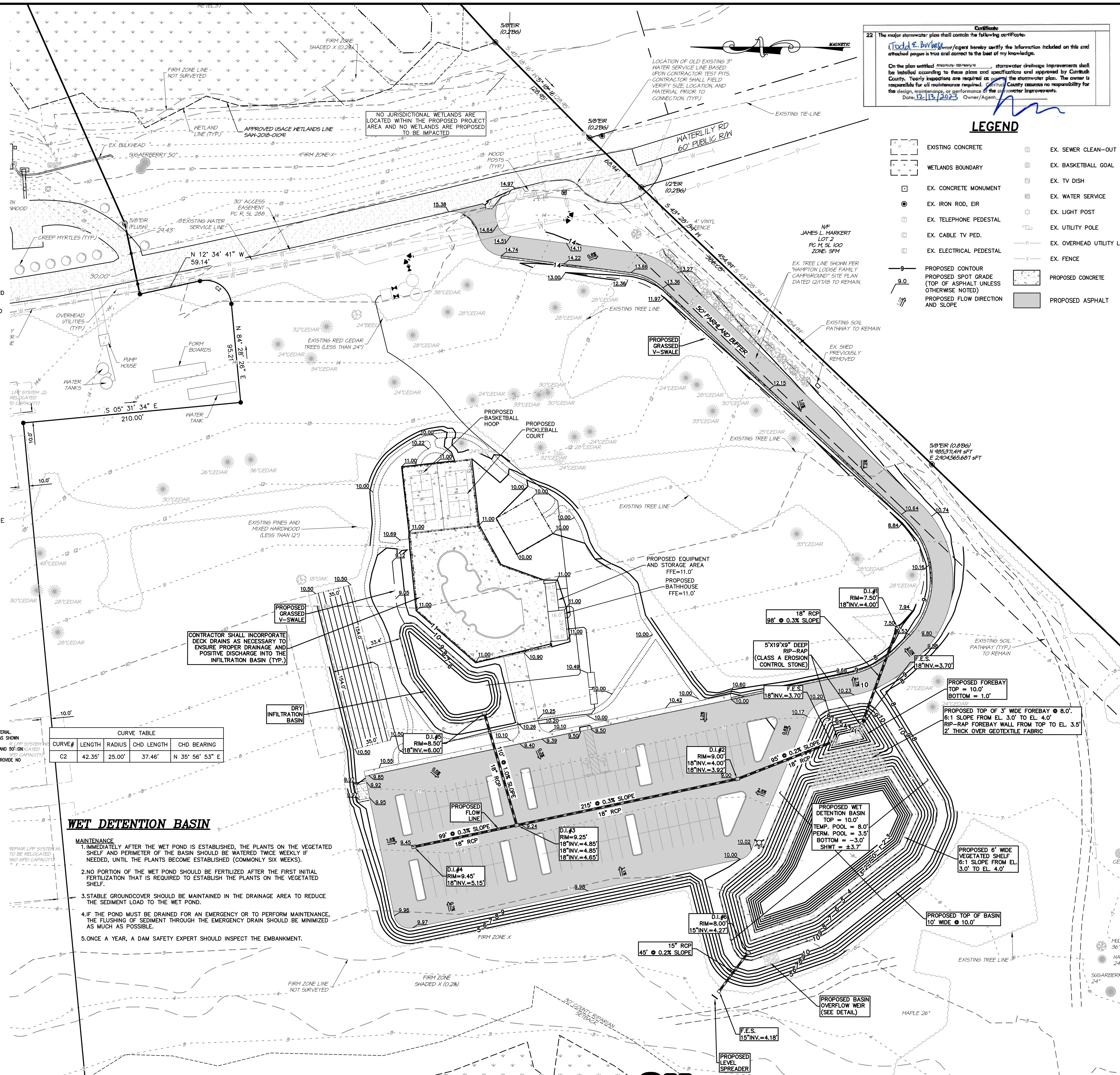
NOTES:
1. ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
2. INSTALL TREE PROTECTION FENCE AT TREE DRIP LINE OR AT EDGE OF DISTURBED AREA, AS SHOWN ON PLANS, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
4. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

TREE PROTECTION DETAIL

N.T.S

NOTE: THIS DOCUMENT IS PRELIMINARY – NOT FOR CONSTRUCTION, RECORDATION, SALES OR CONVEYANCES – THIS DOCUMENT IS FOR DISCUSSION PURPOSES ONLY! EXISTING INFORMATION SHOWN ON THIS DOCUMENT IS BASED ON BEST AVAILABLE DATA AND IS NOT A CERTIFIED SURVEY. ALL INFORMATION SHOWN ON THIS DOCUMENT IS SUBJECT TO ANY REQUIREMENTS BY ANY REGULATORY AGENCY, ENTITY OR AUTHORITY.

QUIBLE & ASSOCIATES, P.C. DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF ANY INFORMATION IN THIS DOCUMENT AND IS NOT RESPONSIBLE FOR ANY ERROR OR OMISSION OR ANY LOSSES OR DAMAGES RESULTING FROM THE USE OF THIS INFORMATION.



CURVE TABLE				
CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E

WET DETENTION BASIN

MAINTENANCE
1. IMMEDIATELY AFTER THE WET POND IS ESTABLISHED, THE PLANTS ON THE VEGETATED SHELF AND PERIMETER OF THE BASIN SHOULD BE WATERED TWICE WEEKLY IF NEEDED, UNTIL THE PLANTS BECOME ESTABLISHED (COMMONLY SIX WEEKS).
2. NO PORTION OF THE WET POND SHOULD BE FERTILIZED AFTER THE FIRST INITIAL FERTILIZATION THAT IS REQUIRED TO ESTABLISH THE PLANTS ON THE VEGETATED SHELF.
3. STABLE GROUNDCOVER SHOULD BE MAINTAINED IN THE DRAINAGE AREA TO REDUCE THE SEDIMENT LOAD TO THE WET POND.
4. IF THE POND MUST BE DRAINED FOR AN EMERGENCY OR TO PERFORM MAINTENANCE, THE FLUSHING OF SEDIMENT THROUGH THE EMERGENCY DRAIN SHOULD BE MINIMIZED AS MUCH AS POSSIBLE.
5. ONCE A YEAR, A DAM SAFETY EXPERT SHOULD INSPECT THE EMBANKMENT.

LEGEND

- EXISTING CONCRETE
- WETLANDS BOUNDARY
- EX. CONCRETE MONUMENT
- EX. IRON ROD, EIR
- EX. TELEPHONE PEDESTAL
- EX. CABLE TV PED.
- EX. ELECTRICAL PEDESTAL
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE (TOP OF ASPHALT UNLESS OTHERWISE NOTED)
- PROPOSED FLOW DIRECTION AND SLOPE
- EX. SEWER CLEAN–OUT
- EX. BASKETBALL GOAL
- EX. TV DISH
- EX. WATER SERVICE
- EX. LIGHT POST
- EX. UTILITY POLE
- EX. OVERHEAD UTILITY LINE
- EX. FENCE
- PROPOSED CONCRETE
- PROPOSED ASPHALT

Know what's below. Call before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

Quible & Associates, P.C.
ENGINEERING • CONSULTING • PLANNING • ENVIRONMENTAL SCIENCES • SURVEYING
SINCE 1959

GRADING & DRAINAGE PLAN

ATHLETIC FACILITY
1559 WATERLILY RD

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23

NOTES

1. OWNER/APPLICANT: 85' AND SUNNY, LLC
   9919 STEPHEN DECATUR HIGHWAY
   OCEAN CITY, MD 21842
2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147
3. PROPERTY INFO: 1559 WATERLILY ROAD
   PID: 0079000004A0000
   PIN: 9908-14-7146
4. EXISTING PARCEL AREA = 13,457,862 SF / 308.95 AC (AREAS BY COORDINATE METHOD.)
   PROPOSED RECONFIGURED PARCEL AREA = 13,527,666 SF / 310.55 AC (AREAS BY COORDINATE METHOD.)
   PARCEL AREA (NOT INCLUDING WETLANDS) = 1,010,334.70 SF / 23.19 AC
5. SCOPE OF WORK: THIS PLAN PROPOSES THE ADDITION OF AN ATHLETIC FACILITY BUILDING, ASSOCIATED PARKING, DRIVE, AND RELATED SITE IMPROVEMENTS.
6. RECORDED REFERENCE: DB 1449 PG 396, PB R, PG 288;
7. ZONE: SINGLE FAMILY MAINLAND (SFM)
8. BOUNDARY INFORMATION BASED ON QUIBLE & ASSOCIATES FIELD SURVEY DATED 01/22/18 – 02/07/18 AND ALTA SURVEY DATED 6/27/18.
9. FLOOD ZONE: "AE", "SHADED X" AND "X" WITHIN THE PROPERTY BOUNDARY (SUBJECT TO CHANGE BY F.E.M.A.) FIRM PANEL 3720990800K. DATED 12/21/18. SHOWN PER COUNTY GIS.
10. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.
11. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.

SOIL EROSION & SEDIMENTATION CONTROL NOTES:

1. AREA TO BE DISTURBED: ± 244,778.6 SF (± 5.61 AC.)
2. PROVIDE A GROUNDCOVER STABILIZATION (TEMPORARY OR PERMANENT) ON ALL DENUDED DOWNSTREAM SURFACES FOLLOWING THE COMPLETION OF LAND DISTURBING ACTIVITIES PER THE CRITERIA LISTED BELOW:
   a. PERIMETER DIKES, BERMS, SWALES, DITCHES AND SLOPES SHALL BE STABILIZED IN 7 DAYS.
   b. HIGH QUALITY WATER (HQW) ZONES SHALL BE STABILIZED IN 7 DAYS.
   c. DOWNSTREAM SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IN 7 DAYS. IF SLOPES ARE 10' OR LESS AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
   d. DOWNSTREAM SLOPES 3:1 OR FLATTER AND LESS THAN 50' IN LENGTH SHALL BE STABILIZED IN 14 DAYS. SLOPES 3:1 OR FLATTER EXCEEDING 50' IN LENGTH SHALL BE STABILIZED IN 7 DAYS.
   e. ALL OTHER DOWNSTREAM AREAS WITH SLOPES 4:1 OR FLATTER SHALL BE STABILIZED WITHIN 14 DAYS.
3. IF LAND DISTURBING ACTIVITIES OCCUR OUTSIDE THE PERMANENT VEGETATION SEEDING DATES (APR. 1– SEP.30) THEN TEMPORARY VEGETATION SEEDING SPECIFICATIONS SHALL BE FOLLOWED FOR PLANTING UNTIL THE NEXT APPROPRIATE PERMANENT SEEDING PERIOD, AT WHICH TIME PERMANENT VEGETATION SHALL BE ESTABLISHED ACCORDING TO PERMANENT VEGETATION SEEDING SPECIFICATIONS (SEE PERM. & TEMP. SEEDING SPECIFICATIONS).
4. IF EXCESSIVE WIND EROSION OR STORMWATER RUNOFF EROSION DEVELOPS DURING TIME OF CONSTRUCTION ANY LOCATION ON THE PROJECT SITE, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY AS DIRECTED BY THE ENGINEER TO ADDRESS THE PROBLEM AREA AND PREVENT DAMAGE TO ADJACENT PROPERTIES.
5. SOIL EROSION AND SEDIMENTATION CONTROLS TO BE INSPECTED, MAINTAINED AND REPAIRED AS NECESSARY UNTIL PERMANENT CONTROLS ARE ESTABLISHED.
   a. A RAIN GAUGE MUST MUST BE KEPT ON SITE.
   b. DEDICATED DEMOLITION AND OTHER WASTE AREAS AND EARTHEN MATERIAL STOCKPILES MUST BE LOCATED AT LEAST 50 FEET FROM DRAINS OR STREAMS UNLESS NO ALTERNATIVE IS FEASIBLE.
   c. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN A HALF INCH (DURING A 24 HOUR PERIOD). IMMEDIATE CORRECTIVE ACTION MUST BE TAKEN FOR ANY DEVICE FAILURE.
   d. INSPECT ALL OUTLETS WHERE RUNOFF LEAVES SITE AND EVALUATE EFFECT ON NEARBY STREAMS. TAKE CORRECTIVE ACTION IF NECESSARY.
   e. MAINTAIN RECORDS OF INSPECTIONS AND CORRECTIVE ACTIONS.
   f. EARTHWORK NOTE: OFFSITE BORROW MATERIAL SHALL COME FROM AN NCDEQ LAND QUALITY SECTION APPROVED SITE. OFFSITE DISPOSAL OF EXCESS MATERIAL SHALL BE TO AN NCDEQ LAND QUALITY SECTION APPROVED SITE.

CONSTRUCTION SEQUENCE

PRECONSTRUCTION:

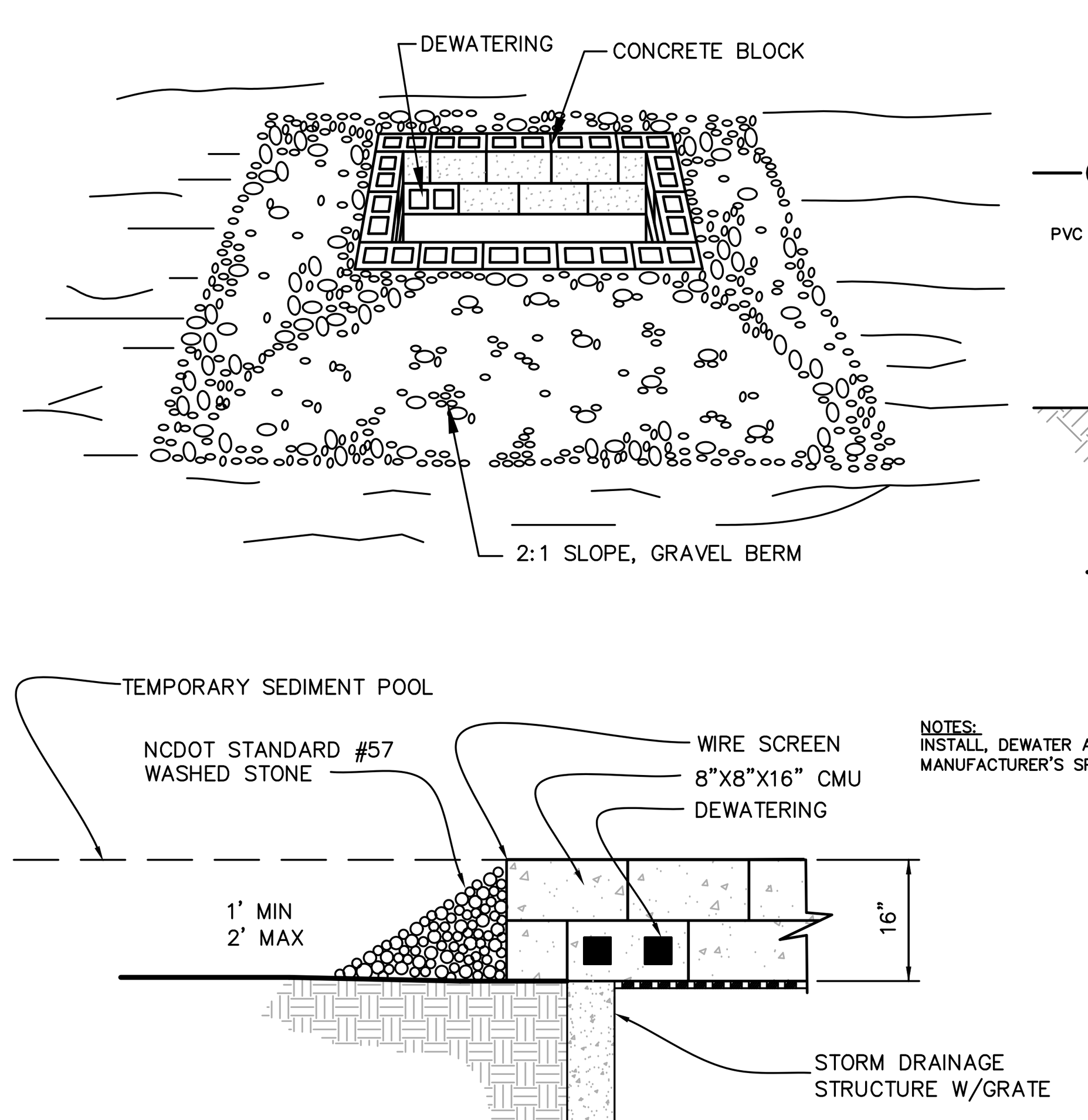
1) OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2) FLAG AND/OR ROUGH STAKE WORK LIMITS.
3) HOLD PRECONSTRUCTION CONFERENCE (OWNER, CONTRACTOR, ENGINEER, AND APPROPRIATE GOVERNMENT OFFICIALS) AT LEAST ONE WEEK PRIOR TO START OF CONSTRUCTION ACTIVITIES.

CONSTRUCTION:

4) INSTALL CONSTRUCTION ENTRANCE & SILT FENCING AT LOCATIONS SHOWN ON PLAN.
5) CONSTRUCT TEMPORARY SEDIMENT BASIN. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE PRIOR TO ANY DEMOLITION.
6) COMPLETE CLEARING AND GRUBBING PROCEDURES.
7) GRADE SITE ACCORDING TO PLAN AND BEGIN CONSTRUCTION OF PROPOSED IMPROVEMENTS.
8) INSTALL CONTRIBUTING STORM CONVEYANCES INCLUDING RIP-RAP APRONS, MATING AND ASSOCIATED EROSION CONTROLS.
9) COMPLETE FINAL GRADING OF THE GROUNDS, TOPSOIL, PERMANENTLY SEED, LANDSCAPE, AND MULCH.
10) ALL EROSION & SEDIMENTATION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER HEAVY RAINFALL EVENT. NEEDED REPAIRS AND MAINTENANCE WILL BE MADE IMMEDIATELY. FURTHERMORE, IF ANY WIND OR STORMWATER RUNOFF EROSION DEVELOPS DURING THE CONSTRUCTION OF THE PROJECT, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO ADDRESS THE PROBLEM AREA.
11) ONCE THE SITE CONSTRUCTION IS COMPLETE AND DENUDED SURFACES ARE FULLY STABILIZED; ALL STORMWATER CONVEYANCES, STRUCTURES, PIPING AND BASINS SHALL BE CLEANED OF ALL SILT/DEBRIS WHICH MAY HAVE ACCUMULATED DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY DESIGN GRADES OF ALL STORMWATER CONVEYANCES INCLUDING THE BASIN AND RESTORE TO DESIGN SPECIFICATIONS AS NECESSARY.
12) UPON THE REMOVAL OF ACCUMULATED SEDIMENTS AND SITE STABILIZATION, ALL REMAINING EROSION CONTROLS MAY BE REMOVED FROM THE DEVELOPMENT. ALL DOWNSTREAM EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF ALL OTHER DEVELOPMENT CONSTRUCTION ACTIVITIES.

LEGEND

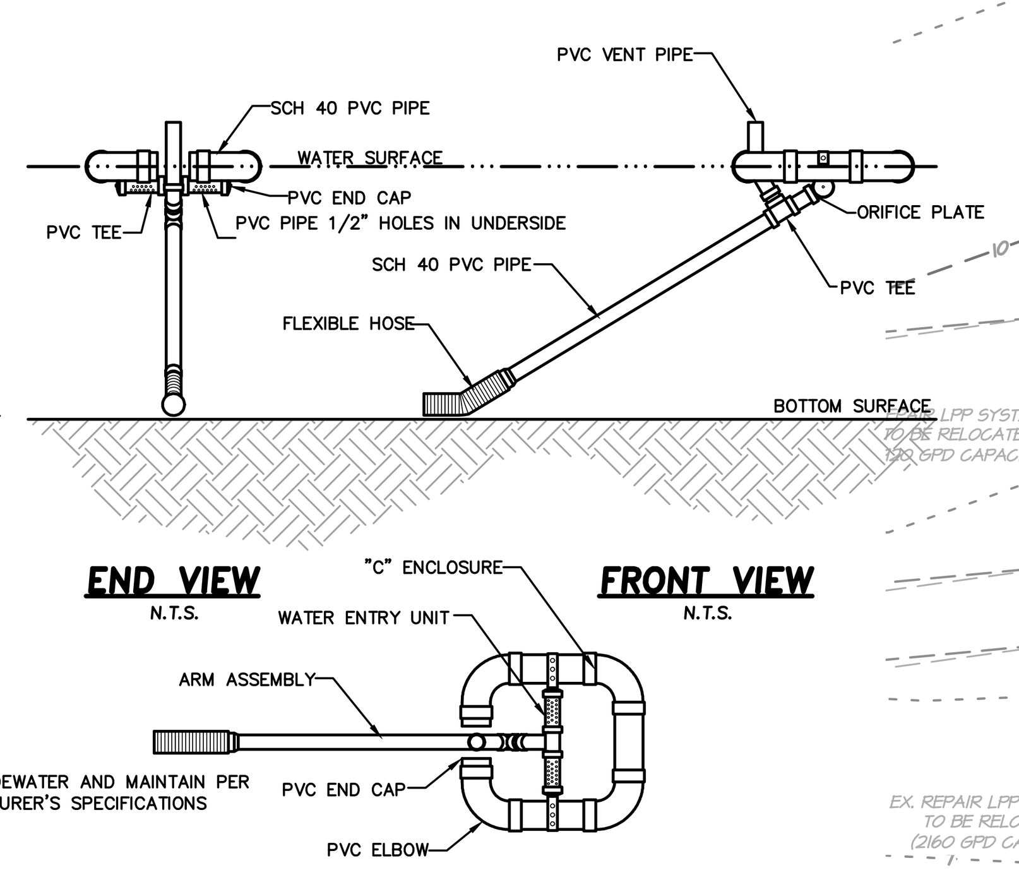
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- WETLANDS BOUNDARY
- EX. CONCRETE MONUMENT
- EX. IRON ROD, EIR
- EX. TELEPHONE PEDESTAL
- EX. CABLE TV PED.
- EX. ELECTRICAL PEDESTAL
- EX. SEWER CLEAN-OUT
- EX. BASKETBALL GOAL
- EX. TV DISH
- EX. WATER SERVICE
- EX. LIGHT POST
- EX. UTILITY POLE
- PROPOSED SKIMMER
- EX. OVERHEAD UTILITY LINE
- EX. FENCE
- PROPOSED CONCRETE
- PROPOSED SILT FENCE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED ASPHALT
- PROPOSED CULVERT PROTECTION
- PROPOSED INLET PROTECTION
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION AND SLOPE



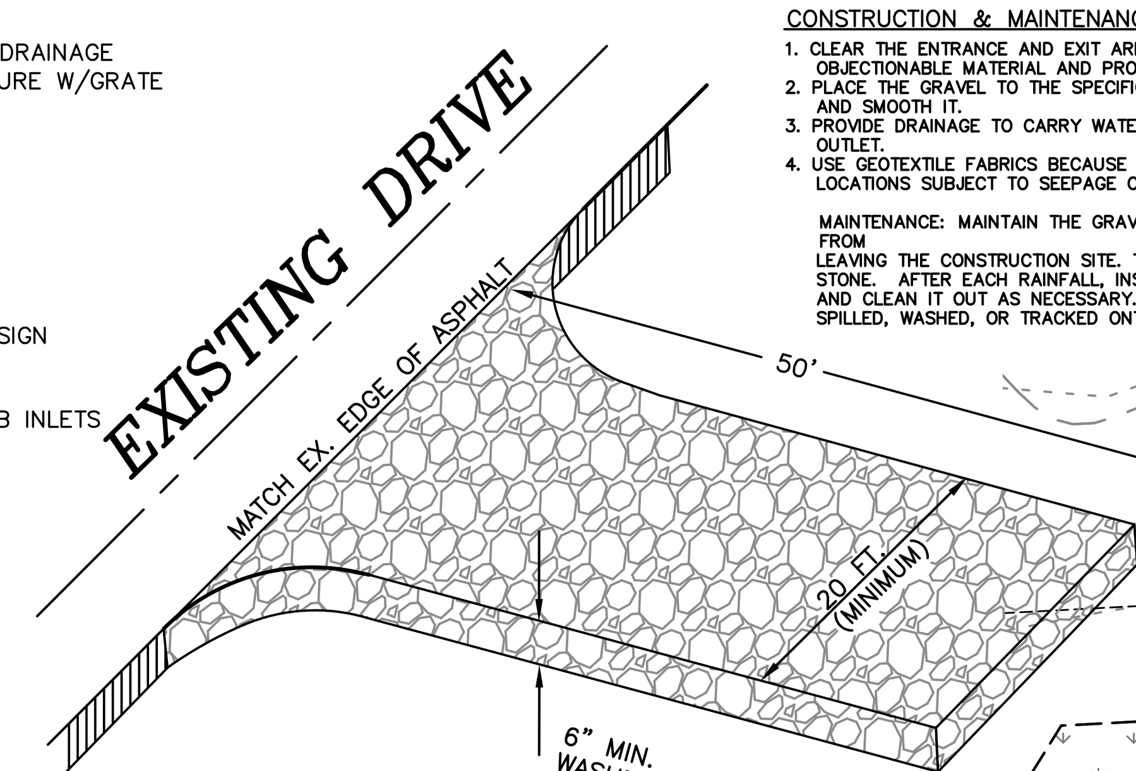
INLET PROTECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. (LATEST EDITION) SECTION 6.52.

INLET PROTECTION SHALL BE PROVIDED AT ALL DROP INLETS, CURB INLETS YARD INLETS AND ANY OTHER STORMWATER COLLECTION INLET.

INLET PROTECTION
N.T.S



SKIMMER DETAIL
N.T.S.

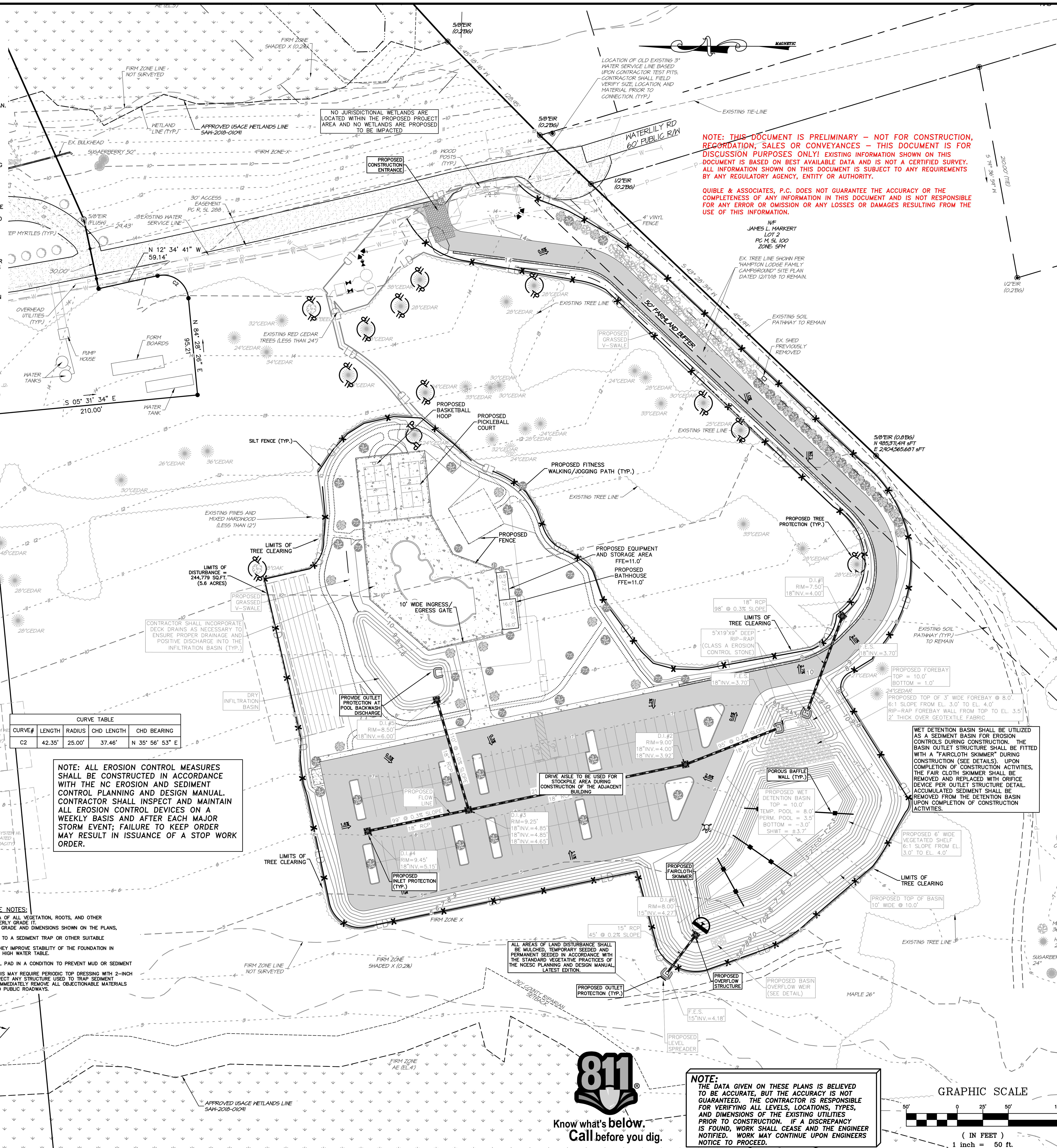


GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL
N.T.S

CONSTRUCTION & MAINTENANCE NOTES:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE: MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM
LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



CURVE TABLE				
CURVE#	LENGTH	RADIUS	CHD LENGTH	CHD BEARING
C2	42.35'	25.00'	37.46'	N 35° 56' 53" E

NOTE: ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT; FAILURE TO KEEP ORDER MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.

NOTE: THIS DOCUMENT IS PRELIMINARY – NOT FOR CONSTRUCTION, RECORDATION, SALES OR CONVEYANCES – THIS DOCUMENT IS FOR DISCUSSION PURPOSES ONLY! EXISTING INFORMATION SHOWN ON THIS DOCUMENT IS BASED ON BEST AVAILABLE DATA AND IS NOT A CERTIFIED SURVEY. ALL INFORMATION SHOWN ON THIS DOCUMENT IS SUBJECT TO ANY REQUIREMENTS BY ANY REGULATORY AGENCY, ENTITY OR AUTHORITY.

QUIBLE & ASSOCIATES, P.C. DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF ANY INFORMATION IN THIS DOCUMENT AND IS NOT RESPONSIBLE FOR ANY ERROR OR OMISSION OR ANY LOSSES OR DAMAGES RESULTING FROM THE USE OF THIS INFORMATION.

811
Know what's below.
Call before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

GRAPHIC SCALE
50' 0 25' 50' 100'
(IN FEET)
1 inch = 50 ft.

NC License#: C-0208
SINCE 1959
Quible & Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

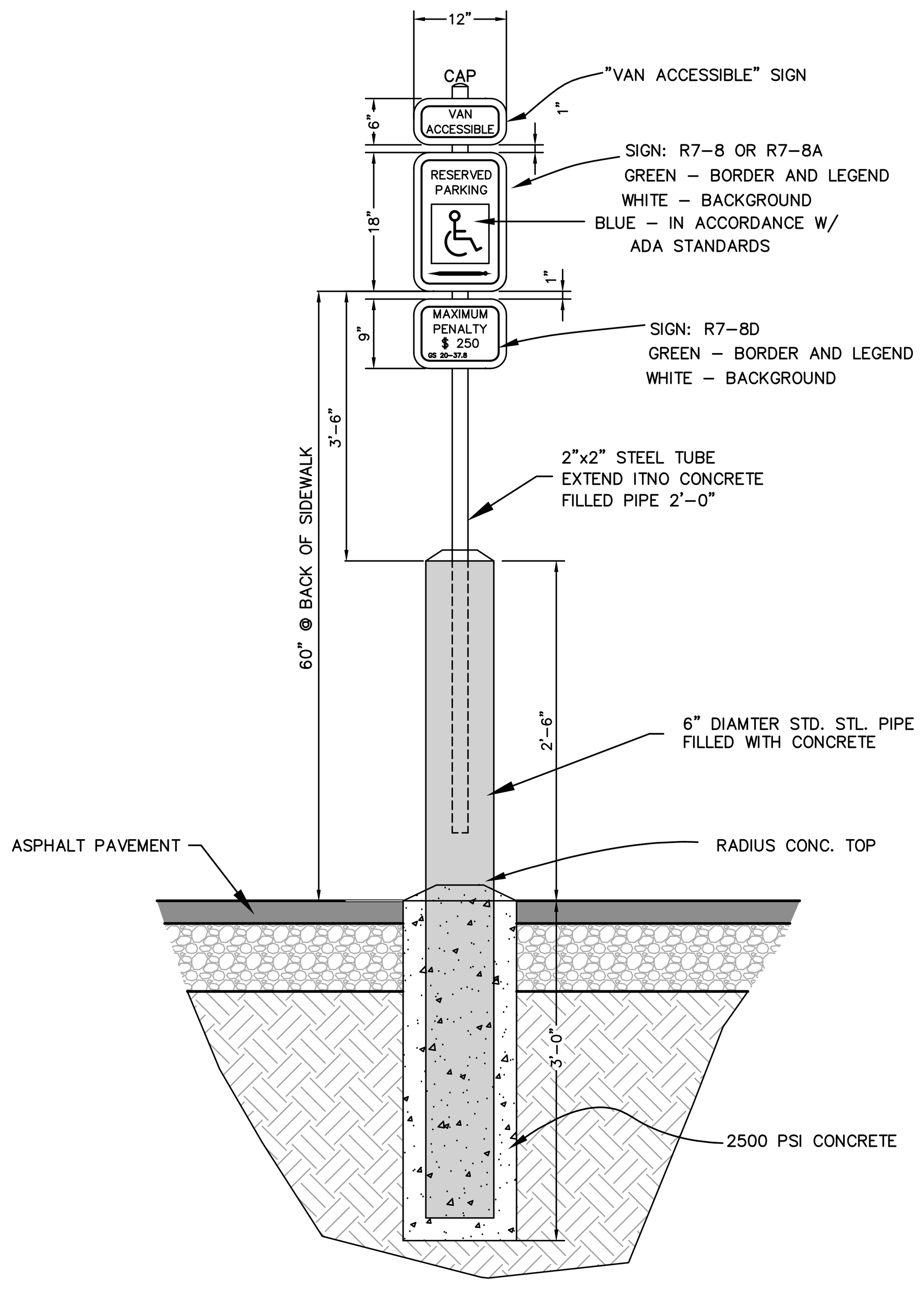
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043652 CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

REVISIONS
NO. | DATE

SESC PLAN

ATHLETIC FACILITY
1559 WATERLILY RD
POPLAR BRANCH TOWNSHIP | CURRITUCK COUNTY | NORTH CAROLINA

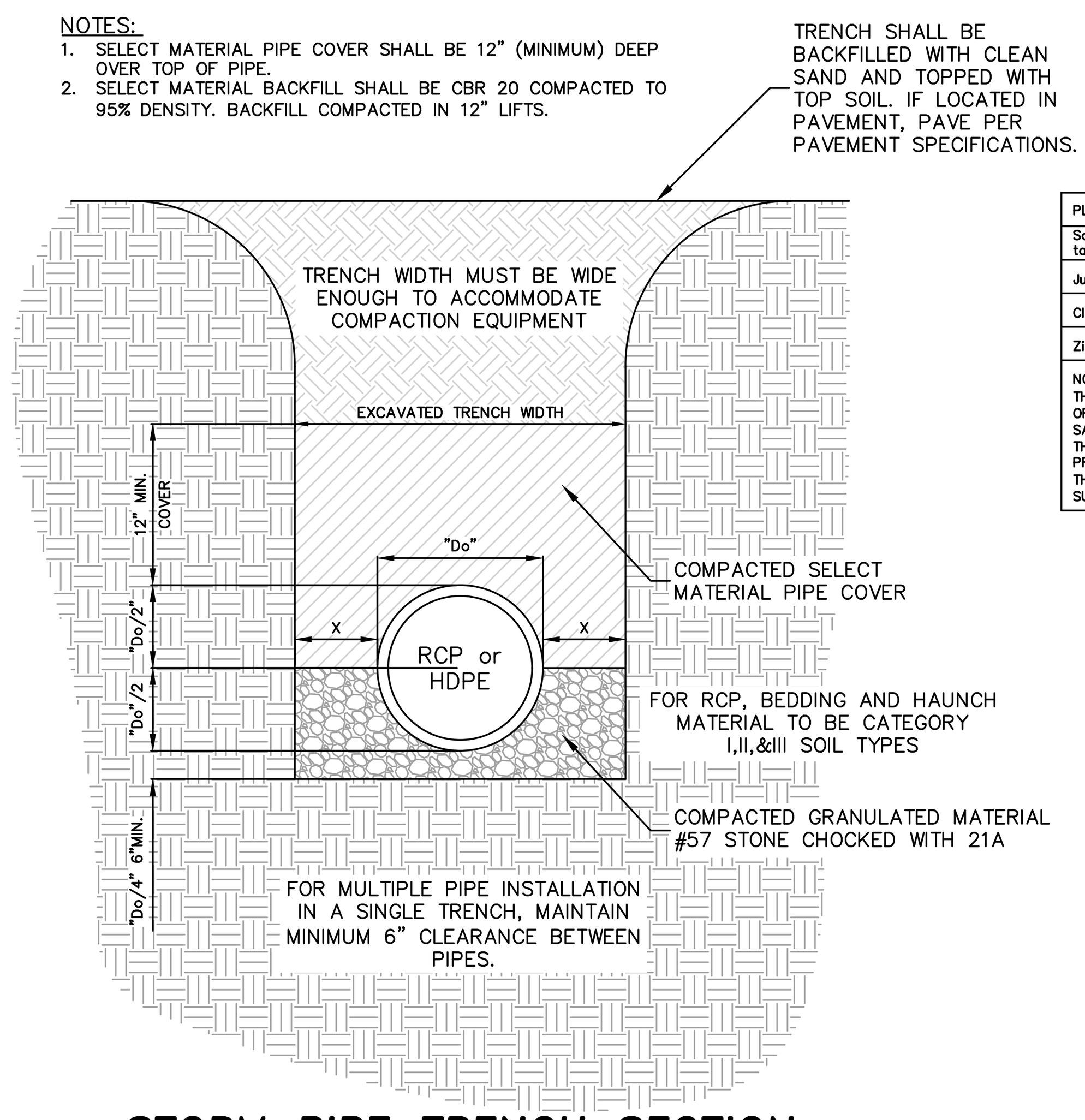
PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23



ADA RESERVED PARKING SIGN DETAIL

N.T.S.

NOTES:
1. SELECT MATERIAL PIPE COVER SHALL BE 12" (MINIMUM) DEEP OVER TOP OF PIPE.
2. SELECT MATERIAL BACKFILL SHALL BE CBR 20 COMPACTED TO 95% DENSITY. BACKFILL COMPACTED IN 12" LIFTS.

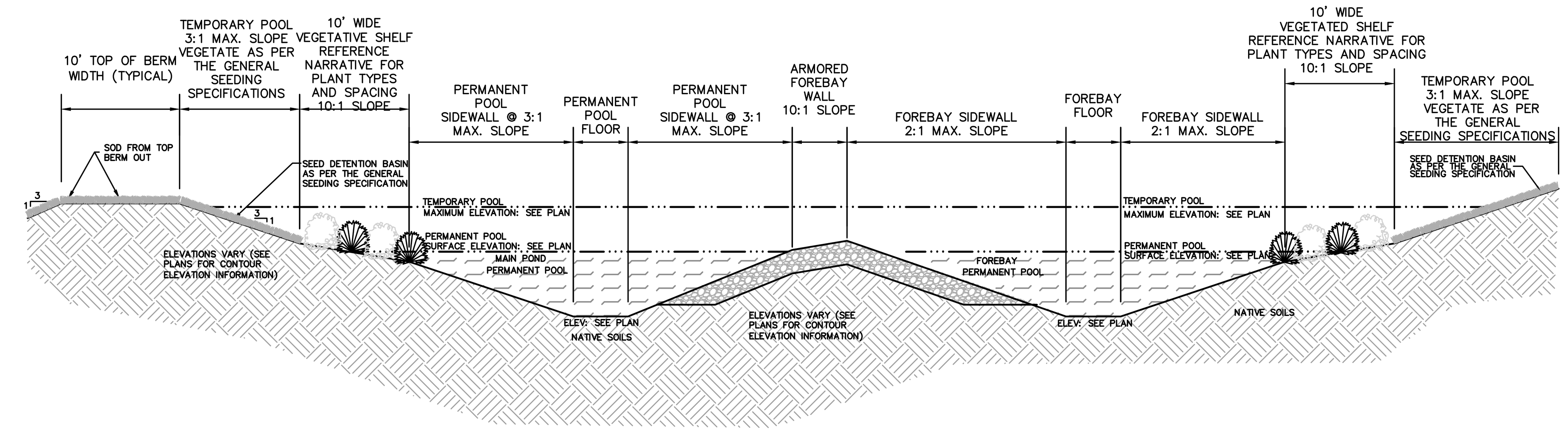


STORM PIPE TRENCH SECTION

N.T.S.

PLANT SPECIES	COMMON NAME	SPACING	LOCATION
Schoenoplectus tabernaemontani	SOFTSTEM BULRUSH	2' O.C.	BELOW (W/IN 1 FOOT) PERM. POOL
Juncus effusus	COMMON RUSH	2' O.C.	BELOW (W/IN 1 FOOT) PERM. POOL
Cladium spp.	SAWGRASS	2' O.C.	BELOW (W/IN 1 FOOT) PERM. POOL
Zizaniopsis miliacae	WATER MILLET	2' O.C.	BELOW (W/IN 1 FOOT) PERM. POOL

NOTES:
THREE ROWS OF PLANTINGS ARE PROPOSED; A SINGLE ROW OF GROUNDSEL BUSH OR WAX MYRTLE AT THE UPPER EDGE OF THE VEGETATED SHELF AND TWO ROWS OF RUSHES, SAWGRASS OR WATER MILLET (MIXTURE) TO BE LOCATED ON THE VEGETATED SHELF WITHIN THE PERMANENT POOL WATERLINE (ON 10:1 SHELF).A MINIMUM OF THREE SPECIES SHALL BE PROVIDED. SUBSTITUTIONS ALLOWED PROVIDED SUBSTITUTE PLANT IS IN ACCORDANCE WITH THE NCDEQ STORMWATER BMP MANUAL, CHAPTER 6 AND CHAPTER 9 REQUIREMENTS. ALL SUBSTITUTIONS SHALL BE APPROVED BY ENGINEER.

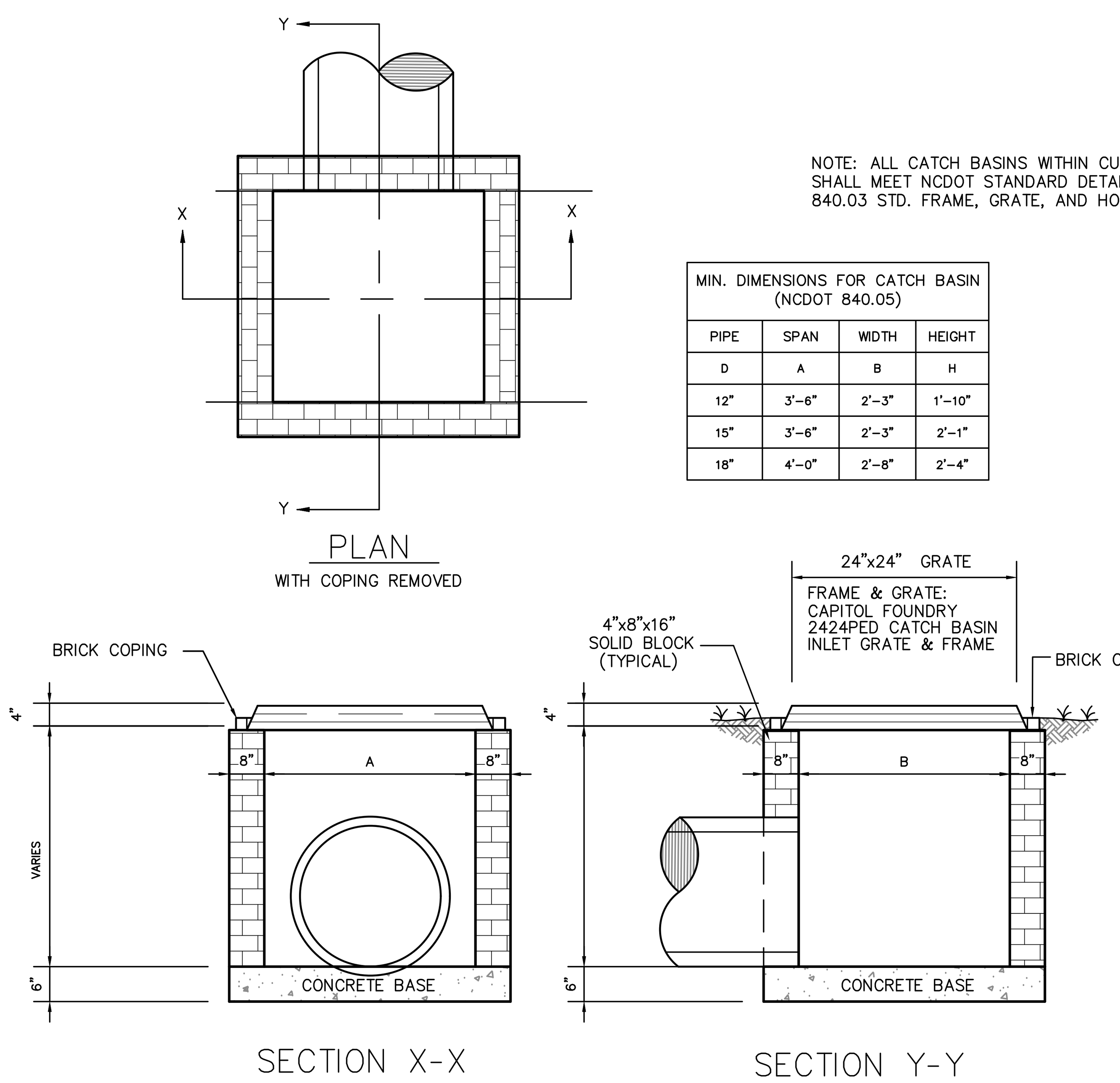


TYPICAL WET DETENTION BASIN PLANTING DETAIL

N.T.S.

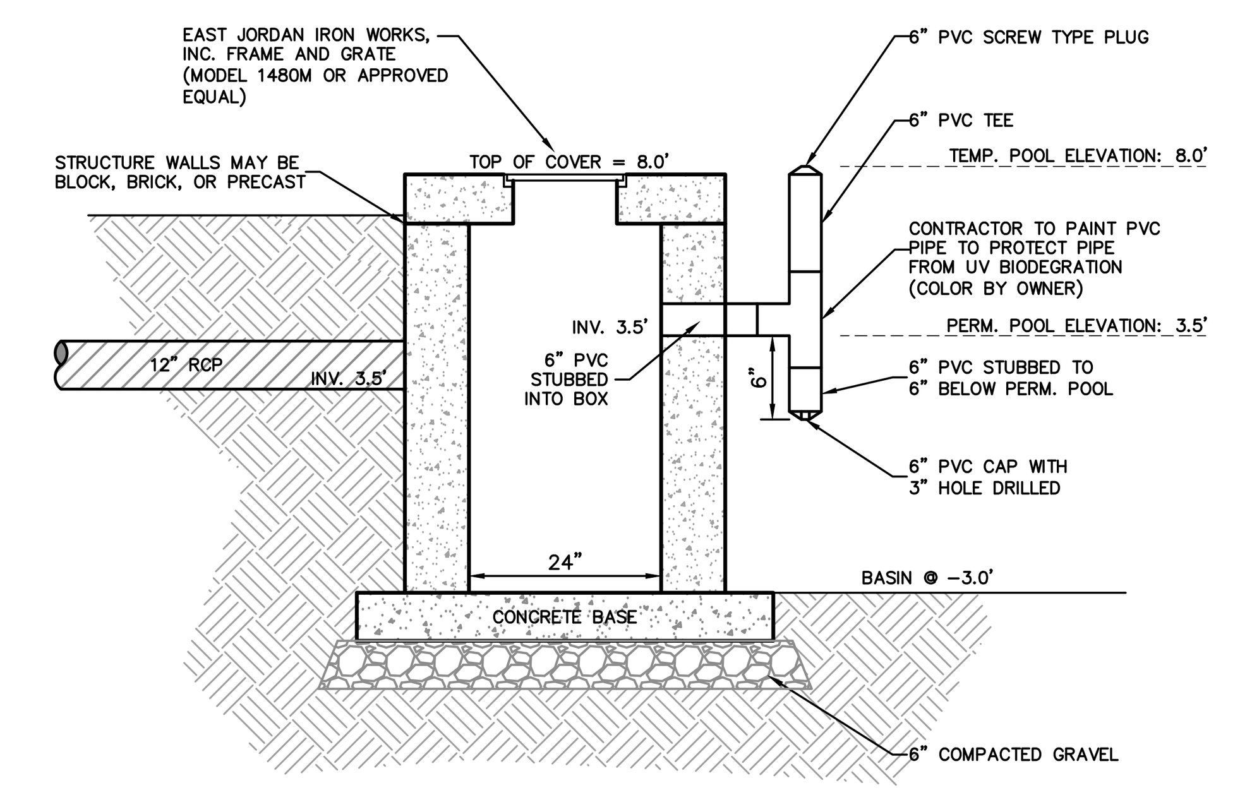
NOTE: ALL CATCH BASINS WITHIN CURB AND GUTTER SHALL MEET NCDOT STANDARD DETAIL 840.02 WITH 840.03 STD. FRAME, GRATE, AND HOOD.

MIN. DIMENSIONS FOR CATCH BASIN (NCDOT 840.05)			
PIPE	SPAN	WIDTH	HEIGHT
D	A	B	H
12"	3'-6"	2'-3"	1'-10"
15"	3'-6"	2'-3"	2'-1"
18"	4'-0"	2'-8"	2'-4"



STORM INLET DETAIL

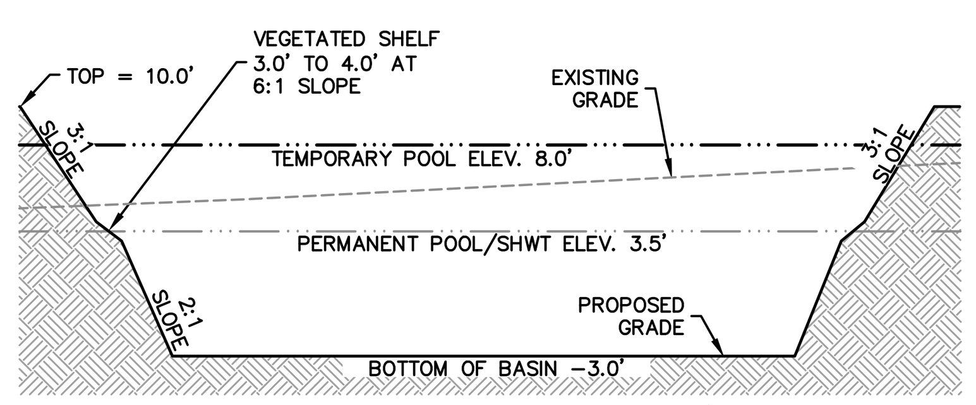
N.T.S.



DRAW-DOWN STRUCTURE DETAIL

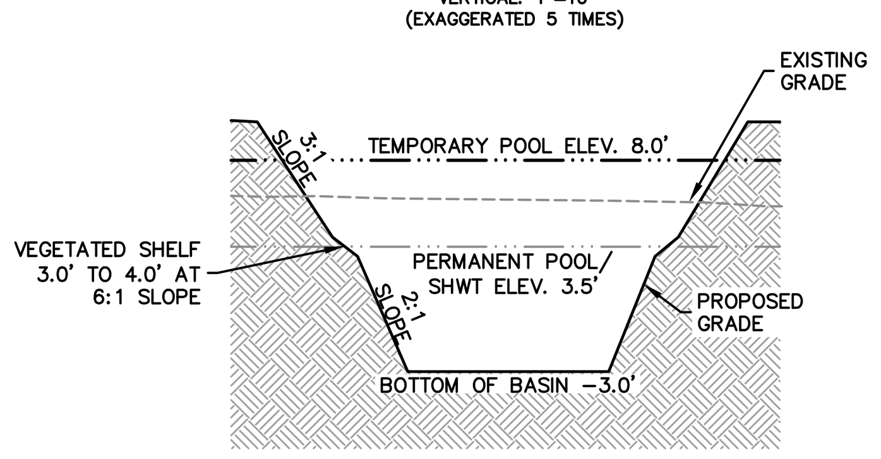
N.T.S.

NOTE: A FAIRCLOTH SKIMMER TO BE INSTALL DURING THE INITIAL CONSTRUCTION OF THE WET BASIN. THE SKIMMER IS TO BE CONNECTED TO THE 8" STUB-OUT ON THE WETBASIN OVERFLOW STRUCTURE. THE WET BASIN WILL SERVE AS A SEDIMENT BASIN DURING THE CONSTRUCTION OF THE SITE. ONCE THE SITE HAS BEEN FULLY STABILIZED THE FAIRCLOTH SKIMMER IS TO BE REMOVED AND THE SPECIFIED DRAW DOWN PIPE IS TO BE INSTALLED PER THE BASIN OVERFLOW STRUCTURE DETAIL. THE STUB-OUT FOR THE DRAW DOWN PIPE SHALL BE CAPPED DURING CONSTRUCTION



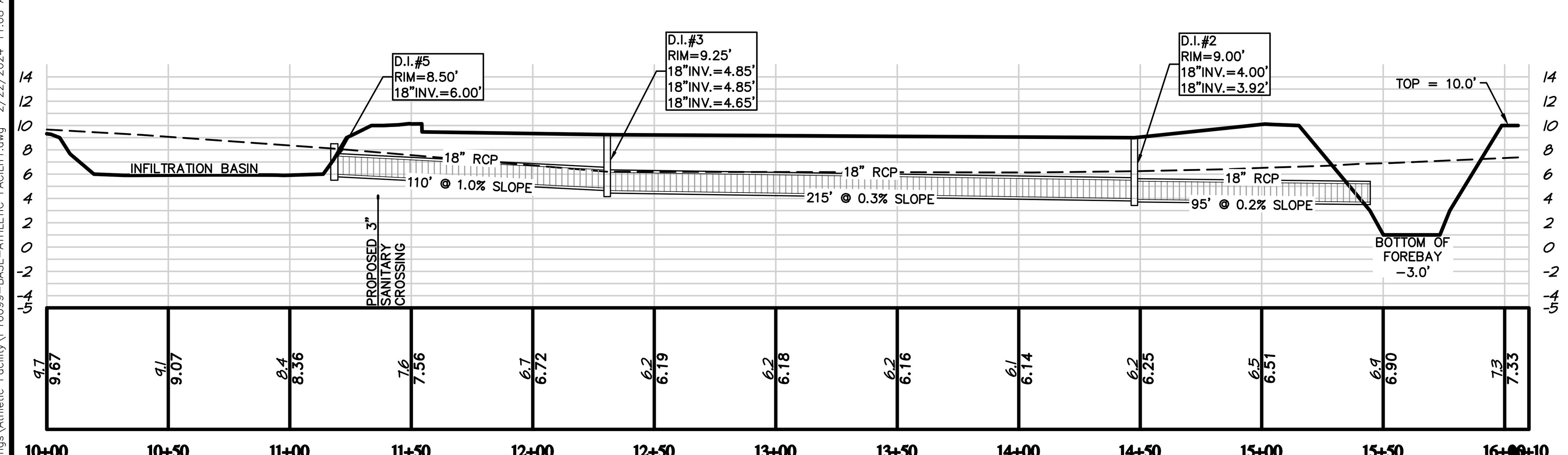
SECTION VIEW A-A'

HORIZONTAL: 1"=50'
VERTICAL: 1"=10'
(EXAGGERATED 5 TIMES)



SECTION VIEW B-B'

HORIZONTAL: 1"=50'
VERTICAL: 1"=10'
(EXAGGERATED 5 TIMES)



STORMWATER PROFILE

HORIZONTAL: 1"=50'
VERTICAL: 1"=10'
(EXAGGERATED 5 TIMES)

NC License#: C-0208
SINCE 1959
Quible & Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043652 CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

NO.	DATE	REVISIONS

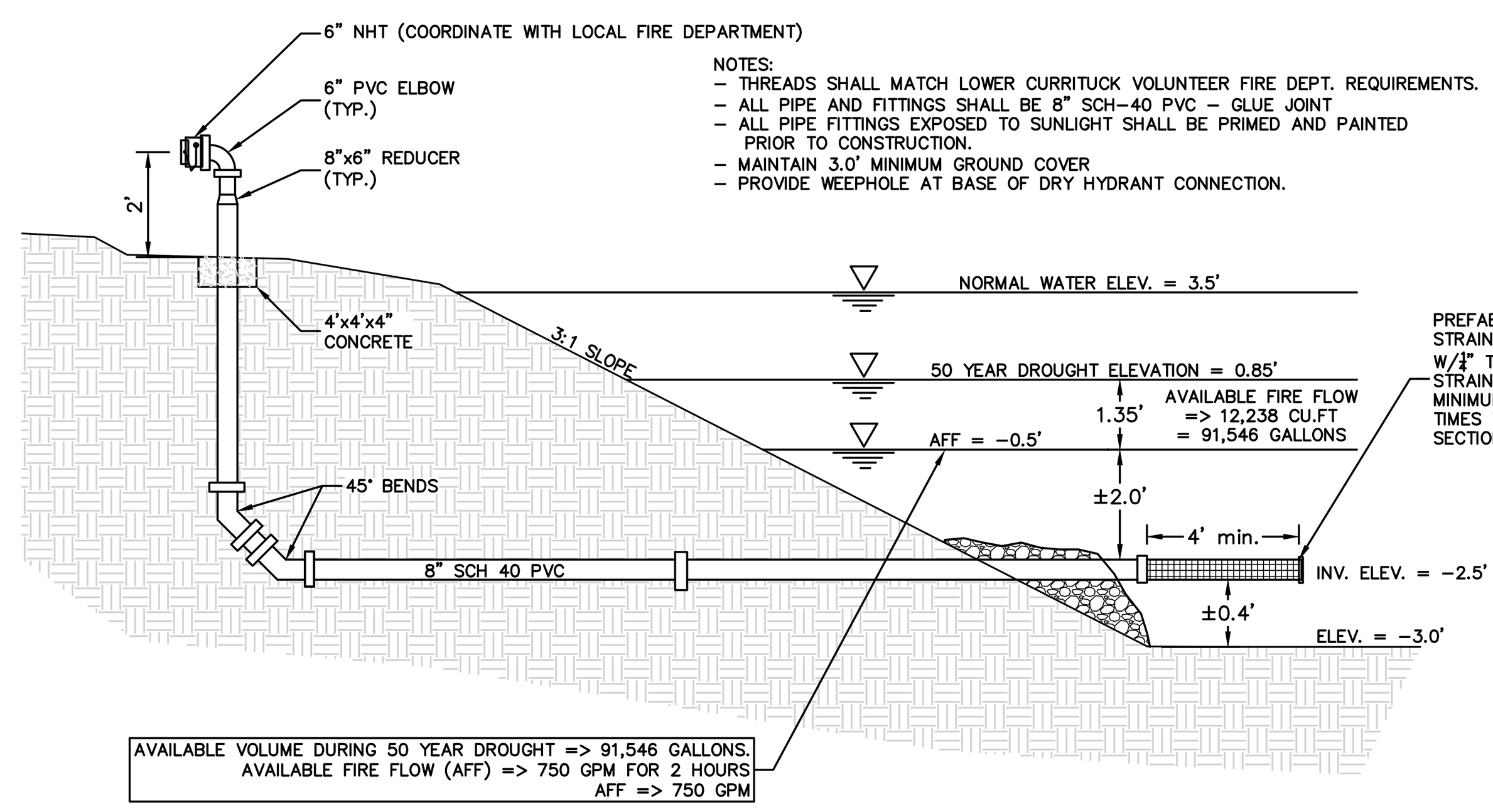
SITE & UTILITY DETAILS

ATHLETIC FACILITY
1559 WATERLILLY RD

POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23

SHEET NO. 6 OF 9 SHEETS

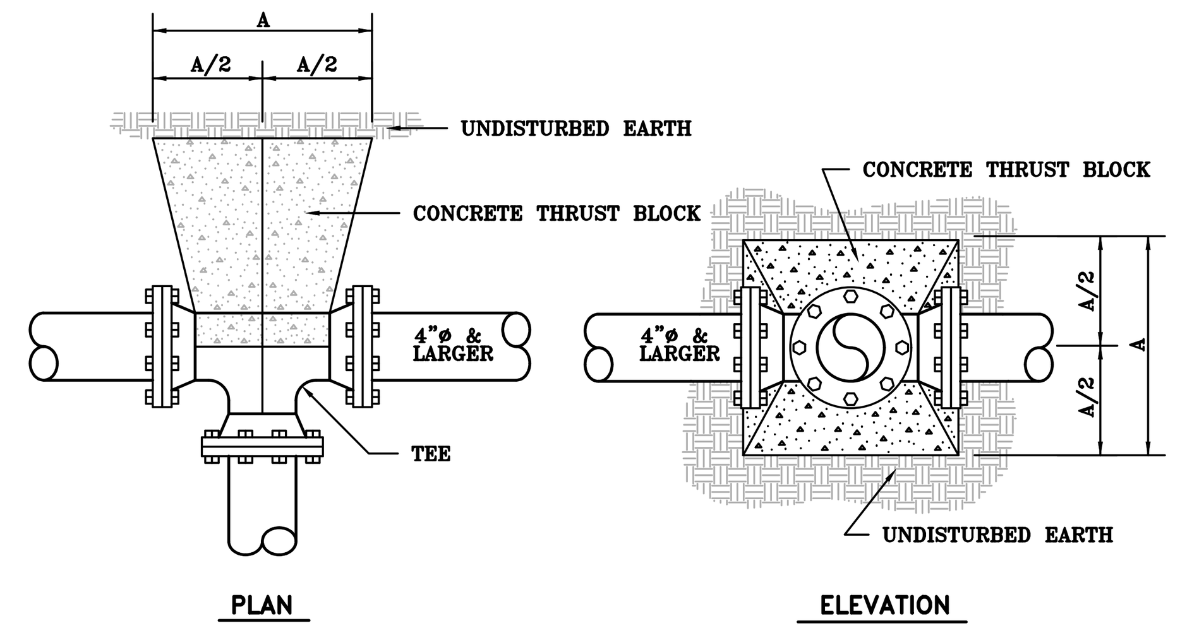


NOTES:
- THREADS SHALL MATCH LOWER CURRITUCK VOLUNTEER FIRE DEPT. REQUIREMENTS.
- ALL PIPE AND FITTINGS SHALL BE 8" SCH-40 PVC - GLUE JOINT
- ALL PIPE FITTINGS EXPOSED TO SUNLIGHT SHALL BE PRIMED AND PAINTED PRIOR TO CONSTRUCTION.
- MAINTAIN 3.0' MINIMUM GROUND COVER
- PROVIDE WEEPHOLE AT BASE OF DRY HYDRANT CONNECTION.

AVAILABLE VOLUME DURING 50 YEAR DROUGHT => 91,546 GALLONS.
AVAILABLE FIRE FLOW (AFF) => 750 GPM FOR 2 HOURS
AFF => 750 GPM

DRY FIRE HYDRANT DETAIL

N.T.S



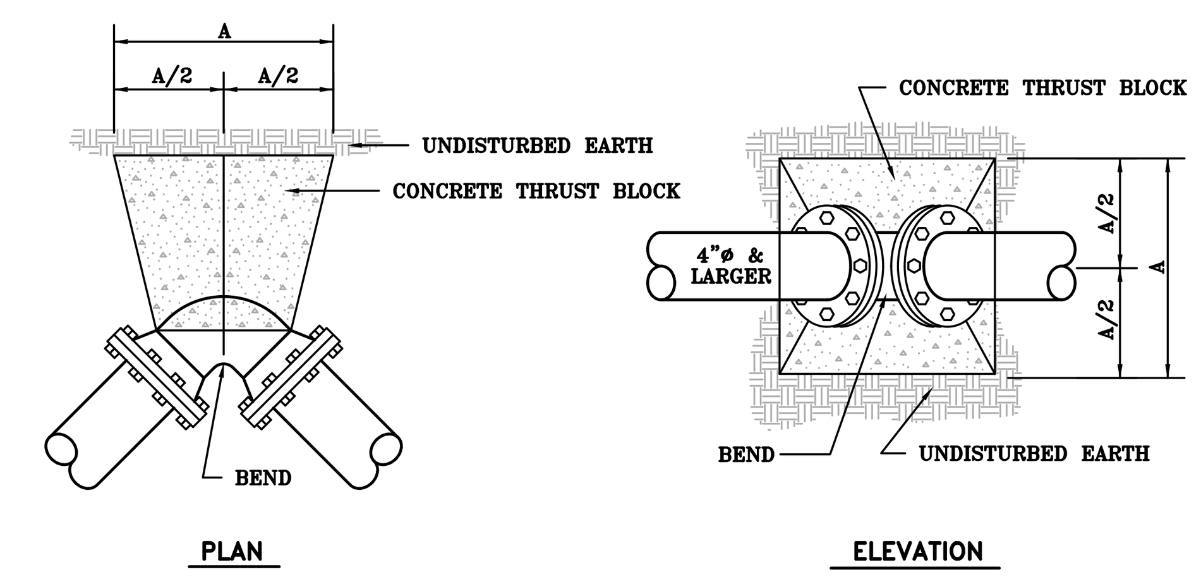
NOTE:
CARE SHALL BE TAKEN WHEN PLACING THRUST BLOCKS TO KEEP THE FITTING BOLTS FREE OF CONCRETE.

SIZE	11 1/4° BEND	22 1/2° BEND	45° BEND	90° BEND	TEE	PLUG
4	12	12	12	16	16	14
6	12	12	12	16	16	14
8	12	12	16	22	22	18
10	12	14	20	28	28	22
12	12	18	24	32	32	28
14	14	20	28	38	38	32
16	16	22	32	42	42	36
18	18	26	36	48	48	40
20	20	28	40	52	52	44
24	24	34	46	64	64	54
30	30	42	58	78	78	66
36	36	50	70	94	94	80
42	40	58	80	108	108	92
48	46	66	90	124	124	104

THRUST BLOCKS - DIMENSION "A"

TYPICAL THRUST BLOCK FOR TEES

N.T.S.



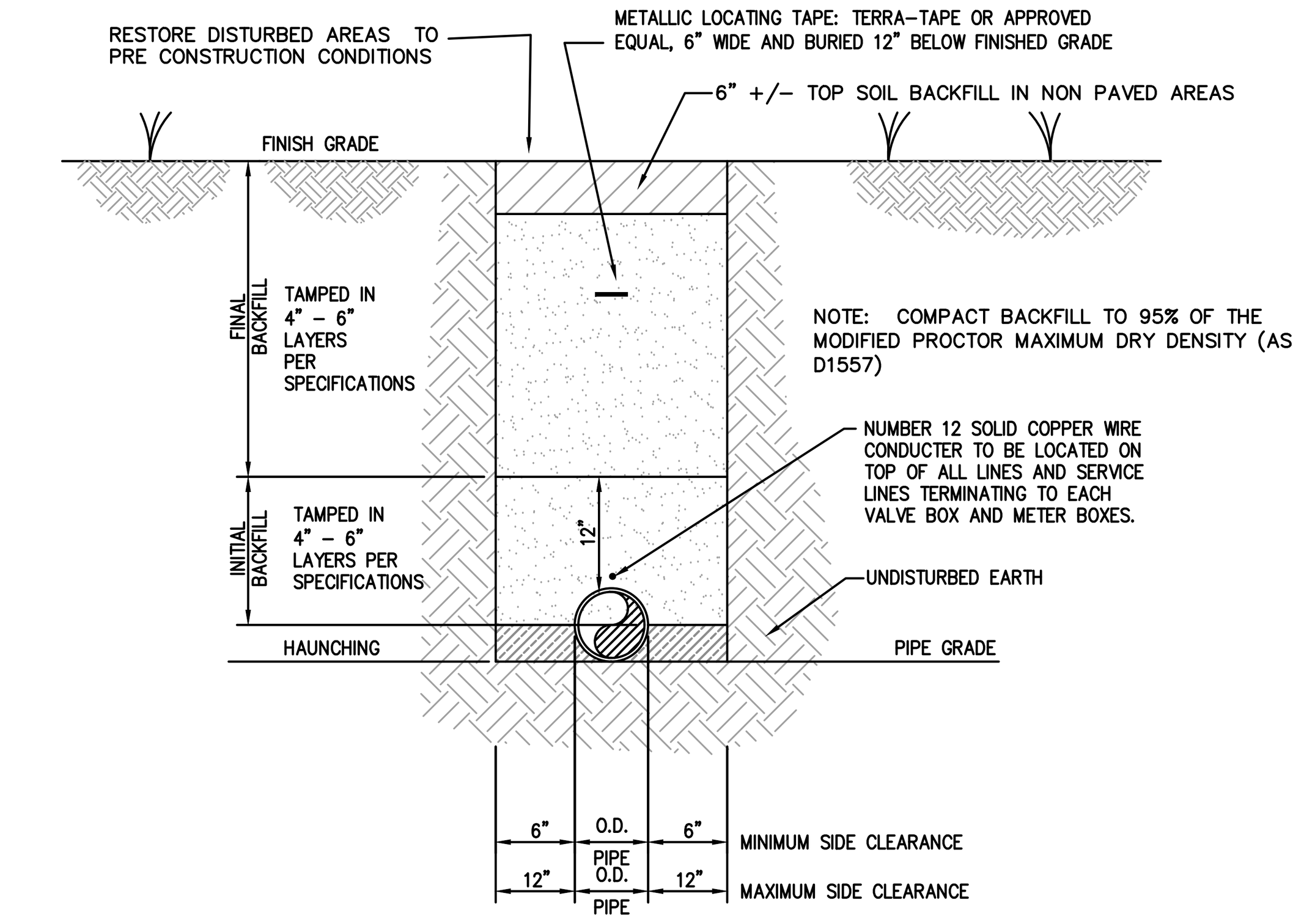
NOTE:
CARE SHALL BE TAKEN WHEN PLACING THRUST BLOCKS TO KEEP THE FITTING BOLTS FREE OF CONCRETE.

SIZE	11 1/4° BEND	22 1/2° BEND	45° BEND	90° BEND	TEE	PLUG
4	12	12	12	16	16	14
6	12	12	12	16	16	14
8	12	12	16	22	22	18
10	12	14	20	28	28	22
12	12	18	24	32	32	28
14	14	20	28	38	38	32
16	16	22	32	42	42	36
18	18	26	36	48	48	40
20	20	28	40	52	52	44
24	24	34	46	64	64	54
30	30	42	58	78	78	66
36	36	50	70	94	94	80
42	40	58	80	108	108	92
48	46	66	90	124	124	104

THRUST BLOCKS - DIMENSION "A"

TYPICAL THRUST BLOCK FOR BENDS

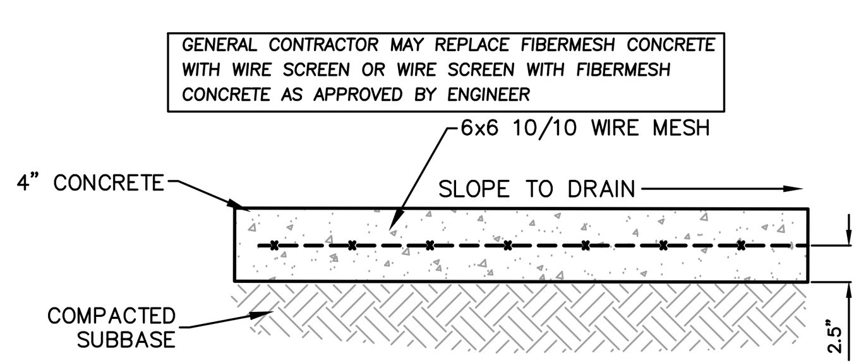
N.T.S.



NOTES:

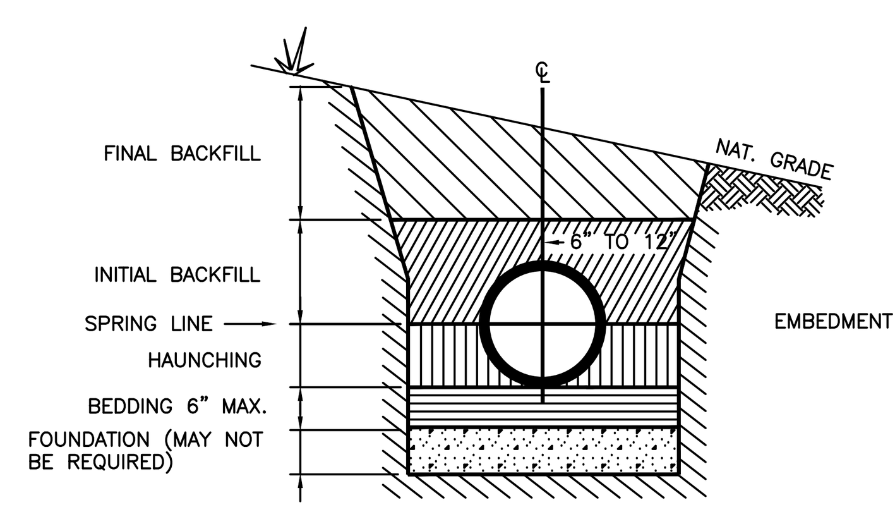
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING
2. NO ROCKS OR BOULDERS 4" AND LARGER SHALL BE USED IN INITIAL BACKFILL AREA.
3. ALL BACKFILL MATERIAL SHALL BE SATISFACTORY SOIL MATERIALS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. (SATISFACTORY SOIL FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SW, SP, SP-SM, SM], HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.)

WATERLINE BACKFILLING REQUIREMENTS AND TRENCH BOTTOM DIMENSIONS



CONCRETE SECTION (SIDEWALK)

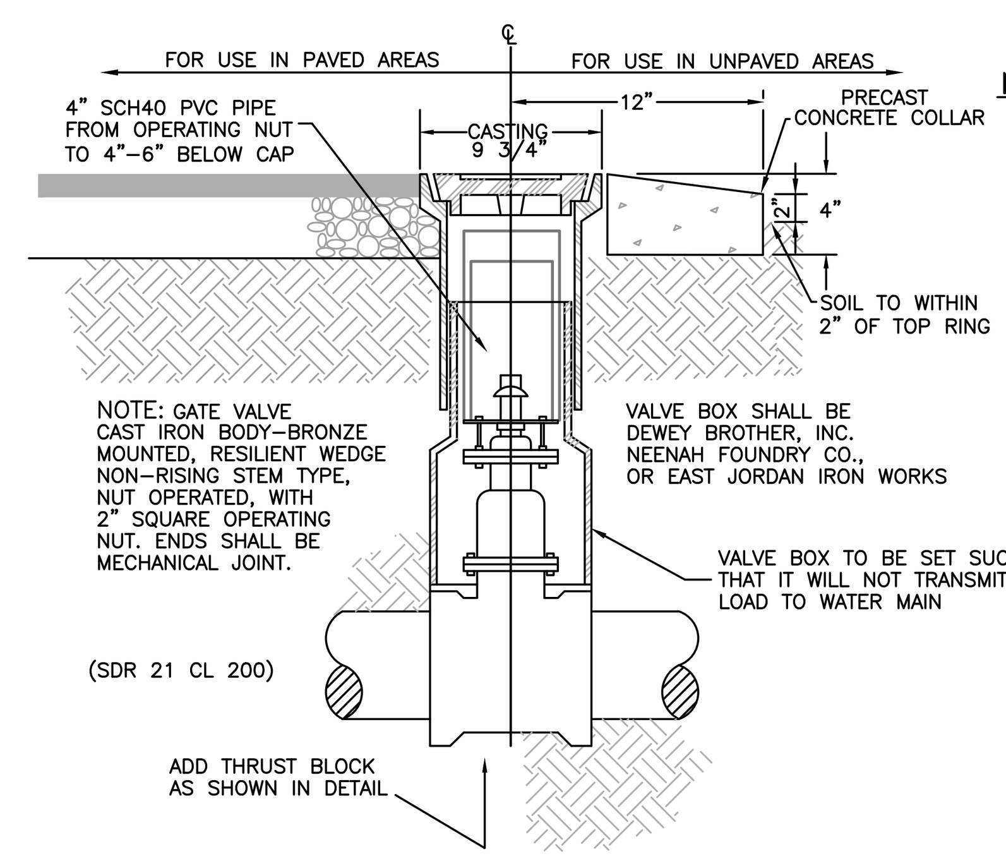
N.T.S.



GRAVITY SEWER EMBEDMENT CONDITIONS FOR FLEXIBLE AND SEMI-RIGID SEWER PIPE

N.T.S.

PIPE INSTALLATION TO CONFORM TO ASTM D 2321



TYPICAL VALVE DETAIL

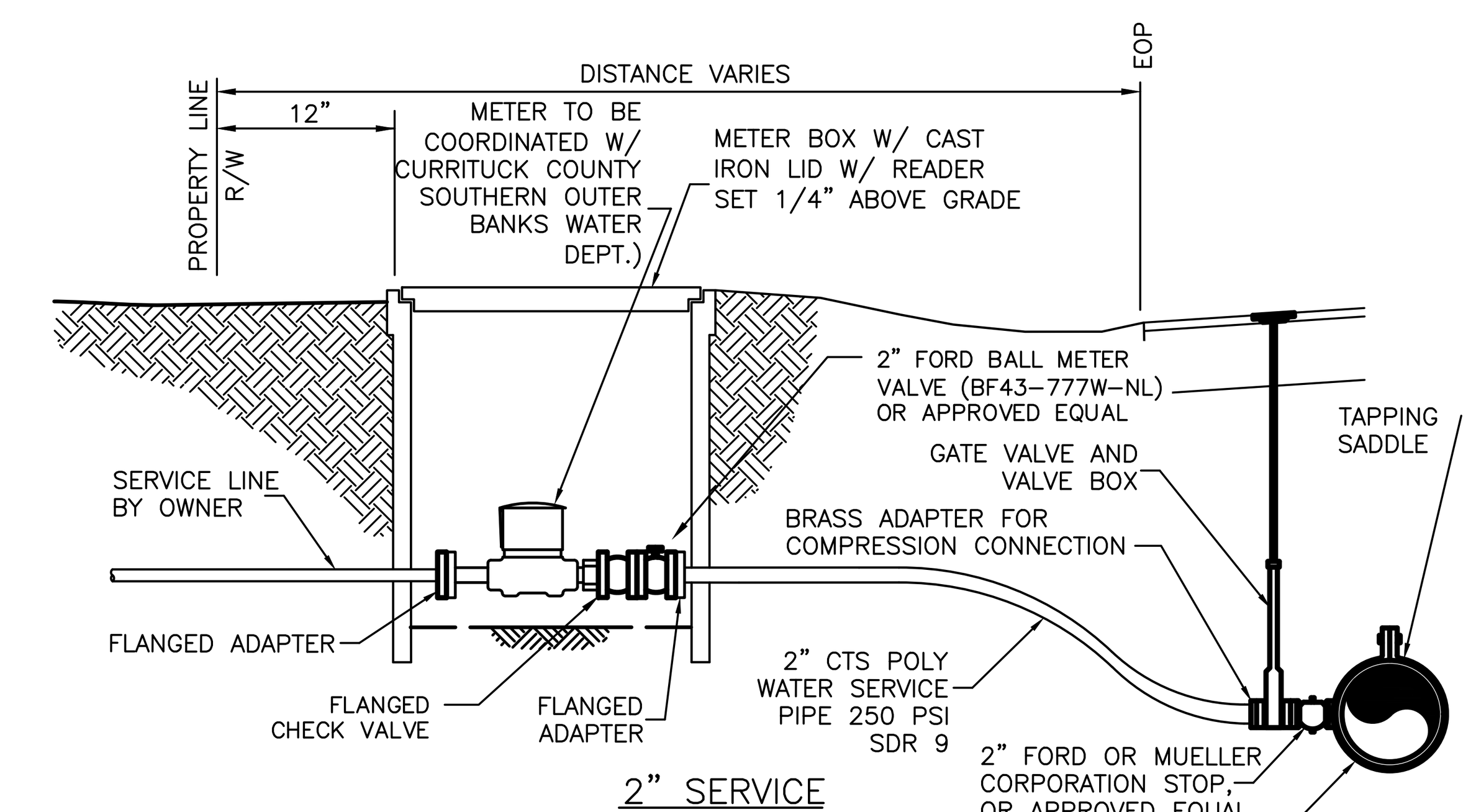
GATE VALVES SHALL COMPLY IN ALL RESPECTS WITH AWWA STANDARD C-500, LATEST REVISION

NOTE:
VALVES SHALL BE AMERICAN DARLING, MUELLER "O" RING, OR M & H OR EQUAL AS APPROVED BY ENGINEER

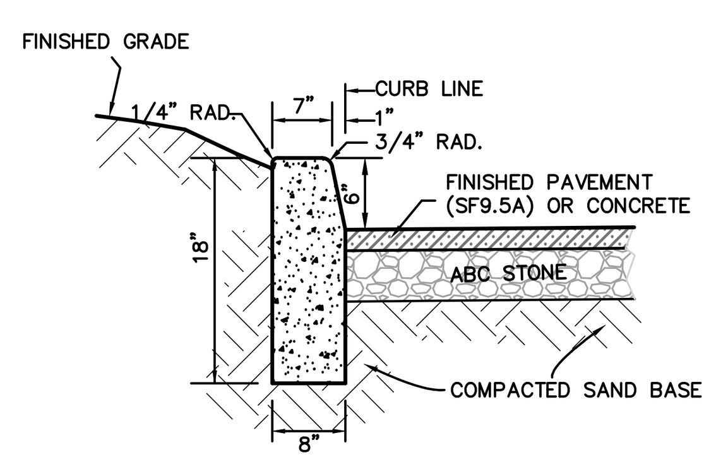
ANCHORAGE OF VALVES

WORKING PRESSURE LB. PER SQ. INCH	SIZE OF VALVE REQUIRING ANCHORAGE
50 - 100	12 INCH AND UP
101 - 150	8 INCH AND UP
151 - 200	ALL SIZES

MINIMUM COVER FOR GATE VALVES	
SIZE VALVE	MINIMUM COVERS
6"	36"
8"	38"
10"	43"
12"	46"

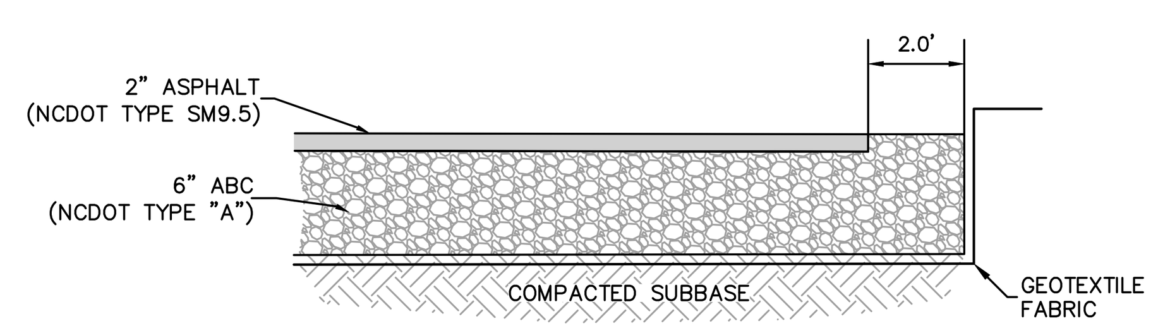


WATER SERVICE CONNECTION



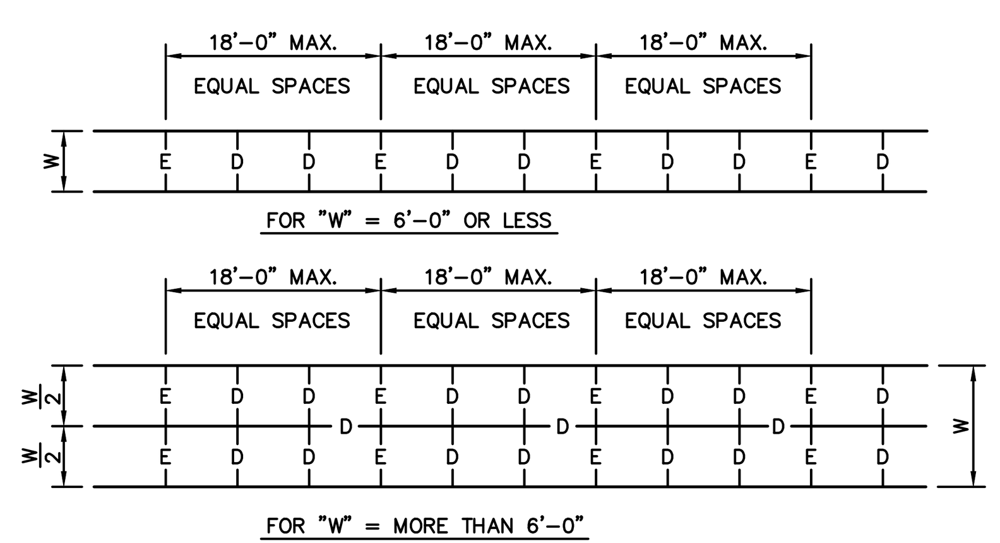
PARKWAY CURB

N.T.S.



HEAVY DUTY ASPHALT SECTION

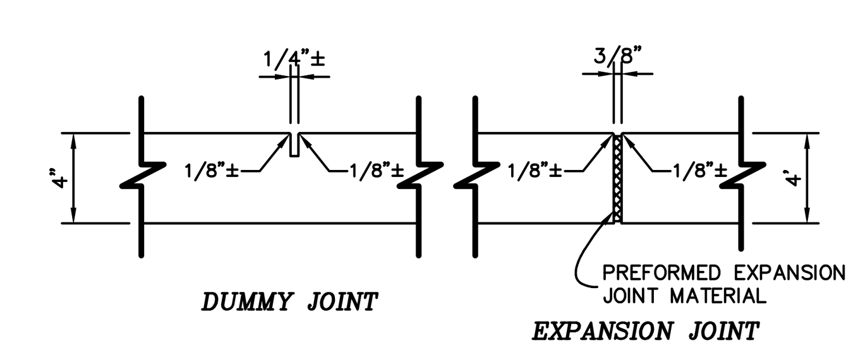
N.T.S.



E = EXPANSION JOINT
D = DUMMY JOINT

NOTES:
EXCEPT WHERE SHOWN IN THE PLAN, ALL NEW CONC. WALKS SHALL HAVE JOINTS SPACED AS SHOWN IN THESE DETAILS.
AN EXPANSION JOINT SHALL BE USED TO SEPARATE THE NEW CONC. WALK FROM OTHER NEW OR EXISTING CONCRETE CONSTRUCTION.

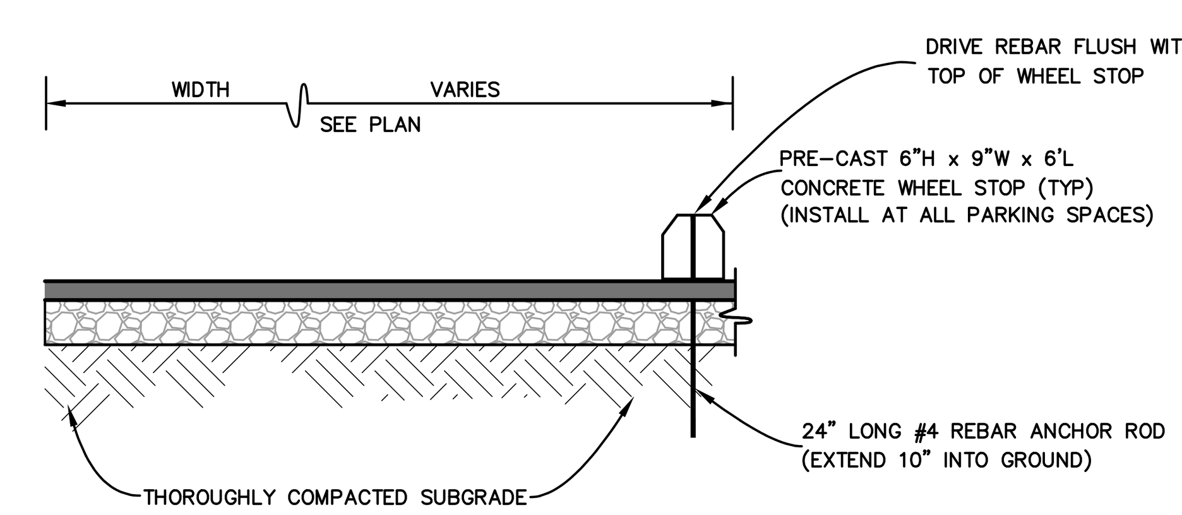
JOINT PATTERN



JOINT DETAIL

SIDEWALK JOINTS

N.T.S.



WHEEL STOP DETAIL

N.T.S.

SPECIFICATIONS FOR SIDEWALKS, CURBS, ALLEYS, CONCRETE PAVEMENT

ALL REINFORCING STEEL SHALL BE GRADE 60 (ASTM A615)

ALL WELDED WIRE FABRIC SHALL BE 6 x 6, W1.4 x W1.4 (ASTM A185)

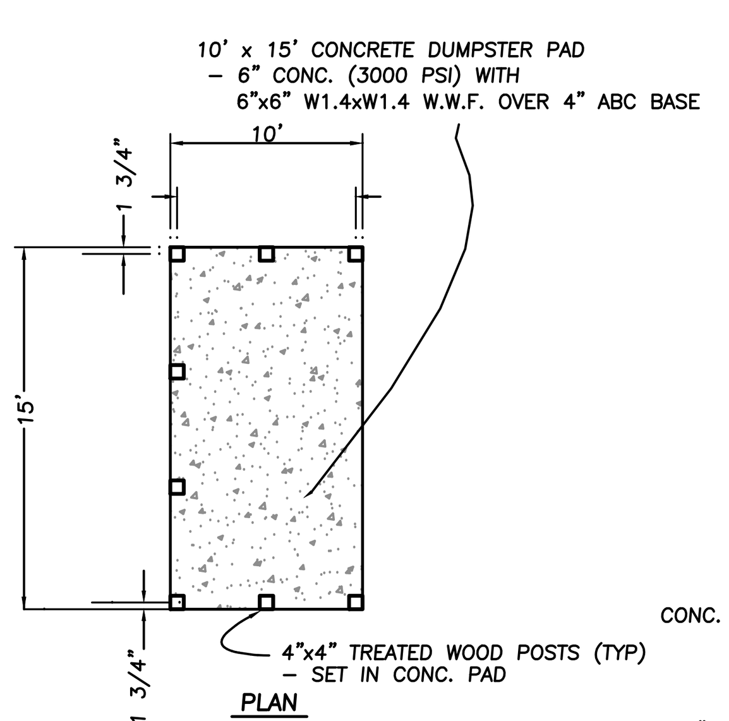
A 1-1/2" CLEAR CONCRETE COVER SHALL BE MAINTAINED ON ALL REINFORCEMENT

ALL CONCRETE SHALL BE 3000 PSI FIBER MESH UNLESS OTHERWISE NOTED

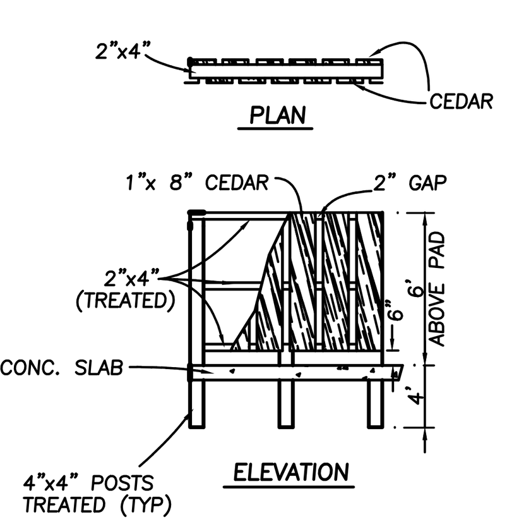
SPECIFICATIONS FOR SUBBASE

ALL SUBBASE SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D698)

TYPICAL SPECIFICATIONS



DUMPSTER PAD

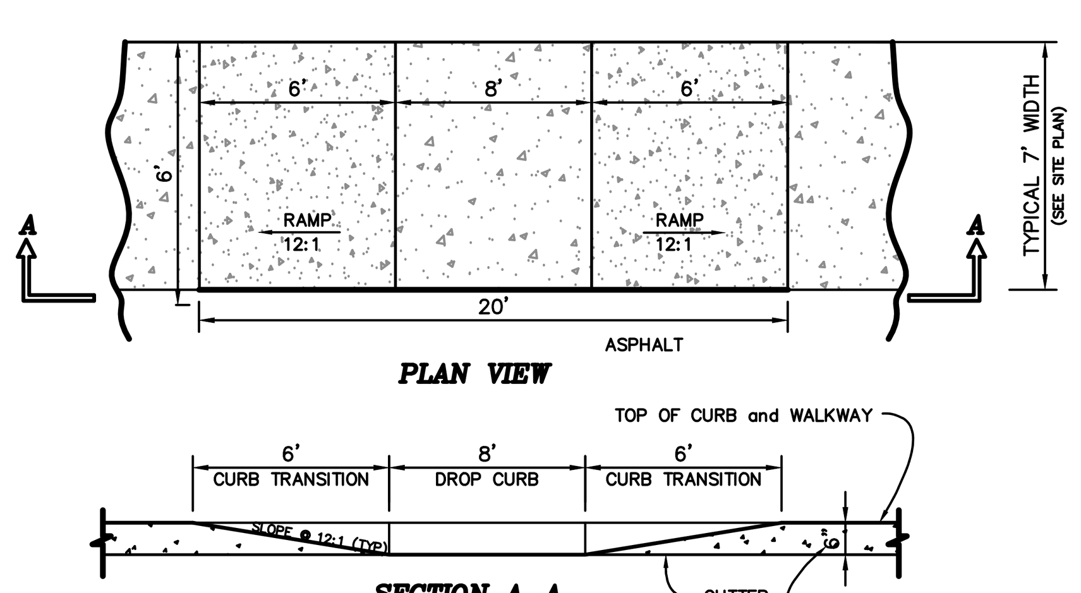


ENCLOSURE

CONCRETE DUMPSTER PAD and ENCLOSURE

N.T.S.

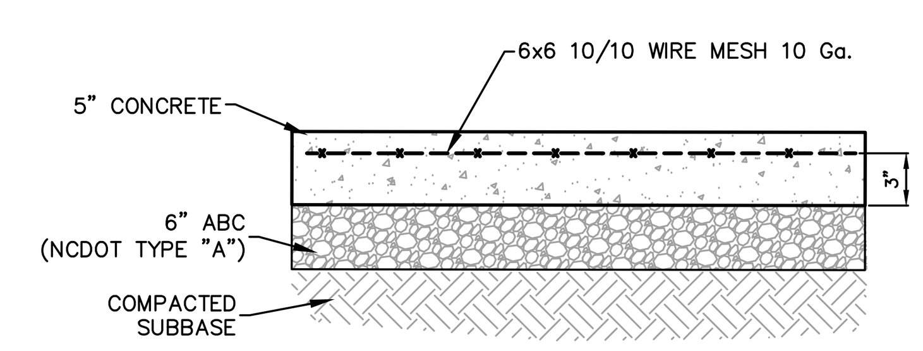
(NOTE: DUMPSTER PAD DRAIN NOT SHOWN)



WHEELCHAIR RAMP

N.T.S.

1. USE ADJACENT TO ALL HANDICAPPED SPACES
2. DETECTABLE WARNING MUST BE INSTALLED AT ACCESS TO VEHICULAR TRAFFIC AREAS AND PEDESTRIAN CROSSINGS.



CONCRETE SECTION (DUMPSTER PAD)

N.T.S.

COMPACTION NOTES:
1. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
2. COMPACT BACKFILL AND SUBGRADE TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) ALL BACKFILL MATERIAL SHALL BE SELECT BACKFILL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. SELECT FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SP, SM, SW, GP, GW] HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.

COMPACTION NOTES

NC License#: C-0208
Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY
BLDG 400
POWELLS POINT, NC 27966
Phone: (252) 491-8147
administrator@quible.com
90 CHURCH STREET
SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 357-5149
administrator@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043652 CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

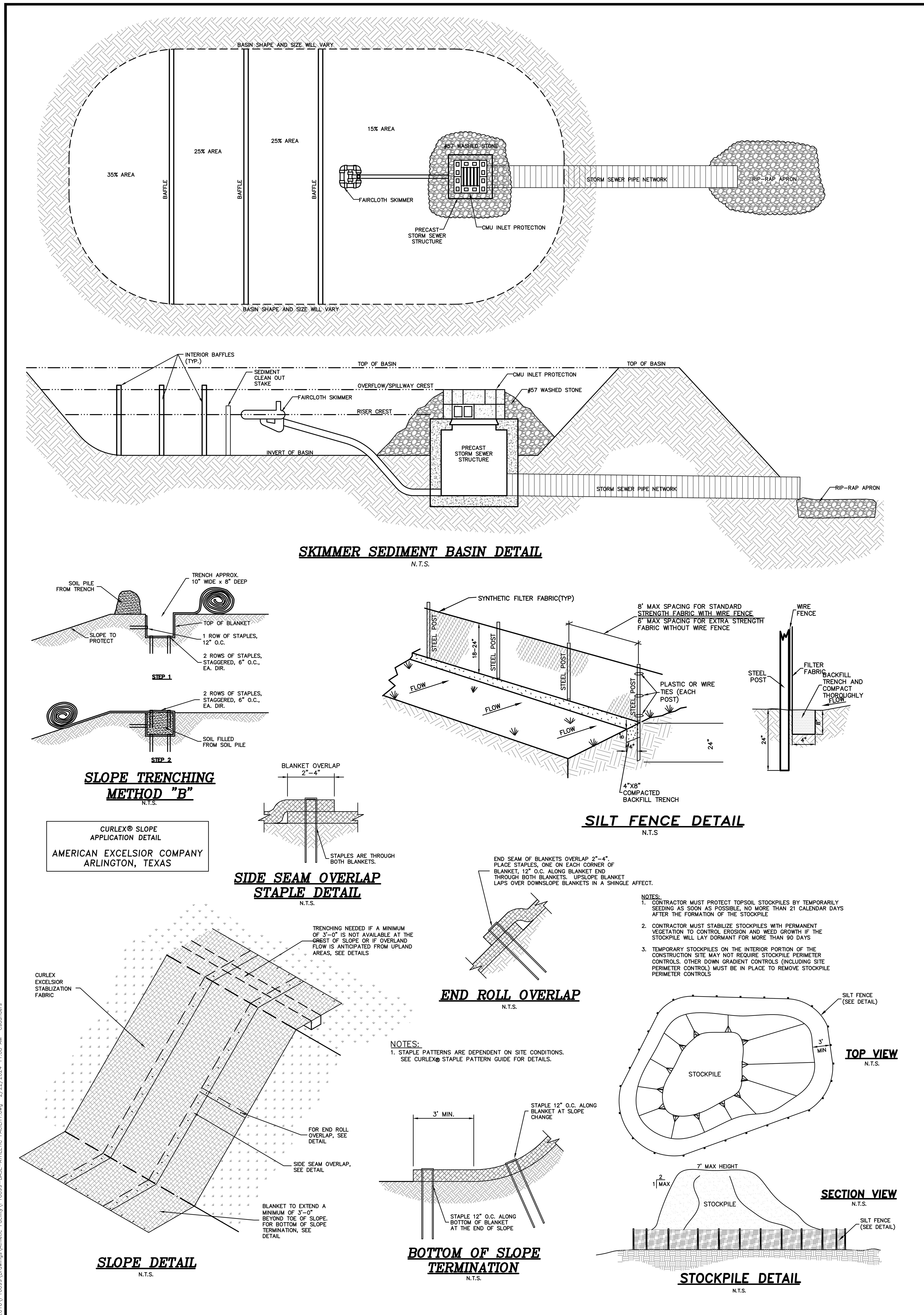
REVISIONS
NO. | DATE

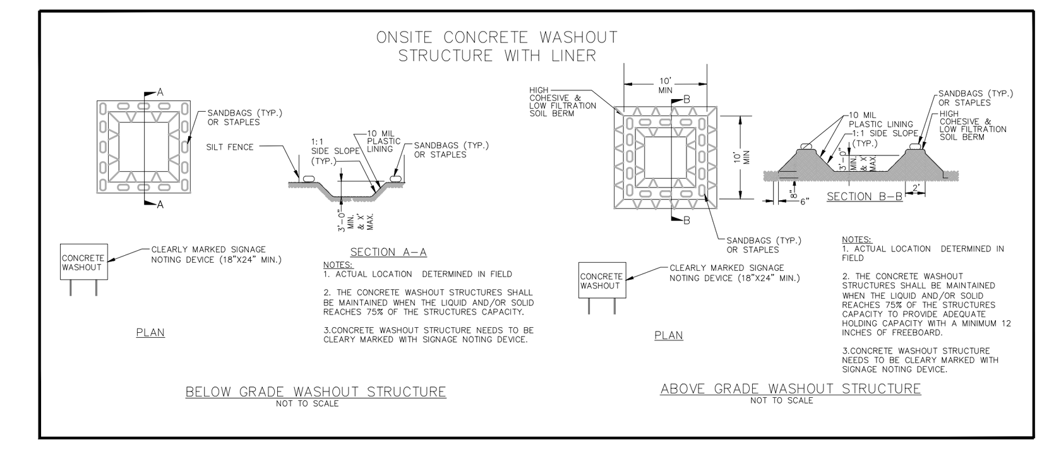
WATER DETAILS

ATHLETIC FACILITY
1559 WATERLILLY RD
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23

SHEET NO. 7 OF 9 SHEETS





GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site
and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

Quible & Associates, P.C.
ENGINEERING • CONSULTING • PLANNING
ENVIRONMENTAL SCIENCES • SURVEYING
SINCE 1959
NC License#: C-0208

CERTIFICATION

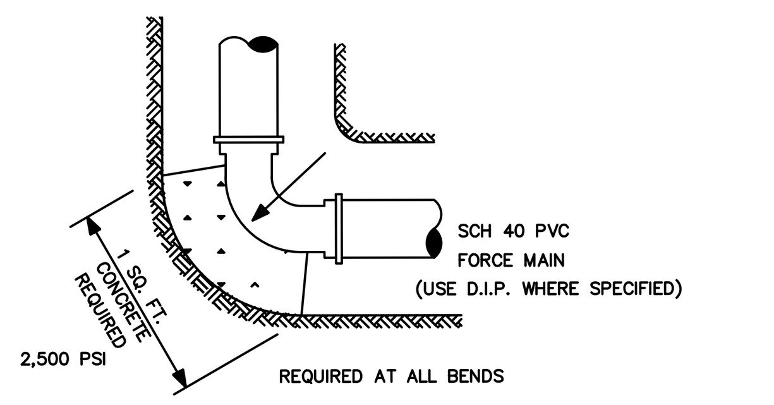
REVISIONS | DATE | NO.

SESC & LANDSCAPING DETAILS

ATHLETIC FACILITY
1559 WATERLILY RD
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

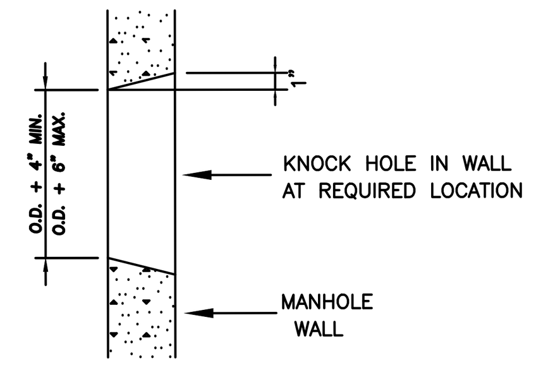
PROJECT NO. P16099
DESIGNED BY ND
DRAWN BY ND
CHECKED BY MWS
ISSUE DATE 12/12/23

SHEET NO. 8 OF 9 SHEETS



FORCE MAIN THRUST BLOCKS @ BENDS

N.T.S.



IN FIELD PIPE OPENINGS

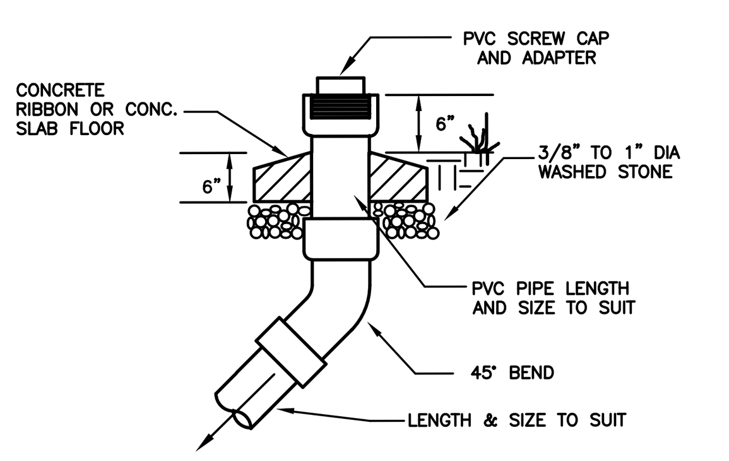
N.T.S.

NOTES:

1. THIS APPLIES TO ALL PIPES 6'' DIAMETER OR LESS UNLESS OTHERWISE SPECIFIED.
2. CLOSE WITH NON-SHRINK GROUT AFTER PIPE INSTALLATION.

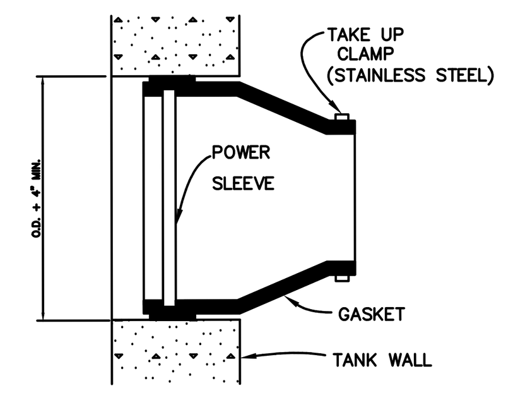
NOTES:

1. PIPE TO MANHOLE CONNECTION TO CONFORM TO LATEST ASTM C-478 SPECIFICATION.
2. PSX FLEXIBLE BOOT CONNECTOR TO CONFORM TO LATEST ASTM C-923 SPECIFICATION.
3. BOOT CONNECTOR IS MANUFACTURED BY THE PRESS SEAL GASKET CORP. FORT WAYNE, IN.
4. SEE MANUFACTURES LITERATURE FOR FURTHER INFORMATION AND DETAIL.



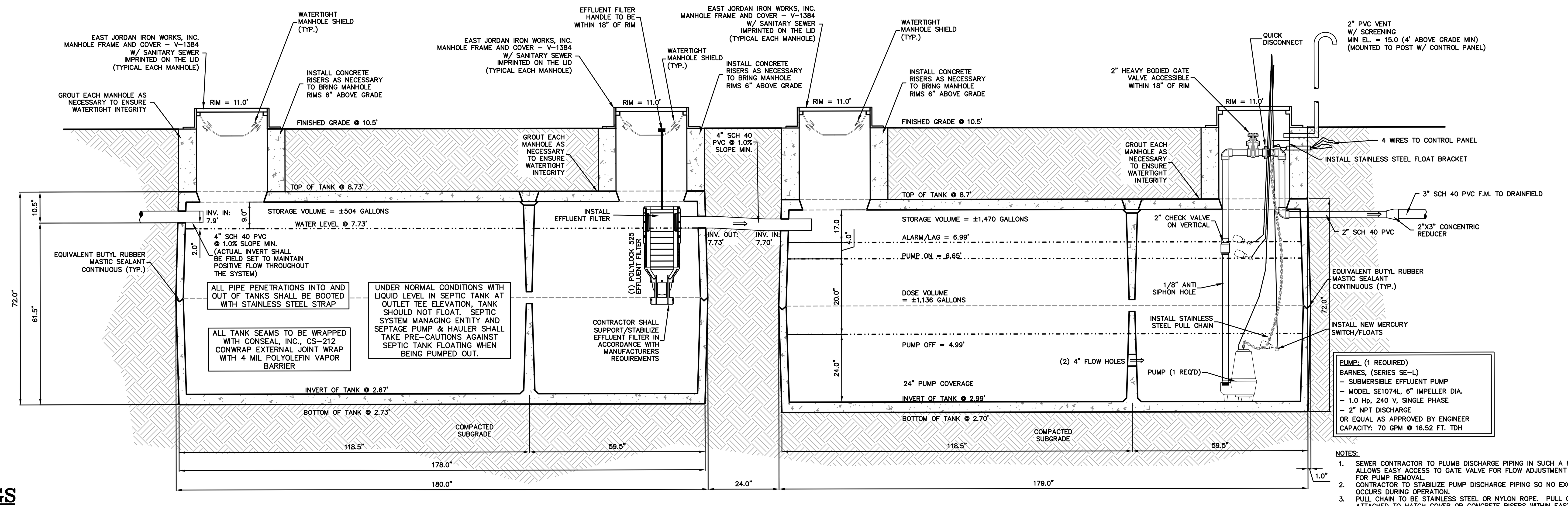
TYPICAL SEWER CLEAN-OUT

N.T.S.



BOOTED PIPE OPENINGS

N.T.S.



PUMP: (1 REQUIRED)
BARNES, (SERIES SE-L)
– SUBMERSIBLE EFFLUENT PUMP
– MODEL SE1074L, 6" IMPELLER DIA.
– 1.0 Hp, 240 V, SINGLE PHASE
– 2" NPT DISCHARGE
OR EQUAL AS APPROVED BY ENGINEER
CAPACITY: 70 GPM @ 16.52 FT. TDH

NOTES:

1. SEWER CONTRACTOR TO PLUMB DISCHARGE PIPING IN SUCH A MANNER THAT ALLOWS EASY ACCESS TO GATE VALVE FOR FLOW ADJUSTMENT ANDTO UNION FOR PUMP REMOVAL.
2. CONTRACTOR TO STABILIZE PUMP DISCHARGE PIPING SO NO EXCESSIVE VIBRATION OCCURS DURING OPERATION.
3. PULL CHAIN TO BE STAINLESS STEEL OR NYLON ROPE. PULL CHAIN TO BE ATTACHED TO HATCH COVER OR CONCRETE RISERS WITHIN EASY ACCESS OF TOP OF HATCH.
4. ALL PIPE OPENINGS SHALL BE GROUTED FOR WATERTIGHT SEALS.
5. ALL ELECTRICAL CONDUIT OPENINGS SHALL BE WATERTIGHT AND GASTIGHT.
6. ALL PIPE WITHIN TANK SHALL BE SCH 40 PVC(UNLESS OTHERWISE SPECIFIED)
7. THIS SYSTEM LIES ADJACENT TO CLASS "SC" WATERS. 12 HOURS OF STORAGE PROVIDED

SECTION 3,004 GAL. SEPTIC TANK

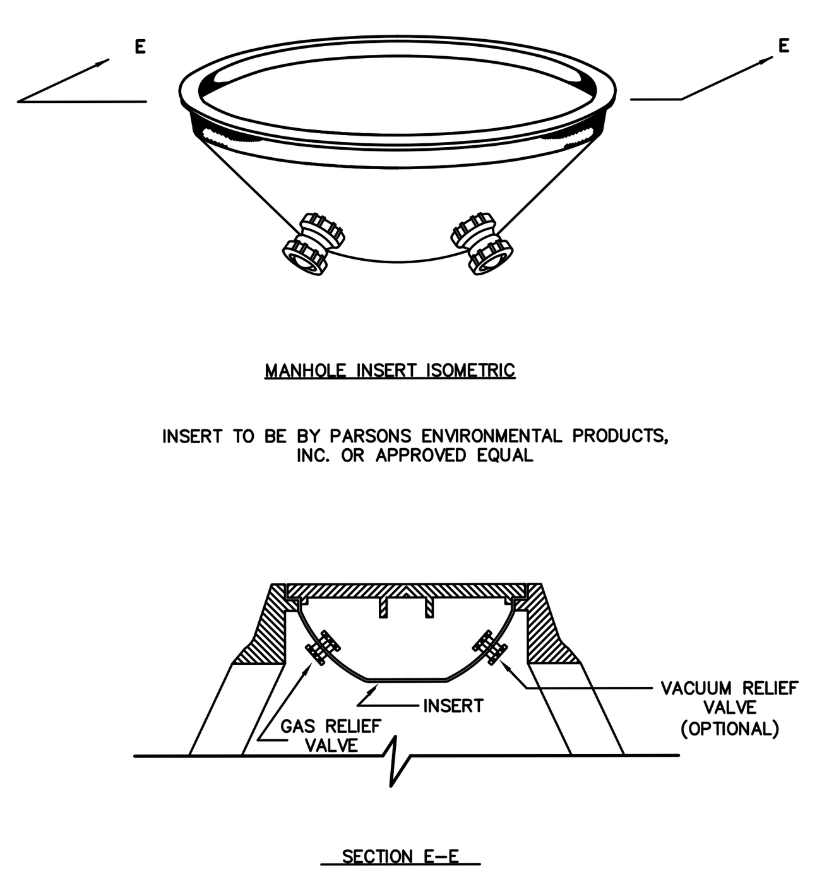
N.T.S.

GREEN ACRES LAND DEVELOPMENT STB-380 SEPTIC TANK
OR EQUAL AS APPROVED BY ENGINEER
CONCRETE: 4000 PSI AT 28 DAYS
56 GALLONS PER INCH

SECTION 3,432 GAL. PUMP TANK

N.T.S.

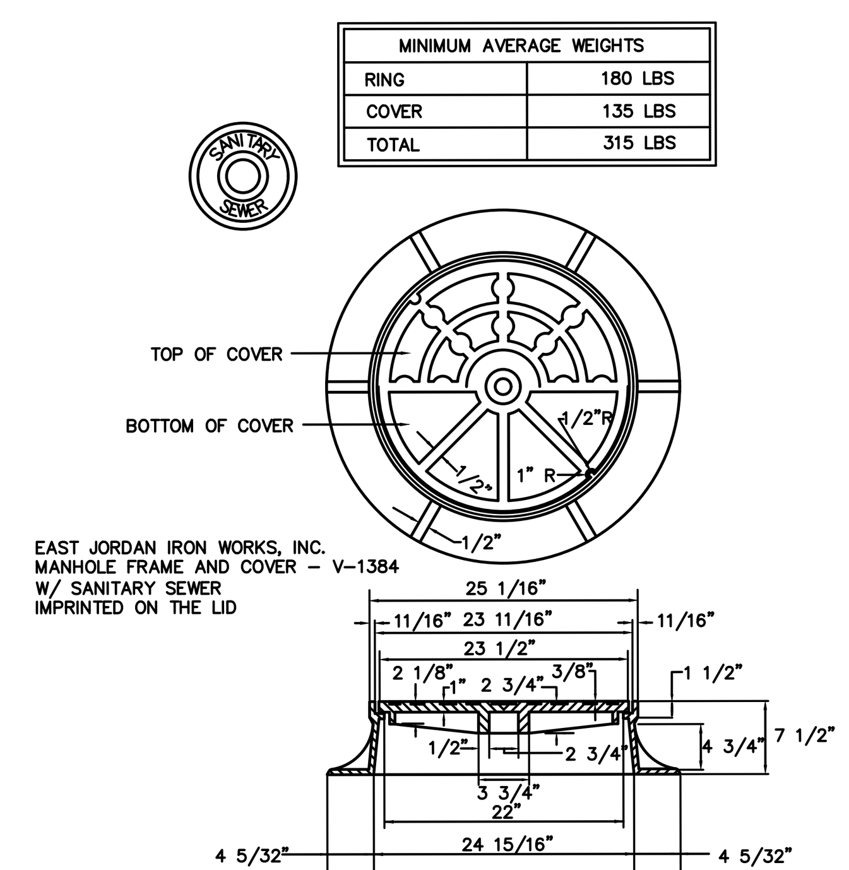
GREEN ACRES LAND DEVELOPMENT PT-337 PUMP TANK
OR EQUAL AS APPROVED BY ENGINEER
CONCRETE: 4000 PSI AT 28 DAYS
52.8 GALLONS PER INCH



WATERTIGHT MANHOLE INSERT

N.T.S.

MINIMUM AVERAGE WEIGHTS	
RING	180 LBS
COVER	135 LBS
TOTAL	315 LBS



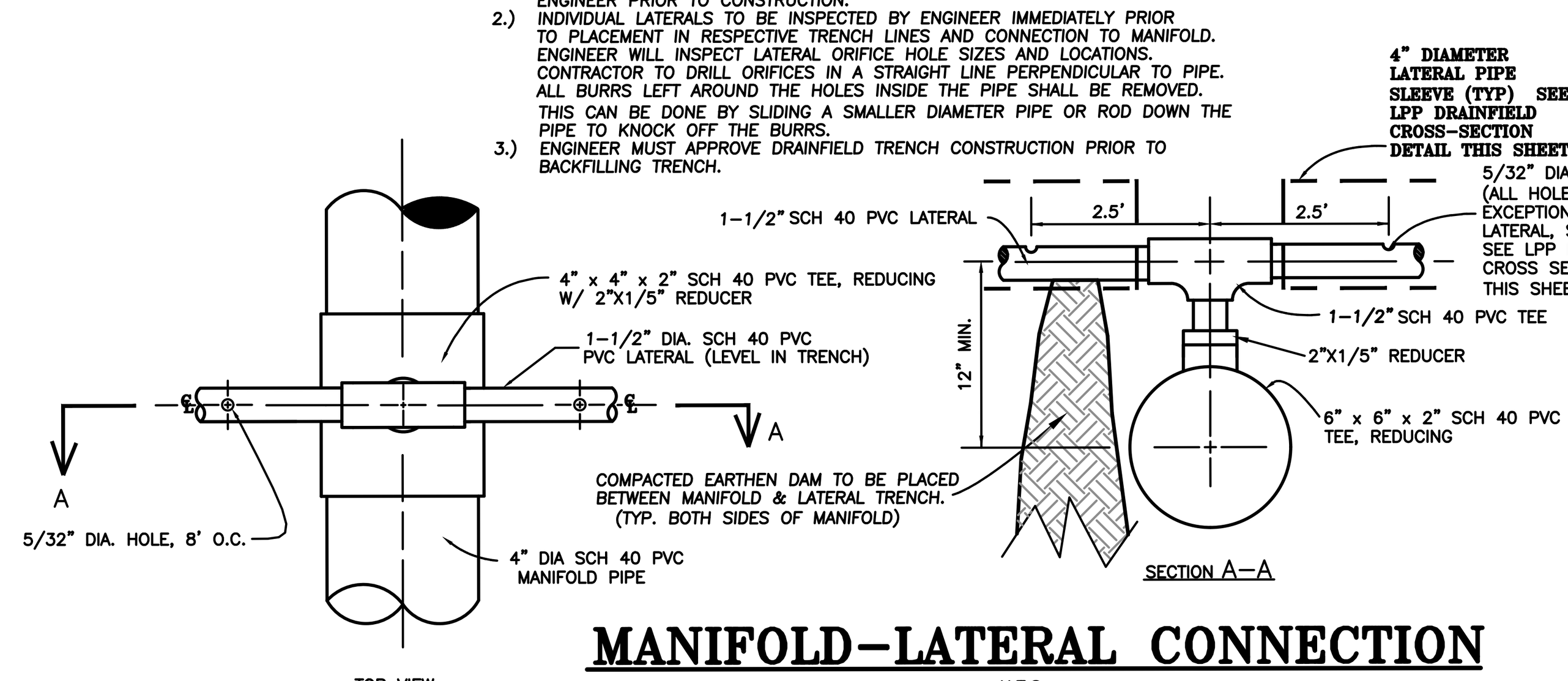
TYPICAL MANHOLE RING & COVER DETAILS

NTS

NOTE: 1-1/2" DIA. SCH40 PVC LATERAL SIZE

TESTING AND INSPECTION

1.) LATERAL LINES AND MANIFOLDS TO BE STAKED-OUT AND APPROVED BY ENGINEER PRIOR TO CONSTRUCTION.
2.) INDIVIDUAL LATERALS TO BE INSPECTED BY ENGINEER IMMEDIATELY PRIOR TO PLACEMENT IN RESPECTIVE TRENCH LINES AND CONNECTION TO MANIFOLD. ENGINEER WILL INSPECT LATERAL ORIFICE HOLE SIZES AND LOCATIONS. CONTRACTOR TO DRILL ORIFICES IN A STRAIGHT LINE PERPENDICULAR TO PIPE. ALL BURRS LEFT AROUND THE HOLES INSIDE THE PIPE SHALL BE REMOVED. THIS CAN BE DONE BY SLIDING A SMALLER DIAMETER PIPE OR ROD DOWN THE PIPE TO KNOCK OFF THE BURRS.
3.) ENGINEER MUST APPROVE DRAINFIELD TRENCH CONSTRUCTION PRIOR TO BACKFILLING TRENCH.

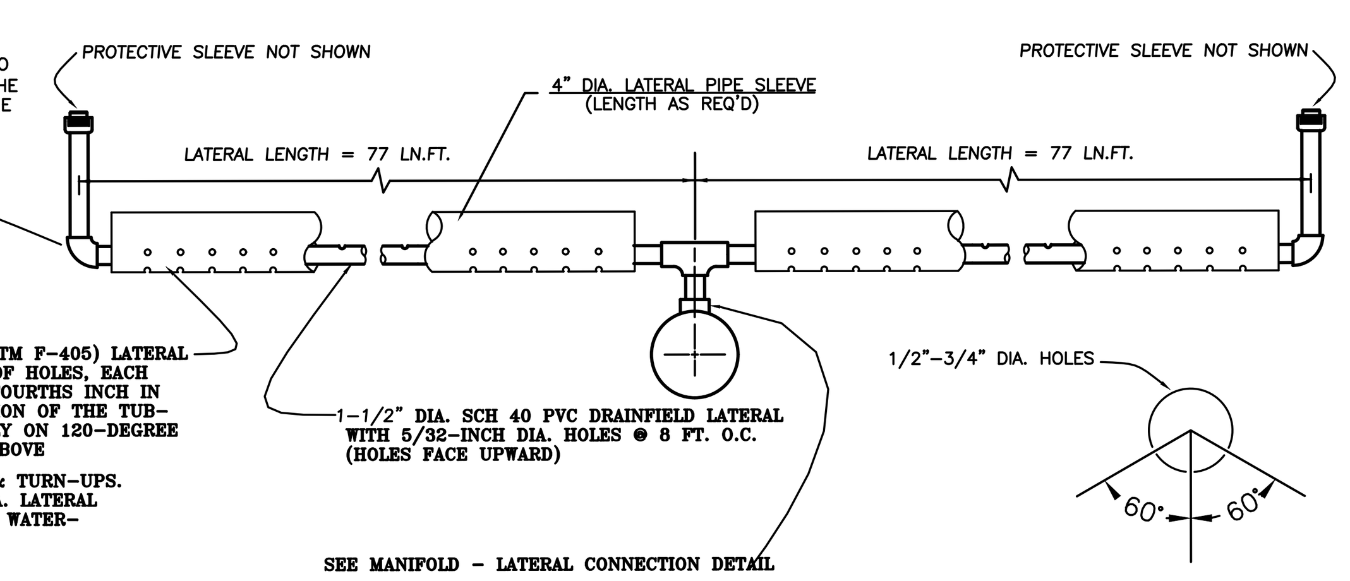


MANIFOLD-LATERAL CONNECTION

N.T.S.

NOTE: HOLE SPACING IS 8 FEET ON CENTERS

EACH LATERAL IN DRAINFIELD SHALL HAVE (2) TWO OF THE 5/32" HOLES, APPROX. ONE THIRD OF THE DISTANCE FROM THE MANIFOLD AND APPROX. ONE THIRD OF THE DISTANCE FROM THE TURN-UP TO FACING DOWN TO INSURE DRAINAGE OF LATERALS AFTER PUMP SHUT-OFF.



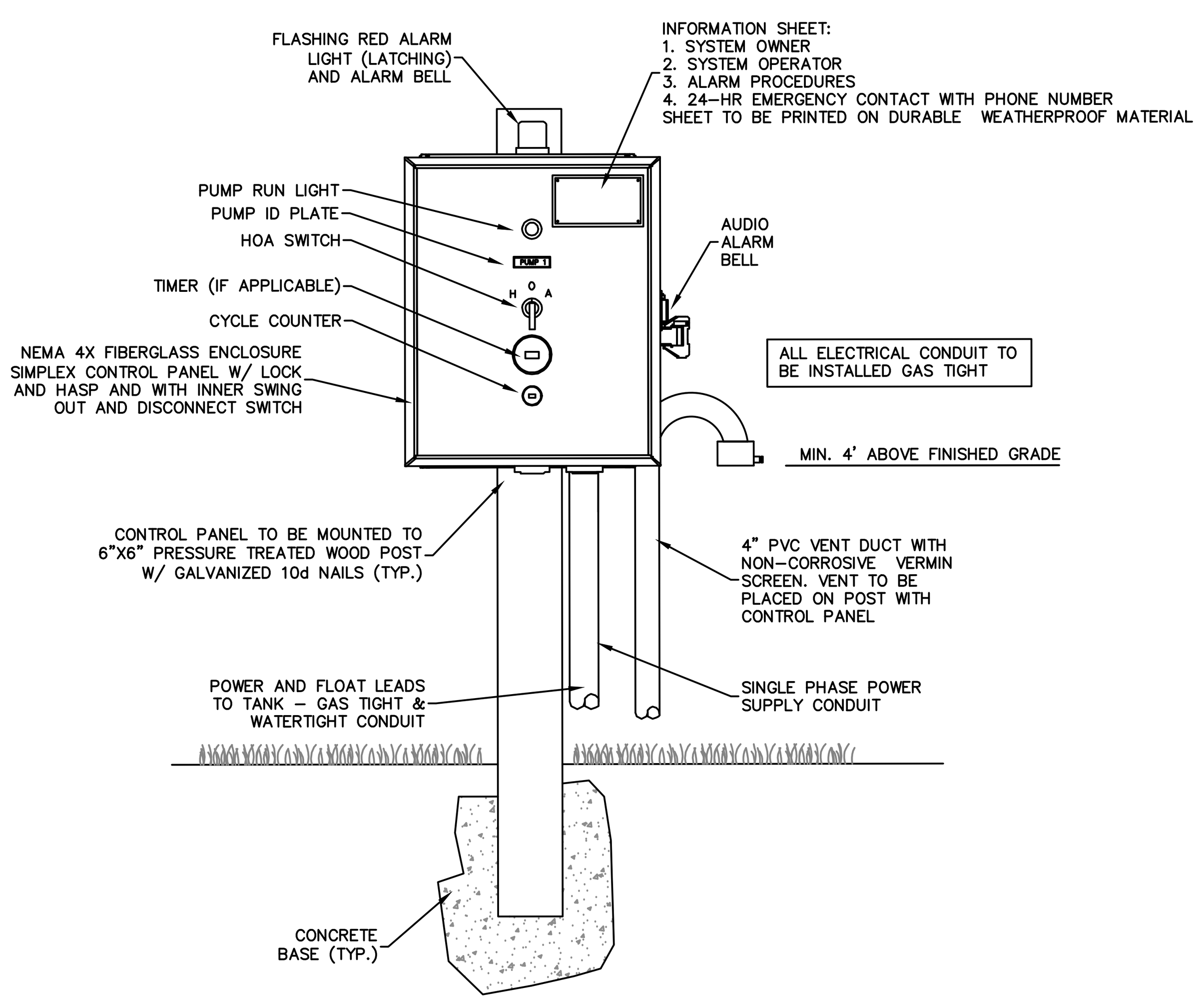
4" DIAMETER CORRUGATED POLYETHYLENE (ASTM F-405) LATERAL PIPE SLEEVE. SLEEVE TO HAVE THREE ROWS OF HOLES, EACH HOLE BETWEEN ONE-HALF INCH AND THREE-FOURTHS INCH IN DIAMETER, AND LOCATED IN THE LOWER PORTION OF THE TUBING, THE OUTSIDE ROWS BEING APPROXIMATELY ON 120-DEGREE CENTERS. SEE LATERAL PIPE SLEEVE DETAIL ABOVE

PLUG EACH END OF 4" SLEEVE @ MANIFOLD & TURN-UPS. DRILL OR CUT HOLE IN PLUG FOR 1-1/2" DIA. LATERAL PIPE. SEAL PLUG/LATERAL PENETRATION WITH WATER-PROOF SEALANT OR CAULKING.

LOW-PRESSURE PIPE DRAINFIELD CROSS SECTION

N.T.S.

NOTE: HOLE SPACING IS 8 FEET ON CENTERS



SIMPLEX CONTROL PANEL & VENT MOUNTING

N.T.S.

PERMANENT VEGETATION

SEEDING DATES: APRIL 1– SEPT 30

SEED MIXTURE	APPLICATION RATES/ACRE
BAHIA	50 LBS.
COMMON BERMUDA (UNHULLED)	50 LBS.
GERMAN MILLETT	15 LBS.
FESCUE	20 LBS.

FERTILIZER

26-13-13 @ 500 LB/ACRE

MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

TEMPORARY VEGETATION

SEEDING DATES: OCT. 1 – MARCH 31

SEED MIXTURE	APPLICATION RATES/ACRE
RYE GRAIN	175 LBS.

FERTILIZER

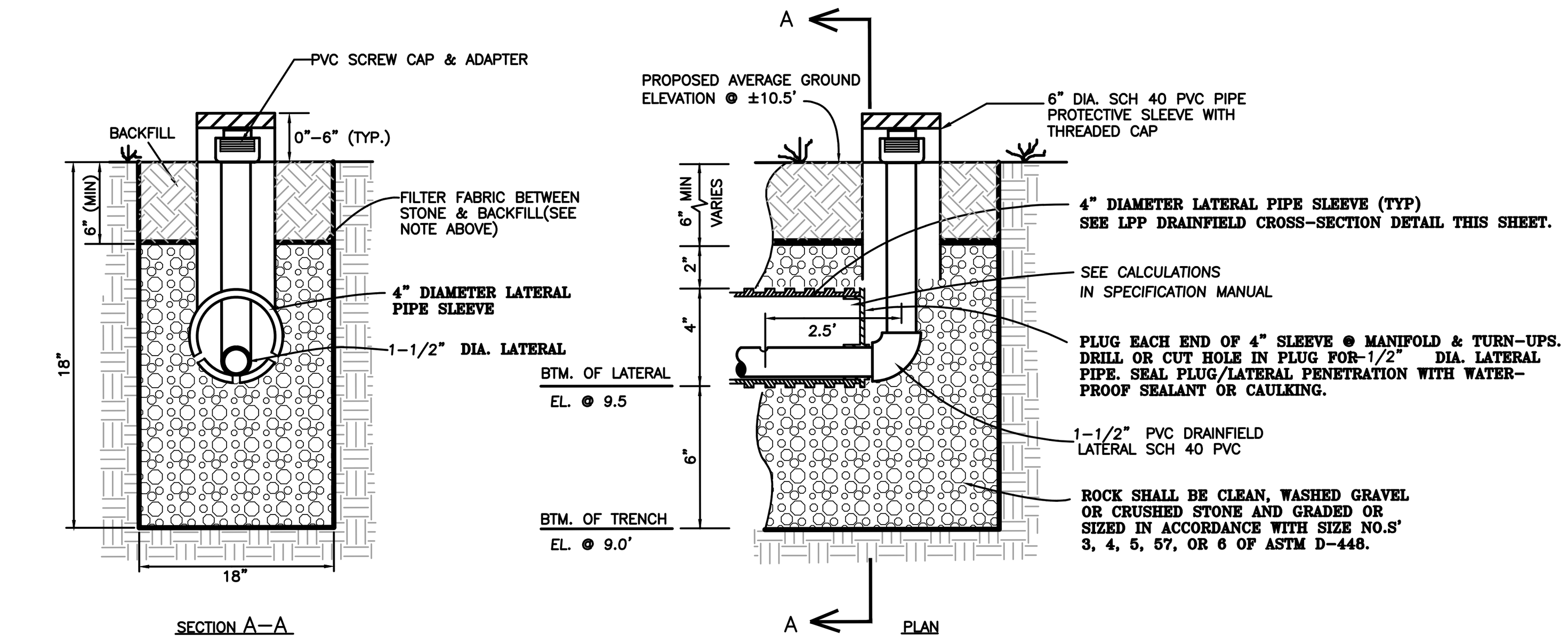
10-10-10 @ 1000 LB/ACRE

MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

- FERTILIZER RATES SHOWN ARE GENERAL RECOMMENDATIONS; FREQUENCY AND AMOUNT OF FERTILIZATION CAN BEST BE DETERMINED THROUGH SITE SPECIFIC SOIL TESTING.
- MAINTENANCE:
  SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER. EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY AND, IF LEFT UNATTENDED, CAN ALLOW SERIOUS SOIL LOSS FROM AN OTHERWISE STABLE SURFACE. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE BARE SPOTS, AND THE LONGER REPAIRS ARE DELAYED, THE MORE COSTLY THEY BECOME. PROMPT ACTION WILL KEEP SEDIMENT LOSS AND REPAIR COST DOWN. NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLIES DEVELOP, THEY MUST BE FILLED IN, RE-SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD.
  MAINTENANCE REQUIREMENTS EXTEND BEYOND THE SEEDING PHASE.
  WEAK OR DAMAGED SPOTS MUST BE RELIMED, FERTILIZED, MULCHED, AND RESEEDED AS PROMPTLY AS POSSIBLE. REFERTILIZATION MAY BE NEEDED TO MAINTAIN PRODUCTIVE STANDS.

GENERAL SEEDING SPECIFICATIONS



DRAINFIELD

LATERAL TURN-UP & TRENCH X-SECTION

N.T.S.

NOTES:

1. ACTIVE DRAINFIELD AREA SHALL BE GRADED SO THAT STORMWATER RUNOFF DOES NOT POND ON DRAINFIELD AREA.
2. VEGETATE DRAINFIELD AND REPAIR AREAS AS PER SEEDING SPECIFICATION.
3. FILTER FABRIC SHALL BE TREVIRA SPUNBOND TYPE 1112 ENGINEERING FABRIC OR EQUAL AS APPROVED BY ENGINEER.
4. ALL TRENCHES, LATERALS, AND MANIFOLDS SHALL BE INSTALLED LEVEL.

NOTE: HOLE SPACING IS 8 FEET ON CENTERS

NC License#: C-0208
Quible & Associates, P.C.
SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
SURVEYING NOT OFFERED AT BLACK MTN. OFFICE
8466 CARATOKE HWY, BLDG 400, POWELLS POINT, NC 27966, Phone: (252) 491-8147, administrator@quible.com
90 CHURCH STREET, SUITE B, BLACK MOUNTAIN, NC 28711, Phone: (828) 357-5149, administrator@quible.com

NORTH CAROLINA PROFESSIONAL SEAL 043652 ENGINEER CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

NO.	DATE	REVISIONS

WASTEWATER DETAILS

ATHLETIC FACILITY
1559 WATERLILLY RD

POPLAR BRANCH TOWNSHIP · CURRITUCK COUNTY · NORTH CAROLINA

PROJECT NO.	P16099
DESIGNED BY	ND
DRAWN BY	ND
CHECKED BY	MWS
ISSUE DATE	12/12/23

Parker Poe

MEMORANDUM

Via E-mail

To: Megan Morgan, Esq., Currituck County Attorney
Nick Herman, Esq., The Brough Law Firm

cc: Currituck County Planning and Zoning

From: Steven D. Weber, Esq.
Mallory S. Sparks, Esq.

Date: February 22, 2024

Re: Water Service Should Not Be the Basis for Denial of the Athletic Facility Site Plan Application

---

Applicant 85° and Sunny, LLC ("85° and Sunny")[1] submitted to Currituck County (the "County") a major site plan application ("Application") on December 14, 2023 for an Athletic Facility to be developed on the parcel located at 1559[2] Waterlily Road, Coinjock, NC identified as Tax Parcel ID 0079000004A0000, Tract A1 Recombination, recorded 8/25/22 (the "Athletic Facility Parcel"). The County Technical Review Committee ("TRC") provided comments on the Application on January 11, 2024 with revisions on January 12, 2024. Those comments included a recommendation for application denial from the County Water Department. This memorandum responds to the recommendation.

I. Comments From the County Water Department

The County Water Department recommended denial for the following reasons:

A. Water pressure on Waterlily Road.

B. The demand on the water system from the proposed project causes concerns that the County will not be able to keep within NCDEQ guidelines for water pressure.

C. The June 2019 Hydraulic Analysis at Waterlily Road conducted by the County indicated that waterline improvements are needed before adding additional services/demand on this part of the system. Improvements to increase the pressure and supply of water to Waterlily Road are in the

[1] 85° and Sunny intends to transfer the Athletic Facility Parcel to a new owner as soon as a zoning compliance permit is obtained from Currituck County for the proposed Athletic Facility use on the Athletic Facility Parcel.
[2] The "1559" Waterlily Road address number replaces "1555" per the GIS comment.

design phase. According to the County Water Department, "[u]ntil that time, we cannot support additional demand on Waterlily Road."

II. The Application Should Not Be Denied on These Grounds

While the comments from the County Water Department are important, they should not be the basis for denial of the Application. Mindful of the TRC's comments, 85° and Sunny prepared and submitted a revised site plan on February 22, 2024 that reflects a significantly reduced water demand for the Athletic Facility.

First, when the pool is filled initially, there will be **no demand on the County water system**. The pool will be filled initially by tanker trucks hauling water from offsite to the Athletic Facility Parcel. **This will be a one-time event**. After that one-time filling event, the only daily water demand from the pool itself at the Athletic Facility Parcel will be to replace evaporation losses from an onsite water storage tank. The estimated evaporative loss is 2% or 1,200 gallons per day. The onsite storage tank will be filled only late at night/very early in the morning when there is no water demand along Waterlily Road, or the demand is negligible. The proposed on-site water storage tank will have a total volume of approximately 1,500 gallons to allow for greater than 24 hours of storage capacity based upon maximum daily water demands. Unlike the water infrastructure requirements for subdivisions, there are no water supply standards in the County Unified Development Ordinance for an athletic facility.

Second, in response to County comments regarding water service, the size of the pool has been redesigned and significantly decreased in size from 7,100 ft^2 to 3,200 ft^2, which is a **sixty-five percent (65%)** decrease from 132,000 gallons of water to 59,720 gallons of water. This reduction in size also will reduce the amount of water lost from evaporation (that will be replenished overnight).

Third, the redesigned site plan reflects a smaller building that includes fewer bathrooms. The new site plan reflects two bathroom stalls for women and one stall for men, which will reduce the water demand.

Fourth, there is residential construction along Waterlily Road, as reflected in the photos below, that has occurred after the June 2019 Hydraulic Analysis at Waterlily Road and an earlier County analysis in 2007. The County issued building permits for these six homes even though each home will increase the water demand along Waterlily Road. A review of the County tax records for these homes reflects multiple bedrooms/bathrooms per home, specifically:

- 1355 Waterlily Road constructed in 2023 with four bedrooms, four full baths and one half bath.
- 1161 Waterlily Road constructed in 2023 with three bedrooms, two full baths and one half bath.
- 981 Waterlily Road constructed in 2023 with four bedrooms, three full baths and one half bath.
- 1544 Waterlily Road constructed in 2023 with three bedrooms and two full baths.
- 1425 Waterlily Road constructed in 2022 with five bedrooms, five full baths and one half bath.

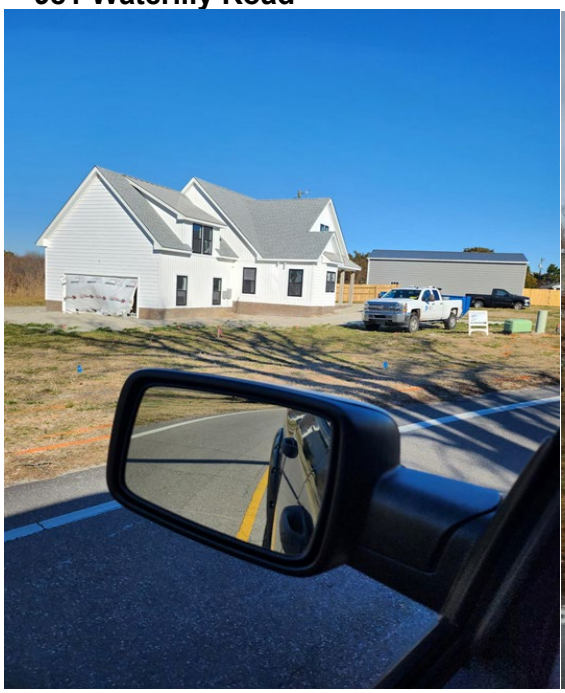
The addition of 19 bedrooms, 18 full bathrooms and 4 half bathrooms along Waterlily Road in the last two years increases the water demand along Waterlily Road. That increased demand that the County has approved is more than the water demand set forth in the revised Athletic Facility site plan. Water consumption typically is 60 gallons per day per person with each bedroom assumed to contain 2 persons or a total of 120 gallons per day per bedroom. The estimated water consumption for three bedrooms in a home is 360 gallons per day and 480 gallons per day for a four bedroom home, both of which are more than the estimated demand for the bathrooms at the proposed Athletic Facility. Again, the 1,500 gallon storage tank will be filled only at night and will be sufficient to fulfill the daily demand for the Athletic Facility.

1425 Waterlily Road

1355 Waterlily Road

1161 Waterlily Road

981 Waterlily Road



1544 Waterlily Road

Finally, by separating the Athletic Facility Parcel, 85° and Sunny has reduced the number of parcels to be served. The Athletic Facility Parcel previously was a lodge and other structures that required water.[3] The Athletic Facility replaces previous water usage.

III. Alternative Solution for Water Supply

The TRC comments and earlier comments by the County express a desire to separate completely the proposed Athletic Facility from the neighboring campground, and 85° and Sunny has attempted to reflect a complete separation within the Application. However, as an alternative solution, the Athletic Facility could lease water from the neighboring campground's water storage, which currently accumulates at night when user demand is non-existent or negligible. This is not the preferred method of meeting water demand for the Athletic Facility but is one that 85° and Sunny can consider.

V. Conclusion

The Athletic Facility's redesigned site plan reflects a significantly reduced water demand than the site plan submitted originally for TRC review. This reduced demand, along with the proposed efforts to source water in ways that minimize any measurable impact on the County water system and other users on Waterlily Road warrant approval of the revised site plan.

[3] The lodge was serviced by drain field R2 with a water demand of 480 gallons per day.