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Civil & Environmental Engineering
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East Wareham, Massachusetts 02538
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RECEIVED

JAN 22 2021

Bourne Health Department
24 Perry Avenue
Buzzards Bay MA 02532

January 11, 2021

Town of Bourne
Board of Health
24 Perry Avenue
Buzzards Bay, MA 02532

RE: Local Upgrade Approvals and Variance Requests
At 567 Circuit Avenue, Bourne, MA

Dear Members of the Board,

Please find enclosed a sewage disposal design drawing entitled "Proposed Septic System Upgrade at 567 Circuit Avenue, Bourne, MA" dated January 6, 2021 for your review and approval. This project involves the installation of a septic system upgrade within the buffer zone of a salt marsh and coastal banks. Due to site constraints, we are requesting the following variances from the Town of Bourne Regulations:

1. A 44.2' variance (150.0' – 105.8') for the setback from the leaching facility to the edge of the Salt Marsh.
2. A 116.6' variance (150.0' – 33.4') for the setback from the leaching facility to the nearest Coastal Bank.

Also, in accordance with 310 CMR 15.401 - 15.405, the following local upgrade approvals are requested from 310 CMR 15.211:

1. A 4.9' waiver (10.0' – 5.1') for the setback from the proposed pump chamber to the front property line.
2. A 5.0' waiver (10.0' – 5.0') for the setback from the proposed leaching facility to the front property line.
3. An 8.0' waiver (20.0' – 12.0') for the setback from the proposed leaching facility to the crawl space.
4. A 4.8' waiver (10.0' – 5.2') for the setback from the proposed water service line to the proposed septic tank.

To mitigate for the requested resource area setbacks, an innovative/alternative septic system and leaching facility is being proposed to replace the entire existing septic system. A proposed 1,500 gallon septic tank with Microfast Model 0.5 insert and soil absorption system consisting of (35) ARC 36 Standard Chambers in a bed configuration are situated to achieve maximum setbacks from the resource area. With the use of an alternative technology, while providing a minimum groundwater separation of 5 feet to the bottom of the leaching facility, the proposed septic system

Town of Bourne
January 11, 2021
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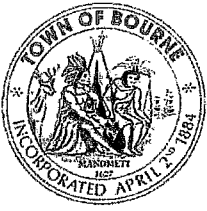
will provide enhanced nitrogen removal that far exceeds the treatment that takes place with the current septic system.

We appreciate your time and consideration on this matter. Please contact me if you have any questions or concerns.

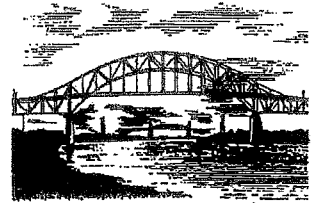
Sincerely,

A handwritten signature in cursive script that reads "Bradley Bertolo".

Bradley M. Bertolo, EIT, CSE
Project Engineer



Bourne Board of Health Application for Local Upgrade Approvals



This application is to be submitted to the office of the Bourne Board of Health for the upgrade of a failed or nonconforming septic system where full compliance, as defined in 310 CMR 15.404(1) and the Bourne Board of Health regulations is not feasible. In accordance with the established procedures of the Bourne Board of Health, this application for local upgrade approval is relevant to requests for relief which have not been approved administratively and require approval at a public meeting.

Please note that local upgrade approvals shall not be granted for an upgrade proposal that includes the addition of a new design flow to a cesspool or privy, or the addition of a new design flow above the existing approved capacity of an on-site system constructed in accordance with either the 1978 Code or 310 CMR 15.000.

If a system upgrade cannot be performed in accordance with 310 CMR 15.404 and 15.405, or in full compliance with the Board of Health Regulations and procedures, a variance will be required. Please visit www.townofbourne.com/health for the full regulations.

1. Facility Name and Address:

Owner's Name FRANK W. MUSCHE, JR.

Facility's Street Address 567 CIRCUIT AVENUE, POCASSET, MA

Owner's Telephone Number

Owner's E-mail Address

Owner's Mailing Address 203 CAMINO REAL, HOWEY IN THE HILLS, FL 34737

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

Preparer's Name BRADLEY M. BERTOLO, EIT, CSE

Company JC ENGINEERING, INC.

Telephone Number 508-273-0377

E-mail Address bbertolo@jceng.org

Mailing Address 2854 CRANBERRY HIGHWAY

State/ Zip Code E. WAREHAM, MA 02538

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

☒ Residential ☐ Commercial ☐ Institutional ☐ School ☐ Industrial

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

EXISTING FIVE BEDROOM, SINGLE FAMILY DWELLING

5. Type of Existing System (check all that apply): ☐ Conventional Title 5 ☐ I/A System ☐ Privy

☐ Pressure Dosed ☒ Single Cesspool ☐ Overflow Cesspool Systems ☐ Other

6. Describe Existing System Components: SINGLE CESSPOOL

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

Design flow of existing system: _____

Design flow of proposed upgraded system: 550 GPD

Total design flow of facility: 550 GPD

8. The proposed upgrade is (check all that may apply):

☐ Required following inspection pursuant to 310 CMR 15.301. Date of inspection: _____

☐ Required by order, letter, for a building permit, etc. (attach copy of correspondence)

☒ Voluntary

9. Describe the proposed upgrade to the system: PUMP AND FILL EXISTING CESSPOOL.

- NEW SEPTIC SYSTEM TO CONSIST OF PROPOSED 1500 GALLON SEPTIC TANK
- WITH MICROFAST INSERT, DISTRIBUTION BOX, AND LEACHING FACILITY
- CONSISTING OF (35) ARC 36 STANDARD CHAMBERS IN BED CONFIGURATION.

10. Local Upgrade Approval is requested for (check all that apply & describe on letter of request):

This information must also be listed on the design plans

☒ Reduction in setback(s) – describe and list all reductions or attach separate sheet: _____
SEE REQUEST FOR VARIANCE LETTER

☐ Reduction in SAS area of up to 25% - describe: _____

☐ Reduction in separation between the SAS and high groundwater – describe in detail: _____

☐ Relocation of water supply well -explain: _____

☐ Reduction of 12-inch separation between inlet and outlet tees and high groundwater

☐ Use of only one deep hole in proposed disposal area

☐ Use of a sieve analysis as a substitute for a perc test (attach copy of sieve results)

☐ Other requirements of 310 CMR 15.000 or Bourne Board of Health Regulations that cannot be met – describe and specify sections of the Code: _____

DUE TO THE LOCATION OF ADJACENT RESOURCE AREA (COASTAL BANKS AND SALT MARSH), THE INSTALLATION OF THE LEACHING FACILITY WILL NEED A WAIVER FROM THE LOCAL WETLAND SETBACK REGULATION WHICH REQUIRES 150 FEET. THE PROPOSED LEACHING FACILITY IS LOCATED 33.4 FEET FROM THE NEAREST COASTAL BANK AND 105.6' FROM THE SALT MARSH.

11. Explain why full compliance, as defined in 310 CMR 15.404(1), is not feasible. (Each section must be completed)

A. An upgraded system in full compliance with 310 CMR 15.000 is not feasible: _____

B. An alternative system approved pursuant to 310 CMR 15.283 to 15.288 is not feasible: _____

C. Shared system is not feasible: _____

D. Connection to a public sewer is not feasible: _____

12. In order for this Application for Local Upgrade Approval to be deemed complete, it must be accompanied by the following:

- ☒ Any Application or Permit Fees paid to the Town of Bourne.
- ☒ Application for Disposal System Construction Permit signed by licensed septic installer.
- ☒ Seven sets of complete plans and specifications. One with original stamp of design engineer.
- ☒ Cover letter addressed to the Board of Health members describing specific requests.
- ☐ 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)
- ☒ Approval from Conservation Commission (if applicable) *Pending, meeting scheduled for 2/4/2021*

13. 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 _____ Date _____

Print Name _____

Signature of Preparer Bradley Bertolo Date 1/21/21

Print Name BRADLEY M. BERTOLO, EIT, CSE

For Office Use Only

Completed Application Received: _____

Reviewed By: _____

Hearing Date: _____

Permit #: _____

Circle all that apply:

Approved

Continued

Disapproved

Other

Notes: _____

310 CMR 15.211: Setback Distances for System Components in Feet

Instructions: Check the boxes for any requests for reductions in setback distances which may apply and fill in the proposed actual setback distances in the columns on the right for all components

		Minimum Required		Proposed Setback	
		Septic Tank Holding Tank Pump Chamber Treatment Unit Grease Traps	Soil Absorption System	Septic Tank Holding Tank Pump Chamber Treatment Unit Grease Traps	Soil Absorption System
<input checked="" type="checkbox"/>	Property Line	10	10	5.1	5.0
<input checked="" type="checkbox"/>	Cellar or Crawl Space Wall, Inground Swimming Pool, foundation drain	10	20	12.1	12.0
<input type="checkbox"/>	Slab Foundation	10	10		
<input checked="" type="checkbox"/>	Water Supply Line (pressure)	10	10	5.2	10.0
<input type="checkbox"/>	Surface Waters (except wetlands)	25	150		
<input checked="" type="checkbox"/>	Salt Marshes, Inland and Coastal Banks**	25	150	> 25	105.8' - S.M. 33.4' - bank
<input type="checkbox"/>	Surface Water Supply - Reservoirs and Impoundments	400	400		
<input type="checkbox"/>	Tributaries to Surface Water Supplies	200	200		
<input type="checkbox"/>	Wetlands bordering Surface Water Supply or Tributary thereto**	100	150		
<input type="checkbox"/>	Certified Vernal Pools**	50	150		
<input type="checkbox"/>	Private Water Supply Well or Suction Line	50	100		
<input type="checkbox"/>	Downhill Slope	N/A	15		
<input type="checkbox"/>	Irrigation Well	10	25		
<input type="checkbox"/>	Open Surface or Subsurface Drains which discharge to Surface Water Supplies of Tributaries thereto	50	100		
<input type="checkbox"/>	Drains (excluding foundation drains) which intercept seasonal high groundwater table	25	50		
<input type="checkbox"/>	Other Open Surface or Subsurface Drains (excluding foundation drains)	5	10		
<input type="checkbox"/>	Leaching Catch Basins & Dry Wells	10	25		
<input type="checkbox"/>	Zone I Public Water Supply Well	not permitted	not permitted		
<p>**Per local regulation, for all leaching facilities within 100 feet of a wetland or watercourse, the applicant must provide hydrogeologic data acceptable to the Approving Authority demonstrating that the location of the soil absorption system is hydraulically downgradient from the water resource area. Surface topography alone is not determinative.</p>					

NOTICE OF ALTERNATIVE SEWAGE DISPOSAL SYSTEM

M.G.L. c. 21A, § 13 and 310 CMR 15.0287(10)

ADDRESS OF PROPERTY SERVED BY ALTERNATIVE SYSTEM:

567 Circuit Avenue, Pocasset, MA 02559

TITLE REFERENCE FOR PROPERTY SERVED BY ALTERNATIVE SYSTEM *[check and complete each that applies]:*

- ☒ Deed recorded with the Barnstable County Registry of Deeds in Book 9495, Page 148
☐ Certificate of Title No. _____ issued by the Land Registration Office of the _____
Registry District
☐ Source of title other than by deed _____

NAME(S) OF OWNER OF PROPERTY SERVED BY ALTERNATIVE SYSTEM:

Frank W. Musche, Jr.

OWNER(S) MAILING ADDRESS:

203 Camino Real, Howey in the Hills, FL 34737

OWNER(S) TELEPHONE NUMBER: 352-324-3470

E-MAIL ADDRESS: xp963@aol.com

[If Alternative System Owner(s) is other than Property Owner(s), complete the following:]

Alternative System Owner Name: _____

Alternative System Owner Address: _____

Alternative System Owner Telephone Number: _____ E-mail Address: _____

WHEREAS, Section 15.280 of Title 5 of the State Environmental Code ("Approval of Alternative Systems"), provides for the Massachusetts Department of Environmental Protection (the "Department") to approve or certify, as appropriate, all proposals to construct, upgrade or replace on-site sewage disposal systems using alternative systems;

WHEREAS, owners and/or operators of approved or certified alternative systems are subject to general conditions, as specified in Section 15.287 of Title 5 of the State Environmental Code, 310 CMR 15.287, and may be subject to special conditions, as specified in the Department's approvals or certifications; such general and special conditions potentially including, without limitation, requirements relating to the use of trained operators, periodic inspections, maintenance, sampling, reporting and/or recordkeeping;

WHEREAS, the owners and/or operators this alternative system acknowledges and agrees to comply with the provisions of all of the Bourne Board of Health Alternative Septic System Regulations and any other conditions for the existence of the system;

WHEREAS, Section 15.287(10) of Title 5 of the State Environmental Code, 310 CMR 15.287(10), requires that "prior to obtaining a Certificate of Compliance for installation of a new or upgraded system, the system owner shall record in the chain of title for the property served by the alternative system in the Registry of Deeds and/or Land Registration Office, as applicable, a Notice disclosing both the existence of the alternative on-site system and the Department's approval of the system. The system owner shall also provide evidence of such recording to the Bourne Board of Health [;]" and

WHEREAS, the Property is served by an alternative sewage disposal system.

NOW, THEREFORE, Notice of an alternative sewage disposal system is hereby given for the above-referenced Property, as follows:

1. Existence. An alternative system has been installed as a new or upgraded alternative sewage disposal system, on or adjacent to the Property, and serves the Property. The trade name and model number(s) of the alternative system are as follows:

Trade name of technology:

FAST Treatment Systems with Nitrogen Reduction

Manufacturer Name:

Bio-Microbics, Inc.

Model number(s):

MicroFAST 0.5 Unit

A copy of the Department of Environmental Protection's Approval/Certification is available online at the Department's website:

<https://www.mass.gov/guides/title-5-innovativealternative-technology-approval-letters>

2. Approval/Certification. On December 29, 2010, revised March 20, 2015, the Department, pursuant to its authority under the section of Title 5 as specified below, approved or certified the technology used in the above referenced alternative system, under MassDEP Transmittal Number X232831.

[Check one of the following, as applicable:]

- ☐ Approved for remedial use under 310 CMR 15.284
- ☐ Approved for piloting under 310 CMR 15.285
- ☐ Provisionally approved under 310 CMR 15.286
- ☒ Certified for general use under 310 CMR 15.288

*****This Notice of Alternative Sewage Disposal System must be submitted to the Bourne Board of Health*****

WITNESS the execution hereof under seal this _____ day of _____, 20____, made by the above-named Alternative System Owner(s).

[Alternative System Owner(s) Signature(s)]

Print Name(s): _____

COMMONWEALTH OF MASSACHUSETTS

_____, ss

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

(official signature and seal of notary)

Approved and Accepted By:

Terri A. Guarino, R.S.
Health Agent
Town of Bourne