

MAIN OFFICE:

49 Herring Pond Road
Buzzards Bay, MA 02532
TEL: (508) 833-0070
FAX: (508) 833-2282

**NANTUCKET OFFICE:**

19 Old South Road
Nantucket, MA 02554
TEL: (508) 325-0044
www.brackeneng.com

November 2, 2022

RECEIVED

By Bourne Health Department at 4:17 pm, Nov 02, 2022

Bourne Board of Health
Terri Guarino, RS, CHO
24 Perry Avenue
Bourne, MA 02532

**RE: Septic Upgrade
85 Salt Marsh Lane (Map 43.1, Parcel 83)**

Dear Members of the Board:

On behalf of the Applicant, CNB Bristow LLC, please accept this letter as a request under local upgrade approval section 310 CMR 15.405.3(b) to install a tight tank at the above referenced property. As identified below, in more detail, it is the professional opinion of Bracken Engineering, Inc. (BEI) that no other feasible alternative to upgrade the system in accordance with 310 CMR 15.201 through 15.293 exists that will protect the health, safety and welfare of the environment and general public.

Outlined below are the site conditions precluding the installation of a soil absorption system, as well as a comprehensive alternatives analysis for the installation of a tight tank:

The existing groundwater elevation at the site is restrictive. Per monitoring well readings from the site, groundwater was found to be at elevation 2.7' (Approximately 2.1' below existing grade).

The existing parcel is approximately 21,716 s.f. and is made up of 12,855 s.f. of upland area, most of which falls within the 50-foot buffer zone to Salt Marsh. The Salt Marsh system occupies the remainder of the parcel and is adjacent to the Barlows Landing Conservation Area. Approximately 2,017 s.f. of the upland area is occupied by the existing dwelling and associated decks and steps. It is infeasible for the required soil absorption system, septic tank, required pre-treatment unit(s) and pump chamber to fit within the confines of the available space while maintaining necessary set-back distances to resource areas.

In summary, it would be detrimental to both environmental concerns and public health to propose a soil absorption at the above referenced locus. Any system proposed would provide only minimal separation between existing property lines, dwellings, and groundwater. As such, BEI is requesting that the Bourne Board of Health diverge from the goal of full compliance by granting the local upgrade approval requested above. The design allows for the best feasible upgrade within the borders of the lot, and has the least effect on public health, safety and the environment.



In addition to the above request, the following Local Upgrade Approval are requested in association with the proposed tight tank:

1. 15.405.1 (j) Local Upgrade Approval is requested for the reduction of a 12” separation from high groundwater to the inlet tee.

Enclosed are six (6) copies of the Variance Application, Existing and Proposed Nitrogen Loading Calculations, Subsurface Sewage Disposal Plan dated 10/18/2022, and \$125.00 for the Public Hearing Fee.

Thank you for your time and consideration on this matter. We look forward to reviewing this project with the Board of Health at the December 14, 2022 Public Hearing. Should you have any questions regarding this project or require any further information please contact the undersigned at either 508-833-0070 or zac@brackeneng.com or jason@brackeneng.com.

Sincerely,

BRACKEN ENGINEERING, INC.

A handwritten signature in black ink, appearing to read 'Zachary L. Basinski', written over a horizontal line.

Zachary L. Basinski, P.E., C.F.M.
Project Manager

A handwritten signature in black ink, appearing to read 'Jason Heyer', written over a horizontal line.

Jason Heyer
Engineering Technician

COMMONWEALTH OF MASSACHUSETTS

Board of Health, Bourne, MA.

APPLICATION FOR DISPOSAL SYSTEM CONSTRUCTION PERMIT

Application for a Permit to Construct() Repair() Upgrade() Abandon() - Complete System Individual Components

Location <u>85 Salt Marsh Lane</u>	Owner's Name <u>CNB Bristow, LLC</u>
Map/Parcel# <u>Map 43.1, Parcel 83</u>	Address <u>P.O. Box 1135, Pocasset, MA 02559</u>
Lot#	Telephone# <u>201-401-3298</u>
Installer's Name	Designer's Name <u>Zachary L. Basinski, P.E, Bracken Engineering, Inc.</u>
Address	Address <u>49 Herring Pond Road, Buzzards Bay, MA 02532</u>
Telephone#	Telephone# <u>508-833-0070 (Agent)</u>

Type of Building Single-family dwelling Lot Size 21,716+/- sq. ft.
 Dwelling - No. of Bedrooms 2 per Assessor's Records Garbage grinder ()
 Other - Type of Building _____ No. of persons _____ Showers (), Cafeteria ()
 Other Fixtures _____
 Design Flow (min. required) 110 gpd Calculated design flow 220 GPD Design flow provided 3000 gpd
 Plan: Date October 18, 2022 Number of sheets 1 Revision Date _____
 Title Proposed Sewage Disposal Plan in Bourne, MA
 Description of Soil(s) See Plan for full description
 Soil Evaluator Form No. T5 forms 11 & 12 Name of Soil Evaluator Robert E. Dewar, SE Date of Evaluation January 21, 2022

DESCRIPTION OF REPAIRS OR ALTERATIONS Installation of a new 3,000 gallon tight tank.

The undersigned agrees to install the above described Individual Sewage Disposal System in accordance with the provisions of TITLE 5 and further agrees to not to place the system in operation until a Certificate of Compliance has been issued by the Board of Health.

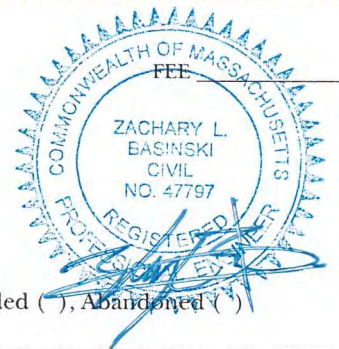
Signed _____ Date _____

Inspections _____

COMMONWEALTH OF MASSACHUSETTS

Board of Health, _____, MA.

CERTIFICATE OF COMPLIANCE



Description of Work: Individual Component(s) Complete System

The undersigned hereby certify that the Sewage Disposal System; Constructed (), Repaired (), Upgraded (), Abandoned ()
by: _____
at _____

has been installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/as-built plans relating to application No. _____, dated _____. Approved Design Flow _____ (gpd)

Installer _____

Designer: _____ Inspector: _____ Date: _____

The issuance of this permit shall not be construed as a guarantee that the system will function as designed.

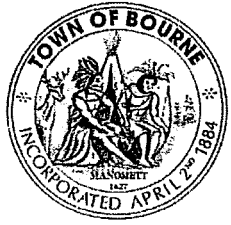
COMMONWEALTH OF MASSACHUSETTS

Board of Health, _____, MA.

DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permission is hereby granted to; Construct() Repair() Upgrade() Abandon() an individual sewage disposal system at _____ as described in the application for Disposal System Construction Permit No. _____, dated _____.

Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be met.



RECEIVED

By Bourne Health Department at 4:17 pm, Nov 02, 2022

Bourne Board of Health Application for Septic Variance Requests



In accordance with the established procedures of the Bourne Board of Health, this application for septic variances and waivers is relevant to requests for relief which have not been approved administratively and require approval at a public meeting. Please use the following application form for guidance on how to apply for variances and waivers which serve new construction, changes in use, or increases in flow to on-site sewage disposal systems with design flows of less than 10,000 gallons/ day.

1. Facility Name and Address:

Owner's Name	CNB Bristow LLC.
Facility's Street Address	85 Salt Marsh Lane (Map 43.1, Parcel 83)
Owner's Telephone Number	201-401-3298
Owner's E-mail Address	dukehound@gmail.com
Owner's Mailing Address	P.O. Box 1135, Bourne, MA 02559

2. Applicant or Preparer's Name and Address (if different from above):

Preparer's Name	Zachary L. Basinski, PE, CFM
Company	Bracken Engineering, Inc.
Telephone Number	508-833-0070
E-mail Address	zac@brackeneng.com
Mailing Address	49 Herring Pond Road, Buzzards Bay
State/ Zip Code	MA / 02532

3. Type of Facility (check all that apply):

- Residential Commercial Institutional School Industrial

4. Describe Facility (i.e. single-family dwelling, 45 seat restaurant): _____

Single-family dwelling

5. Type of System Proposed (check all that apply):

- Conventional Title 5 I/A System
 Pumped System Gravity System Pressure Dosed Other Tight Tank

6. Describe the proposed septic system components: 3,000 gallon septic tank

7. Design Flow per 310 CMR 15.203 (in gallons/ day):

Design flow of proposed system: 110 GPD @ 2 BDR = 220 GPD
Total design flow of facility: 220

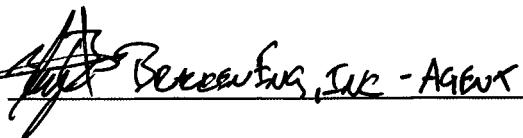
8. Enclose a letter of request for variances which makes reference to the specific provisions of Title 5 and the Board Bourne of Health Regulations for which a variance is sought. Please use this opportunity to demonstrate compliance with 310 CMR 15.410, and to justify the relevant facts and circumstances of the individual case. Note that with regard to variances for new construction, enforcement of the provision from which a variance is sought must be shown to deprive the applicant of substantially all beneficial use of the subject property in order to be manifestly unjust. Be sure to explain why full compliance with the applicable regulations is not feasible, and how a level of environmental protection that is at least equivalent to that provided under Title 5 and the Board of Health Regulations can be achieved without strict application of the regulations.

9. In order for this Application to be deemed complete, it must be accompanied by all of the following:

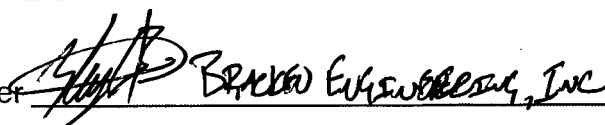
- Application Fees paid to the Town of Bourne.
- Letter of request (see samples)
- Six sets of complete plans and specifications. One with original stamp of design engineer.
- Nitrogen Loading Calculation Sheet(s)
- If abutter notification is required, one of each of the following must be submitted:
 - A copy of the certified list of abutters from the Assessor's Department
 - Sample letter for abutter notification postmarked 10 days prior to meeting date
 - Proof of certified mailing (receipts) meeting requirements of 310 CMR 15.405(2)
- Proposals for installation of Innovative/ Alternative systems must be accompanied by:
 - A copy of the Certification for Use including technology specific conditions
 - Draft disclosure notice for the I/A technology to be recorded in the deed
- Hydrogeologic data for all leaching facilities proposed within 100ft of a wetland/ watercourse
- Percentage of Increase Worksheet is required for waivers or increases in flow

10. Certification:

"I certify under penalty of law that this document and all attachments, to the best of my knowledge and belief, are true, accurate, and complete. I am aware that there may be significant consequences for submitting false information, including, but not limited to, penalties or fine and/or imprisonment for deliberate violations."

Facility Owner's Signature  Bracken Engineering, Inc - AGENT Date 10/24/2022

Print Name _____

Signature of Preparer  Bracken Engineering, Inc Date 10/24/2022

Print Name Zachary L. Basinski, PE, CFM
Bracken Engineering, Inc. (AGENT)

For Office Use Only

Completed Application Received: _____

Reviewed By: _____

Hearing Date: _____

Permit #: _____

Circle all that apply:

Approved

Continued

Disapproved

Other

Notes: _____

Doc:1,414,675 12-16-2020 8:59
CtF#:224768
BARNSTABLE LAND COURT REGISTRY

DEED

CHARLES E. BRISTOW, JR., a married man, of 100 Lakeshore Drive, #554, North Palm Beach, Florida, in consideration of **ONE DOLLAR (\$1.00)**, paid, grant to **CNB BRISTOW, LLC**, a Massachusetts limited liability company, having an address of 85 Salt Marsh Lane, Pocasset, Massachusetts, with **QUITCLAIM COVENANTS**, that certain parcel of land situate in Bourne in the County of Barnstable in the Commonwealth of Massachusetts, bounded and described as follows.

LOTS A and B

PLAN 20407-A

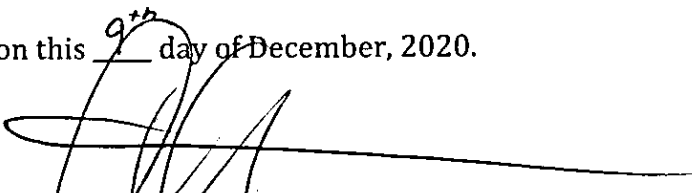
There is appurtenant to said lots a right of way over the Way shown on said plan to Beach Street, said right of way to be used in common with others entitled thereto for all purposes for which rights of way are commonly used.

For Grantors' title see Certificate of Title No. 163465 recorded at the Barnstable County Registry of Deeds Land Court Records and deed recorded as Document No. 850970-1.

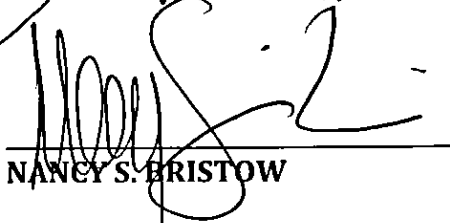
Property Address: 85 Salt Marsh Lane, Bourne (Pocasset), MA 02559

I, Charles E. Bristow, Jr., hereby release any and all rights to Homestead in the premises conveyed hereunder and affirm that there are no other persons entitled to the protection of the Homestead Act., with the exception Nancy S. Bristow, my spouse, who also signs this instrument releasing any and all rights to Homestead she may have in the premises hereby conveyed.

EXECUTED as a sealed instrument on this 9th day of December, 2020.



CHARLES E. BRISTOW, JR.

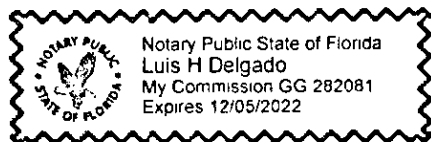


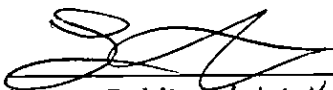
NANCY S. BRISTOW

STATE OF FLORIDA

COUNTY OF Palm Beach

On this 9th day of December, 2020, before me, the undersigned Notary Public, personally appeared **Charles E. Bristow, Jr. and Nancy S. Bristow** and proved to me through satisfactory evidence of identification, which was FL. Drivers Licenses, to be the persons whose names are signed on the preceding or attached document, and acknowledged to me that they each signed it voluntarily for its stated purpose.




Notary Public Luis H. DELGADO
My commission expires: 12/05/2022

DEED

CHARLES E. BRISTOW, JR., a married man, of 100 Lakeshore Drive, #554, North Palm Beach, Florida, in consideration of **ONE DOLLAR (\$1.00)**, paid, grant to **CNB BRISTOW, LLC**, a Massachusetts limited liability company having an address of 85 Salt Marsh Lane, Pocasset, Massachusetts, with **QUITCLAIM COVENANTS**, the land in Bourne, Barnstable County, Massachusetts in the Village of Pocasset together with the buildings and improvements thereon more particularly described as follows.

Parcel I:

The land in Bourne, Massachusetts, in the Village of Pocasset, and being Lot 28 as shown on that plan entitled "May 1945 Amended Plan of Land in Bourne, Mass. (Pocasset) Platted for Charles H. Sherman, et al, August 1939. The Frank T. Westcott Co. Engrs." which plan is recorded with Barnstable Registry of Deeds and to which reference may be had for a more particular description of the granted premises.

Parcel II:

The land in Bourne, Barnstable County, Massachusetts, in that part called Pocasset, and being Lots No. A1 and A2 as shown on that plan entitled "Plan of Land of Charles and Louise Myrick, situated in Pocasset, Town of Bourne, June 1946, Allen Beale, C.E.", which plan is recorded with Barnstable County Registry of Deeds in Plan Book 75, Page 35, and to which reference may be had for a more particular description of the granted premises.

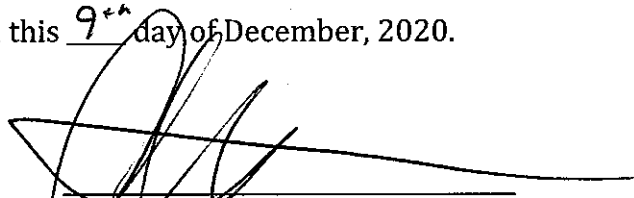
Said premises are conveyed together with a right of way to be used in common with others entitled thereto over the way as shown on said plan which lies between Lots A1 and A2 and runs northerly to Beach Avenue.

Property Address: 85 Salt Marsh Lane, Pocasset, MA

I, Charles E. Bristow, Jr., hereby release any and all rights to Homestead in the premises conveyed hereunder and affirm that there are no other persons entitled to the protection of the Homestead Act., with the exception Nancy S. Bristow, my spouse, who also signs this instrument releasing any and all rights to Homestead she may have in the premises hereby conveyed.

Parcels I and Parcel II being the same premises conveyed to this Grantor be deeds recorded at the Barnstable County Registry of Deeds in Book 14461, Page 325, and Book 14461, Page 327.

EXECUTED as a sealed instrument on this 9th day of December, 2020.



CHARLES E. BRISTOW, JR.

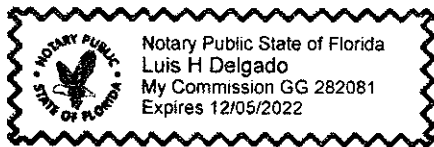



NANCY S. BRISTOW

STATE OF FLORIDA

COUNTY OF Palm Beach

On this 9th day of December, 2020, before me, the undersigned Notary Public, personally appeared **Charles E. Bristow, J. and Nancy S. Bristow** and proved to me through satisfactory evidence of identification, which was FL. DRIVERS LICENSES, to be the persons whose names are signed on the preceding or attached document, and acknowledged to me that they each signed it voluntarily for its stated purpose.





Notary Public LUIS H. DELGADO
My commission expires: 12/05/2022

Deeds/Bristow New Pocasset Deed

Algodora AM 03:03
148 Pleasant
Carroll
03/03/2021

BARNSTABLE REGISTRY OF DEEDS
John F. Meade, Register



Terri A. Guarino
Health Agent

TOWN OF BOURNE BOARD OF HEALTH

24 Perry Avenue
Buzzards Bay, MA 02532
www.townofbourne.com/health
Phone (508) 759-0600 ext. 1513
Fax (508) 759-0600



RECEIVED
By Bourne Health Department at 4:18 pm, Nov 02, 2022

GRANT OF TITLE 5 BEDROOM COUNT DEED RESTRICTION

This Grant of Title 5 Bedroom Count Deed Restriction is made as of _____ day of _____, 2022 by CNB Bristow, LLC c/o Charles E. Bristow, Jr. (“Grantor”), of 85 Salt Marsh Lane, Bourne, Barnstable County, MA pursuant to M.G.L. c. 21A, §13 and 310 CMR 15.000 (collectively, "Title 5").

WITNESSETH

WHEREAS, Grantor, being the owner in fee simple of that certain parcel of land known as 85 Salt Marsh Lane located in Bourne, Barnstable County, Massachusetts, with the buildings and improvements thereon, pursuant to a deed from Charles E. Bristow, Jr., to Grantor, dated 12/16/2020 Certificate of Title No. 224768 issued by the Land Registration Office of the Barnstable County Registry District, said parcel of land shown as Lots A & B on Land Court Plan No. 20407-A, on file with the Land Registration Office of Barnstable County Registry District and pursuant to a deed from Charles E. Bristow, Jr. to Grantor, dated 12/16/2020, and recorded with Barnstable County Registry of Deeds in Book 33581, Page 256 being shown as Lot 28 on a plan entitled, May 1945 Amended Plan of Land in Bourne, Mass. (Pocasset) Platted for Charles H. Sherman, et al, August 1939. The Frank T. Westcott Co., Engrs.”, recorded with Barnstable County Registry of Deeds in Plan Book 81, Page 61 and Lots No. A1 and A2 shown on that plan entitled “Plan of Land of Charles and Louise Myrick, situated in Pocasset, Town of Bourne, June 1946, Allen Beale, C.E., recorded with Barnstable County Registry of Deeds in Plan Book 75, Page 35 (“Property”); and

WHEREAS, Grantor desires to restrict the number of bedrooms, as the term bedroom is defined at 310 CMR 15.002 ("Bedroom") and the Board of Health regulation dated effective April 24, 1992 regarding bedroom definition, through the granting of this Title 5 Bedroom Count Deed Restriction;

NOW, THEREFORE, Grantor does hereby GRANT to the Town of Bourne of Barnstable County, Massachusetts, a municipal corporation located in Barnstable County, having a mailing address of 24 Perry Avenue, Buzzards Bay, Massachusetts, and acting by and through its Board of Health (“Local Approving Authority”), for nominal and nonmonetary consideration, the sufficiency and receipt of which are hereby acknowledged, with QUITCLAIM COVENANTS, a TITLE 5 BEDROOM COUNT DEED RESTRICTION (“Restriction”) in, on, upon, through, over and under the Property.

Said Restriction operates to restrict the Property as follows:

1. Restriction. Grantor hereby restricts the total number of Bedrooms in, on, upon, through, over and under the Property to **Two Bedrooms**, such that at no time shall there exist more than **Two Bedrooms** in, on, upon, through, over and under said Property.

2. Severability. Grantor hereby agrees that, in the event that a court or other tribunal determines that any provision of this instrument is invalid or unenforceable:

- (i) That such provision shall be deemed automatically modified to conform to the requirements for validity and enforceability as determined by such court or tribunal; or

(ii) That any such provision, by its nature, cannot be so modified, shall be deemed deleted from this instrument as though it had never been included herein.

In either case, the remaining provisions of this instrument shall remain in full force and effect.

3. Enforcement. Grantor expressly acknowledges that a violation of the terms of this Restriction could result in the following:

(i) upon determination by a court of competent jurisdiction, in the issuance of criminal and civil penalties, and/or equitable remedies, including, but not limited to, injunctive relief, such injunctive relief could include the issuance of an order to modify or remove any improvements constructed upon the Property in violation of the terms of this Restriction; and

(ii) in the initiation of an enforcement action and/or assessment of penalties by the Bourne Board of Health and/or the Massachusetts Department of Environmental Protection, a duly constituted agency with a principal office located at One Winter Street, Boston, MA 02108 (DEP), to enforce the terms of this Restriction pursuant to Title 5; M.G.L. c.111, §§ 2C, 17, 31, 122, 123, 125, 127A-O, inclusive, and 129; and M.G.L. c. 83, §11.

4. Provisions to Run with the Land. The rights, liabilities, agreements and obligations created under this Restriction shall run with the Property and any portion thereof for the term of this Restriction. Grantor hereby covenants for [himself/herself/itself] and [his/her/its] executors, administrators, heirs, successors and assigns, to stand seized and to hold title to the Property and any portion thereof subject to this Restriction.

The rights granted to the Bourne Board of Health, its successors and assigns, do not provide, however, that a violation of this Restriction shall result in a forfeiture or reversion of Grantor's title to the Property.

5. Concurrence Presumed. It is agreed that:

(i) Grantor and all parties claiming by, through, or under Grantor agree to and shall be subject to the provisions of this Restriction; and

(ii) Grantor and all parties claiming by, through, or under Grantor, and their respective agents, contractors, sub-contractors and employees, agree that the Restriction herein established shall be adhered to and shall not be violated, and that their respective interests in the Property shall be subject to the provisions herein set forth.

6. Incorporation into Deeds, Mortgages, Leases, and Instruments of Transfer. Grantor hereby agrees to incorporate this Restriction, in full or by reference, into all deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer by which an interest and/or a right to use the Property, or any portion thereof, is conveyed.

7. Recordation. Grantor shall record and/or register this Restriction with the appropriate Registry of Deeds and/or Land Registration Office within 30 days of receiving the approved Restriction from the Local Approving Authority. Grantor shall file with the Bourne Board of Health and the DEP a certified Registry copy of this Restriction as recorded and/or registered within 30 days of its date of recordation and/or registration.

8. Amendment and Release. This Restriction may be amended only upon the approval and acceptance of such amendment by the Local Approving Authority. Release of this Restriction shall be granted by the Local Approving Authority upon (i) Grantor's request of such release; and (ii) the Property being connected to a municipal sewer system and the septic system serving the Property being abandoned in accordance with 310 CMR 15.354. Any such amendment or release shall be recorded and/or registered with the appropriate Registry of Deeds and/or Land Registration Office and a certified Registry copy of said amendment or release shall be filed with the Bourne Board of Health and the DEP within 30 days of its date of recordation and/or registration.

9. Term. This Restriction shall run in perpetuity and is intended to conform to M.G.L. c.184, §26, as amended.

10. Rights Reserved. This Restriction is granted to the Bourne Board of Health. It is expressly agreed that acceptance of this Restriction by the Bourne Board of Health shall not operate to bar, diminish, or in any way affect any legal or equitable right of the Bourne Board of Health or of DEP to issue any future order with respect to the Property or in any way affect any other claim, action, suit, cause of action, or demand which the Bourne Board of Health or DEP may have with respect thereto. Nor shall acceptance of the Restriction serve to impose any obligations, liabilities, or any other duties upon the Bourne Board of Health.

11. Effective Date. This Restriction shall become effective upon its recordation and/or registration with the appropriate Registry of Deeds and/or Land Registration Office.

12. No construction permits shall be issued for the Property until a certified Registry copy is submitted to the office of the Bourne Board of Health unless written approval is otherwise granted by the Board of Health.

COMMONWEALTH OF MASSACHUSETTS

_____ SS

CNB Bristow, LLC c/o Charles E. Bristow, Jr.

Witness my hand and seals this _____, 2022.

On this _____ day of _____ 20____, before me, the undersigned notary public, personally appeared: _____ and proved to me through satisfactory evidence of identification which were _____ to be the person(s) whose name(s) are signed on the proceeding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Notary Public
My Commission Expires:

Approved and Accepted By:

_____ Date: _____
Terri A. Guarino, R.S., C.H.O
Health Agent
Town of Bourne

Town of Bourne

Conservation Commission

Nitrogen Loading Calculation Sheet for Residential Housing

The following calculation sheet is based upon Technical Bulletin 91-001 issued by the Cape Cod Commission and deals with nitrate nitrogen (NO₃-N) Use the information from your PLAN OF RECORD to provide the following:

85 Salt Marsh Lane (Proposed Conditions)

Number of Bedrooms (Title 5 Definition) (Tight Tank = No bedrooms)	=	<input type="text" value="0"/>	Bedrooms
Lot Size (in square feet of upland areas)	=	<input type="text" value="12,855"/>	sq.ft. Upland
Impervious Surfaces;**roof area= <input type="text" value="2,017"/> sq.ft.	**Paved Area =	<input type="text" value="1,771"/>	sq.ft.
Natural Area = lot area minus all impervious surfaces	=	<input type="text" value="9,067"/>	sq.ft.
Lawn Area in sq. ft.	=	<input type="text" value="7,223"/>	sq.ft.

TITLE 5 FLOW = 110 GAL./ DAY PER BEDROOM

WASTEWATER FLOWS (NITROGEN LOAD & WATER LOAD)

(No Nitrogen Load from Wastewater due to installation of Tight Tank)

Nitrogen from Title 5 design = 14,572 mg NO₃-N / day / bedroom: or 7911 mg NO₃-N / day/ bedroom with IA Treatment

Water from Title 5 design = 416.3 H₂O / day / bedroom

1a) Number of bedrooms = x 14572 = 0.00 mg. NO₃-N / day

1b) Number of bedrooms = x 416 = 0.00 L H₂O / day

Actual Nitrogen load = 6071.5 mg NO₃-N / day/ bedroom: 3296 mg NO₃-N / day/ bedroom with IA Treatment

Actual Water load = 173.5 L H₂O / day / bedroom

*Note: This assumes 2.5 people / unit average occupancy within the Town

2a) Number of bedrooms = x 6071.5 = 0.00 mg. NO₃-N / day

2b) Number of bedrooms = x 173.5 = 0.00 L H₂O / day

IMPERVIOUS SURFACES (NITROGEN LOAD & WATER LOAD)

NO₃-N load number sq. ft. of roof surface X 0.19395 mg NO₃-N / sq. ft.

H₂O load number sq. ft. of roof surface X 0.2586 L / sq. ft.

3a) Roof surface = sq. ft. X 0.19395 = 391.20 mg NO₃-N

3b) Roof surface = sq. ft. X 0.2586 = 521.60 L H₂O / day

NO₃-N load number sq. ft. of paved surface X 0.388 mg / sq. ft.

H₂O load number sq. ft. of paved surface X 0.2586 L / sq. ft.

4a) NO₃-N = sq. ft. paved surface X 0.388 mg / sq. ft. = 687.15 mg NO₃-N

4b) H₂O = sq. ft. paved surface X 0.2586 L / sq. ft. = 457.98 L H₂O

LAWN NITROGEN LOADING = 0.933 mg / sq. ft. lawn surface

$$5) \text{ sq. ft. of lawn} = 7223 \times 0.933 = 6739.06 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 9067 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 9067 \times \text{water recharge factor} = 1231.30 \text{ L} \\ (0.1358 \text{ L / sq. ft. for Bourne})$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
0		391.20		687.15		6739.06	7817.40 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
0		521.60		457.98		1231.30	2210.88 L H ₂ O / day

7c) DIVIDE 7a by 7b = 3.5 ppm NO₃-N*****

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
0		391.20		687.15		6739.06	<u>7817.40</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

2b	(+)	3b	(+)	4b	(+)	6	
0		521.60		457.98		1231.3	<u>2210.88</u> L H ₂ O / day

8c) DIVIDE 8a by 8b = 3.5 ppm NO₃-N*****

FINAL CALCULATION ADD 7c & 8c (ppm) = 7.1 divide by 2 = 3.5 ppm NO₃-N

This is the actual nitrate nitrogen load for the project as designed. The target for coastal areas is 5 ppm nitrate nitrogen. Certain critical embayments may require a LOWER figure to prevent degradation.

*****If your nitrate nitrogen load exceeds the target limit **USE A SECOND CALCULATION SHEET TO SHOW ALTERNATIVES IN TRYING TO ACHIEVE THE 5 PPM NITRATE NITROGEN LEVEL*****

Town of Bourne

Conservation Commission

Nitrogen Loading Calculation Sheet for Residential Housing

The following calculation sheet is based upon Technical Bulletin 91-001 issued by the Cape Cod Commission and deals with nitrate nitrogen (NO₃-N) Use the information from your PLAN OF RECORD to provide the following:

85 Salt Marsh Lane (Existing Conditions)

Number of Bedrooms (Title 5 Definition)	=	2	Bedrooms
Lot Size (in square feet of upland areas)	=	12,855	sq.ft. Upland
Impervious Surfaces;**roof area	=	2,017	sq.ft.
**Paved Area	=	1,771	sq.ft.
Natural Area = lot area minus all impervious surfaces	=	9,067	sq.ft.
Lawn Area in sq. ft.	=	7,223	sq.ft.

TITLE 5 FLOW = 110 GAL./ DAY PER BEDROOM

WASTEWATER FLOWS (NITROGEN LOAD & WATER LOAD)

Nitrogen from Title 5 design = 14,572 mg NO₃-N / day / bedroom: or 7911 mg NO₃-N / day/ bedroom with IA Treatment

Water from Title 5 design = 416.3 H₂O / day / bedroom

1a) Number of bedrooms = 2 x 14572 = 29144.00 mg. NO₃-N / day

1b) Number of bedrooms = 2 x 416 = 832.00 L H₂O / day

Actual Nitrogen load = 6071.5 mg NO₃-N / day/ bedroom: 3296 mg NO₃-N / day/ bedroom with IA Treatment

Actual Water load = 173.5 L H₂O / day / bedroom

*Note: This assumes 2.5 people / unit average occupancy within the Town

2a) Number of bedrooms = 2 x 6071.5 = 12143.00 mg. NO₃-N / day

2b) Number of bedrooms = 2 x 173.5 = 347.00 L H₂O / day

IMPERVIOUS SURFACES (NITROGEN LOAD & WATER LOAD)

NO₃-N load number sq. ft. of roof surface X 0.19395 mg NO₃-N / sq. ft.

H₂O load number sq. ft. of roof surface X 0.2586 L / sq. ft.

3a) Roof surface = 2017 sq. ft. X 0.19395 = 391.20 mg NO₃-N

3b) Roof surface = 2017 sq. ft. X 0.2586 = 521.60 L H₂O / day

NO₃-N load number sq. ft. of paved surface X 0.388 mg / sq. ft.

H₂O load number sq. ft. of paved surface X 0.2586 L / sq. ft.

4a) NO₃-N = 1771 sq. ft. paved surface X 0.388 mg / sq. ft. 687.15 mg NO₃-N

4b) H₂O = 1771 sq. ft. paved surface X 0.2586 L / sq. ft. 457.98 L H₂O

LAWN NITROGEN LOADING = 0.933 mg / sq. ft. lawn surface

$$5) \text{ sq. ft. of lawn} = 7223 \times 0.933 = 6739.06 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 9067 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 9067 \times \text{water recharge factor} = 1231.30 \text{ L} \\ \text{(0.1358 L / sq. ft. for Bourne)}$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
29144		391.20		687.15		6739.06	36961.40 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
832		521.60		457.98		1231.30	3042.88 L H ₂ O / day

$$7c) \text{ DIVIDE 7a by 7b} = \underline{12.1} \text{ ppm NO}_3\text{-N}^{*****}$$

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
12143		391.20		687.15		6739.06	<u>19960.40</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

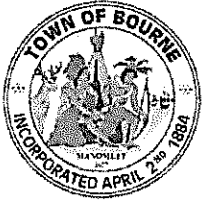
2b	(+)	3b	(+)	4b	(+)	6	
347		521.60		457.98		1231.3	<u>2557.88</u> L H ₂ O / day

$$8c) \text{ DIVIDE 8a by 8b} = \underline{7.8} \text{ ppm NO}_3\text{-N}^{*****}$$

$$\text{FINAL CALCULATION ADD 7c \& 8c (ppm)} = \underline{20.0} \text{ divide by 2} = \underline{10.0} \text{ ppm NO}_3\text{-N}$$

This is the actual nitrate nitrogen load for the project as designed. The target for coastal areas is 5 ppm nitrate nitrogen. Certain critical embayments may require a LOWER figure to prevent degradation.

*****If your nitrate nitrogen load exceeds the target limit **USE A SECOND CALCULATION SHEET TO SHOW ALTERNATIVES IN TRYING TO ACHIEVE THE 5 PPM NITRATE NITROGEN LEVEL*****

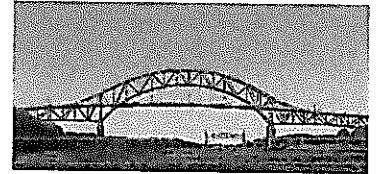


Michael Leitzel, Chairperson
Ellen Doyle Sullivan, Clerk
Donna Barakauskas, Member

TOWN OF BOURNE
Board of Assessors
24 Perry Avenue
Buzzards Bay, MA 02532
(508) 759-0600 Ext. 1510 ♦ Fax (508) 759-8026

RECEIVED

By Bourne Health Department at 4:18 pm, Nov 02, 2022



Rui Pereira, MAA
Director of Assessing

October 19, 2022

CNB Bristow, LLC
c/o Bracken Engineering, Inc.
49 Herring Pond Rd.
Buzzards Bay, MA 02532

Re: Abutters List for Map 43.1 Parcel 83
Property address: 85 Salt Marsh Lane

As required by the Bourne Board of Health, pursuant with section 310 CMR 15.411(1), this is to certify that the attached list of names and addresses constitutes all of the parties in interest as shown on the most recent tax list of the Town of Bourne.

Abutting properties are: Map 43.1 Parcels 81, 85 & 242; Map 43.3 Parcels 12 & 17.

Your payment of \$10.00 has been received by the Bourne Assessor's Office.

Please be advised that this abutters list is only good for 30 days from the date on this letter. Expired abutters list can be recertified for an additional filing fee.

See enclosed for abutters mailing addresses.

Board of Assessors

*Ellen Doyle Sullivan -
Donna Barakauskas
Michael Leitzel*

Extract: ABUTTERS LIST
 Database: LIVE
 Filter: Key IN 9321,9092,9090,9237,9317
 Sort:

Report #24: Owner Listing Report
 Fiscal Year 2023

Bourne MA

Key	Parcel ID	Owner	Location	LC/CI	Bk-Pa(Cert) /Dt	Mailing Street	Mailing City	ST	Zip Cd/County
9090	43.1-81-0	CNB BRISTOW LLC	85 SALT MARSH LN	Y	224768 1320 12/16/2020	PO BOX 1135	POCASSET	MA	02559
9092	43.1-85-0	PARRY DOROTHY J TR SNUFFY REALTY TR	75 SALT MARSH LN	N	11732/90 1320 9/30/1998	10 PLAIN ST EAST	BERKLEY	MA	02779-1113
9237	43.1-242-0	MORRIS KWAME 2015 REV TR (1/2) TRACEY MCLEOD 2015 REV TR (1/2)	94 SALT MARSH LN	N	35007/136 1010 3/29/2022	270 BUCKMINSTER RD	BROOKLINE	MA	02445
9317	43.3-12-0	WITT JEFFREY S & LAURA L	121 SALT MARSH LN	N	31053/110 1010 1/30/2018	11 SHERIDAN ROAD	WELLESLEY HILLS	MA	02481
9321	43.3-17-0	TOWN OF BOURNE CONSERVATION COMMISSION	200 SHORE RD	N	N/A/N/A 9320 11/10/1972	24 PERRY AVENUE	BUZZARDS BAY	MA	02532

Total Records 5

MAIN OFFICE:

49 Herring Pond Road
Buzzards Bay, MA 02532
TEL: (508) 833-0070
FAX: (508) 833-2282



NANTUCKET OFFICE:

19 Old South Road
Nantucket, MA 02554
TEL: (508) 325-0044
www.brackeneng.com

November **xx**, 2022

CERTIFIED MAIL

RE : Notice of Public Hearing

Dear Abutter:

In accordance with the State Environmental Code, Title 5: 310 CMR 15.00, you are hereby notified that the Property Owner, **CNB Bristow LLC**, has requested a hearing before the Bourne Board of Health for relief from the Bourne Board of Health Regulations for the installation of an upgraded Septic System. The location of the property for which approval is sought is **85 Salt Marsh Lane (Map 43.1, Parcel 83), Pocasset** where you are listed as an abutter. At said hearing the Board will discuss and possibly vote on:

- **15.405.3 (b) - Local Upgrade Approval is requested for the use of a tight tank in accordance with the provisions of 310CMR 15.260 (Title 5).**
- **15.405.1 (j) – Local Upgrade Approval is requested for the reduction in the requirement of a 12” separation between the inlet tee and high groundwater.**

This hearing is tentatively scheduled for Wednesday, December 14th at **5:30 p.m.** in Conference Room #2 at the Bourne Veteran’s Memorial Community Building, 239 Main Street, Buzzards Bay. Information regarding the hearing may be available for your review one week prior to the meeting by contacting the Bourne Health Department at 508-790-0600, Ext. 1513, Monday through Friday from 8:30 a.m. until 4:30 p.m.

Meeting agendas are posted on the Town of Bourne website, www.townofbourne.com/health no less than 48 hours in advance of the hearing. *Please confirm the date, time, and location of the meeting with the Town, in case of any changes.* Should you have any questions or concerns, please do not hesitate to contact the undersigned at zac@brackeneng.com or the Bourne Health Department at 508-790-0600, Ext. 1513.

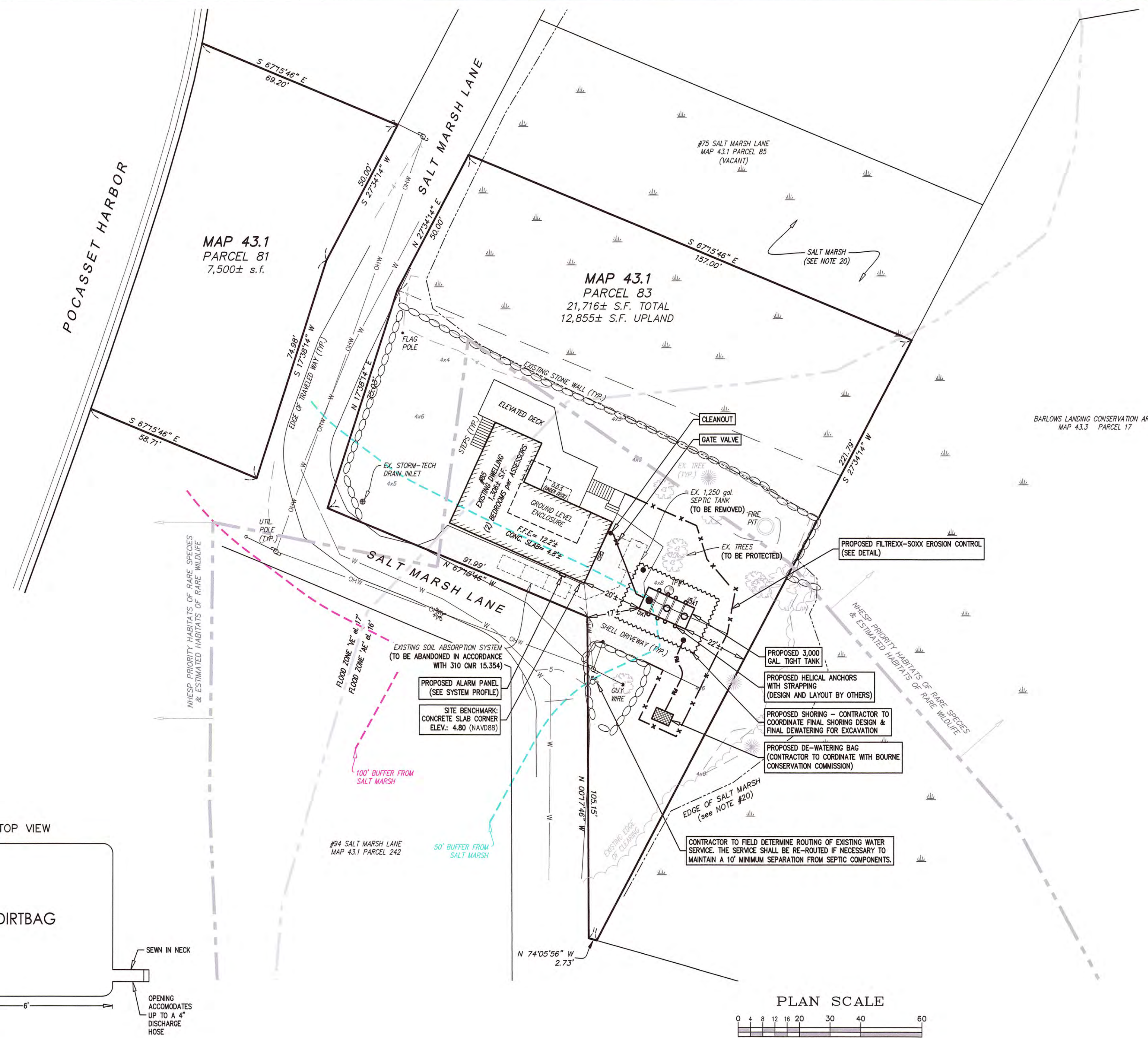
Sincerely,

BRACKEN ENGINEERING INC.

A handwritten signature in black ink, appearing to read 'Zachary L. Basinski', is written over a horizontal line.

Zachary L. Basinski, PE, C.F.M
Project Manager
Agent for the Applicant

MASS COORDINATE SYSTEM
MAINLAND ZONE MERIDIAN &
NAVD 1988 VERTICAL DATUM
DETERMINED USING A
CARLSON BRX7 GPS RTK UNIT
COLLECTION DATE 08/17/2021

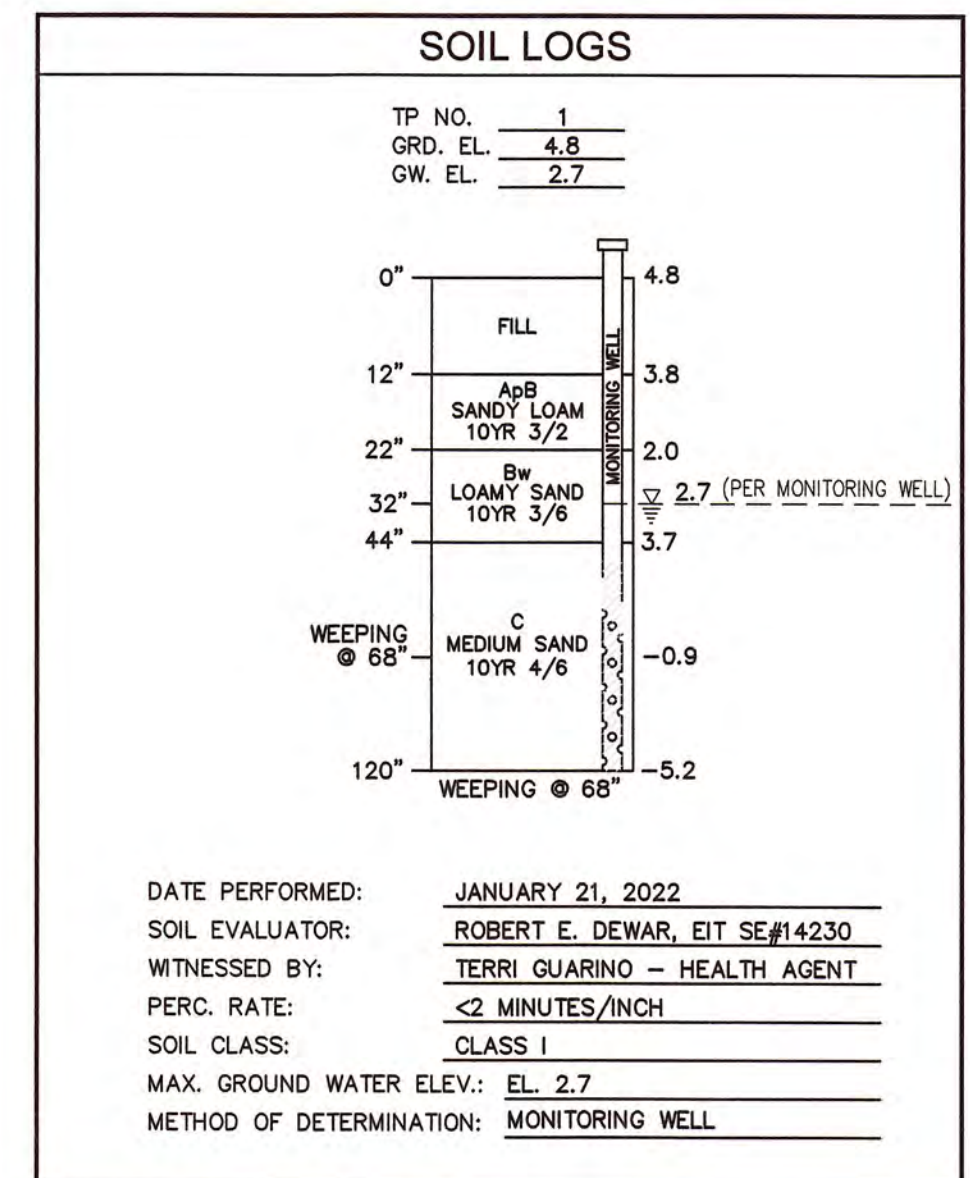
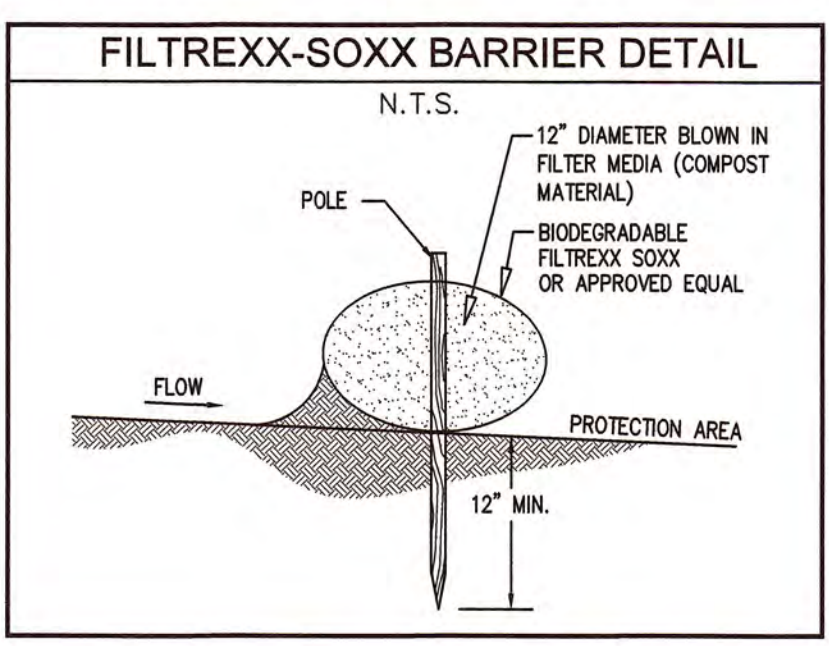


RECEIVED
By Bourne Health Department at 4:19 pm, Nov 02, 2022

LOCAL UPGRADE APPROVAL REQUESTED:

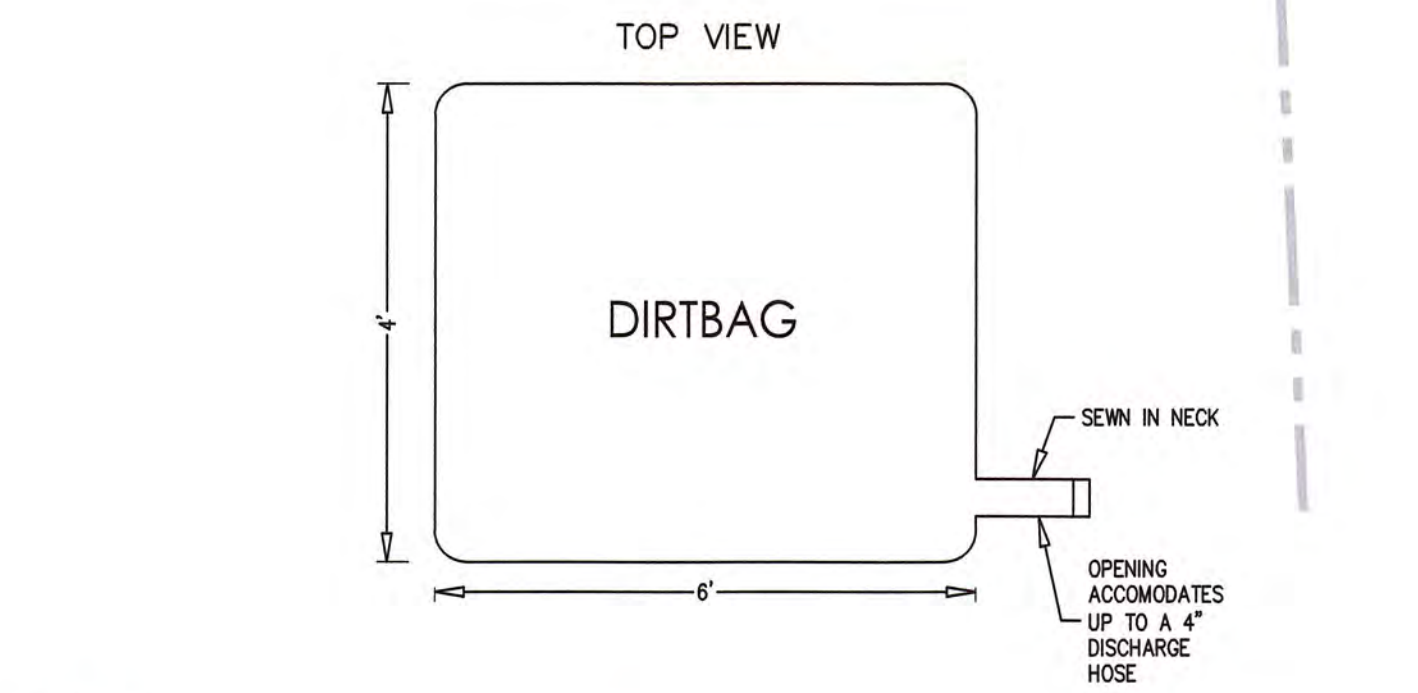
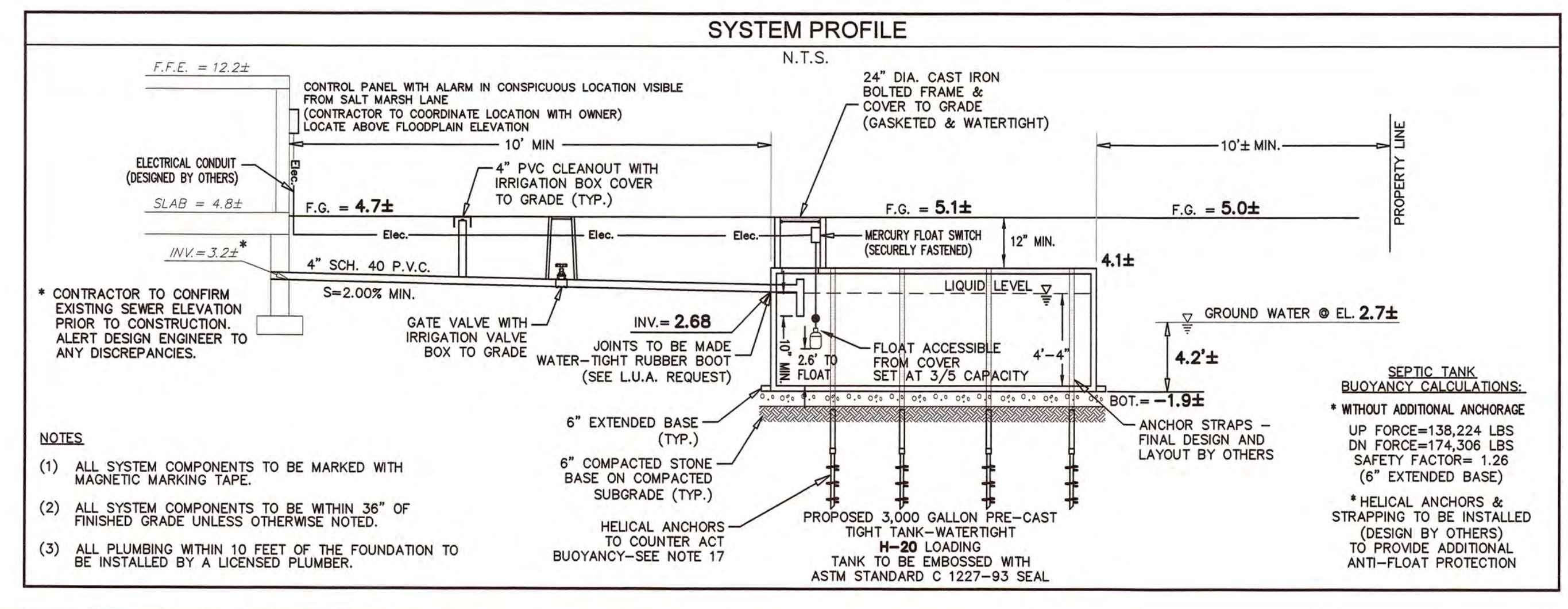
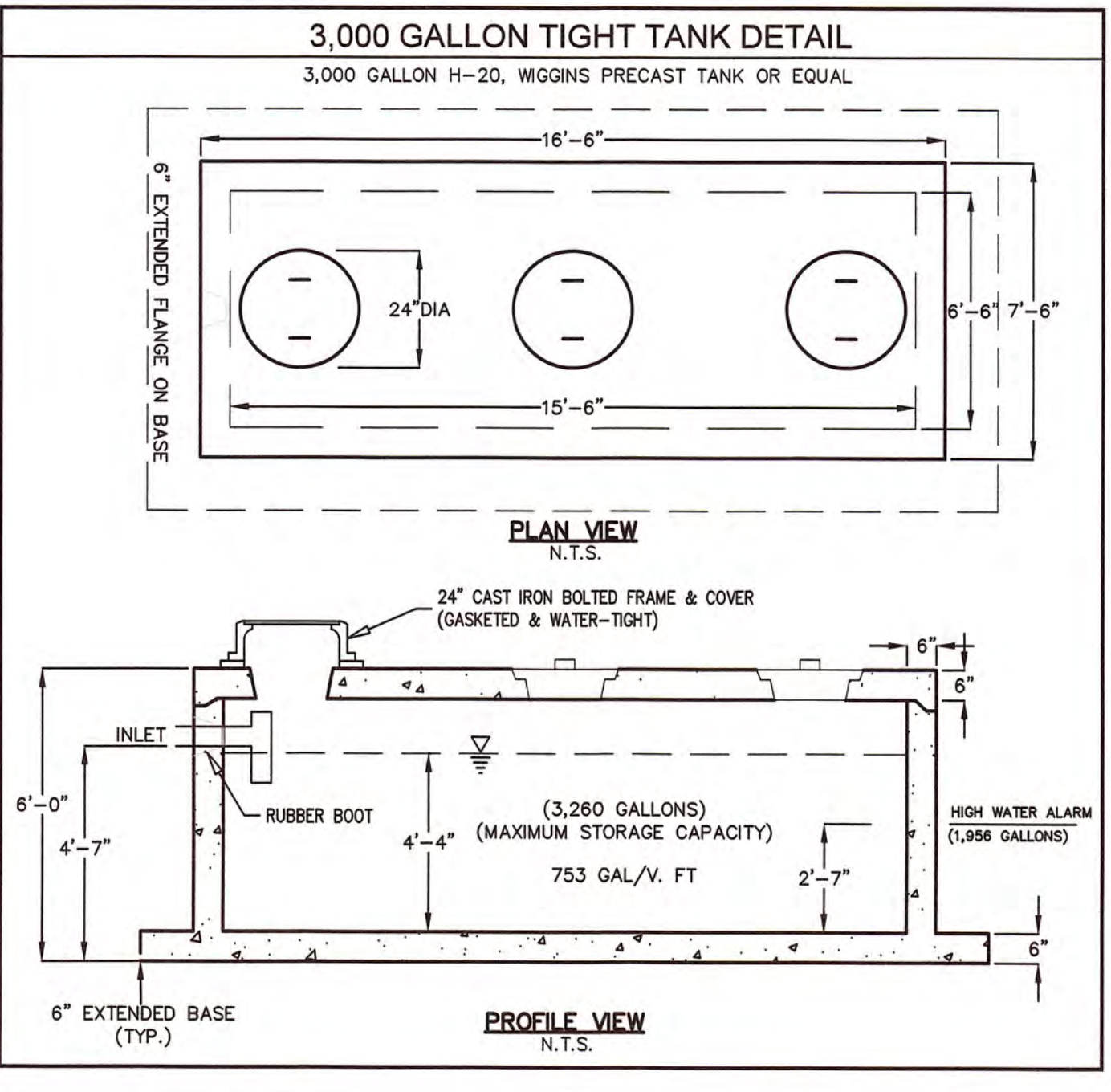
15.405.3(b) - LOCAL UPGRADE APPROVAL IS REQUESTED FOR THE USE OF A TIGHT TANK IN ACCORDANCE WITH THE PROVISIONS OF 310 CMR 15.260.

15.405.1(j) - LOCAL UPGRADE APPROVAL IS REQUESTED FOR THE REDUCTION OF A 12" SEPARATION FROM HIGH GROUNDWATER TO THE INLET TEE.



DESIGN CALCULATIONS

NUMBER OF BEDROOMS:	2 BEDROOMS
DESIGN FLOW REQUIRED:	110 GPD PER BEDROOM = 220 GPD
TIGHT TANK PROVIDED:	500% DAILY FLOW = 1,100 GPD (2,000 GAL. MIN.)
TIGHT TANK REQUIRED:	3,000 GALLONS
PUMPING SCHEDULE:	IN ACCORDANCE WITH APPROVAL

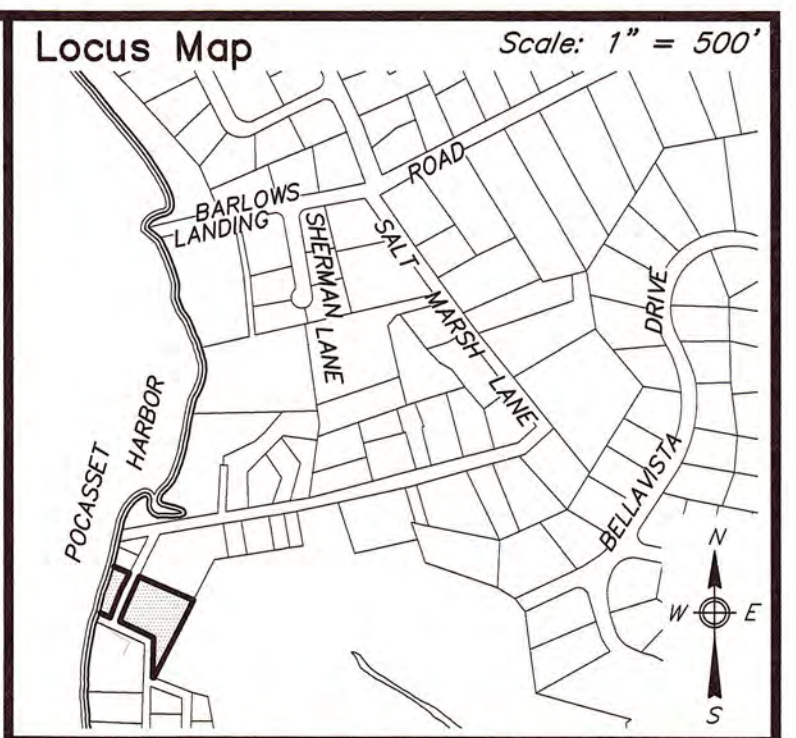


- NOTES:**
- DIRTBAG TO BE MANUFACTURED BY ACF ENVIRONMENTAL OR APPROVED EQUAL.
 - DIRTBAG TO BE PLACED ON STRAW BASE.
 - SEAMS MUST BE HIGH STRENGTH DOUBLE STITCHED "J" SEAMS.
 - SEAM MUST BE TESTED UNDER ASTM-4884.

DB55 FABRIC PROPERTIES

PROPERTY	TEST METHOD	MARV
TENSILE STRENGTH	ASTM D-4632	205 LBS
ELONGATION	ASTM D-4632	50%
CBR PUNCTURE	ASTM D-6241	525 LBS
UV RESISTANCE	ASTM D-4355	70%
AOS	ASTM D-4751	80 US SIEVE
PERMITTIVITY	ASTM D-4491	1.4 SEC-1
FLOW RATE	ASTM D-4491	90 GPM/SF

ACF
CORPORATE OFFICE:
2831 CARROLL ROAD
RICHMOND, VA 23234
PH 804-480-2630
WWW.ACFENVIRONMENTAL.COM



- BENCHMARK: ELEVATION = 4.80 (NAVD88) CONCRETE SLAB CORNER
- ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO TITLE 5 AND THE TOWN OF BOURNE BOARD OF HEALTH REGULATIONS.
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
- NO FIELD MODIFICATION TO THE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND BOARD OF HEALTH.
- ALL JOINTS AND COVERS TO BE WATERTIGHT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES.
- A CERTIFICATE OF COMPLIANCE MUST BE OBTAINED PRIOR TO BACKFILLING SYSTEM.
- OWNER: CNB BRISTOW, LLC, 85 SALT MARSH LANE, BOURNE, MA 02532
- DEED REFERENCE: Deed Bk: 33581 Pg: 256 L.C. Cert. #224768
- PLAN REFERENCE: Plan Bk: 75 Pg: 35 (LOTS A1 & A2) Plan Bk: 81 Pg: 61 (LOT 28) L.C.C. #20407-A (LOTS A & B)
- THE DESIGN IS INTENDED TO MEET TITLE 5 AND OTHER APPLICABLE REQUIREMENTS. THIS PLAN DOES NOT GUARANTEE THAT THE SYSTEM WILL BE INSTALLED AS DESIGNED, NOR DOES THIS PLAN GUARANTEE THE OPERATION OF THE SYSTEM.
- THIS SYSTEM IS NOT DESIGNED NOR INTENDED FOR USE WITH A GARBAGE GRINDER.
- LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA.
- LOCUS PARTIALLY FALLS WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
- LOCUS DOES FALL WITHIN SPECIAL FLOOD HAZARD ZONES AE (el. 16) and VE (el. 17) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP No. 25001C-0484-J dated 7/16/14.
- THE VISUAL/AUDIO ALARM PANEL IS TO BE MOUNTED ON THE SIDE OF THE BUILDING IN AN EXTERNAL SPOT VISIBLE FROM SALT MARSH LANE ABOVE THE DESIGN FLOOD ELEVATION 19.
- TIGHT TANK SHALL BE ADDITIONALLY SECURED THROUGH THE INSTALLATION OF HELICAL ANCHORS - DESIGN BY OTHERS.
- PRIOR TO THE ISSUANCE OF THE DISPOSAL WORKS CONSTRUCTION PERMIT, A COPY OF EITHER THE LOCAL APPROVING AUTHORITIES OR THE DEPARTMENT WRITTEN APPROVAL SHALL BE REGISTERED IN THE CHAIN OF TITLE AT THE BARNSTABLE COUNTY REGISTRY OF DEEDS.
- PRIOR TO THE CERTIFICATE OF COMPLIANCE BEING ISSUED, THE SYSTEM OWNER IS TO REGISTER A DEED RESTRICTION LIMITING THE DWELLING TO TWO (2) BEDROOMS MAX AT THE BARNSTABLE COUNTY REGISTRY OF DEEDS ALONG WITH A NOTICE IDENTIFYING THE USE OF A TIGHT TANK ON THE PROPERTY.
- EDGE OF SALT MARSH LINE TAKEN FROM A PLAN ENTITLED "BETTERMENT PLAN BOURNE WATER DISTRICT" PREPARED BY WARWICK & ASSOCIATES, Inc. dated FEBRUARY 11, 2010. (See Plan Bk: 633 Pg: 74)

ZACHARY L. BASHINSKI
CIVIL ENGINEER
NO. 47797

ALAN M. GRADY
PROFESSIONAL LAND SURVEYOR
No. 37732

Prepared By:
BRACKEN ENGINEERING INC.
49 HERRING POND ROAD
BUZZARDS BAY, MA 02532
(tel) 508.833.0070
(fax) 508.833.2282

19 OLD SOUTH ROAD
NAUTUCKET, MA 02554
(tel) 508.325.0044
www.brackeneng.com

PROPOSED SEWAGE DISPOSAL PLAN
IN BOURNE, MA
Prepared For:
CNB BRISTOW, LLC.
#85 SALT MARSH LANE
MAP 43.1 PARCEL 83 & 81

No.	Date	Revision Description	By
-	-	-	-
-	-	-	-
-	-	-	-

Date: OCTOBER 18, 2022 Drawn: JPH/BEI Checked: ZLB/AMG Sheet: 1 of 1