December 12, 2024

Ms. Millicent Ott
Currituck County
Planning & Community Development
153 Courthouse Road, Suite 110
Currituck, North Carolina 27949

RE: Major Site Plan Application - Resubmittal
1120 Corolla Village Rd
Corolla, Currituck County, North Carolina

Dear Ms. Ott;

Thank you for your comments on the above-referenced project. On behalf of Duck Land Co., LLC, WithersRavenel hereby submits revised documents for your review. The following digital documents are included and shall be considered part of this submittal package:

1. One (1) copy of the revised Site plan application:
2. One (1) copy of Stormwater SW-003 Form;
3. One (1) copy of the revised Site Plan, including Landscaping;
4. One (1) copy of the revised Site Plan Narrative;

A copy of the TRC review comments dated December 5, 2024, are enclosed for reference, and our responses listed below for ease of review.

Planning (Millicent Ott, 252-232-6066)

1. Please confirm the signature on the application. Respond as to who signed *Acknowledged. Please note the application was signed by Doug Twiddy and supporting email documentation is available.*

2. The plan narrative indicates that the dwelling unit is an accessory, but the application and plan indicate a single-family detached dwelling. Please ensure the project narratives are consistent throughout (application, narrative, plans). *Acknowledged. The narrative has been updated to reference single family detached*

3. Per Section 5.5.3.A of the UDO, refuse collection facilities shall not be located between a principal structure and any adjacent streets. *The roll out refuse storage location has been shifted to the rear on the rear decking but maintains the required fencing for screening.*

4. Per Section 5.8.3.A(1)(b) of the UDO, no more than 50 percent of the required off-street parking shall be located between the building's primary façade and the street it fronts. Since this is a nonconforming lot of record, Section 8.4.3. Development on Non-

Conforming Lots applies. Please describe how you have met this dimensional standard to the maximum extent practicable

Development on a vacant nonconforming lot shall meet the minimum dimensional requirements for the zoning district where located to the maximum extent practicable. As such, this site was evaluated to meet 5.8.3.A(1)(b) to the maximum extent practicable. The site is consistent with the County's UDO's enforceable policies as reviewed during the TRC process, however full consistency is not practicable due to various site constraints.

The site contains approx. 13,072 sf of uplands throughout, 51% of the parcel area is active wetlands. A previous permit was pulled and the wetlands have been filled to the maximum extent allowed by the Army Corp of Engineers (ACOE). Additional wetlands fill is not a viable option for the site, restricting the buildable area. Since the site has a restricted allowable buildable area per ACOE regulations, ACOE exceptions were reviewed to allow for development over the wetlands. The ACOE exceptions will allow for elevated open slotted wood decking to be installed over the wetlands ***only****. As such, the building and associated decking must be placed near the rear of the site to use these exceptions.*

In addition to using these exceptions to expand the buildable area, the proposed development has been reduced as practical. The minimum amount of parking allowed per the UDO has been provided to minimize the footprint of the development within the 13,072 sf of uplands. It should be noted that a width of 55.4' of uplands is available between the site wetlands. Based on Currituck County UDO requirements, the minimum width of a two-way drive aisle with two rows of parking is 60'. The width at the rear of the site would not be able to provide the minimum required parking, nor would it allow for required fire apparatus turnaround area, and the building width is 59'; to provide a 20' drive aisle adjacent to the building to allow parking within the rear is not practicable with the existing uplands width of 55.4'. Based on the above site constraints it is not practicable to provide parking within the rear of the building. To meet required parking setbacks, minimum building setbacks, fire apparatus access and turnaround requirements, not allow backing into the right-of-way, and meeting other UDO standards, it is not feasible for any size building to yield over 50% of the required parking to the side and rear of a habitable structure.

5. Please include any anticipated freestanding sign locations, and details. *Yes, a sign will be desired, a sign has been shown at the front corner of the lot. See Sheet 2.*

6. Consider adding bicycle parking for visitors. *Acknowledged. Please see this call out on Sheet 2.*

7. More discussion is needed regarding pedestrian circulation/sidewalks. Comment will be forthcoming *Acknowledged. Please provide guidance on the latest wayfinding plan.*

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

1. SFD will need to be completely detached with a separate means of egress. *Acknowledged. Please see latest revised building layout that provides stairs and 3' clear walkway along the northern side of the commercial structure.*
2. If deck, or any portion of building is attached to dwelling, dwelling will need to be designed as R3 with sprinkler protection. *Acknowledged. These have been kept separate, please see response to 1.*

3. If optional roof is constructed, the eating establishment and covered decks will need NFPA 13 sprinkler, dwelling could use 13D or 13R. *Acknowledged. The "optional" roof has been removed from the plans.*

Currituck County Public Utilities – Mainland Water (Chas Sawyer 252-202-1692)

1. Noticed that there is a 2-inch tap but only 1 inch meter? I see no need for 2-inch tap unless there are multiple meters. I would put in 1 inch service. IF the 2-inch tap is required, would need to put valve at 6X2 tapped area to isolate waterline under road. Use the existing meter from next door. *Per correspondence with Jim Williams, the site water service connection has been updated to connect to the adjacent property's service line.*

2. Double check backflow device will be sufficient protection *Acknowledged. A double check valve with backflow prevention has been shown on Sheet 2.*

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

1. The parcel identification number on the major site plan application is incorrect. The correct PIN is 011400000520000; *Acknowledged. The application has been updated and included with this PIN.*

2. The address for the restaurant will be 1120 Corolla Village Rd. *Acknowledged. This address has been clarified within Note 4 on Sheet 1.*

3. The address for the dwelling will be 1120-A Carolla Village Rd. *Acknowledged. This address has been clarified within Note 4 on Sheet 1.*

Stormwater Review (McAdams)

1. Please provide page 1 of the SW-003 Form for Rational Method Peak Flow calculations. We only received page 2. *Acknowledged. Both Pg 1 and 2 have been included with the resubmittal.*

2. Please provide a pre- and post-construction drainage area map delineating the flow to the interconnected infiltration basins. Include on the map clear indications of how the water will get to the basins, and time of concentration paths. *Pre-developed and post-*

developed drainage area maps have been added to the site narrative behind the stormwater calculations.

3. Please provide callouts and/or clarification of impervious areas listed in #11 on the aerial view of the site plan sheet for clarity, or add impervious type callouts and quantities to the above-requested drainage area maps. It is unclear which areas are contributing to the impervious total. *Hatching is shown on the post-developed drainage area map, 'pink' delineates open slotted wood decking that is not treated. 'Green' areas indicate areas that are treated as permeable. Please note these numbers have been updated to reflect the latest. Covered deck areas have been removed from the coverage as they are no longer proposed to be built.*

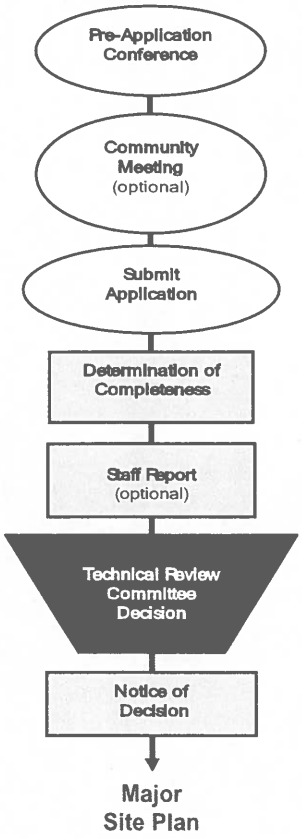
Please review the enclosed documents and our above responses at your earliest convenience. Please do not hesitate to contact me at (252) 491-8147 or csaunders@quible.com should you have any questions or require any additional information

Sincerely,

WithersRavenel

Cathleen M. Saunders, P.E.
Senior Project Manager

Major Site Plan
Review Process



Contact Information

Currituck County
Planning and Inspections Department
153 Courthouse Road, Suite 110
Currituck, NC 27929

Phone: 252-232-3055

Website: http://www.currituckcountync.gov/planning-zoning/

Email: ccpz@currituckcountync.gov

General

Major site plan approval is required for any non-residential, multi-family, or mixed-use development that:

- Is 5,000 square feet or greater of building gross floor area, impervious surface, disturbed land area, and other use area.

Step 1: Pre-application Conference

The purpose of a pre-application conference is to provide an opportunity for the applicant to determine the submittal requirements and the procedures and standards applicable to an anticipated development application. A pre-application conference is also intended to provide an opportunity for county staff to become familiar with, and offer the applicant preliminary comments about, the scope, features, and impacts of the proposed development, as it relates to the standards in the Unified Devlopment Ordinance (UDO).

The applicant shall submit conceptual drawings that show the location, general layout, and main elements of the proposed development as part of the application to the Development Services Department at least three business days before the pre-application conference.

Step 2: Application Submittal and Acceptance

The applicant must submit a complete application packet on or before the application submittal deadline date which is usually the fourth Thursday of each month. If submitting on the submittal deadline date, please call 252-232-3055 to schedule an appointment. A complete application packet consists of the following:

Submitted on a USB flash drive or a compact disc (CD):

- Completed Currituck County Major Site Plan Application.
- Site plan drawn to scale. The plan shall include the items listed in the major site plan design standards checklist.
- Landscape plan drawn to scale. The plan shall include the items listed in the major site plan design standards checklist.
- Exterior lighting plan drawn to scale. The plan shall include the items listed in the major site plan design standards checklist.
- Stormwater Review Fee (see fee schedule) and Major Stormwater Plan and Form SW-002.
- Architectural elevations illustrating the design and character of the proposed structures, if applicable.

- ARHS site evaluation(s) OR if connecting to existing wastewater system, a letter of commitment from centralized sewer provider and letter from DWQ indicating the existing plant has sufficient capacity to serve the development at the time of site plan approval.
- NCDEQ, DWQ stormwater permit application (if 10,000 sf or more of built upon area).
- NCDEQ, Land Quality, Erosion and Sedimentation Control permit application (if one acre or more of land disturbance).
- NCDOT Street and Driveway Access Permit Application and Encroachment Agreement.

Applicable Fee:

$.15 per square foot of gross floor area or $500 minimum

Upon receiving an application, staff shall, within ten business days, determine whether the application is complete or incomplete. A complete application contains all the information and materials listed above and is in sufficient detail to evaluate and determine whether it complies with appropriate review standards. If an application is determined to be incomplete, the applicant may correct the deficiencies and resubmit the application for completeness determination. Failure to resubmit a complete application within 45 calendar days after being determined incomplete will result in the application being considered withdrawn. Applicants may submit applications for a site plan and building permit concurrently.

Step 3: Staff Review and Action

Once an application is determined complete, it will be distributed to the Technical Review Committee (TRC) and placed on the TRC meeting agenda. TRC shall review and prepare a written report that will include any outstanding concerns with the application. TRC shall approve, approve subject to conditions or disapprove the application. Conditions of approval shall be limited to those deemed necessary to ensure compliance with the standards of the UDO.

An application for a site plan shall be approved on a finding the applicant has demonstrated the proposed development:

- Is consistent with the Land Use Plan or other officially adopted plan;
- Complies with the applicable district, use-specific, development, environmental, and infrastructure design standards of the UDO;
- Complies with the Currituck County Stormwater Manual and all other applicable standards of the UDO and the County Code of Ordinances; and
- Complies with all standards or conditions of any prior applicable development permits or approvals.

Major Site Plan
Application

OFFICIAL USE ONLY:
Case Number: _____
Date Filed: _____
Gate Keeper: _____
Amount Paid: _____

Contact Information

APPLICANT:
Name: Duck Land Co., LLC
Address: 1181 Duck Road
Duck, NC 27949-4568
Telephone: 252-457-1177
E-Mail Address: dtwiddy@twiddy.com

PROPERTY OWNER:
Name: _____
Address: _____
_____
Telephone: _____
E-Mail Address: _____

LEGAL RELATIONSHIP OF APPLICANT TO PROPERTY OWNER: same

Property Information

Physical Street Address: 1120 Corolla Village Road
Location: Corolla Vilage Rd and Schoolhouse Ln in Corolla, NC
Parcel Identification Number(s): ~~9937-21-3504~~ 011400000520000
Total Parcel(s) Acreage: 0.62
Existing Land Use of Property: vacant

Request

Project Name: 1120 Corolla Village Rd
Proposed Use of the Property: Specialty Eating Establishment and Single Family Dwelling
Deed Book/Page Number and/or Plat Cabinet/Slide Number: DB 555 Pg 192-194
Total square footage of land disturbance activity: 15,177
Total lot coverage: 7,590 sf (no permeable credit)
Total vehicular use area: 3,457 sf
Existing gross floor area: 0
Proposed gross floor area: 2,240 sf (total)

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

_____ 8-23-24
Applicant Date

_____ 8-23-24
Property Owner(s) Date

***NOTE: Form must be signed by the owner(s) of record, contract purchaser(s), or other person(s) having a recognized property interest. If there are multiple property owners/applicants a signature is required for each.**

Major Site Plan Design Standards Checklist

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

Major Site Plan

Design Standards Checklist

Date Received: _____ TRC Date: _____

Project Name: 1120 Corolla Village Rd.

Applicant/Property Owner: Duck Land Co., LLC

Site Plan Design Standards Checklist			
	General		
1	Property owner name, address, phone number, and e-mail address.	✓	
2	Site address and parcel identification number.	✓	
3	North arrow and scale to be 1" = 100' or larger.	✓	
4	Vicinity map showing property's general location in relation to streets, railroads, and waterways.	✓	1
5	Existing zoning classification and zoning setback lines of the property.	✓	1
6	Scaled drawing showing existing and proposed **site features**: Property lines, acreage, adjacent use types, streets (right-of-ways), easements, buildings and accessory structures (including square feet and use), parking layout, vehicular use areas, driveways (including opposing driveways), loading spaces, refuse collection facilities (dumpsters), outdoor storage areas, ground based utility equipment, fences and walls, and sidewalks and pedestrian circulation. And location and size of existing and proposed **infrastructure**: Water mains (including and water taps), water meter details, backflow prevention details, wells, sewer mains or on-site septic systems (including repair area), electrical service, fire hydrants, detail of fire apparatus access to buildings, and any other public utility within all adjacent public right-of-ways and easements.	✓	2
7	Approximate location of all designated Areas of Environmental Concern or other such areas which are environmentally sensitive on the property, such as Maritime Forest, CAMA, 404, or 401 wetlands as defined by the appropriate agency.	✓	1
8	Sight distance triangles.	✓	2
9	Proposed common areas, open space set-asides, and required buffers.	✓	2
	Landscape Plan		
10	All existing and proposed planting areas and vegetation that will be used to comply with the landscaping requirements, including the species, caliper, and spacing of all vegetation.	✓	2
11	Existing and proposed physical barriers to be used to comply with the bufferyard and screening requirements.	✓	2
12	Heritage tree inventory and proposed tree protection zones: *ALL HERITAGE TREES IN	✓	2
13	Adjoining property lines, zoning, and names and address of adjoining property owners. WETLANDS	✓	1
	Exterior Lighting Plan		
14	Location, height, and type of all proposed exterior lighting including but not limited to site, street, building, and security lighting.	N/A	
15	Footcandle measurements of the entire site including lot lines, or light fixture documentation when minimal lighting is proposed. FIXTURES ONLY	✓	
	Major Stormwater Management Plan		
16	Major Stormwater Plan and Form SW-002	✓	

	Architectural Elevations	
17	Architectural drawings and/or sketches illustrating the design, character, height, and materials of the proposed buildings.	✓
	Flood Damage Prevention, if Applicable	
18	Proposed elevation of all structures and utilities.	✓
19	Location, dimensions, and use of: Development and disturbance, existing and proposed structures and utility systems grading and pavement areas, fill materials, storage areas, drainage facilities, and other development.	✓
20	Boundary of Special Flood Hazard Area (SFHA), floodway, Coastal Barrier Resource System (CBRS) Area, water course relocation, or a statement that the entire lot is within a specific SFHA.	N/A
21	Flood zone designation as determined on the County's Flood Insurance Rate Maps (FIRM). SHZ; NOTE 7	✓
22	Design Flood Elevation (Base Flood Elevation plus two-foot freeboard).	✓ 3
23	Plans and/or details for the protection of public facilities and utilities (sewer, gas, electrical, and water systems) from inundation of flood waters up to Design Flood Elevation.	✓
24	Water course alteration or relocation: Description of alteration or relocation, report on effects of proposed project on the flood carrying capacity of the water course, and effects to properties located up and downstream.	N/A
25	Fill – plans for non-structural fill (if being utilized in VE zone).	N/A

Major Site Plan Submittal Checklist

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

Major Site Plan
Submittal Checklist

Date Received: _____ TRC Date: _____

Project Name: 1120 Corolla Village Rd.

Applicant/Property Owner: Duck Land Co., LLC

Major Site Plan **Submittal Checklist – Documents provided on USB flash drive or CD**		
1	Complete Major Site Plan application	✓
2	Site plan	✓
3	Landscape plan SHEET 2	✓
4	Exterior Lighting plan FIXTURE CUT SHEETS	✓
5	Stormwater Review Fee Deposit (see fee schedule) and Major Stormwater Management plan and Form SW-002	✓
6	Architectural elevations, if applicable	✓
7	ARHS site evaluation(s) OR if connecting to existing wastewater system, a letter of commitment from owner of centralized sewer provider and letter from DWQ indicating the existing plant has sufficient capacity to serve the development at the time of site plan approval.	✓
8	NCDEQ stormwater permit application (if 10,000 sf or more of built upon area). <10,000 SF	N/A
9	NCDEQ Erosion and Sedimentation Control permit application (if one acre or more of land disturbance). <1 acre	N/A
10	NCDOT Street and Driveway Access Permit Application and Encroachment Agreement	✓
11	Application fee ($.15 per square foot of gross floor area or $500 minimum)	✓*

* TO BE INVOICED

For Staff Only

Pre-application Conference

Pre-application Conference was held on _____ and the following people were present:

_____

_____

Comments

_____

_____

Rational Method Peak Flow
Form SW-003

Project Information

Project Location: 1120 Corolla Village Rd

Parcel Identification Number(s): 9937-21-3504

Drainage area: 0.28 ac

Average Slope: 2.0 %

Maximum Slope Length: 170 ~~[illegible]~~ ft

Calculations

*The Rational Method may only be used where development will impact less than 10 acres

Time of Concentration (Tc)
(Use additional sheets if necessary)

	Pre-	Post-	
Sheet Flow			
Manning's roughness, n (Table 2-4)	0.2	0.57	
2-year, 24-hour Rainfall, P	4.0	~~6.0~~ 5.0	in
Slope, S	1.2%	1.5%	ft/ft
Length of Sheet Flow, L (<=300 feet)	170	40	ft
Total Time for Sheet Flow	12.1	0.0	**min**
Shallow Concentrated Flow			
Surface Paved (P) or Unpaved (U)	U	P	
Length of flow, L	N/A	N/A	ft
Slope, S	↓	↓	ft/ft
Average Velocity, V (Table 2-3)		↓	ft/min
Total Time for Shallow Concentrated Flow	0.0	0.0	**min**
Channel Flow			
Pipe (P) or Channel (C)	N/A	N/A	
If pipe: Diameter, D	↓	↓	in
If channel: Bottom Width, w			ft
If channel: side slope 1 (___:1)			
If channel: side slope 2 (___:1)			
Cross sectional flow area, A			sq ft
Wetted perimeter, Wp			ft
Hydraulic radius, R = A/Wp	↓	↓	ft

10yr should be 5yr

Time of Concentration (Tc) (Use additional sheets if necessary)			
	Pre-	**Post-**	
Channel slope, S	↓	↓	ft/ft
Manning's roughness, n (Table 2-4)	↓	↓	
Channel velocity	↓	↓	ft/sec
Length of Flow, L	↓	↓	ft/sec
Total Time for Channel Flow	0.0	0.0	**min**
Total Time of Concentration, Tc	12.1	5.0*	**min**

* MIN.

Pre-development Conditions			
Land Use Description	C	Area (acres)	C*A
Woods	0.2	0.28	0.056
Total			

Intensity for 2-year, ~~24-hour storm~~ (Table 2-5) 4.52 in/hr

24 HR STORM WOULD BE 4.0 (PREV. CALC)

Pre-development peak flow, Q = CiA 0.253 cfs

Post-development Conditions			
Land Use Description	CN	Area (acres)	C*A
IMPERVIOUS COVER	98	0.047	4.63
PAVERS	98	0.0313	3.11
OPEN SPACE	49	0.15	7.48
Totals		0.23	15.228

Area-weighted CN 65.70 C: 0.57

24 HR STORM WOULD BE 5.0 (PREV. CALC)

Intensity for ~~10~~-year, ~~24-hour storm~~ (Table 2-5) 6.82 in/hr

5-yr (Commercial Site Plan)

Post-development peak flow, Q = CiA 1.08 cfs

Minimum Storage Volume Required – Refer to *Section 2.4.4* for Volume Calculations

Storage Volume, V_s 49.1 cy 1,325 ft³

CM Smith, WithersRavenel

Applicant

11/12/24

Date

NOTES

1. OWNER: DUCK LAND COMPANY, LLC
   1181 DUCK ROAD
   KITTY HAWK, 27949
2. PROPERTY INFORMATION: PIN: 9937-21-3504 / PID: 011400000520000
3. SUBJECT REFERENCES: DB 555, PG 192,194
4. ADDRESS: SPECIALTY EATING ESTABLISHMENT – 1120 COROLLA VILLAGE RD.
   SINGLE FAMILY DETACHED – 1120-A COROLLA VILLAGE RD.
5. ALL TOPOGRAPHIC AND EXISTING FEATURES SHOWN ARE BASED ON SURVEY INFORMATION COLLECTED BY QUIBLE & ASSOCIATES, P.C. NOVEMBER 2023. BOUNDARY SHOWN BASED ON RECORDED PLATS.
6. TOTAL LOT AREA: 26,975.60 SQ.FT. (0.62 AC.)
7. ZONING CLASSIFICATION: SFO & GB
8. THE SECTION 404 WETLAND LINES SHOWN PER USACE SAW-2013-00914.
9. AREAS BY COORDINATE METHOD ALL DISTANCES HORIZONTAL GROUND.

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. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION IS BEGUN. AFTERWARDS A PHOTOGRAPHIC RECORD SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS.
7. 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.
8. SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND CURBS AND GUTTERS TO BE DEMOLISHED SHALL BE PROVIDED.
9. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AS WELL AS OSHA REGULATIONS.
10. CONTRACTOR'S ACTIVITIES SHALL NOT IMPEDE USAGE OR INGRESS/EGRESS TO ADJACENT PROPERTIES. COORDINATE WITH OWNER MAINTENANCE OF TRAFFIC/PEDESTRIAN CIRCULATION DURING CONSTRUCTION.
11. MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES DURING DEMOLITION.
12. 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. A DEMOLITION PERMIT IS REQUIRED FROM CURRITUCK COUNTY.
13. 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.
14. 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.
15. WHERE BUILDING FOUNDATION WALLS, PILES, 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.
16. 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.
17. 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.

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.

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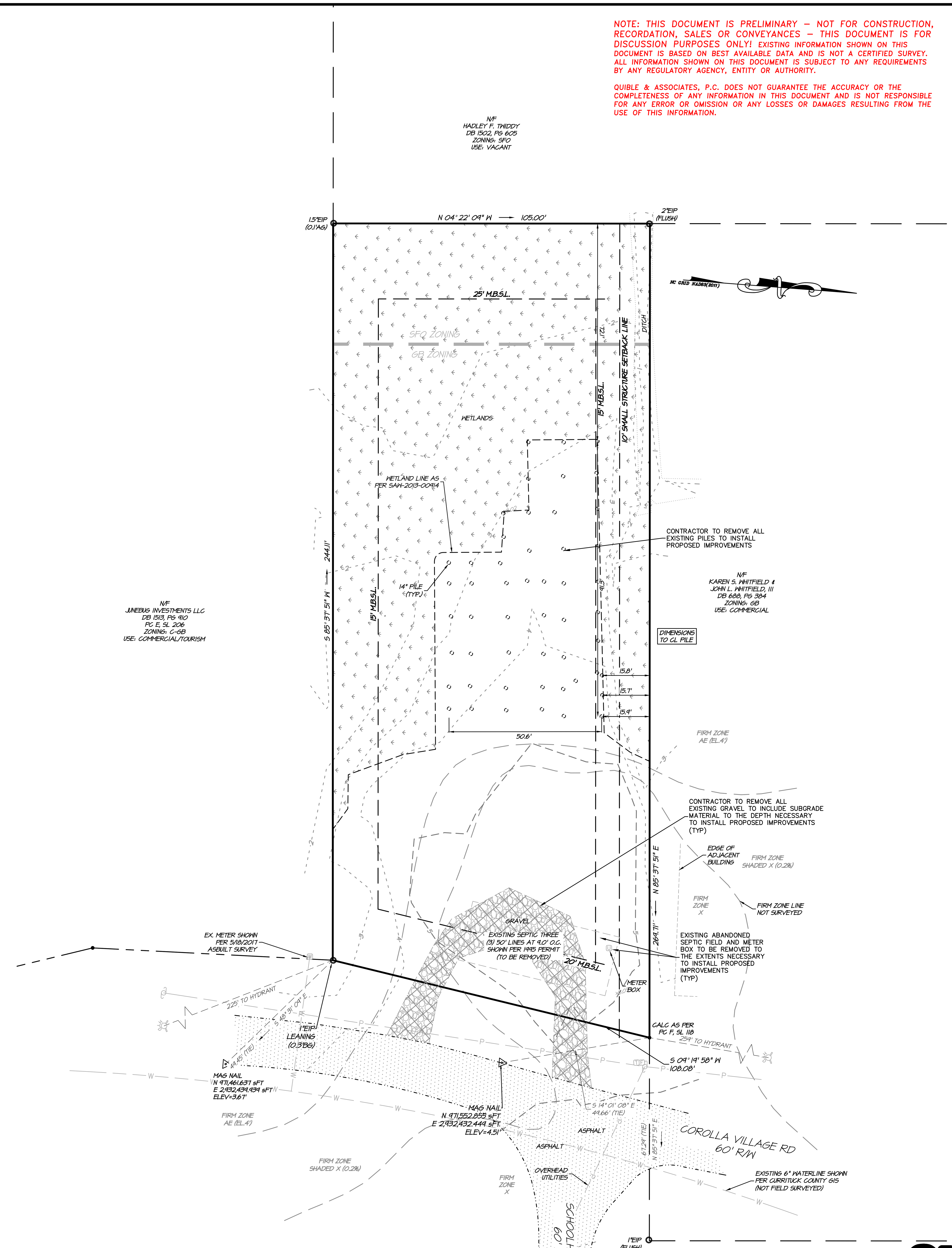

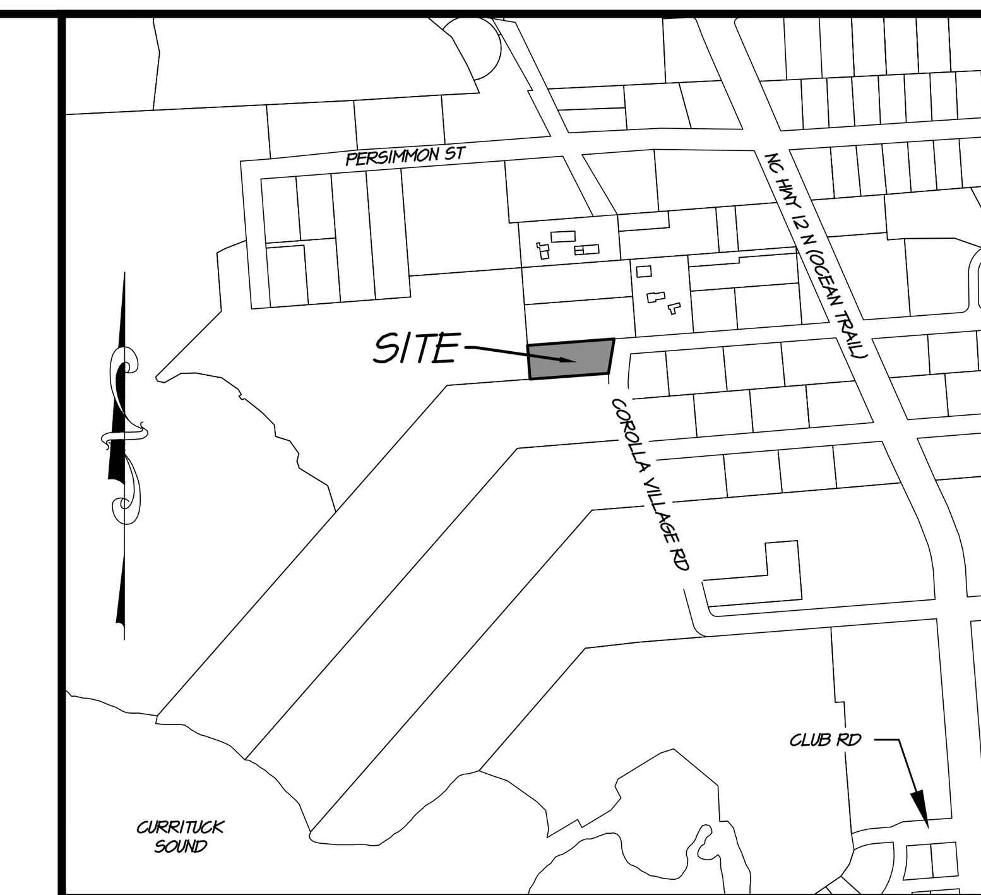

VICINITY MAP (POPLAR BRANCH)
N.T.S.

LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING WETLANDS
- EXISTING GRAVEL
- EXISTING IRON PIPE
- EXISTING METER
- EXISTING TELEPHONE PEDESTAL
- EXISTING FIBER OPTIC
- EXISTING UTILITY POLE
- EXISTING GUY POLE
- EXISTING WATER LINE (APPROX. LOCATION)
- EXISTING POWERLINE
- CALC. POINT
- EXISTING PILING
- PROPOSED DEMOLITION

SHEET INDEX

Know what's below. Call before you dig. 811

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GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
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ENVIRONMENTAL SCIENCES • SURVEYING
NC License#: C-0208
SINCE 1959

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REVISIONS

NO.	DATE	REVISIONS
1	11/12/24	ISSUED FOR NCDOT PERMITTING
2	12/11/24	REVISED PER COUNTY COMMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

1120 COROLLA VILLAGE RD

DUCK LAND COMPANY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P08045
DESIGNED BY	MWS/BPJ
DRAWN BY	BPJ
CHECKED BY	MWS
ISSUE DATE	08/23/24

SHEET NO. 1 OF 5 SHEETS

GENERAL NOTES

1. OWNER: DUCK LAND COMPANY, LLC
   1181 DUCK ROAD
   KITTY HAWK, 27949

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147

3. PROPERTY INFORMATION: PIN:9937-21-3504 / PID:011400000520000

4. SUBJECT REFERENCES: DB 555, PG 192,194

5. ADDRESS: SPECIALTY EATING ESTABLISHMENT – 1120 COROLLA VILLAGE RD.
   SINGLE FAMILY DETACHED – 1120-A COROLLA VILLAGE RD.

4. ALL TOPOGRAPHIC AND EXISTING FEATURES SHOWN ARE BASED ON SURVEY INFORMATION COLLECTED BY QUIBLE & ASSOCIATES, P.C. NOVEMBER 2023. BOUNDARY SHOWN BASED ON RECORDED PLATS.

5. PROPERTY IS LOCATED IN NFIP FLOOD AE (4'), "X", AND "SHADED X" AS SHOWN. SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9937; SUFFIX J. (MAP NUMBER 3720993700J); PANEL EFFECTIVE DATE: 12/16/05

6. TOTAL LOT AREA: 26,975.60 SQ.FT. (0.62 AC.)
   SFO ZONING AREA = 4,200.0 SQ.FT.
   GB ZONING AREA = 22,775.55 SQ.FT.

7. ZONING CLASSIFICATION: SFO & GB

8. THE SECTION 404 WETLAND LINES SHOWN PER USACE SAW-2013-00914.

9. PROPOSED LOT COVERAGE:

COMMERCIAL BUILDING (INCLUDES COVERED PORCH)	2,223.5 SQ.FT
SINGLE FAMILY DWELLING	462.0 SQ.FT
CONC. PARKING	836 SQ.FT.
PERMEABLE PAVERS	3,148.0 SQ.FT.
TOTAL	6,669.5 SQ.FT. (29.2% OF GB ZONED AREA)
MAXIMUM ALLOWED:	14,803 SQ.FT. (65.0% OF 22,775.55 SQ.FT. OF GB ZONED AREA)

   OPEN SLOTTED WOOD DECKING IS NOT INCLUDED IN COVERAGE CALCULATIONS
   OPEN DECK, STAIRS, AND RAMPS 2,269.7 SQ.FT.

10. PARKING RATE SUMMERY:

   PROPOSED SPECIALTY EATING ESTABLISHMENT 1 SPACE/200 SQ.FT. X 1,778.0 SQ.FT./200 = 8 SPACES
   PROPOSED 1 BEDROOM DWELLING @ 0.5 SPACE PER BEDROOM = 1 SPACE
   TOTAL 9 SPACES

   TOTAL REQUIRED PARKING: 9 SPACES
   TOTAL PROVIDED PARKING: 9 SPACES (1 ADA SPACE PROVIDED)

11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A SPECIALTY EATING ESTABLISHMENT, DETACHED SINGLE-FAMILY DWELLING AND REQUIRED PARKING.

12. MAXIMUM BUILDING HEIGHT: 35 FT.

13. SETBACKS:

	REQUIRED	PROVIDED
FRONT	20'	20'
REAR	25'	25'
SIDE	15'	15'

14. BUFFERYARDS: PROVIDED
   NORTH: N/A
   SOUTH: N/A
   EAST: N/A
   WEST: TYPE B BUFFER 25' WIDE (UTILIZE EXISTING VEGETATION TO MEET 8 ACI CANOPY TREES, 10 ACI UNDERSTORY TREES, AND 15 SHRUBS PER 100 LF)

17. ALL DIMENSIONS ARE TO FACE CURB UNLESS OTHERWISE NOTED.

18. ALL UTILITIES SERVING THIS SITE WILL BE PLACED UNDERGROUND.

19. STORMWATER MANAGEMENT:
   RUNOFF FROM ALL PROPOSED IMPROVEMENTS WILL BE COLLECTED AND CONVEYED INTO AN INFILTRATION BASIN.

20. 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, AND WATER SYSTEM. FOR BUILDING DESIGN, ASSOCIATED PLUMBING, AND WASTEWATER PUMP STATION/FORCEMAIN DESIGN SEE APPROPRIATE SEPARATE PLANS.

21. THIS PLAN SUBJECT TO ANY FACTS, INCLUDING BUILDING SETBACK RESTRICTIONS, EASEMENTS, COVENANTS, ETC., THAT MAY BE REVEALED BY A FULL AND ACCURATE TITLE SEARCH.

22. ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH CHAPTER 5.4 OF THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE. LIGHTING PLAN PROVIDED UNDER SEPARATE COVER.

23. REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.

24. BUILDING CONSTRUCTION SHALL COMPLY WITH ALL ASPECTS OF THE NORTH CAROLINA BUILDING AND FIRE CODE.

25. 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.

26. 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.

27. 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.

28. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.

29. 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.

30. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

31. 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.

32. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.

33. WATER IS PROVIDED VIA CURRITUCK COUNTY WATER SYSTEM. ALL WATER IMPROVEMENTS SHALL BE IN ACCORDANCE WITH CURRITUCK COUNTY STANDARD WATER SPECIFICATIONS AND DETAILS.

34. WASTEWATER SYSTEM DESIGN PARAMETERS:
   THE WASTEWATER SERVICE, PRIVATE PUMP STATION, AND PUBLIC FORCEMAIN EXTENSION UNDER DESIGN AND PERMITTING BY OTHERS. SYSTEM TO BE DESIGNED FOR 50 GPD/100 SQ.FT. FOR THE 1,778 SQ.FT. SPECIALTY EATING ESTABLISHMENT AND 120 GAL/DAY FOR THE SINGLE FAMILY DETACHED BUILDING. 1,080 G.P.D. TOTAL.

LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING WETLANDS
- EXISTING IRON PIPE
- EXISTING WATER METER
- EXISTING UTILITY POLE
- EXISTING GUY POLE
- EXISTING WATER LINE (APPROX. LOCATION)
- EXISTING POWERLINE
- EXISTING FORCEMAIN
- CALC. POINT
- EX. MAG NAIL
- PROPOSED CONCRETE
- PROPOSED PERMEABLE PAVERS
- PROPOSED SANITARY SEWER
- PROPOSED WATERLINE
- PROPOSED FIRE HYDRANT
- PROPOSED BENDS & TEES WITH THRUST BLOCKING
- PROPOSED WATER METER
- EXISTING TREES
- PROPOSED TREES/SHRUBS

Certificate

22 The major stormwater plan shall contain the following certificate:

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

On the plan entitled 1120 Corolla Village Road, stormwater drainage improvements shall be installed according to these plans and specifications and approved by Currituck County. Yearly inspections are required as part of the stormwater plan. The owner is responsible for all maintenance required. Currituck County assumes no responsibility for the design, maintenance, or performance of the stormwater improvements.

Date: 8-23-24 Owner/Agent: [signature] ✓

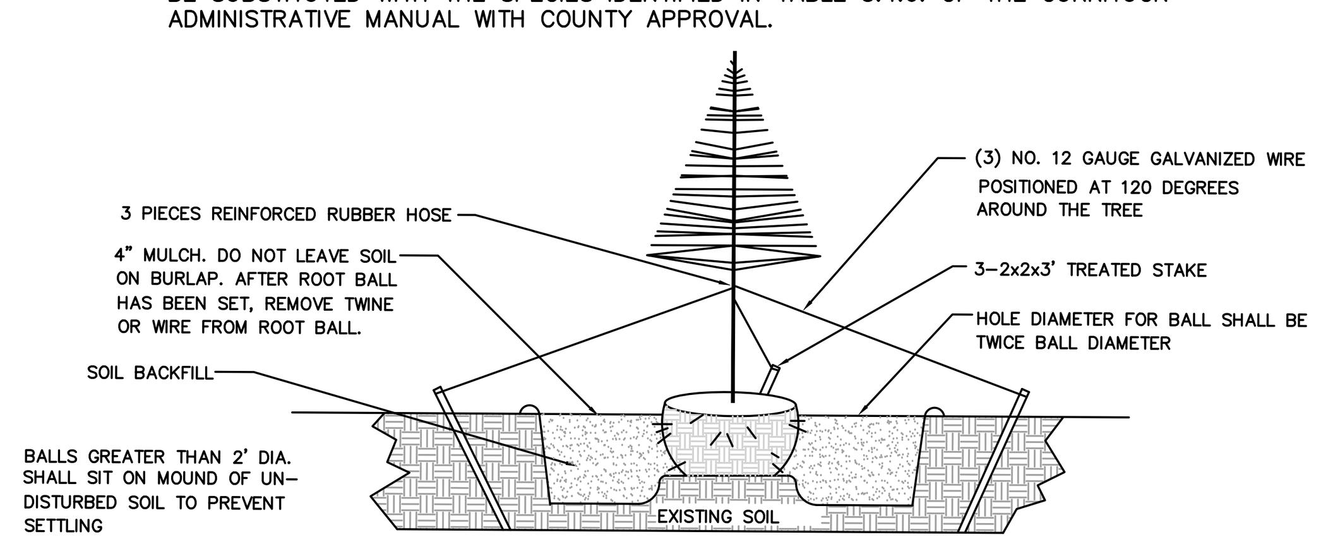
TREE PLANTING SUMMARY

SYMBOL	QUANTITY	COMMON NAME	HEIGHT	SPREAD	MIN. SIZE @ PLANTING
	3	BALD CYPRESS*	50' - 100'.	20' - 30'	2" CAL, 8' HT.
	14	GLOSSY ABELIA***	3' - 6'	3' - 6'	3 GALLON
	14	DWARF HORNED HOLLY***	3' - 4'	3' - 4'	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.

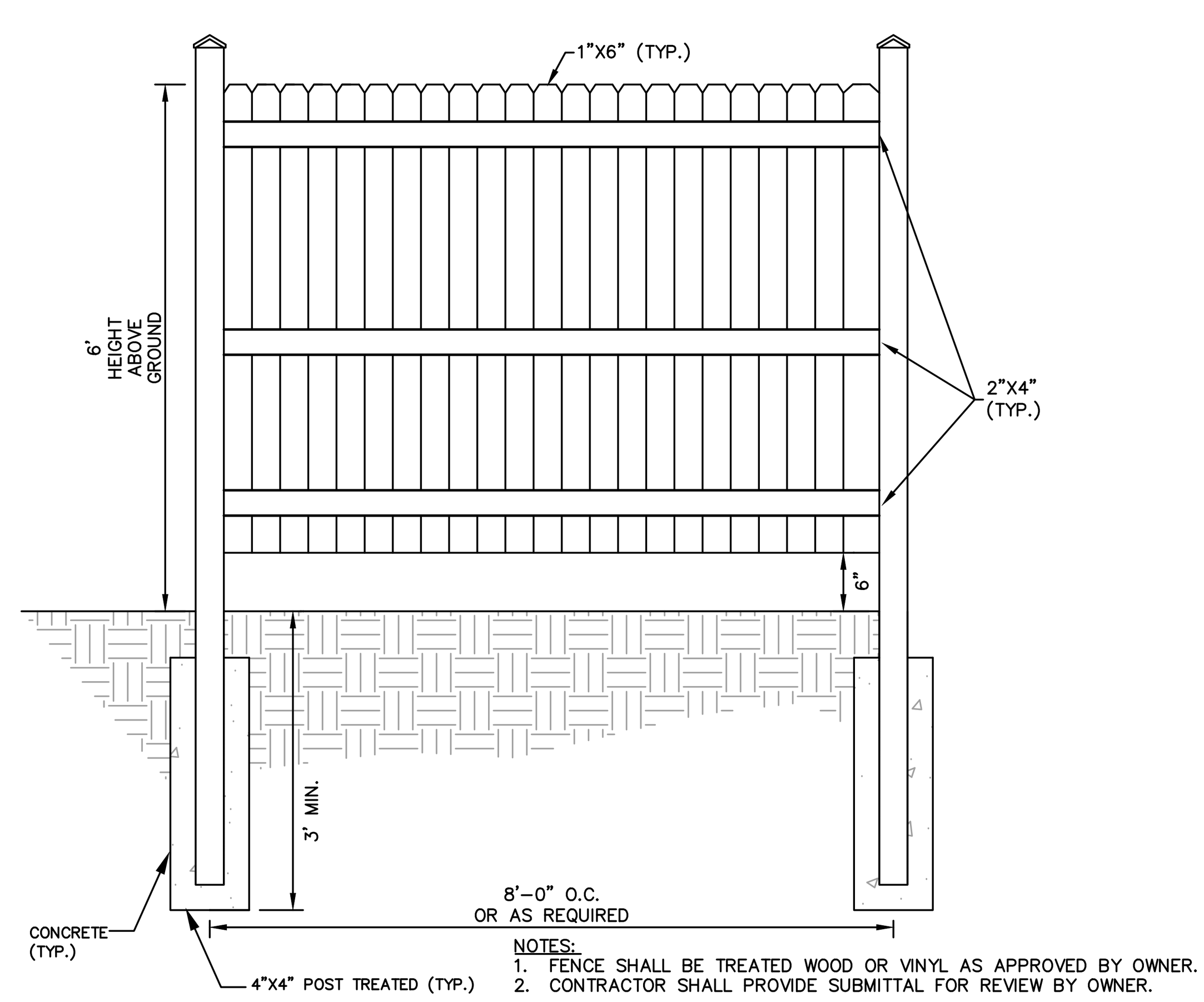
** UNDERSTORY TREE SPECIES MAY BE SUBSTITUTED WITH THE SPECIES IDENTIFIED IN TABLE 3.4.6. OF THE CURRITUCK ADMINISTRATIVE MANUAL WITH COUNTY APPROVAL.

*** 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.



TREE PLANTING DETAIL

N.T.S.



NOTES:
1. FENCE SHALL BE TREATED WOOD OR VINYL AS APPROVED BY OWNER.
2. CONTRACTOR SHALL PROVIDE SUBMITTAL FOR REVIEW BY OWNER.

DUMPSTER AREA FENCE DETAIL

N.T.S

811 Know what's below. Call before you dig.

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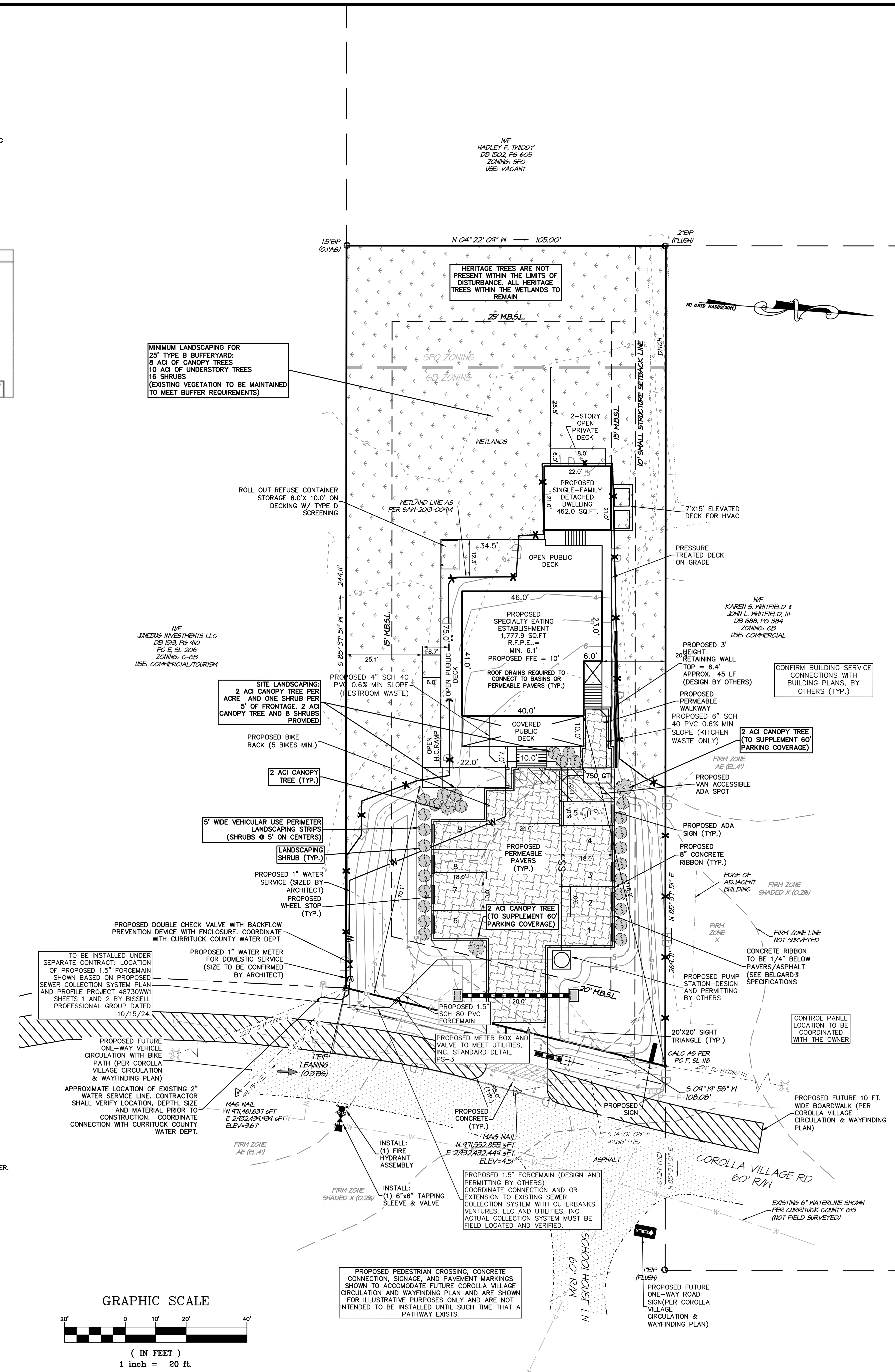

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NO.	DATE	REVISIONS
1	11/12/24	ISSUED FOR NCDOT PERMITTING
2	12/11/24	REVISED PER COUNTY COMMENTS

SITE, LANDSCAPING & UTILIY PLAN

1120 COROLLA VILLAGE RD
DUCK LAND COMPANY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P08045
DESIGNED BY	MWS/BPJ
DRAWN BY	BPJ
CHECKED BY	MWS
ISSUE DATE	08/23/24

SHEET NO. 2 OF 5 SHEETS

GENERAL NOTES

1. OWNER: DUCK LAND COMPANY, LLC
   1181 DUCK ROAD
   KITTY HAWK, 27949
2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147
3. PROPERTY INFORMATION: PIN: 9937-21-3504 / PID: 011400000520000
4. SUBJECT REFERENCES: DB 555, PG 192,194
5. ADDRESS: SPECIALTY EATING ESTABLISHMENT – 1120 COROLLA VILLAGE RD.
   SINGLE FAMILY DETACHED – 1120-A COROLLA VILLAGE RD.
6. ALL TOPOGRAPHIC AND EXISTING FEATURES SHOWN ARE BASED ON SURVEY INFORMATION COLLECTED BY QUIBLE & ASSOCIATES, P.C. NOVEMBER 2023. BOUNDARY SHOWN BASED ON RECORDED PLATS.
7. PROPERTY IS LOCATED IN NFIP FLOOD AE (4'), "X", AND "SHADED X" AS SHOWN. SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9937; SUFFIX J. (MAP NUMBER 3720993700J); PANEL EFFECTIVE DATE: 12/16/05
8. TOTAL LOT AREA: 26,975.60 SQ.FT. (0.62 AC.)
   SFO ZONING AREA = 4,200.0 SQ.FT.
   GB ZONING AREA = 22,775.55 SQ.FT.
9. ZONING CLASSIFICATION: SFO & GB
10. THE SECTION 404 WETLAND LINES SHOWN PER USACE SAW-2013-00914.
11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A SPECIALTY EATING ESTABLISHMENT, DETACHED SINGLE-FAMILY DWELLING AND REQUIRED PARKING.
12. MAXIMUM BUILDING HEIGHT: 35 FT.
13. ALL DIMENSIONS ARE TO FACE CURB UNLESS OTHERWISE NOTED.
14. ALL UTILITIES SERVING THIS SITE WILL BE PLACED UNDERGROUND.
15. STORMWATER MANAGEMENT:
    RUNOFF FROM ALL PROPOSED IMPROVEMENTS WILL BE COLLECTED AND CONVEYED INTO AN INFILTRATION BASIN.
16. 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, AND WATER SYSTEM. FOR BUILDING DESIGN, ASSOCIATED PLUMBING, AND WASTEWATER PUMP STATION/FORCEMAIN DESIGN SEE APPROPRIATE SEPARATE PLANS.
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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. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING WETLANDS. ALL WETLAND TO REMAIN AND NO GRUBBING OR DISTURBANCE TO THE EXISTING GROUND SURFACE IS ALLOWED.
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.
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SOIL EROSION & SEDIMENTATION CONTROL NOTES:

1. AREA TO BE DISTURBED: ±15,177SF (±0.34 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.

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"	215 LBS.

TEMPORARY VEGETATION

(UNHULLED)

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.

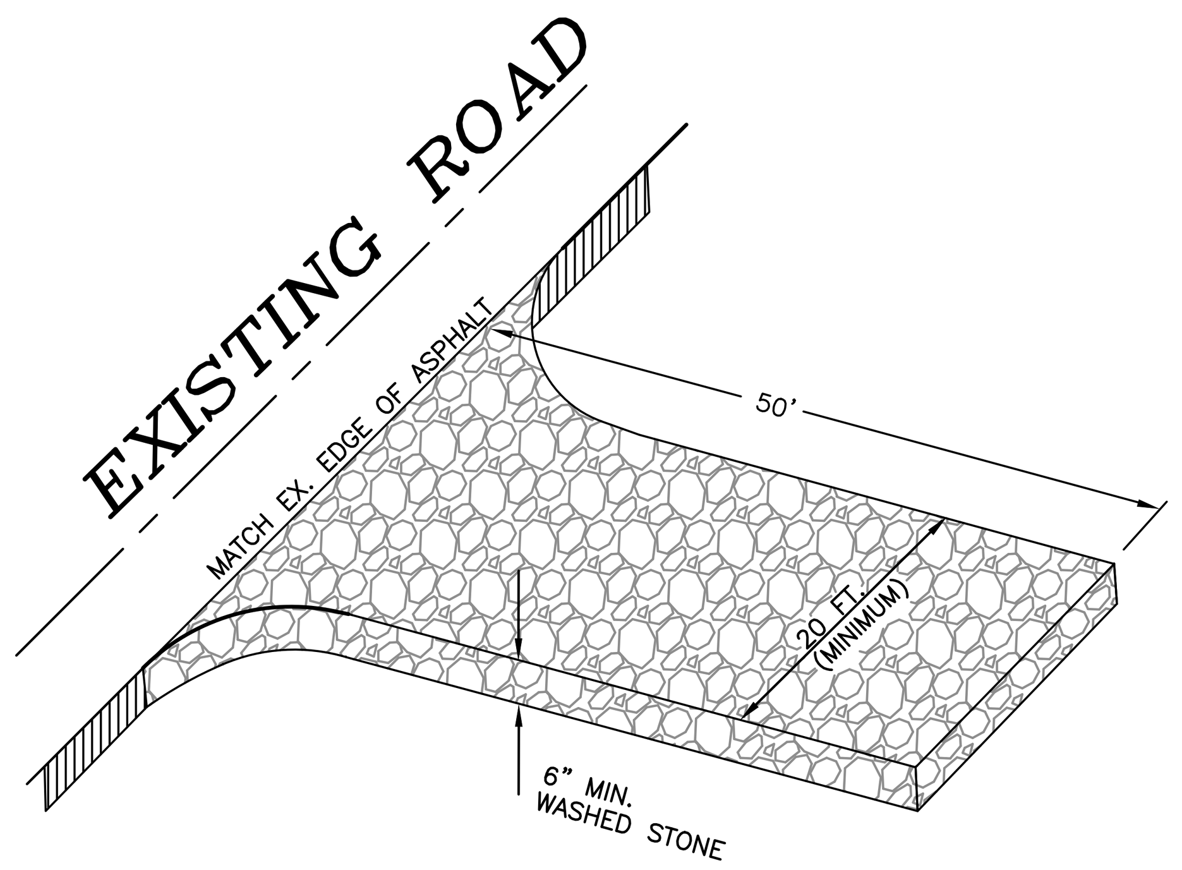
MAINTENANCE:
SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER. EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY AND, IF LEFT UNATTENDED, CAN ALLOW SERIOUS SOIL LOSS FROM AN OTHERWISE STABLE SURFACE. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE 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.

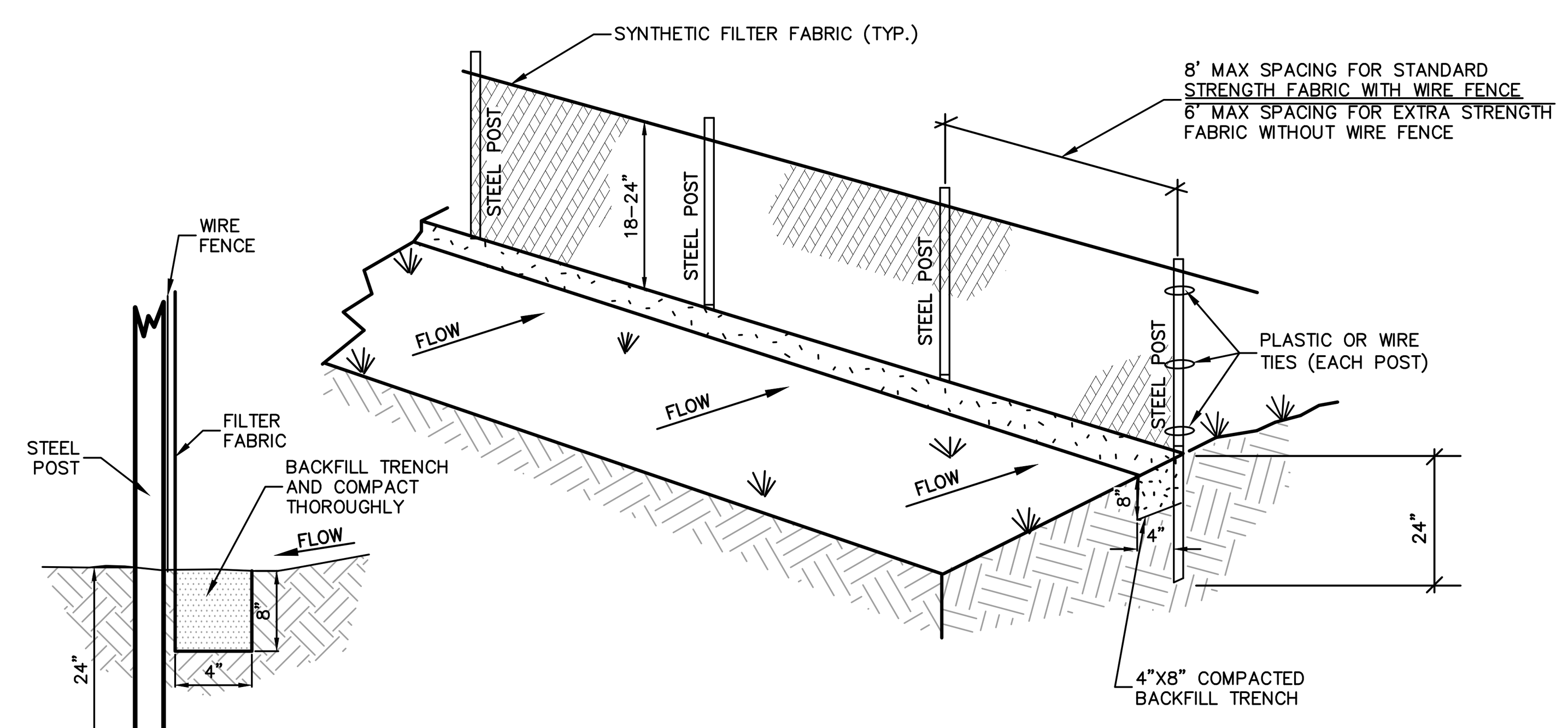
SEEDING SPECIFICATIONS

INSPECTION/MAINTENANCE OF INFILTRATION SCM'S

1. ANNUAL REMOVAL OF SEDIMENT IN THE PRETREATMENT AREA (ON RIP-RAP OR WITHIN STRUCTURE SUMPS)
2. ANNUAL REPLACEMENT OF THE TOP SEVERAL INCHES OF FILTER MEDIA WHENEVER DEWATERING TIME IS LONGER THAN 5 DAYS
3. REGULAR SWEEPING OR VACUUMING OF PERMEABLE PAVERS
4. VEGETATION IN AND AROUND THE INFILTRATION BASIN IS TO BE MAINTAINED TO A HEIGHT OF APPROX. 6 INCHES
5. REMOVE WEEDS AND NOXIOUS VEGETATION BY HAND OR BY WIPING HERBICIDE. DO NOT SPRAY.
6. INFILTRATION SYSTEMS SHOULD BE INSPECTED QUARTERLY AND WITHIN 24 HOURS OF ANY STORM EVENT 1.5 INCHES OR MORE.
7. STABLE GROUNDCOVER SHOULD BE MAINTAINED IN THE DRAINAGE AREA TO REDUCE THE SEDIMENT LOAD TO THE WET POND.
8. CHECK SEDIMENT ACCUMULATION. IF SEDIMENT ACCUMULATION HAS REDUCED THE DEPTH TO 75% OF THE DESIGN DEPTH, REMOVE SEDIMENT AND DISPOSE OF IT OFF-SITE. WATER SHOULD NOT BE STANDING MORE THAN 5 DAYS AFTER A STORM EVENT.
9. ONCE A YEAR, A DAM SAFETY EXPERT SHOULD INSPECT THE EMBANKMENT.



GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL
N.T.S



SILT FENCE DETAIL
N.T.S

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/INFILTRATION 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.

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
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED PERMEABLE PAVERS
- PROPOSED CONCRETE
- PROPOSED GRAVEL
- PROPOSED EXCELSIOR MATTING
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION AND SLOPE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED CULVERT INLET/OUTLET PROTECTION
- PROPOSED FENCE
- PROPOSED SILT FENCE
- PROPOSED DITCH
- PROPOSED INLET PROTECTION
- PROPOSED CHECK DAM

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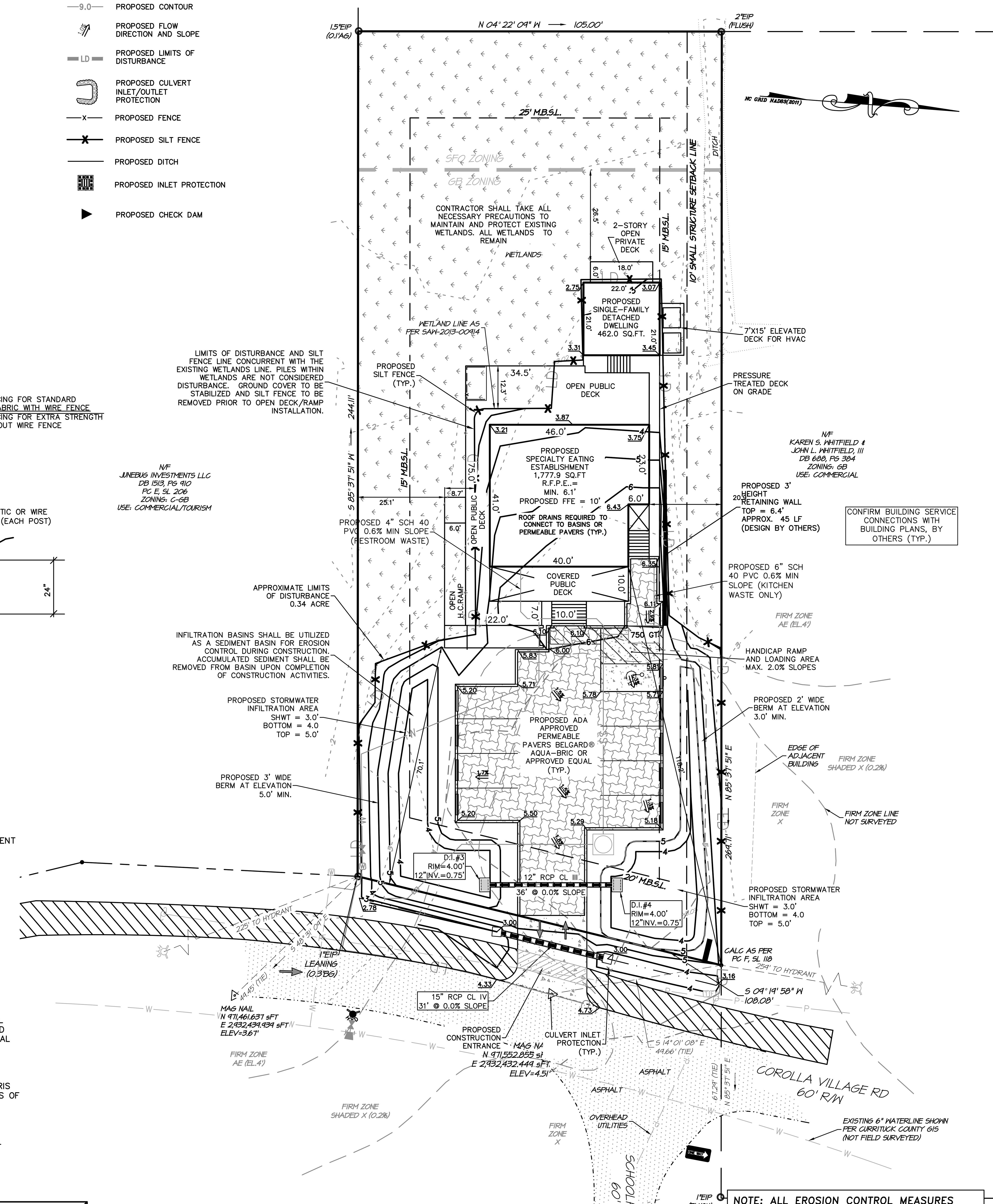

NOTE: ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT; FAILURE TO KEEP ORDER MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.

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ENVIRONMENTAL SCIENCES * SURVEYING**
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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
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NO.	DATE	REVISIONS
1	11/12/24	ISSUED FOR NCDOT PERMITTING
2	12/11/24	REVISED PER COUNTY COMMENTS

GRADING & DRAINAGE PLAN
1120 COROLLA VILLAGE RD
DUCK LAND COMPANY, LLC
POPLAR BRANCH TOWNSHIP — CURRITUCK COUNTY — NORTH CAROLINA

PROJECT NO.	P08045
DESIGNED BY	MWS/BPJ
DRAWN BY	BPJ
CHECKED BY	MWS
ISSUE DATE	08/23/24

SHEET NO. 3 OF 5 SHEETS

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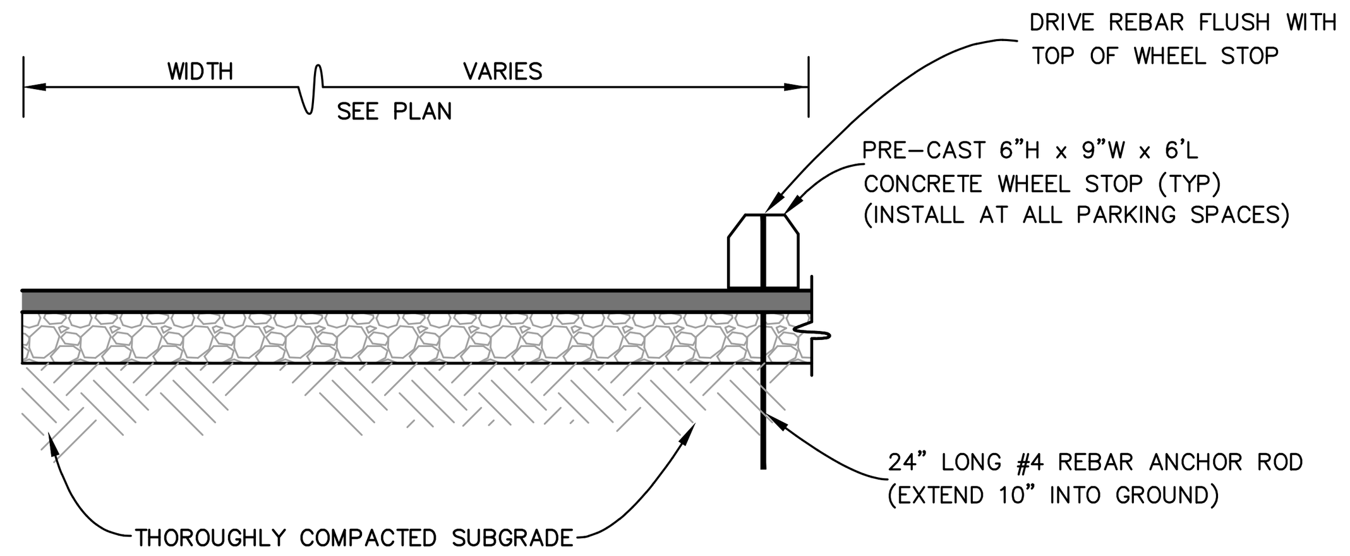


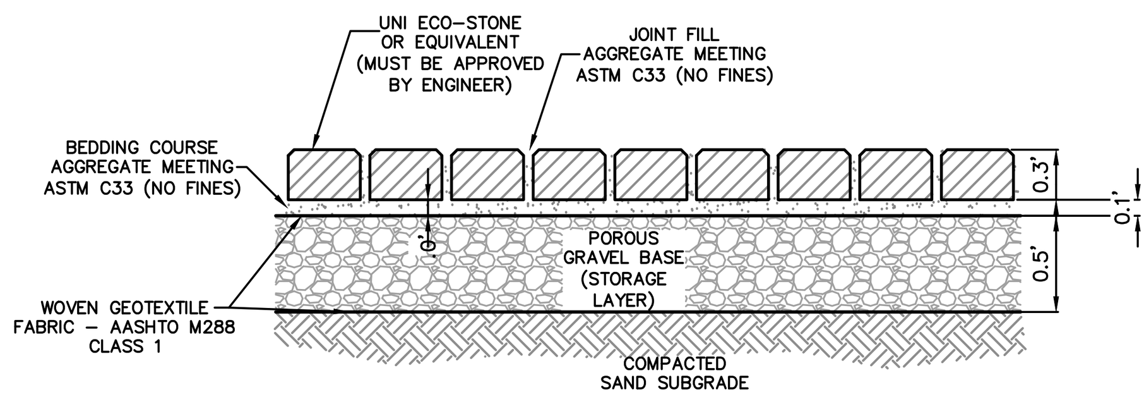
WHEEL STOP DETAIL

N.T.S.

COMPACTION NOTES:

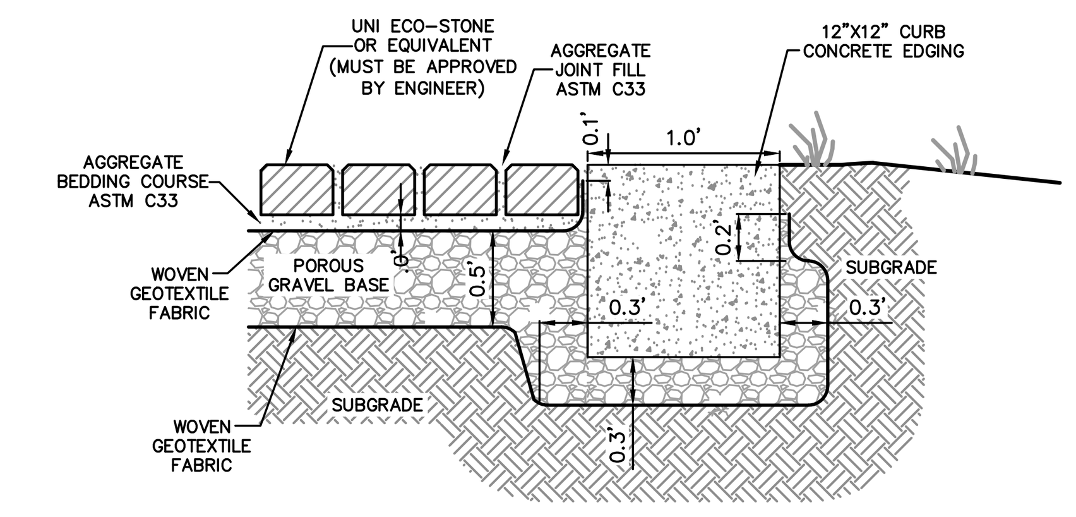
1. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
2. COMPACT BACKFILL AND SUBGRADE TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) ALL BACKFILL MATERIAL SHALL BE SELECT BACKFILL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. SELECT FILL SHALL CONSIST 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



TYPICAL PERMEABLE PAVER INSTALLATION DETAIL

N.T.S.



CONCRETE CURBING DETAIL

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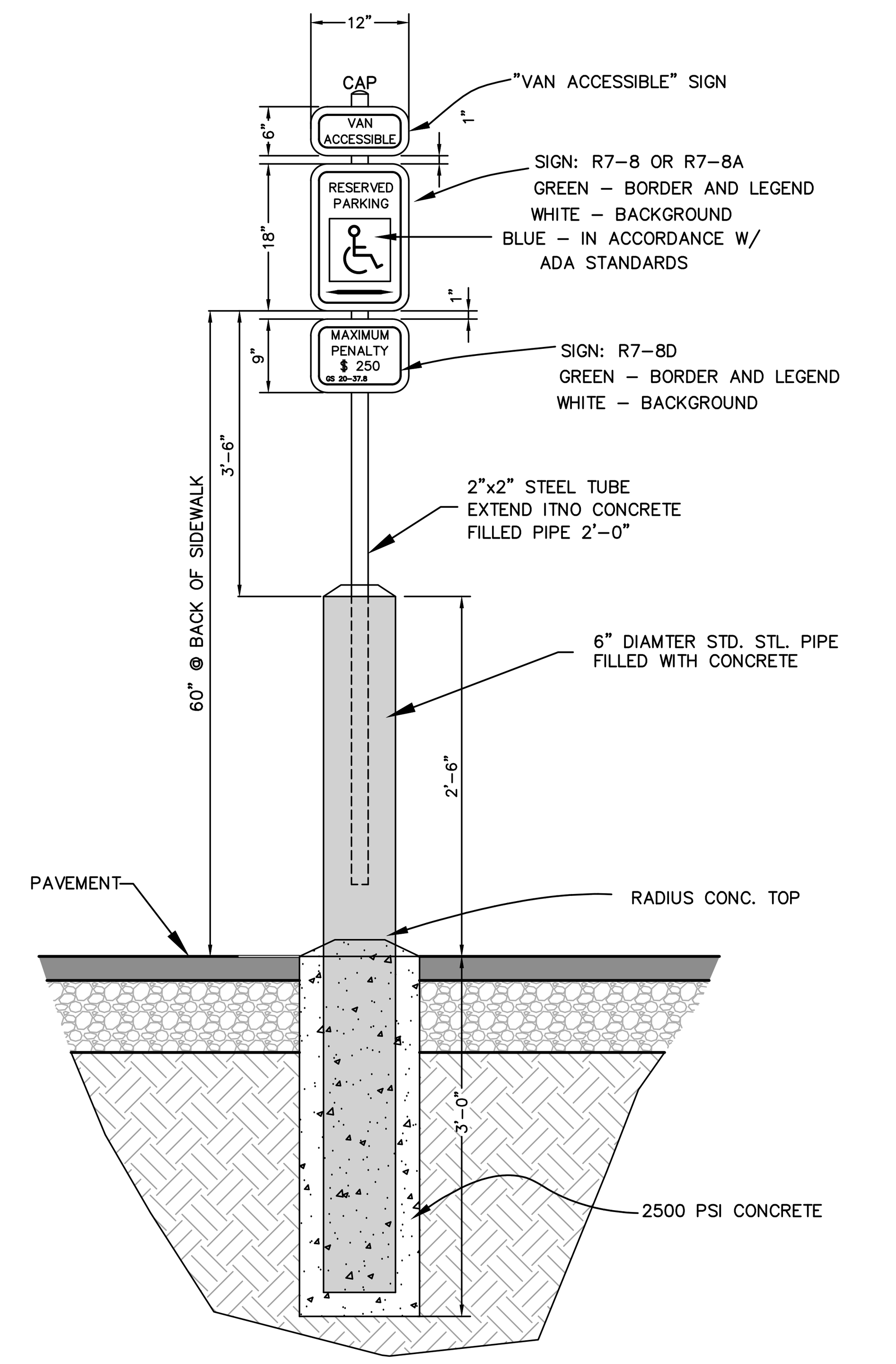
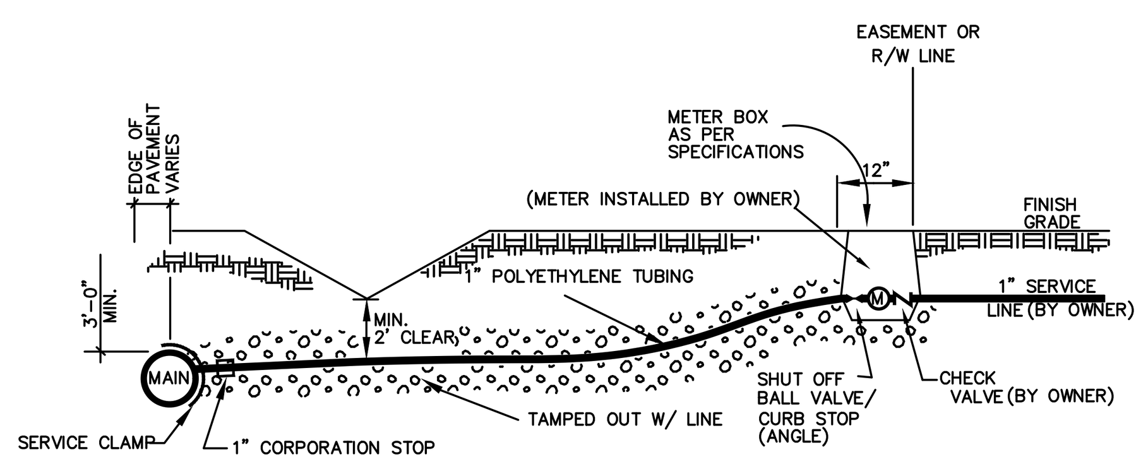


ADA RESERVED PARKING SIGN DETAIL

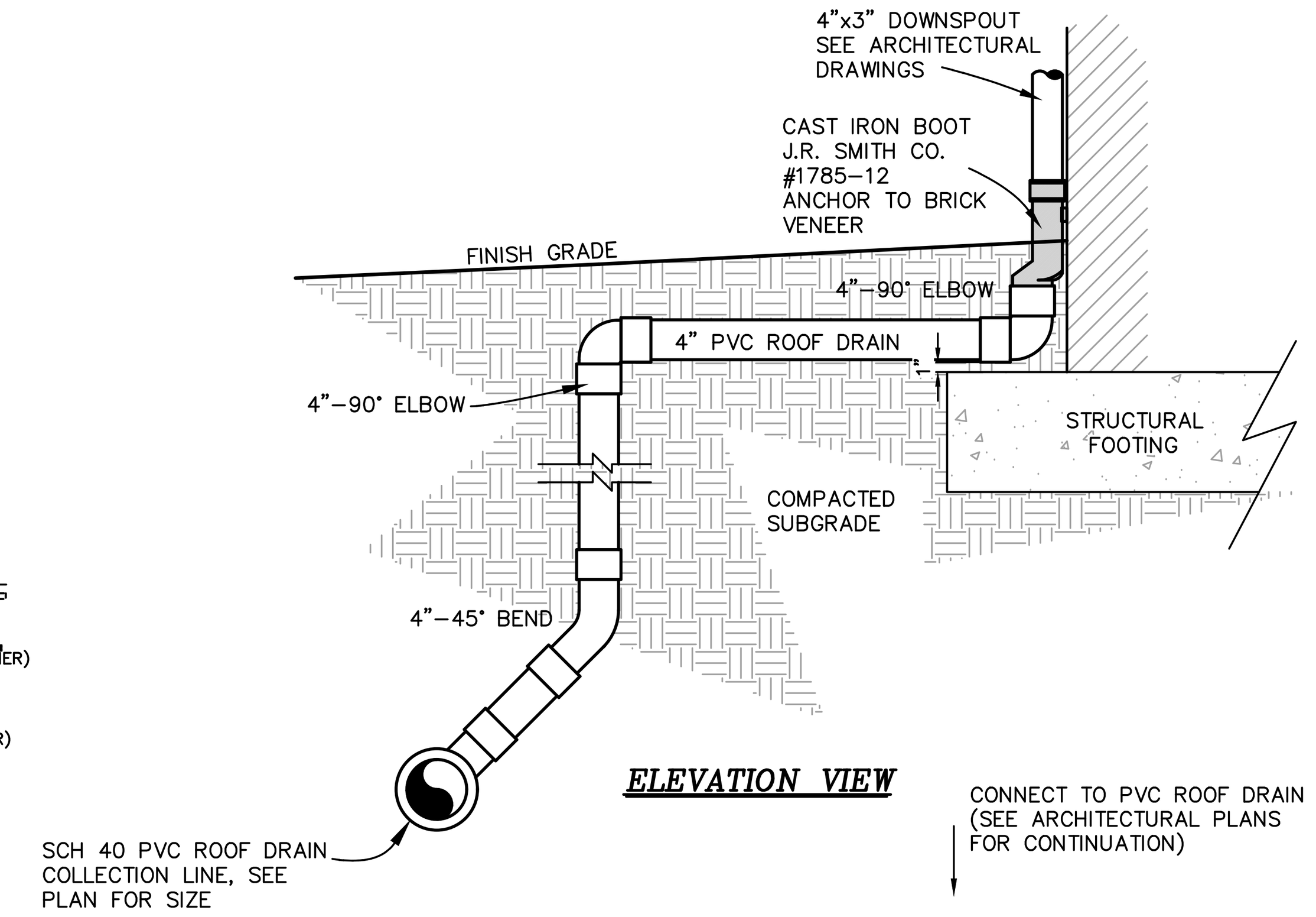
N.T.S.



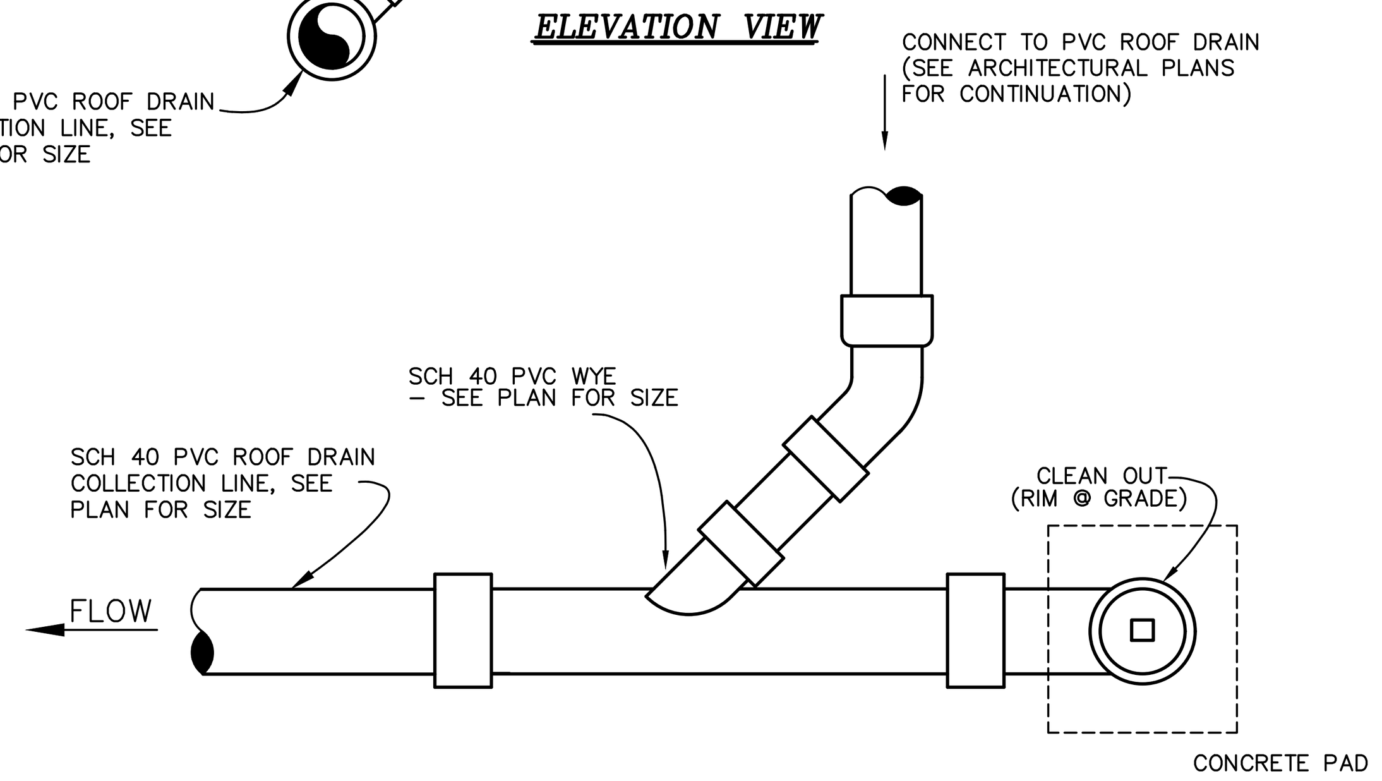
NOTE:
CONTRACTOR TO CONSULT WITH OWNER'S WATER SYSTEM MANAGING ENTITY AND OWNER'S ENGINEER PRIOR TO ORDERING METER BOX AND SHUT OFF BALL VALVE/ CURB STOP TO MAKE SURE THEY MEET THEIR REQUIREMENTS.

STANDARD 1" SERVICE LINE AND METER BOX INSTALLATION

N.T.S.



ELEVATION VIEW



PLAN VIEW

ROOF DRAIN COLLECTION LATERAL

N.T.S.

NOMINAL PIPE SIZE	SLEEVE O.D. RANGE (INCHES)	CATALOG NUMBER			APPROX. WEIGHT (LBS.)
		SLEEVE NUMBER	BY	BRANCH SIZE	
4"	4.40 – 4.60 4.70 – 4.90 5.10 – 5.30	SST – 4.60 SST – 4.90 SST – 5.30	X	3" FLG. 4" FLG.	28# 30#
6"	6.60 – 7.00 6.90 – 7.30 7.10 – 7.50	SST – 7.00 SST – 7.30 SST – 7.50	X	3" FLG. 4" FLG. 6" FLG.	36# 38# 45#
8"	7.90 – 8.30 8.62 – 9.06 9.04 – 9.45 9.20 – 9.60 9.90 – 10.30	SST – 8.30 SST – 9.06 SST – 9.45 SST – 9.60 SST – 10.30	X	3" FLG. 4" FLG. 6" FLG. 8" FLG.	42# 44# 48# 66#
10"	10.73 – 11.13 11.06 – 11.45 11.79 – 12.19	SST – 11.13 SST – 11.45 SST – 12.19	X	3" FLG. 4" FLG. 6" FLG. 8" FLG. 10" FLG.	45# 48# 55# 70# 80#

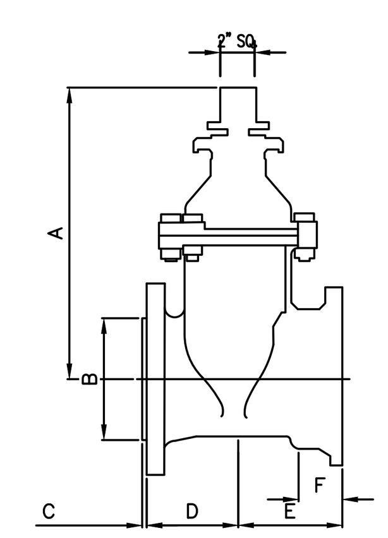
TYPICAL TAPPING SLEEVE DETAIL

ROMAC INDUSTRIES, INC. "SST" STAINLESS STEEL TAPPING SLEEVE

DIMENSION	VALVE SIZE				
	4"	6"	8"	10"	12"
A	13–3/8	16–3/4	20–3/16	24–1/8	27–1/2
B +.000/–.031	4.984	6.984	8.984	10.984	12.984
C ±.016	.188	.250	.250	.250	.250
D (FLANGED END)	4–1/2	5–1/4	5–3/4	6–1/2	7
E (MJ END)	5–5/8	6	6–7/8	7–3/8	8–5/16
F	2–1/2	2–1/2	2–1/2	2–1/2	2–1/2
NO. OF TURNS TO OPEN	13	19	26	32	38
MAX. CUTTER DIAMETER	3–3/4	5–3/4	7–3/4	9–3/4	11–3/4

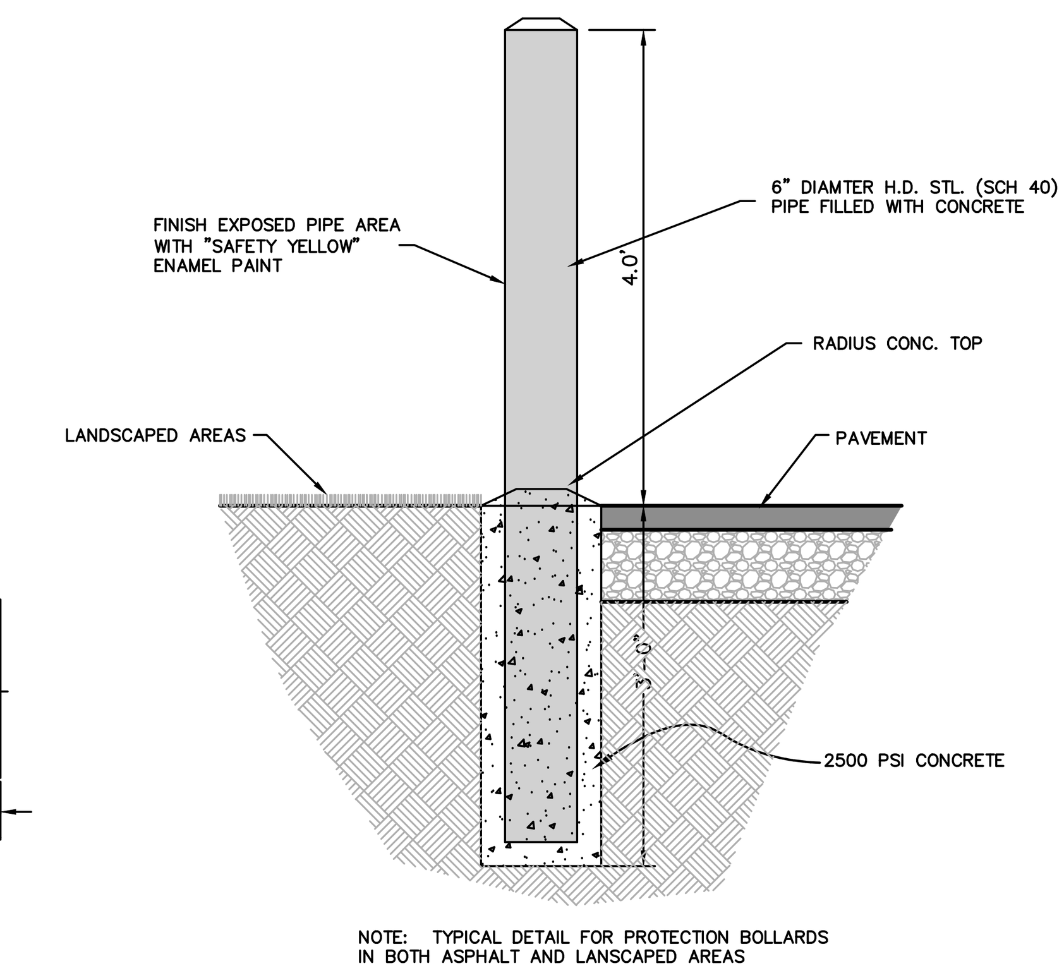
NOTES:

1. DO NOT EXCEED THE RECOMMENDED TAPPING MACHINE CUTTER DIAMETER LISTED IN THE TABLE. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE SEALING SURFACES OF THE VALVE.
2. VALVE MEETS OR EXCEEDS APPLICABLE REQUIREMENTS OF ANSI/AWWA C509 WITH WALL THICKNESS WHICH EXCEED THE MINIMUM REQUIREMENTS OF ANSI/AWWA C153/A21.53.
3. UL LISTED FM APPROVED. VALVE MUST BE ORDERED IN CONFIGURATIONS WHICH ARE UL LISTED AND FM APPROVED AND HAVE PERMANENT UL/FM MARKINGS.
4. 250 PSI RATED WORKING PRESSURE.
5. FUSION BONDED EPOXY COATING MEETS OR EXCEEDS REQUIREMENTS OF AWWA C550.
6. MECHANICAL JOINT ENDS ARE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.
7. BOLT PATTERNS OF FLANGED ENDS ARE IN ACCORDANCE WITH ANSI/AWWA C110/A21.10 (ANSI B16.1, CLASS 125).
8. RAISED PILOT DIMENSIONS OF FLANGED ENDS ON TAPPING VALVES ARE IN ACCORDANCE WITH MSS SP–60.



TYPICAL TAPPING VALVE DETAIL

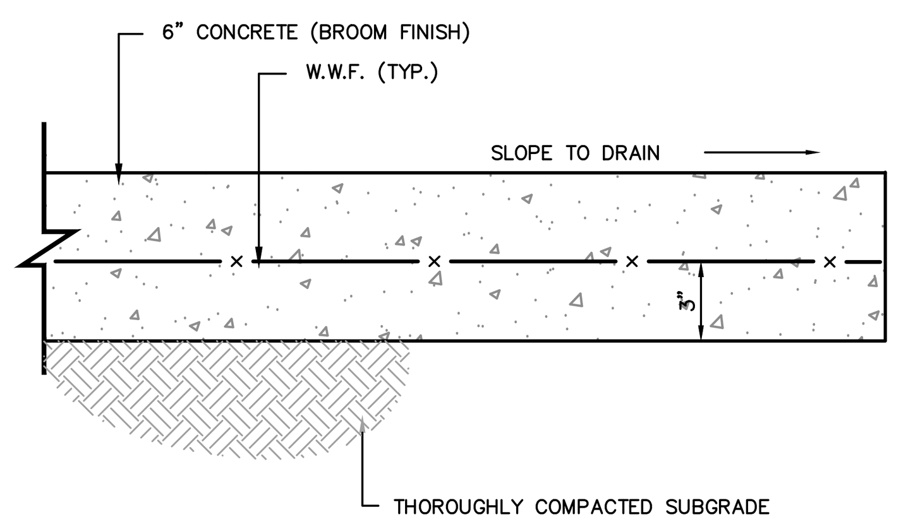
AMERICAN FLOW CONTROL SERIES 2500 RESILIENT WEDGE VALVE



NOTE: TYPICAL DETAIL FOR PROTECTION BOLLARDS IN BOTH ASPHALT AND LANSCAPED AREAS

BOLLARD DETAIL

N.T.S.



CONCRETE PAVEMENT SECTION

N.T.S.

GENERAL CONTRACTOR MAY REPLACE FIBERMESH CONCRETE WITH WIRE SCREEN OR WIRE SCREEN WITH FIBERMESH CONCRETE AS APPROVED BY ENGINEER

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 OF ASPHALT

ALL ABC STONE SHALL BE COMPACTED TO 100% OF STANDARD PROCTOR (ASTM D698)

ASPHALT SHALL BE 2" SF9.5A

SPECIFICATIONS FOR SUBBASE

ALL SUBBASE SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D698)

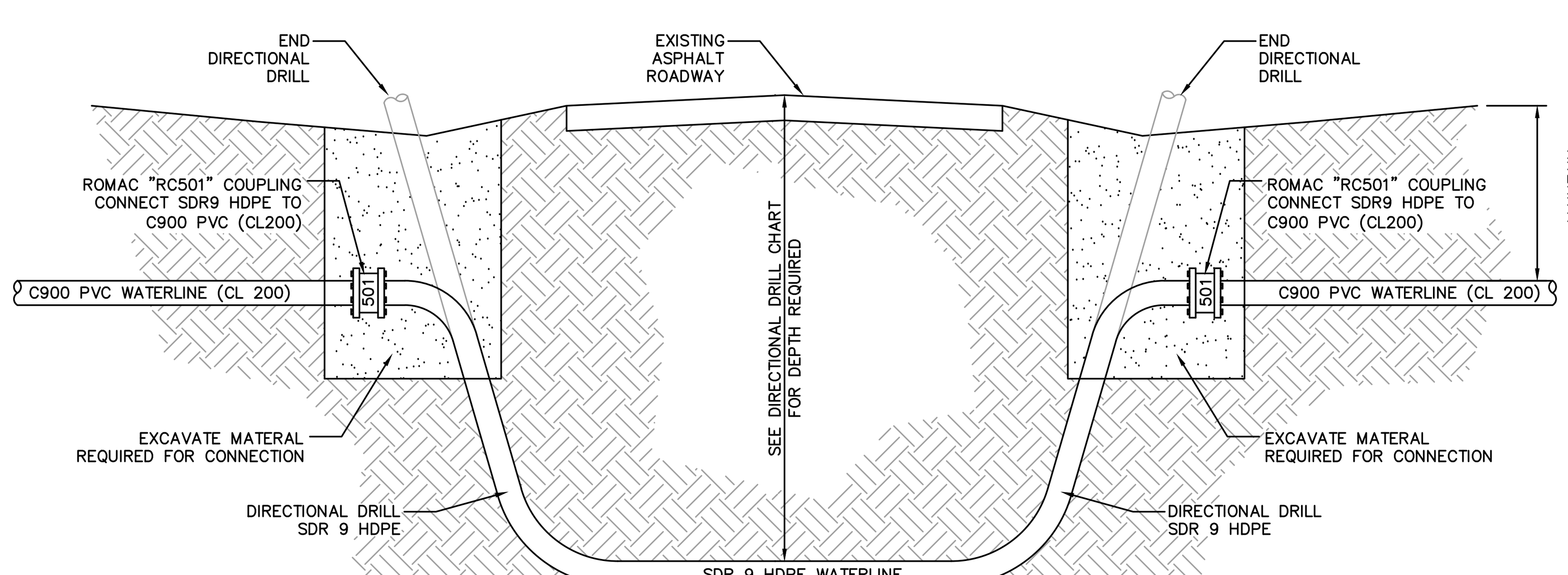
TYPICAL SPECIFICATIONS

GENERAL NOTES:

1. INTERCEPTOR IS STRUCTURALLY AND HYDRAULICALLY ENGINEERED CONFORMING TO UNIFORM PLUMBING CODE. LIQUID CAPACITY IS 765 GALLONS WITH SOLIDS RETENTION CAPACITY OF APPROX. 2,004 POUNDS. RECOMMENDED FOR FLOW RATE UP TO 21 GALLONS PER MINUTE.

SPECIFICATIONS:

1. CONCRETE: DESIGN STRENGTH OF 5500 PSI AT 28 DAYS.
2. STEEL REINFORCEMENT: ASTM A–615 GRADE 60.
3. LOADING: DESIGNED FOR HS–20 LOADING.
4. C.I. CASTINGS: ASTM A–48 CLASS 30/35.



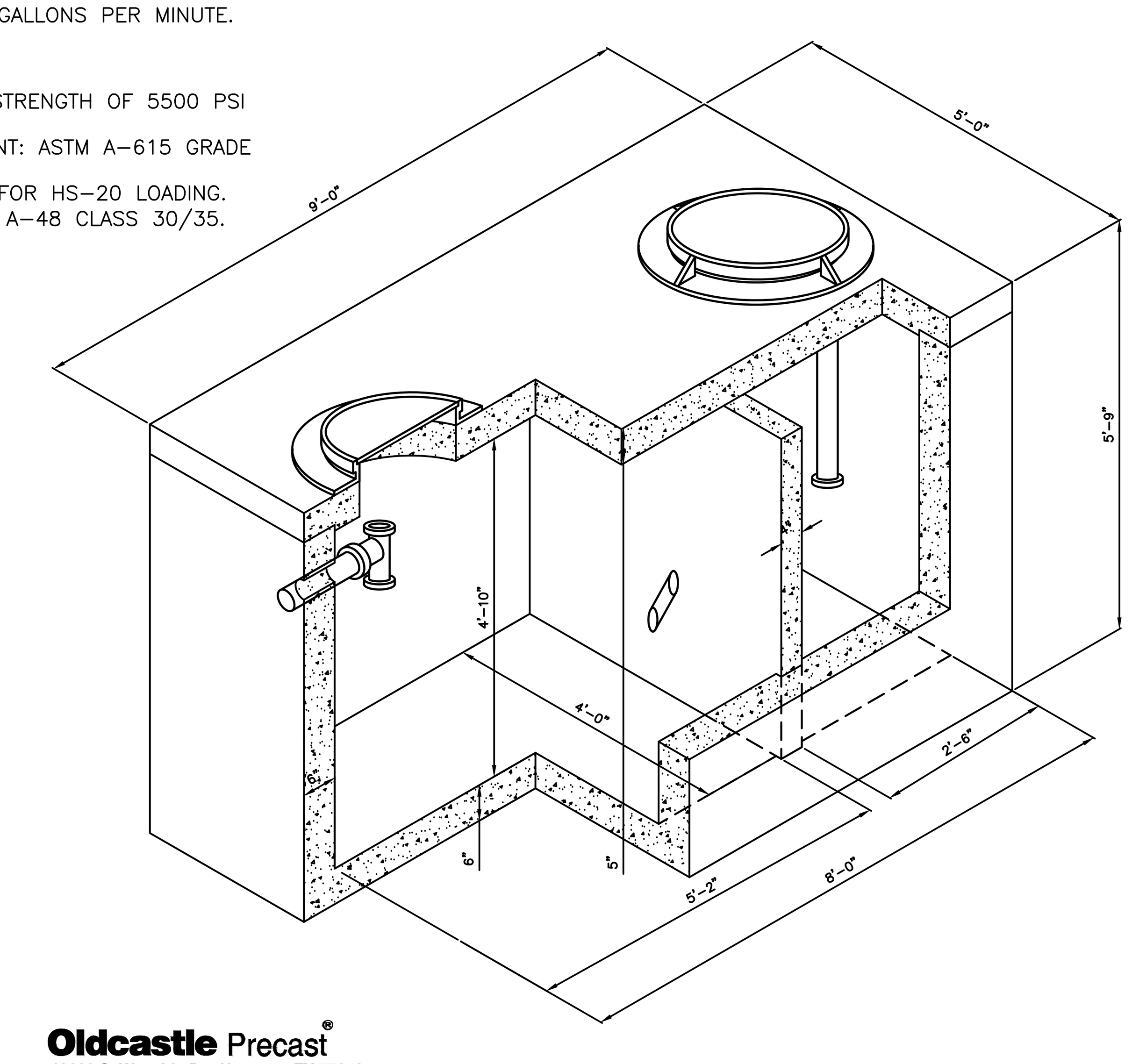
DIRECTIONAL DRILL DETAIL

N.T.S.

DIRECTIONALLY DRILLED OR REAMED HOLES MUST NOT EXCEED 1.5 TIMES THE OUTSIDE DIAMETER OF ANY PIPE UP TO 12 INCHES IN DIAMETER AND THE OUTSIDE DIAMETER PLUS 6 INCHES FOR PIPES EXCEEDING 12 INCHES IN DIAMETER.

TABLE 3–1. MINIMUM BURY DEPTHS USING TRENCHLESS METHODS

METHOD	MINIMUM DEPTH OF COVER
BORE AND JACK OR AUGER[a]	3 FEET
HDD[b] (TRANSVERSE INSTALLATIONS UNDER PAVEMENT)	
DRILLED/REAM HOLE DIAMETER (INCHES)	
2–6	5 FEET
>6–15	12 TIMES HOLE DIAMETER
>15–36[c]	15 FEET OR GREATER



Oldcastle Precast®
13600 S. Wayside Dr., Houston, TX 77048
Phone: 713-991-2400 Fax: 713-991-0815

750 GALLON 4'x8'ID GREASE TRAP

N.T.S.

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BLACK MOUNTAIN, NC 28711
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REVISIONS

NO.	DATE	REVISIONS
1	11/12/24	ISSUED FOR NCDOT PERMITTING
2	12/11/24	REVISED PER COUNTY COMMENTS

SITE & UTILITY DETAILS

1120 COROLLA VILLAGE RD
DUCK LAND COMPANY, LLC
POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P08045
DESIGNED BY	MWS/BPJ
DRAWN BY	BPJ
CHECKED BY	MWS
ISSUE DATE	08/23/24

SHEET NO. 4 OF 5 SHEETS

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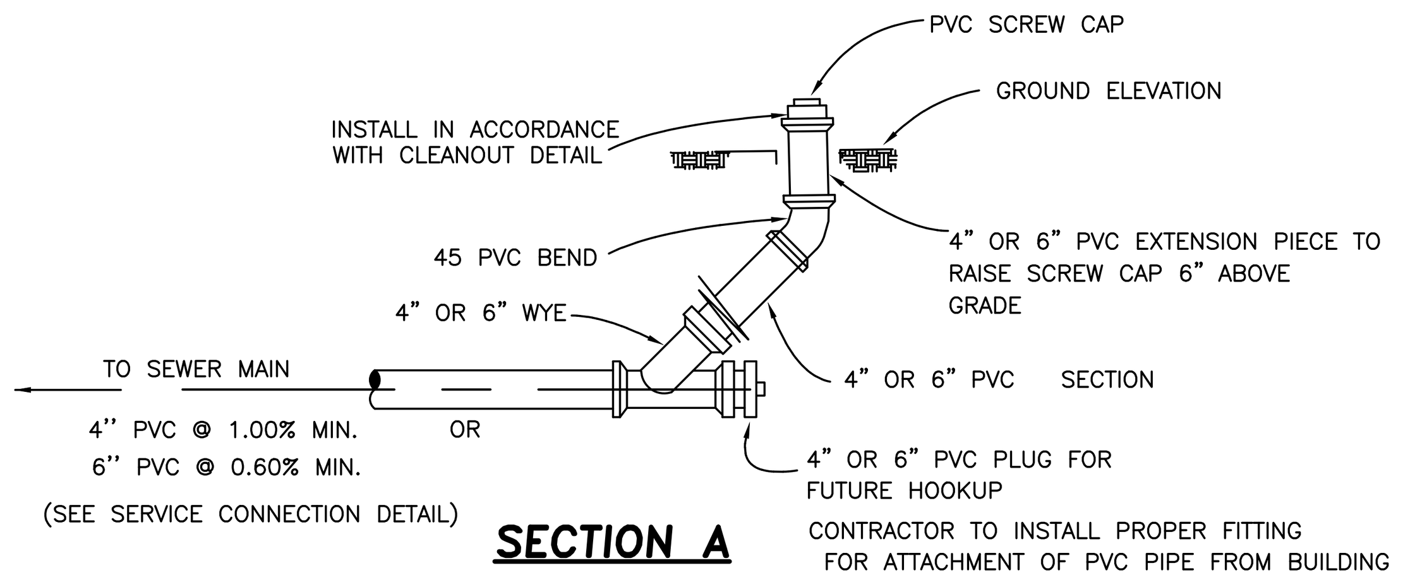
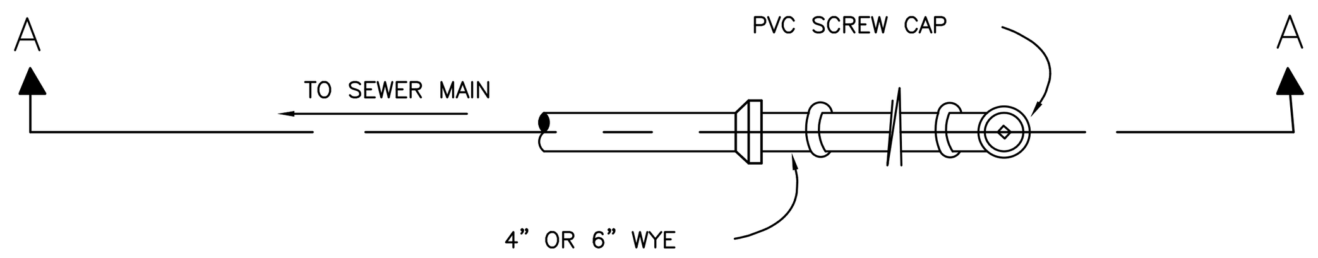


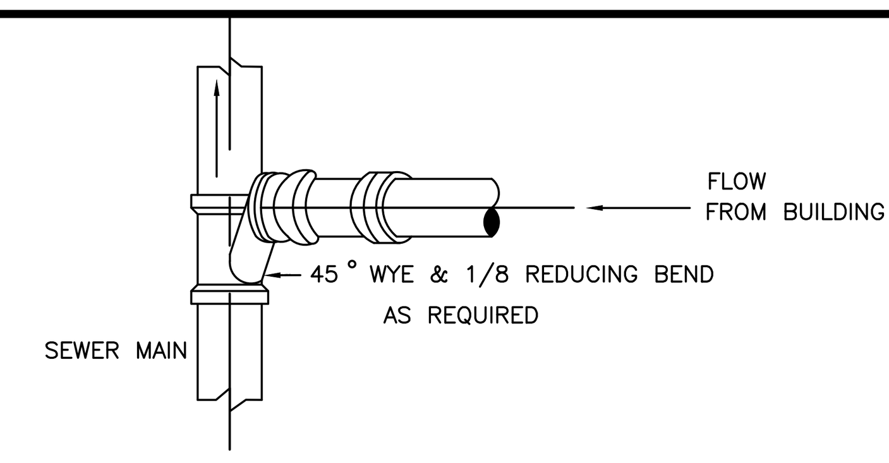
SECTION A



PLAN VIEW

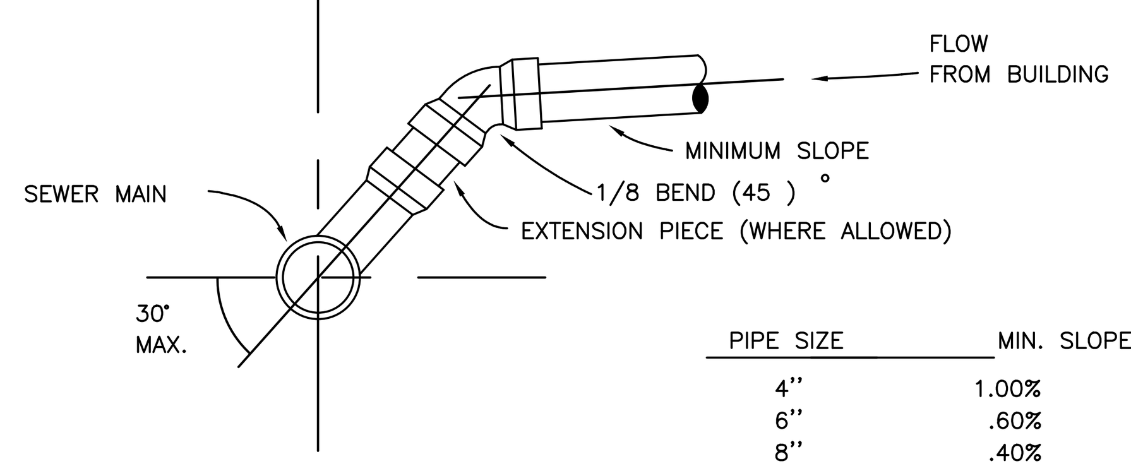
SINGLE GRAVITY SERVICE LATERAL CONNECTION

N.T.S.



PLAN

ROTATE WYE SO THAT AIR IS NOT TRAPPED AT TOP OF FITTING

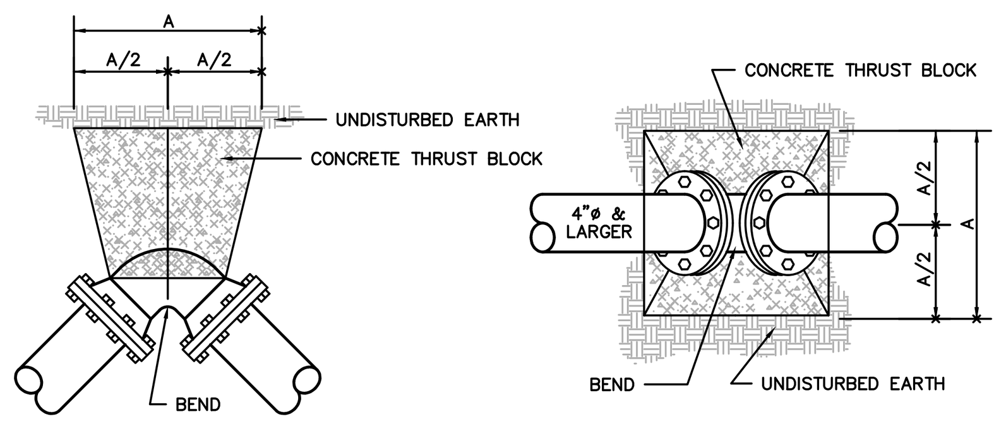


PIPE SIZE	MIN. SLOPE
4"	1.00%
6"	.60%
8"	.40%
12"	.22%

SECTION

GRAVITY SERVICE CONNECTION

N.T.S.



PLAN

ELEVATION

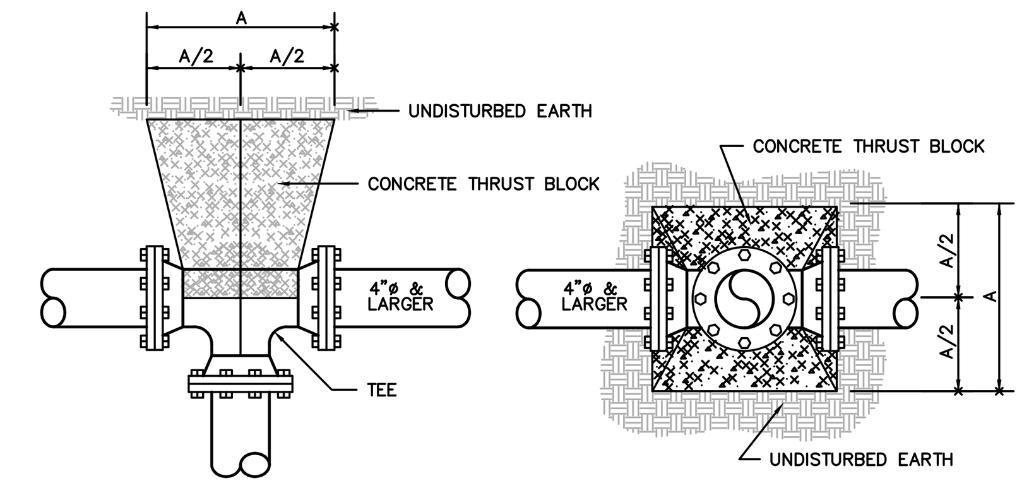
NOTE:
CARE SHALL BE TAKEN WHEN PLACING THRUST BLOCKS TO KEEP THE FITTING BOLTS FREE OF CONCRETE.

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.



PLAN

ELEVATION

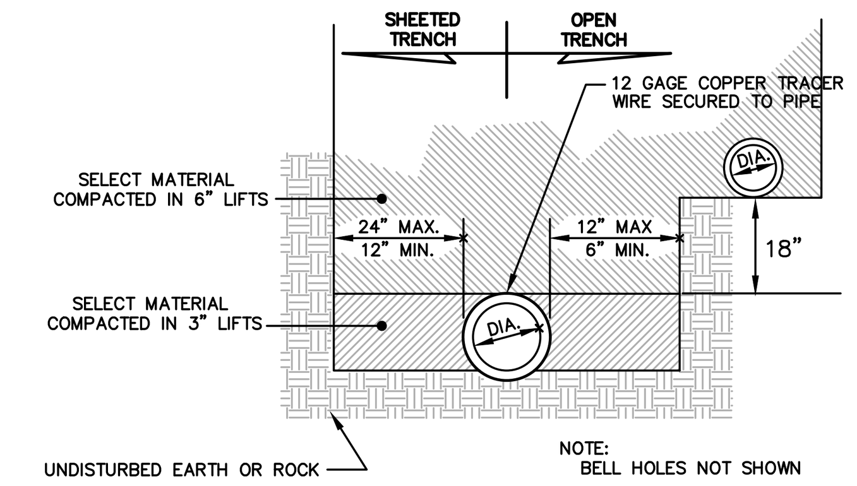
NOTE:
CARE SHALL BE TAKEN WHEN PLACING THRUST BLOCKS TO KEEP THE FITTING BOLTS FREE OF CONCRETE.

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

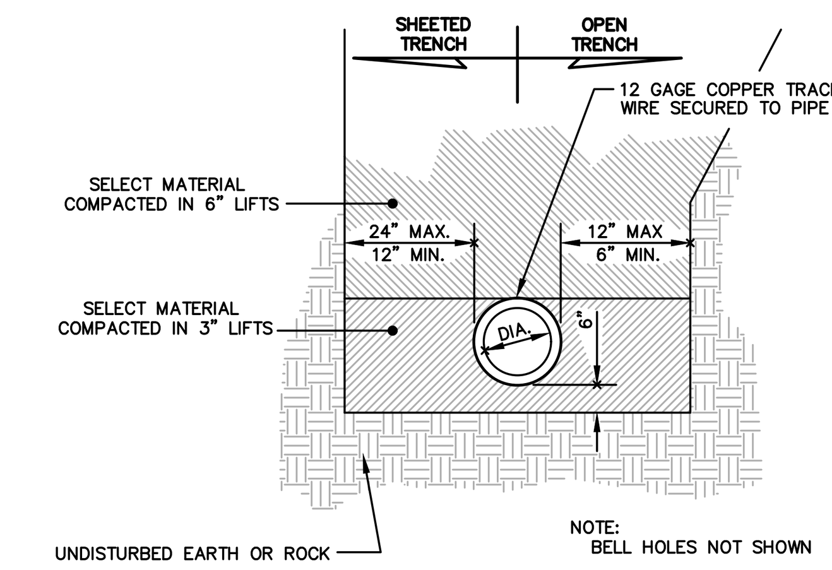
N.T.S.



STANDARD EXCAVATION

NOTES:

1. CROSSING A WATER MAIN OVER A SEWER; WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION; IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
2. CROSSING A WATER MAIN UNDER A SEWER; WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

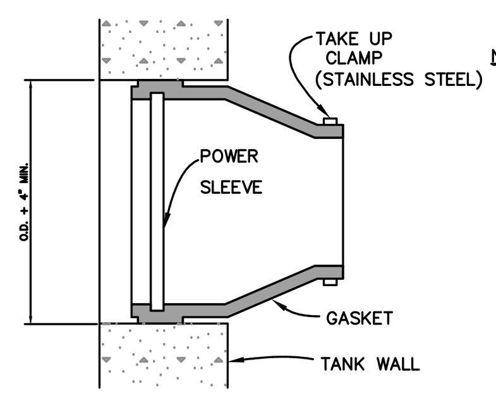


STANDARD EXCAVATION

NOTE:
MINIMUM 30" COVER IN PIEDMONT AND COASTAL AREAS
MINIMUM 40" COVER IN MOUNTAIN AREA
D.I.P. TO BE USED IF LESS THAN MINIMUM COVER

TYPICAL TRENCHING

N.T.S.

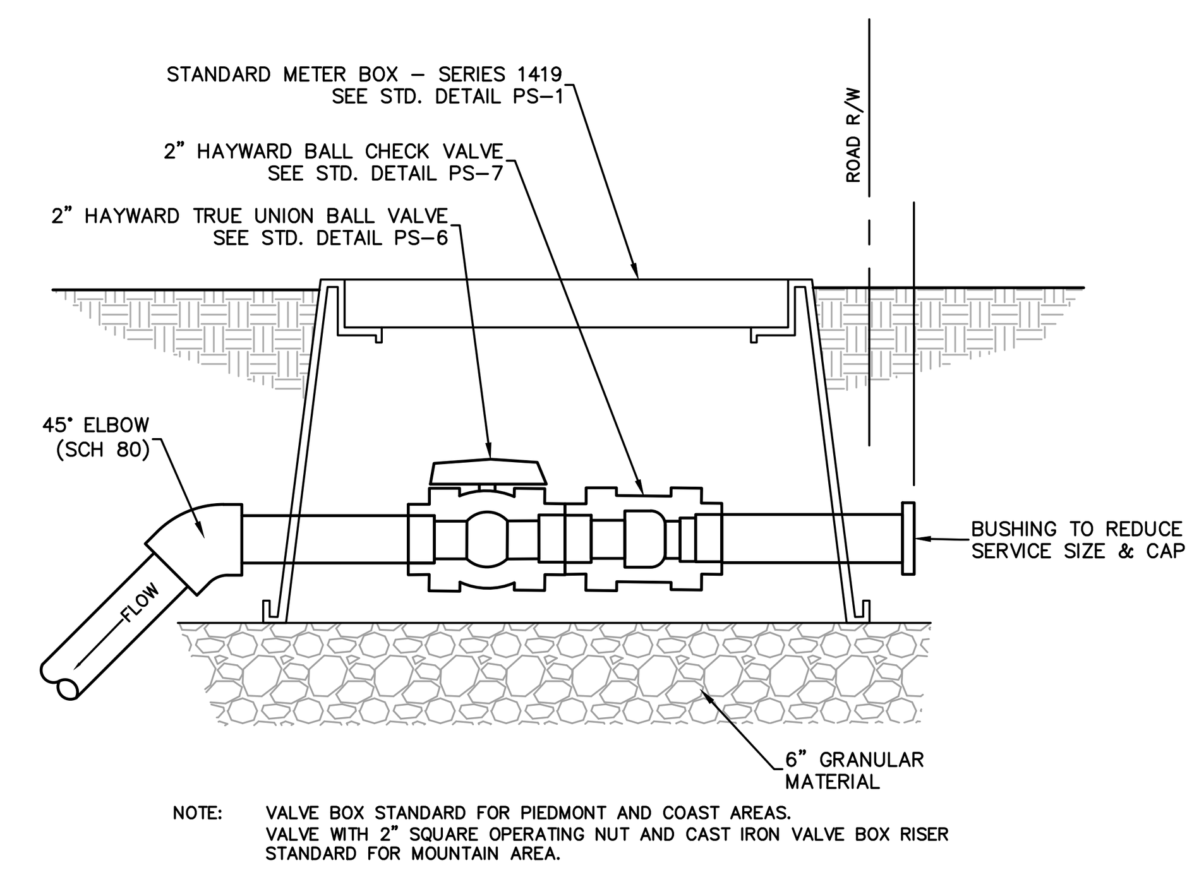


NOTES:

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.

BOOTED PIPE OPENINGS

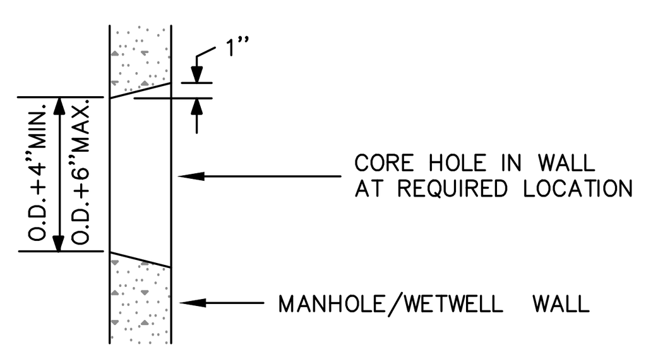
N.T.S.



NOTE: VALVE BOX STANDARD FOR PIEDMONT AND COAST AREAS. VALVE WITH 2" SQUARE OPERATING NUT AND CAST IRON VALVE BOX RISER STANDARD FOR MOUNTAIN AREA.

TYPICAL SERVICE CONNECTION DETAIL

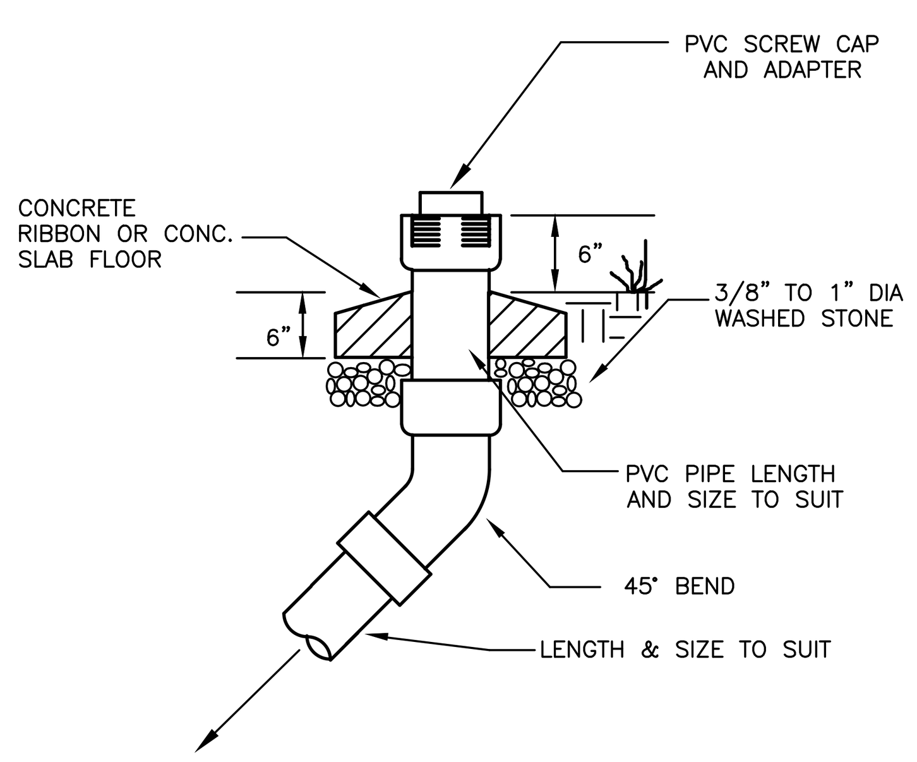
N.T.S.



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.



TYPICAL SEWER CLEAN-OUT

N.T.S.

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ENVIRONMENTAL SCIENCES * SURVEYING**
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043652 CATHLEEN M. SAUNDERS
PRELIMINARY NOT FOR CONSTRUCTION
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REVISIONS

NO.	DATE	REVISIONS
1	11/12/24	ISSUED FOR NCDOT PERMITTING
2	12/1/24	REVISED PER COUNTY COMMENTS

SITE & UTILITY DETAILS

1120 COROLLA VILLAGE RD
DUCK LAND COMPANY, LLC

POPLAR BRANCH TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

PROJECT NO.	P08045
DESIGNED BY	MWS/BPJ
DRAWN BY	BPJ
CHECKED BY	MWS
ISSUE DATE	08/23/24

SHEET NO. 5 OF 5 SHEETS

J:\Quible\Projects\2008\P08045 TWIDDY\Drawings\P08045-BASE.dwg 12/1/2024 7:43 PM Saunders, Cathleen

WithersRavenel
Our People. Your Success.

Site Plan Narrative

1120 Corolla Village Road

Currituck County

Specialty Eating Establishment

Prepared For:
Specialty Eating Establishment
c/o Doug Twiddy
1181 Duck Road
Duck, NC 27949

Prepared By:
WithersRavenel
115 MacKenan Drive
Cary, NC 27511
(919) 469-3340
License No.: F-1479

WithersRavenel Project No. 24-1038

November 12, 2024 Rev. December 11, 2024

Table of Contents

Appendices

Project Description

Duck Land Company, LLC (Owner) is proposing to construct a 1,778 sq. ft. specialty eating establishment with a single family detached building and decking located at 1120 Corolla Village Road, Corolla, Currituck County. The proposed construction will include the addition of nine (9) parking spaces, installation of an interconnected stormwater infiltration basin, connection to the County's water system, and connection to the existing offsite sanitary sewer collection system. As the site disturbance is less than 1 acre, a NCDEQ State soil erosion and sediment control permit is not required. Additionally, the site proposes less than 10,000 sf of impervious coverage and is not required to obtain an NCDEQ stormwater permit.

The following narrative will detail the site details and stormwater management plan for the proposed site improvements for 1120 Corolla Village Rd in Corolla, Currituck County, NC.

Access

Access to the site is available from Corolla Village Road (SR 1185). A 20' wide all-weather asphalt drive aisle capable of supporting 75,000 pounds is proposed to allow for fire access. A loading zone has not been provided since the site is less than 7,500 gross floor area, per Currituck County Unified Development Ordinance UDO 5.1.8 requirements.

Parking

The proposed project will install nine (9) additional parking spaces. Calculations for the parking count are based on the current ordinance using 1 space per 200 sf of enclosed specialty eating establishment. The eating establishment requires 8 parking spaces. An additional parking space for the single family detached dwelling is provided at 1 space per bedroom.

The proposed building is 1,778 sq. ft. enclosed and requires 8 parking spaces. 1 parking space will be required for the single family detached dwelling. Therefore, 9 total parking spaces are required and 9 parking spaces on site have been provided (including 1 ADA accessible parking spaces).

Utilities

The existing water supply is provided by Currituck County. The water service and associated appurtenances are proposed from the existing main within Corolla Village Road to the building. The water service line will include a double check valve with backflow prevention device.

A fire hydrant is also proposed within the Corolla Village Road right-of-way. The buildings are not designed to be sprinker protected. This proposed fire hydrant will allow the hose length to come within 400' of all portions of all buildings. Based on the North Carolina Public Water Supply (PWS) Engineering, Planning, and Development Guidance Document (2013), PWS review and permitting are not required unless the Currituck County public water system requires additional review. At this time a PWS review and permitting is not proposed for the service and hydrant.

The proposed wastewater effluent from the Specialty Eating Establishment will be conveyed via gravity to a proposed on-site pump station. This pump station will then convey the flow via a 2-

inch force main to a forcemain within Corolla Village Rd.(to be designed any permitted by others). Sanitary sewer flows have been estimated using State regulations (15 NCAC 02T.0114) at 1,778 sf of floor area at a rate of 60 gpd/100 sf and 120 gal/unit at 1,187 gpd total sewer flows. A commitment to serve letter has been obtained from Carolina Water Service, Inc. of North Carolina to confirm the system can handle this additional capacity and a copy is included with this site plan package within **Appendix 4**. The existing onsite septic field and associated tanks will be removed/abandoned with this project.

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. Heritage trees within this site appear to be outside of the limits of disturbance. Site clearing does not propose removal of any heritage trees.

The commercial building use proposed requires 2 ACI of Canopy trees per acre and 1 shrub per every 5 ft of building façade facing a street. As such, one (1) canopy tree and eight (8) shrubs have been proposed between the building and the adjacent street to meet site landscaping requirements. Canopy trees and shrubs have also been proposed within the parking area for vehicular landscaping.

The site is zoned GB and has C-GB and GB to the North, South, and East. A buffer is not required adjacent to this zoning. Property to the west is vacant, but zoned single family residential (SFO). This requires a Type B buffer requirement at 25' wide, 8 ACI of canopy trees, 10 ACI of understory trees, and 15 shrubs per 100 lf. The existing trees within the wetlands are proposed to be maintained to meet screening requirements adjacent to this property. Landscaping it no proposed within the wetlands to minimize impacts.

Summary of Existing Stormwater Conditions

The property is in the coastal plain of North Carolina. The existing property is currently a combination of developed areas along with open space with natural vegetated areas and asphalt/gravel drives to facilitate the current onsite construction staging facility. Wetlands are on the property and have been delineated by Quible personnel and have been field verified by USACOE. Ground elevations range between 4' and 15' with an average surface slope of 1.0%. Existing stormwater runoff is via sheet flow to the existing wetlands to the West, some of which is conveyed from an existing drainage ditch to the wetlands, which eventually flows into the Albemarle Sound.

Summary of Proposed Stormwater Conditions

Infiltration Basin

Stormwater to serve the proposed site improvements includes an interconnected infiltration basin to meet local permitting requirements only. This basin is located on either side of the proposed parking area and is connected via 12" stormwater pipe and permeable pavers. The infiltration basins will not be permitted by NC DEQ and is not required for State stormwater storage requirements. The proposed stormwater management facilities have been designed

and installed to provide for approximately 1,726 of storage for the entirety of the site, which retains the post developed 5-yr storm back to pre-developed 2-yr wooded storm conditions, per Currituck County standards. Impervious coverage calculations for Currituck County storage requirements considered permeable concrete with 6-inches of gravel base as 60% credit as managed grass. County calculations for storage requirements are provided within **Appendix 1**.

A summary for all storage onsite to meet Currituck County requirements are provided in Table 1 below. Calculations for the interconnected basins (above grade) are provided within **Appendix 1** for reference.

Table 1: Currituck County Stormwater Storage Summary

Elev (Ft.)	Area (Sf)	Avg Area (Sf)	Volume (Cf)
4.00	1,202		
		1,456	728
4.50	1,709		
		1,997	998
5.00	2,285		1,726 (Vg)

The interconnected infiltration basin is 12-inches deep for peak attenuation volume. The bottom of this basin is set at elevation 4.0 ft, allowing for 1 ft of separation between the bottom of the basin and the seasonal high-water table (+/-3.0 ft elevation). The 1.5-inch storm will be collected and treated within the first 12-inches along with the County storage requirements. The soils infiltration rate within the existing fill material (per onsite soils testing) is anticipated to be 20 in/hr. Based on the infiltration rate of 20 in/hr and a maximum storage depth of 12-inches, the north basin drawdown time is estimated at 0.03 days. Borings within this area did not encounter pockets asphalt or peat and undercut of the native soils is not anticipated.

Permeable Pavement

Permeable pavers will be provided onsite to provide additional stormwater storage and infiltration. Permeable pavers will not be permitted through NC DEQ as the interconnected stormwater infiltration basin storage meets storage requirements and the site proposes less than 10,000 sf of impervious coverage. All parking areas will be installed using Belgard® ADA approved permeable pavers or approved equal. A cross section for these pavers is provided with the associated plan set.

These stormwater management facilities will provide an adequate system to meet local requirements for stormwater storage. The interconnected infiltration basin will be designed and permitted through Currituck County. A high-density stormwater permit is not required by NC DEQ for the interconnected infiltration basins.

Soils

The USDA NRCS Soil Survey lists the soil in the vicinity of the stormwater infiltration basins as described below. Geotechnical reports for the site indicate the seasonal high-water table is approximately at elevation 3.0'. A copy of on-site soils analysis is provided within **Appendix 2.** On-site soils analysis and testing were completed by Quible and Associates, P.C. and a summary memo, dated January 31, 2023, is included within this package.

- Os – Osier fine sand

This soil typically has 0 to 2 percent slopes. Osier fine sand typically has a very high runoff rate and is poorly drained. This soil is categorized in Hydrologic Soil Group: A/D

- OuB—Ousley fine sand

This soil typically has 0 to 6 percent slope. Ousley fine sand typically has a very low runoff class and is moderately well drained. This soil is categorized in Hydrologic Soil Group: A.

Calculations

A copy of the Drainage Calculations for State and County requirements are provided in **Appendix 1** of this narrative.

Summary and Conclusions

The proposed stormwater management plan for this site provides stormwater treatment in excess of the State required 1.5 inch rainfall event for all proposed impervious surfaces. In addition, the site provides onsite storage of the County required 2-yr, 24 hour predeveloped wooded condition routing. The proposed system will offer preliminary and primary methods of treatment as well as an alternate method of disposal should the capacity be exceeded. This proposed design will adequately serve the stormwater management requirements of the site.

Appendix 1: Stormwater Calculations

Currituck County Calculations

Project Name: 1120 Corolla Village Rd
Quible Project Number: P08045
Date: 12/11/2024

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

Step 1: Drainage Area — 12,171.00 square feet; **0.28** 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 = 5.03
L = 170 feet — Elev. End = 3.07
P = 4 inch
S = 0.012 ft/ft
Tc_1 = **12.1** mins

Shallow Concentrated Flow

L = 0 feet
S = 0.01 ft/ft
unpaved
$V_{unpaved}$ = 134.64 fpm
Tc2= **0.0** mins

Channel Flow

(n/a)

Tc = Tc1 + Tc2

Tc = **12.1** 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 = **4.52** in/hr

Interpolation Formula =

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

	X	Y
1	10	4.84
2	12.07	
3	15	4.06

y_2 = **4.52**

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

Q = CIA

Q 2= **0.25** cfs

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

			C - Value
Impervious Area =	4,780.30	sq.ft.	0.95
Open Area =	7,390.70	sq.ft.	0.25
Total =	**12,171.00**	sq.ft.	
Cw =	**0.52**		

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 =	0.013	(smooth pavement)
L =	40.00	feet
P =	5	inch *(From NOAA Rainfall Depth Data)*
S =	0.015	ft/ft
Tc_1 =	**0.6**	mins

Shallow Concentrated Flow

Tc_2 = L =	0.00	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 =	**0.0**	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 = **1.00** 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	1,632.30
Permeable Pavers	98	1,259.20
Open Space	49	7,390.70
	Total =	**10,282.20**
	CN_W =	**62.78**

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 =	**5.93**	
Q =	**1.49**	in

Step 12: Determine the Runoff Volume, V_r

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

Q =	1.49	in
A =	0.28	acres
V_r =	**0.03**	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 =	0.03	ac-ft
$Q_{2\text{-pre}}$ =	0.25	cfs
$Q_{5\text{-post}}$ =	1.00	cfs
V_s =	**41.94**	CY
	1,132.37	CF

SPECIALTY EATING ESTABLISHMENT

date 12/11/2024
page 1

NCDEQ Stormwater Calculations

Storage Calculations

	Infiltration Basin (A)	
	(sq.ft.)	(acre)
Drainage Area =	12,171	0.28
Open Space	7,391	0.17
Gravel =	0	0.00
Building =	2,685	0.06
Asphalt/concrete =	836	0.02
Impervious =	3,521	0.08
Permeable Pavers=	3,148	0.07
Reduced Permeable Pavers =	*1,259*	*0.03*
Total Impervious (including permeable) =	4,780	0.11

Runoff generated by Rainfall Event (NCDEQ Simplified Method)

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

	A (1.5")
Ia =	39.3%
Rv=	0.40
Rd (in.)=	1.5
A (ac.) =	0.28
V (cf.)=	**615**

Total Storage Required by Currituck County = 1,200.00 cf

Above Grade Storage Provided In Infiltration Basin (SHWT +/- 3.0' Assumed)

A - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
4.00	1202			0
		1456	728	
4.50	1709			728
		1997	998	
5.00	2285			1726 (Vg)

Above Grade Storage Provided = 1726 cf
4.2 in

Infiltration Basin Drawdown Calculations

Hydraulic Conductivity = 20 in/hr
Max Stored Depth = 12 in
Drawdown Time = Stored Depth / Hydraulic Conductivity
Drawdown Time = 0.60 hrs or 0.03 days

GENERAL NOTES

1. OWNER: DUCK LAND COMPANY, LLC
   1181 DUCK ROAD
   KITTY HAWK, 27949

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147

3. PROPERTY INFORMATION: PIN: 9937-21-3504 / PID: 011400000520000

4. SUBJECT REFERENCES: DB 555, PG 192,194

5. ADDRESS: 1120 COROLLA VILLAGE LANE

6. ALL TOPOGRAPHIC AND EXISTING FEATURES SHOWN ARE BASED ON SURVEY INFORMATION COLLECTED BY QUIBLE & ASSOCIATES, P.C. NOVEMBER 2023. BOUNDARY SHOWN BASED ON RECORDED PLATS.

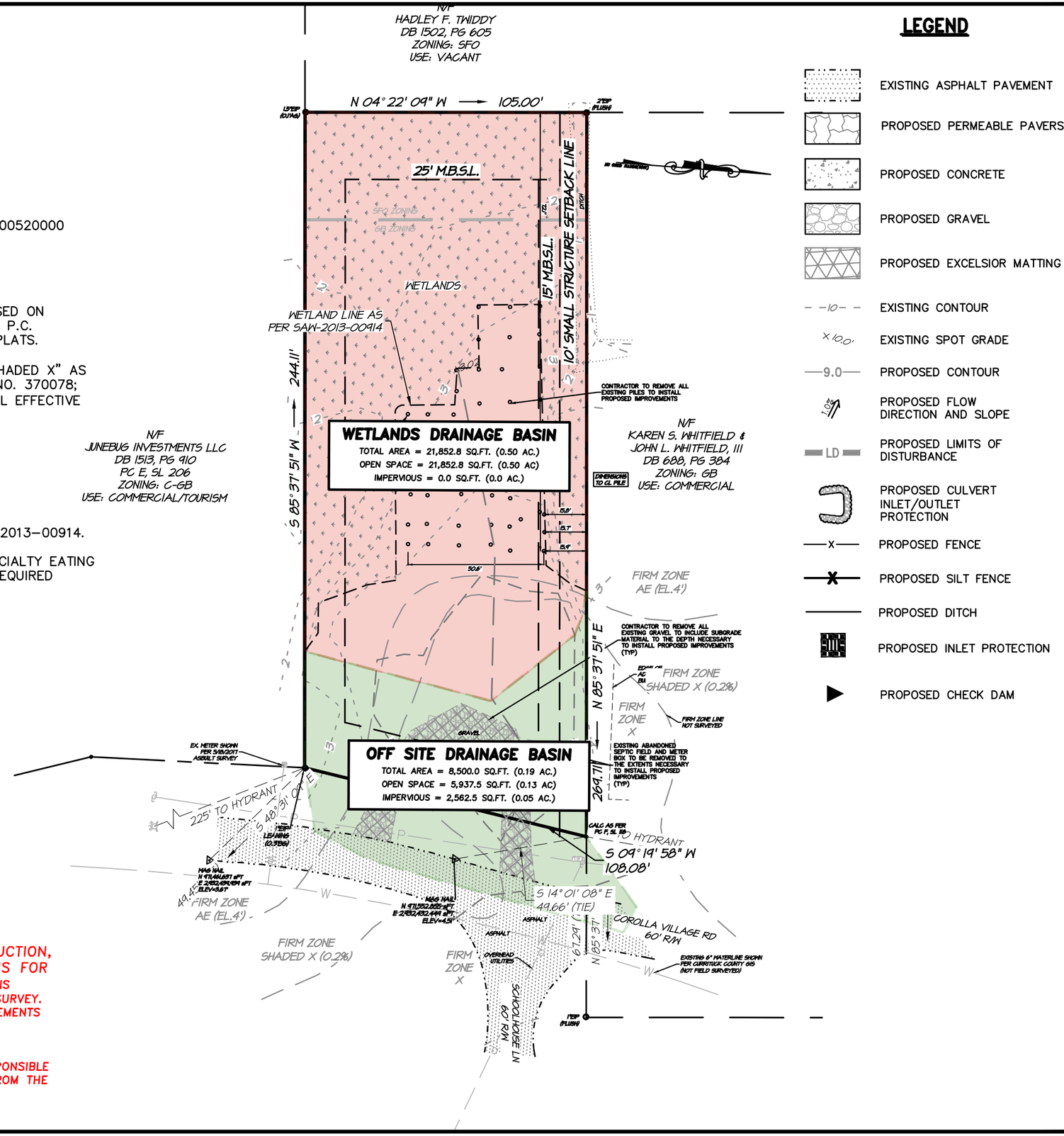
7. PROPERTY IS LOCATED IN NFIP FLOOD AE (4'), "X", AND "SHADED X" AS SHOWN. SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9937; SUFFIX J. (MAP NUMBER 3720993700J); PANEL EFFECTIVE DATE: 12/16/05

8. TOTAL LOT AREA: 26,975.60 SQ.FT. (0.62 AC.)
   SFO ZONING AREA = 4,200.0 SQ.FT.
   GB ZONING AREA = 22,775.55 SQ.FT.

9. ZONING CLASSIFICATION: SFO & GB

10. THE SECTION 404 WETLAND LINES SHOWN PER USACE SAW-2013-00914.

11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A SPECIALTY EATING ESTABLISHMENT, DETACHED SINGLE-FAMILY DWELLING AND REQUIRED PARKING.



LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED PERMEABLE PAVERS
- PROPOSED CONCRETE
- PROPOSED GRAVEL
- PROPOSED EXCELSIOR MATTING
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION AND SLOPE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED CULVERT INLET/OUTLET PROTECTION
- PROPOSED FENCE
- PROPOSED SILT FENCE
- PROPOSED DITCH
- PROPOSED INLET PROTECTION
- PROPOSED CHECK DAM

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administrator@quible.com
NC License#: C-0208

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.

PRE-DEVELOPED DRAINAGE AREAS

1120 COROLLA VILLAGE RD.

DUCK LAND CO.

POPLAR BRANCH — CURRITUCK COUNTY — NORTH CAROLINA

0 40' 80'
GRAPHIC SCALE IN FEET 1"=40'

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PROJECT	DRAWN BY	CHECKED BY	DATE
P08045	CMS/BPJ	CMS	12/10/24

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GENERAL NOTES

1. OWNER: DUCK LAND COMPANY, LLC
   1181 DUCK ROAD
   KITTY HAWK, 27949

2. ENGINEER: QUIBLE & ASSOCIATES, P.C.
   P.O. DRAWER 870
   KITTY HAWK, NC
   TEL: (252) 491-8147

3. PROPERTY INFORMATION: PIN: 9937-21-3504 / PID: 011400000520000

4. SUBJECT REFERENCES: DB 555, PG 192,194

5. ADDRESS: 1120 COROLLA VILLAGE LANE

6. ALL TOPOGRAPHIC AND EXISTING FEATURES SHOWN ARE BASED ON SURVEY INFORMATION COLLECTED BY QUIBLE & ASSOCIATES, P.C. NOVEMBER 2023. BOUNDARY SHOWN BASED ON RECORDED PLATS.

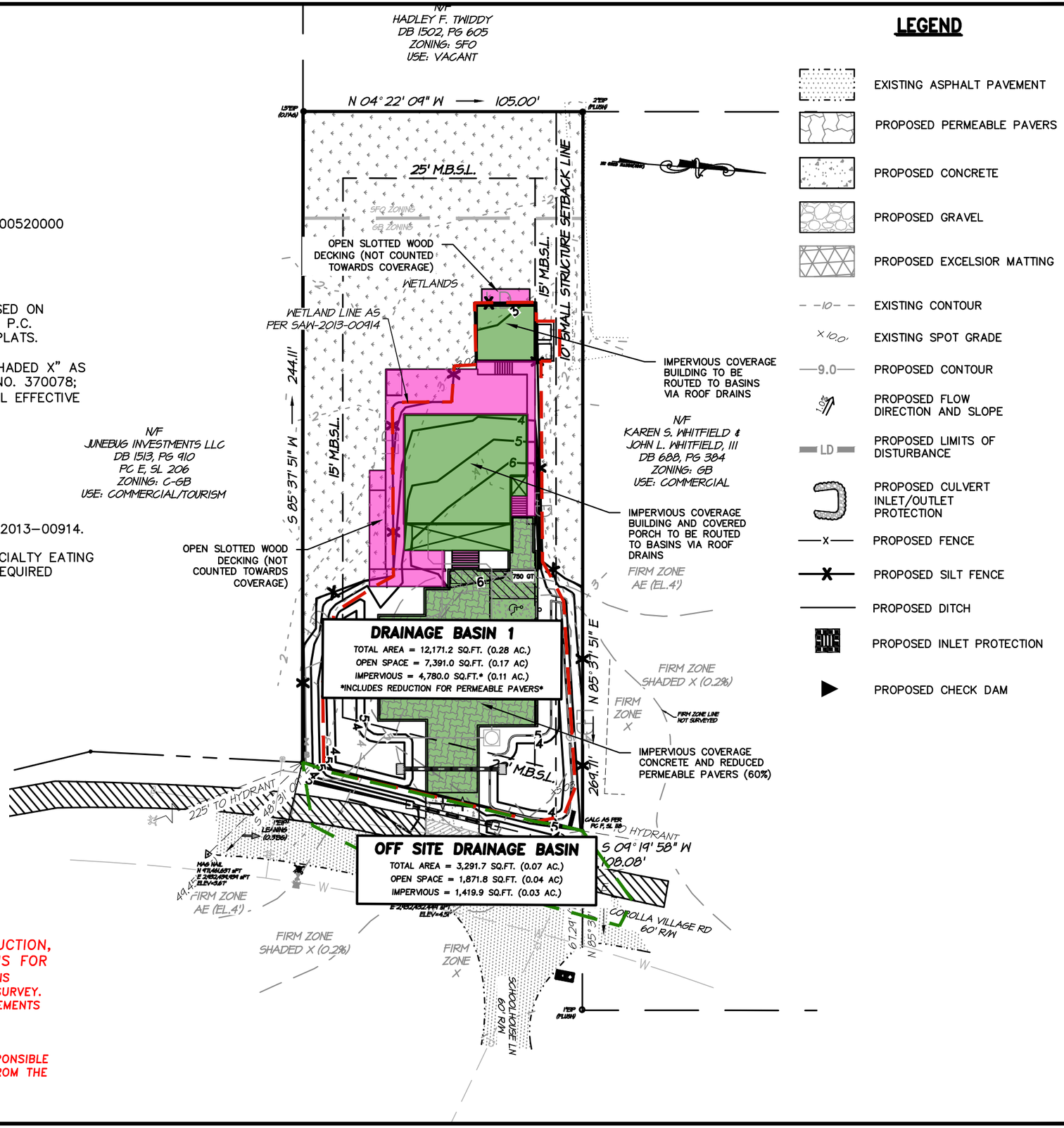
7. PROPERTY IS LOCATED IN NFIP FLOOD AE (4'), "X", AND "SHADED X" AS SHOWN. SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 370078; PANEL 9937; SUFFIX J. (MAP NUMBER 3720993700J); PANEL EFFECTIVE DATE: 12/16/05

8. TOTAL LOT AREA: 26,975.60 SQ.FT. (0.62 AC.)
   SFO ZONING AREA = 4,200.0 SQ.FT.
   GB ZONING AREA = 22,775.55 SQ.FT.

9. ZONING CLASSIFICATION: SFO & GB

10. THE SECTION 404 WETLAND LINES SHOWN PER USACE SAW-2013-00914.

11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A SPECIALTY EATING ESTABLISHMENT, DETACHED SINGLE-FAMILY DWELLING AND REQUIRED PARKING.



LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED PERMEABLE PAVERS
- PROPOSED CONCRETE
- PROPOSED GRAVEL
- PROPOSED EXCELSIOR MATTING
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION AND SLOPE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED CULVERT INLET/OUTLET PROTECTION
- PROPOSED FENCE
- PROPOSED SILT FENCE
- PROPOSED DITCH
- PROPOSED INLET PROTECTION
- PROPOSED CHECK DAM

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ENVIRONMENTAL SCIENCES * SURVEYING**
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90 Church St., Ste. B, Black Mountain, NC 28711
Phone: (828) 357-5149
administrator@quible.com

THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.

POST-DEVELOPED DRAINAGE AREAS

1120 COROLLA VILLAGE RD.
DUCK LAND CO.

POPLAR BRANCH — CURRITUCK COUNTY
NORTH CAROLINA

0 40' 80'
GRAPHIC SCALE IN FEET 1"=40'

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PROJECT	DRAWN BY	CHECKED BY	DATE
P08045	CMS/BPJ	CMS	12/10/24

J:\Quible\Projects\2008\P08045 TWIDDY\Drawings\P08045-BASE.dwg 12/11/2024 7:31 PM Saunders, Cathleen

Appendix 2: On-site Soils Map and Data

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

To: **Dylan Tillett, P.E., Quible & Associates**

From: Brian Rubino, P.G.

Date: January 31, 2023

Re: **P08045 Soil and Groundwater Investigation**

Dylan,

On Tuesday January 17, 2023, representatives from Quible visited the Site to conduct shallow soil borings in the locations of potential a future stormwater collection and infiltration system. The purpose of our evaluation was to understand lithologic conditions, to determine the depth and elevation of the Static Water Table (WT), Season High Water Table (SHWT), and to measure infiltration rates for Stormwater Management System design. The attached exhibit shows the location of the borings.

Soils consisted of:

SB-1
- 0-28" bgs: fine-grained sand (10 YR 4/4)
- 28-40" bgs: fine-grained sand (10 YR 4/3)
- 40-60+" bgs: fine-grained sand (10 YR 5/1)

SB-2
- 0-32" bgs: fine-grained sand (10 YR 4/4)
- 32-39" bgs: fine-grained sand (10 YR 4/3)
- 39-50" bgs: fine-grained sand (10 YR 5/1)
- 50-60+" bgs: fine-grained sand (GLEY 5/10Y)

A summary of elevation data collected and observed is as follows:

Soil Boring	Ground Elevation (ft); (NAVD 88)	Groundwater Elevation (ft); (NAVD 88)	Approx. Elevation of SHWT (ft); (NAVD 88)	Measured infiltration Rates (in/hr.)
SB-1	5.54'	2.50'	3.00'	>20
SB-2	5.41	2.48	2.98	>20

Ground elevation data was collected on the date of the soil borings using an RTK GPS system. Temporary piezomters, using a two-inch .010 slot pvc well screen were installed at the boring locations and was allowed to recover for a period of at least 1 hour before the depth to groundwater was measured using an electronic water level checker.

Infiltration rate field testing of the in-situ soils in the immediate vicinity of the soils boring location was conducted using a double ringed infiltrometer (12-inch inner diameter and 24-inch outer diameter). This procedure measures the natural downward movement of water to the groundwater table which can be relied upon to design Site stormwater collection, storage and treatment systems in the area tested. The infiltration test was done on in the soil unit at the surface. All soil units encountered at this location should be considered very well drained. Prior to measuring the infiltration rates, water was added to the rings to saturate underlying soils until a constant infiltration rate was obtained. Duplicate 15-minute infiltration tests were conducted and the results were averaged (see table above). The infiltration rate is greater than 20"/hr which can be expected in unconsolidated sand-dominated substrata. There were no confining layers encountered.

Q:\2008\P08045\Drawings\P08045-ENV.dwg 1/31/2023 8:32 AM Tmurphy

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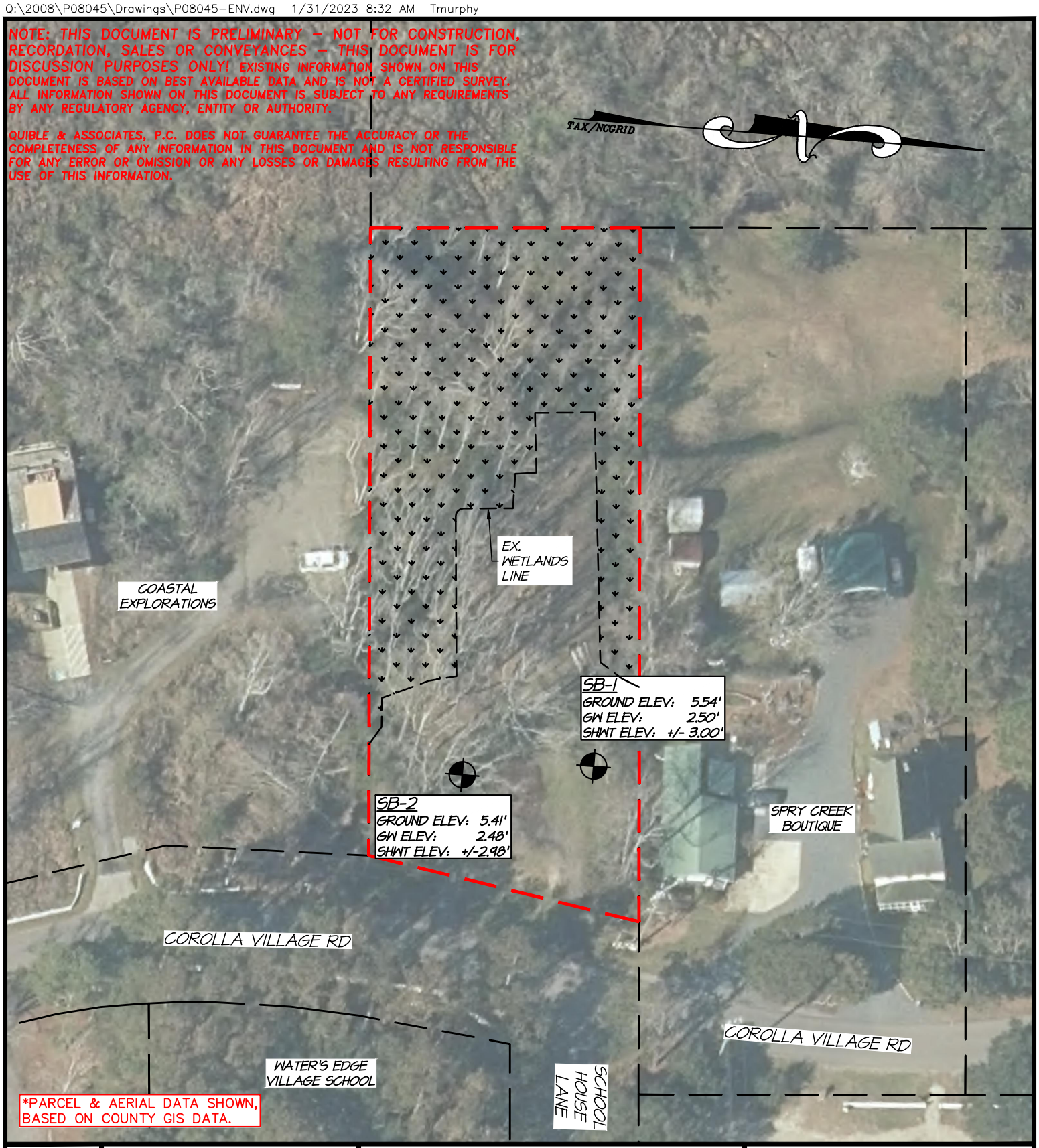

PROJECT	P08045
DRAWN BY	JTM
CHECKED BY	BDR
DATE	01/24/23

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SOIL BORING EXHIBIT

1120 COROLLA VILLAGE RD
DUCK LAND CO, LLC

COROLLA CURRTIUCK COUNTY
NORTH CAROLINA

0 50 100
GRAPHIC SCALE IN FEET 1"=50'

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administrator@quible.com

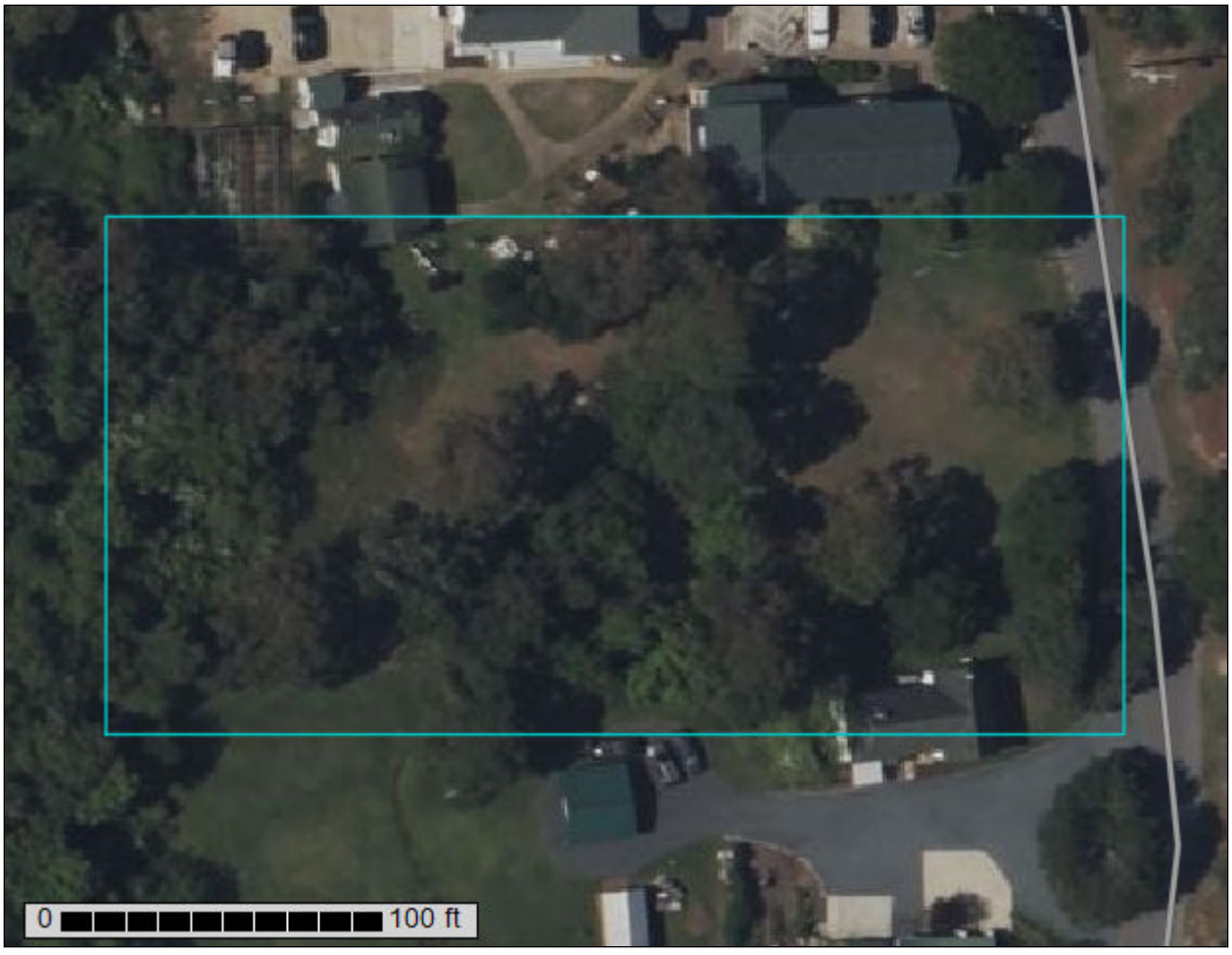
United States Department of Agriculture

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



August 16, 2024

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.

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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

Map Scale: 1:531 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

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
Os	Osier fine sand	0.5	42.5%
OuB	Ousley fine sand, 0 to 6 percent slopes	0.7	57.5%
Totals for Area of Interest		**1.2**	**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

Os—Osier fine sand

Map Unit Setting

National map unit symbol: 3rnw
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: Not prime farmland

Map Unit Composition

Osier, undrained, and similar soils: 80 percent
Osier, drained, and similar soils: 10 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Osier, Undrained

Setting

Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Eolian sands and/or beach sand

Typical profile

A - 0 to 3 inches: fine sand
Cg - 3 to 80 inches: fine 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): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: R153BY120NC - Wet Dune Slack
Hydric soil rating: Yes

Description of Osier, Drained

Setting

Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Eolian sands and/or beach sand

Typical profile

A - 0 to 3 inches: fine sand
Cg - 3 to 80 inches: fine 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): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: R153BY120NC - Wet Dune Slack
Hydric soil rating: Yes

Minor Components

Conaby, undrained

Percent of map unit: 5 percent
Landform: Pocosins, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

OuB—Ousley fine sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3rnx
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: Not prime farmland

Map Unit Composition

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

Description of Ousley

Setting

Landform: Troughs on dunes
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Eolian sands and/or beach sand

Typical profile

A - 0 to 3 inches: fine sand
C - 3 to 43 inches: fine sand
Cg - 43 to 82 inches: fine sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 39.96 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A
Ecological site: R153BY110NC - Coastal Strand, Beaches, and Dunes
Hydric soil rating: No

Minor Components

Conaby, undrained

Percent of map unit: 3 percent
Landform: Depressions, pocosins
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Duckston

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R153BY120NC - Wet Dune Slack
Hydric soil rating: Yes

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Appendix 3: NOAA Precipitation Intensity (Currituck County)

NOAA Atlas 14, Volume 2, Version 3
Location name: Corolla, North Carolina, USA*
Latitude: 36.3785°, Longitude: -75.8328°
Elevation: 2 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.439** (0.398-0.485)	**0.511** (0.463-0.565)	**0.573** (0.520-0.633)	**0.662** (0.598-0.731)	**0.745** (0.670-0.822)	**0.823** (0.738-0.907)	**0.891** (0.797-0.984)	**0.959** (0.852-1.06)	**1.04** (0.915-1.15)	**1.12** (0.979-1.24)
10-min	**0.702** (0.636-0.774)	**0.817** (0.741-0.903)	**0.918** (0.833-1.01)	**1.06** (0.956-1.17)	**1.19** (1.07-1.31)	**1.31** (1.18-1.44)	**1.42** (1.27-1.56)	**1.52** (1.35-1.68)	**1.64** (1.45-1.82)	**1.76** (1.54-1.95)
15-min	**0.877** (0.795-0.968)	**1.03** (0.931-1.14)	**1.16** (1.05-1.28)	**1.34** (1.21-1.48)	**1.50** (1.35-1.66)	**1.66** (1.49-1.83)	**1.79** (1.60-1.98)	**1.92** (1.70-2.12)	**2.07** (1.82-2.29)	**2.21** (1.94-2.45)
30-min	**1.20** (1.09-1.33)	**1.42** (1.29-1.57)	**1.65** (1.50-1.82)	**1.94** (1.75-2.14)	**2.23** (2.01-2.46)	**2.50** (2.24-2.76)	**2.74** (2.45-3.03)	**2.98** (2.65-3.29)	**3.29** (2.90-3.64)	**3.58** (3.13-3.97)
60-min	**1.50** (1.36-1.65)	**1.78** (1.61-1.97)	**2.12** (1.92-2.34)	**2.53** (2.28-2.79)	**2.97** (2.67-3.28)	**3.38** (3.04-3.73)	**3.78** (3.38-4.17)	**4.19** (3.72-4.62)	**4.72** (4.16-5.22)	**5.23** (4.57-5.80)
2-hr	**1.75** (1.58-1.95)	**2.09** (1.88-2.32)	**2.52** (2.27-2.80)	**3.07** (2.76-3.40)	**3.68** (3.30-4.07)	**4.28** (3.81-4.73)	**4.86** (4.30-5.37)	**5.47** (4.82-6.05)	**6.30** (5.49-6.96)	**7.09** (6.13-7.84)
3-hr	**1.87** (1.68-2.10)	**2.23** (2.00-2.50)	**2.71** (2.43-3.03)	**3.31** (2.97-3.70)	**4.02** (3.58-4.48)	**4.72** (4.18-5.24)	**5.41** (4.76-6.01)	**6.16** (5.38-6.83)	**7.19** (6.21-7.97)	**8.19** (7.01-9.09)
6-hr	**2.22** (2.00-2.49)	**2.64** (2.37-2.96)	**3.21** (2.88-3.60)	**3.94** (3.52-4.40)	**4.79** (4.26-5.34)	**5.65** (4.99-6.27)	**6.50** (5.71-7.20)	**7.43** (6.47-8.22)	**8.70** (7.50-9.64)	**9.97** (8.49-11.0)
12-hr	**2.63** (2.36-2.96)	**3.12** (2.79-3.52)	**3.81** (3.41-4.29)	**4.69** (4.18-5.28)	**5.76** (5.09-6.44)	**6.84** (6.00-7.63)	**7.92** (6.90-8.83)	**9.13** (7.87-10.2)	**10.8** (9.18-12.0)	**12.5** (10.5-13.9)
24-hr	**3.11** (2.86-3.41)	**3.79** (3.48-4.15)	**4.89** (4.48-5.36)	**5.82** (5.32-6.36)	**7.19** (6.52-7.84)	**8.37** (7.53-9.12)	**9.66** (8.61-10.5)	**11.1** (9.78-12.1)	**13.2** (11.4-14.4)	**15.0** (12.8-16.5)
2-day	**3.61** (3.31-3.96)	**4.37** (4.01-4.79)	**5.61** (5.14-6.14)	**6.67** (6.10-7.30)	**8.27** (7.49-9.01)	**9.65** (8.67-10.5)	**11.2** (9.94-12.2)	**12.9** (11.3-14.1)	**15.5** (13.3-17.0)	**17.7** (15.0-19.5)
3-day	**3.83** (3.53-4.18)	**4.63** (4.27-5.06)	**5.92** (5.45-6.46)	**7.01** (6.42-7.63)	**8.61** (7.83-9.36)	**9.98** (9.01-10.8)	**11.5** (10.3-12.5)	**13.1** (11.6-14.3)	**15.6** (13.6-17.1)	**17.9** (15.3-19.7)
4-day	**4.04** (3.74-4.40)	**4.90** (4.53-5.34)	**6.23** (5.76-6.78)	**7.34** (6.76-7.97)	**8.95** (8.18-9.71)	**10.3** (9.35-11.2)	**11.8** (10.6-12.8)	**13.4** (11.9-14.5)	**15.8** (13.8-17.2)	**18.0** (15.5-19.8)
7-day	**4.72** (4.38-5.12)	**5.69** (5.28-6.18)	**7.14** (6.61-7.74)	**8.34** (7.70-9.03)	**10.1** (9.25-10.9)	**11.5** (10.5-12.5)	**13.1** (11.8-14.1)	**14.7** (13.2-16.0)	**17.1** (15.1-18.7)	**19.1** (16.6-21.0)
10-day	**5.29** (4.95-5.69)	**6.35** (5.92-6.82)	**7.86** (7.33-8.44)	**9.11** (8.47-9.78)	**10.9** (10.1-11.7)	**12.4** (11.4-13.3)	**14.0** (12.7-15.0)	**15.7** (14.1-16.9)	**18.1** (16.1-19.6)	**20.1** (17.6-21.9)
20-day	**7.19** (6.75-7.68)	**8.56** (8.04-9.15)	**10.4** (9.76-11.1)	**11.9** (11.1-12.7)	**14.1** (13.1-15.0)	**15.8** (14.6-16.9)	**17.7** (16.2-18.9)	**19.6** (17.8-21.0)	**22.4** (20.0-24.1)	**24.6** (21.8-26.6)
30-day	**8.85** (8.35-9.42)	**10.5** (9.92-11.2)	**12.7** (11.9-13.4)	**14.4** (13.5-15.3)	**16.7** (15.6-17.8)	**18.6** (17.3-19.8)	**20.5** (19.0-21.9)	**22.5** (20.7-24.0)	**25.2** (22.9-27.1)	**27.3** (24.6-29.5)
45-day	**10.9** (10.3-11.6)	**12.9** (12.2-13.8)	**15.5** (14.6-16.5)	**17.5** (16.5-18.7)	**20.5** (19.1-21.8)	**22.8** (21.2-24.3)	**25.3** (23.4-26.9)	**27.9** (25.6-29.7)	**31.5** (28.5-33.7)	**34.3** (30.8-36.9)
60-day	**13.1** (12.4-13.9)	**15.5** (14.6-16.4)	**18.3** (17.3-19.3)	**20.5** (19.4-21.7)	**23.6** (22.2-24.9)	**26.0** (24.3-27.5)	**28.4** (26.5-30.2)	**30.9** (28.6-32.9)	**34.3** (31.4-36.7)	**36.9** (33.5-39.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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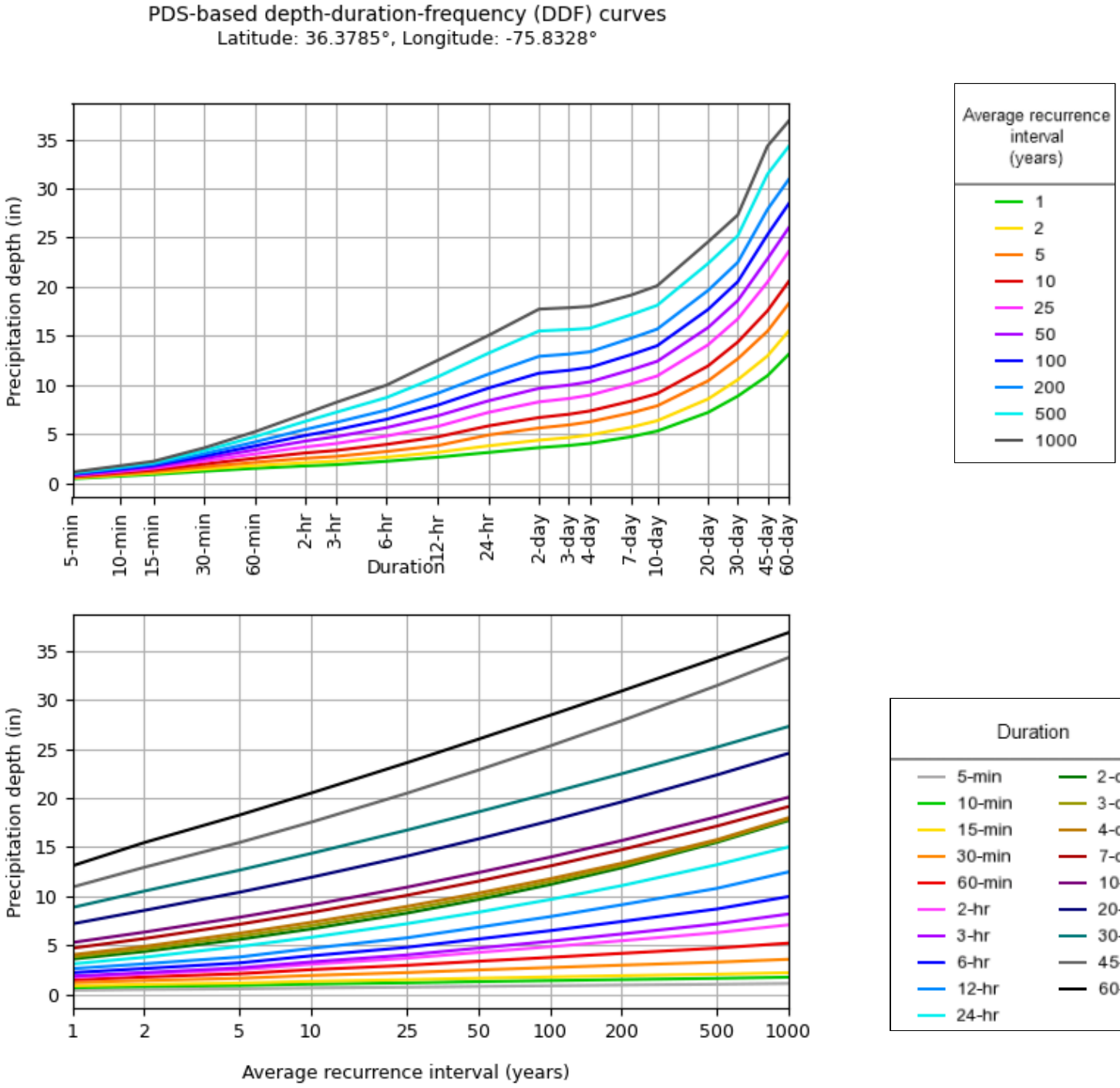
PF graphical



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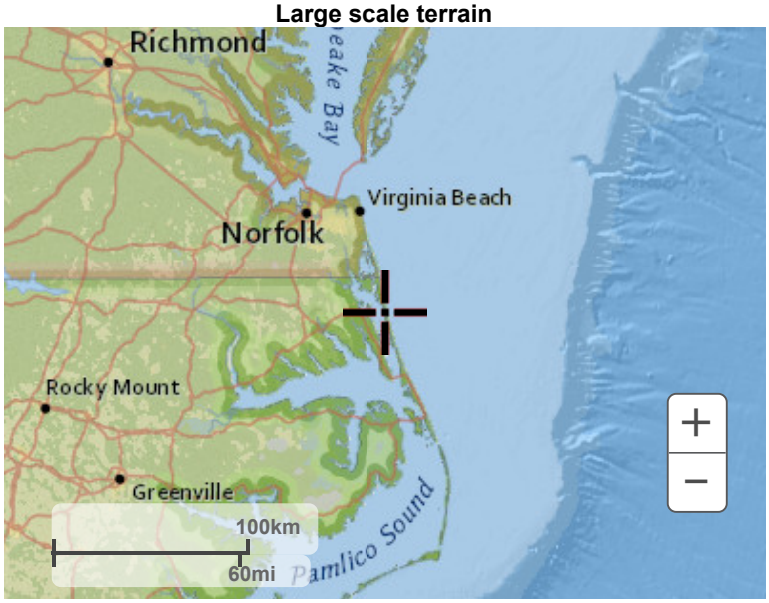
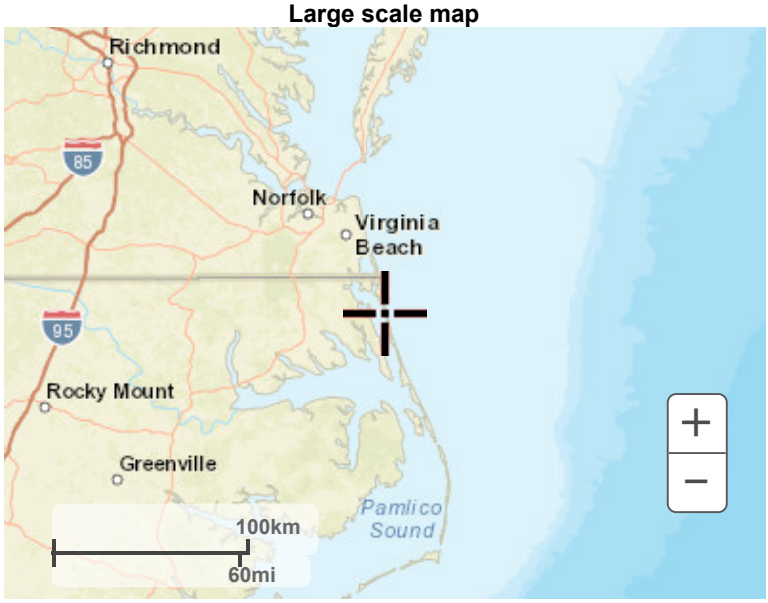
Maps & aerials

Small scale terrain

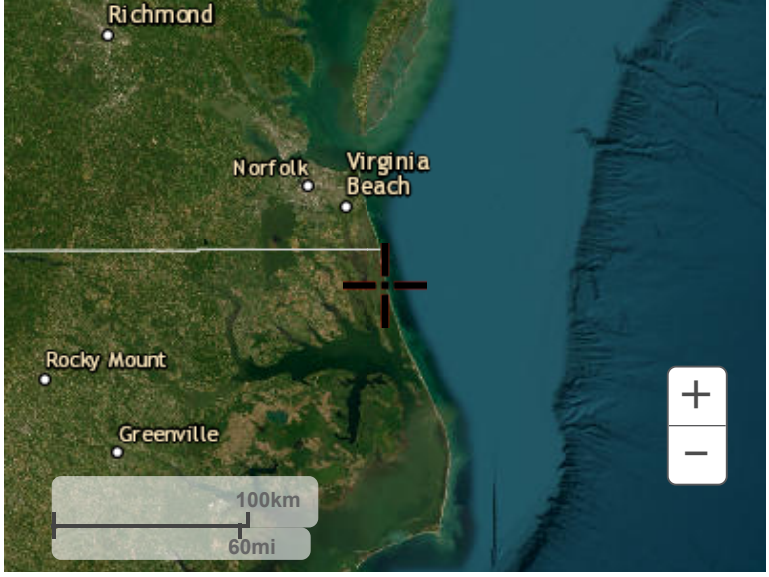
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix 4: Willingness to Serve (Carolina Water, Inc.)

11/6/2024

Mr. Mike Strader P.E.
WithersRavenel
8466 Caratoke Highway Building 400
Powells Point, North Carolina 27966

RE: Wastewater Willingness & Capability Letter
1120 Corolla Village Rd, Corolla Currituck County NC, (PID 011400000520000)
Monterey Shores WWCS & WWTP

Dear Mr. Strader:

This letter shall serve as notification that Carolina Water Service of North Carolina (CWSNC) has the willingness and capability to provide for wastewater service, 1120 Corolla Village Rd, Corolla, NC, 27927 (PID 011400000520000) project consists of proposed 1,778 sf of floor area at a rate of 60 gpd per 100 sf (1,067 gpd) + 120 gpd (for single bedroom dwelling unit), for estimated total daily wastewater usage of 1,187 gpd equivalent when completed.

All applicable tap fees shall be paid and contractual obligations with CWSNC shall be completed by the project developer, which may include system improvements external to the development site.

If change in use of the proposed subject project has not occurred within twelve (12) months from the date of this letter, this commitment shall expire. If you have and questions or concerns regarding this project, please contact Michael Thomas (Development Project Manager) by email at michael.thomas@corix.com or by phone at (704) 340-5722

Sincerely,

Travis Dupree

Travis Dupree, P.E. – SC & NC
Vice President, Project Management and Engineering