State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

PUBLIC NOTICE

File Number: 2023-09-052 Date: October 5, 2023

This office has under consideration the application of:

Saltbox Sea Farm LLC
c/o Matthew Griffin
218 Lindley Avenue
North Kingstown, RI 02852

for a State of Rhode Island Assent to construct and maintain: a 3.8-acre expansion of the existing aquaculture farm (CRMC# 2018-08-071) and channel marked with navigational aids.

Project Location:	West Passage - Narragansett Bay
City/Town:	North Kingstown
Waterway	West Passage – Narragansett Bay
PD File#	2023-04-106

Plans of the proposed work are attached and can be requested at Cstaff1@crmc.ri.gov.

In accordance with the Administrative Procedures Act (Chapter 42-35 of the Rhode Island General Laws) you may request a hearing on this matter.

You are advised that if you have good reason to enter protests against the proposed work it is your privilege to do so. It is expected that objectors will review the application and plans thoroughly, visit site of proposed work if necessary, to familiarize themselves with the conditions and cite what law or laws, if any, would in their opinion be violated by the work proposed.

If you desire to protest, you must attend the scheduled hearing and give sworn testimony. A notice of the time and place of such hearing will be furnished you as soon as possible after receipt of your request for hearing. If you desire to request a hearing, to receive consideration, it should be in writing (**with your correct mailing address**, **e-mail address and valid contact number**) and be received at this office on or before November 4, 2023 .

Please email your comments/hearing requests to: cstaff1@crmc.ri.gov; or mail via USPS to: Coastal Resources Management Council; O. S. Government Center, 4808 Tower Hill Road, Rm 116; Wakefield, RI 02879.

/lat

State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

Project Location: West Passage, Narragansett Bay, North Kingstown (No. Street City/Town)	File No. (CRMC USE ONLY): 2023-09-052
Owner's Name: Matthew Griffin / Saltbox Sea Farm	Plat: Lot(s):
Mailing Address: 218 Lindley Ave City/Town: North Kingstown State: RI Zip Code: 02852	Contact No.: (401) 378-1213
Name of Waterway: West Passage, Narragansett Bay. Between Rome Pt. and Green Pt.	Estimated Project Cost (EPC): $90,000 Application Fee: $750

Longitude/latitude of all corners of Proposed Aquaculture Project Location (preferably in decimal degrees):

Lease Corner	Latitude	Longitude
NW	41.542666°	-71.422247°
SW	41.542035°	-71.422240°
NE	41.542717°	-71.419519°
SE	41.542133°	-71.419576°

Have you or any previous owner filed an application for and/or received an assent for any activity on this property?
(If so please provide the file and/or assent numbers): _____

Is this site within a designated historic district? **YES** **NO**

Is this application being submitted in response to a coastal violation? **YES** **NO**

If YES, you must indicate NOV or C&D Number: _____

Name and Addresses of adjacent property owners whose property adjoins the project site. (Accurate addresses will insure proper notification. Improper addresses will result in an increase in review time.)

State of Rhode Island
Table 2. Existing uses within 1,000 ft. from the proposed lease.

STORMTOOLS (Http://www.beachsamp.org/resources/stormtools/) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use STORMTOOLS to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.08/04

RECEIVED
SEP 13 2023
COASTAL RESOURCES MANAGEMENT COUNCIL

Matthew Griffin 09/13/23
Owner's Signature (sign and print)

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM

FILE COPY

COMMECIAL AQUACULTURE APPLCATION

for the
expansion of CRMC 2018-08-071

Prepared for:

Coastal Resources Management Council
Stedman Government Center
408 Tower Hill Road
Wakefield, RI 02879

Submitted by:

Saltbox Sea Farm LLC
218 Lindley Ave
North Kingstown, RI 02852

13 September 2023

STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.

Signature

09/13/23
Date

Matthew Griffin - 218 Lindley Ave, North Kingstown, RI 02852
Print Name and Mailing Address

CRMC'S FEE SCHEDULE

(*current dated check or money order only*)

If the project costs:	The fee will be:
Based on Estimated Project Cost:	
EPC is less than or equal to $1,000	$50.00
EPC Between $1,000.01 - $2,500	$100.00
$2,500.01 - $5,000	$150.00
$5,000.01 - $10,000	$200.00
$10,000.01 - $25,000	$250.00
$25,000.01 - $50,000	$500.00
$50,000.01 - $100,000	$750.00
$100,000.01 - $150,000	$1,000.00
$150,000.01 - $200,000	$1,250.00
$200,000.01 - $250,000	$1,500.00
$250,000.01 - $300,000	$1,750.00
$300,000.01 - $350,000	$2,000.00
$350,000.01 - $400,000	$2,250.00
$400,000.01 - $450,000	$2,500.00
$450,000.01 - $500,000	$2,750.00
$500,000.01 - $20,000,000	($2,750.00 + .005 * EPC beyond $500,000.00)
EPC greater than $20,000,000	($100,250.00 + .0025 * EPC beyond $20,000,000)

EPC = Estimated Project Cost. The EPC shall include all costs associated with site preparation (e.g., earthwork, landscaping, etc.) sewage treatment (e.g., cost of OWTS, sewer tie-ins, etc.) and construct costs (e.g., materials, labor, and installation of all items necessary to obtain a certification of occupancy).

NOTE: Applicants should consult Section 1.4 of the CRMC's Management Procedures for a more detailed description of CRMC's fee schedule

Table of Contents

1.0 Introduction

Saltbox Sea Farm LLC (SSF) is a North Kingstown based shellfish aquaculture and environmental consulting company with a mission of ecologically sustainable shellfish production and supporting the science of estuarine health. Matthew Griffin owns SSF and has worked intimately with the fisheries, aquaculture and shellfish restoration community in Rhode Island for the past nineteen-years with employment in state, federal, academic and non-governmental organizations. SSF currently operates on a one-acre oyster lease in Portsmouth, RI (2015-08-101) and a four-acre lease in North Kingstown, RI (2018-08-071). In efforts to increase oyster, kelp and bay scallop production, along with developing a dedicated nursery for shellfish restoration, we propose to expand our current four-acre lease off Rome Point, North Kingstown by 3.8 acres to a total of 7.8 acres (Figure 1, Table 1). At the closest point, the proposed expansion is situated 708 ft. from the shoreline and between existing aquaculture leases: 161 ft. away from the lease to the north and 438 ft. away from the lease to the south (Figure 1). The proposed lease is sited within an embayment outside of commercial boat traffic and within an area of limited recreational use. While conflicts with stakeholders of the resource between Rome Point and Green Point are minimal, we realize the cumulative impacts of shellfish leases in the area can make vessel passage to and from the beach confusing for those not familiar with aquaculture. To mitigate this issue, we have proposed to fund, install and maintain a navigation channel between the southern boundary of our lease and the northern boundary the lease to the south (Figures 1, 15 & 16). This proposed channel has been discussed with the surrounding aquaculture farms and the North Kingstown Harbor Commission, with verbal approval from all parties. Substrate below the proposed lease consists of soft mud with no evidence of aquatic vegetation. Impact to the wild harvest shellfish industry will be limited as quahog densities are low (0.7 clams m^{-2} ± 0.4 SE; Leavitt and Griffin 2013, unpublished data) and natural oyster populations are non-existent within the proposed lease. Within the five years of operating our commercial aquaculture lease off Rome Point no conflicts arose with commercial or recreational boat traffic. Saltbox Sea Farm views this as an example of good marine spatial planning; maximizing shellfish production in an area with a proven aquaculture track record at the same time working with stakeholders to increase concise navigable access to the shoreline.

2.0 Operational Plan

2.1 Name and address

Matthew Griffin – Saltbox Sea Farm LLC
218 Lindley Avenue
North Kingstown, RI 02852

2.2 CRMC file number

TBD

2.3 DEM aquaculture license number

000120

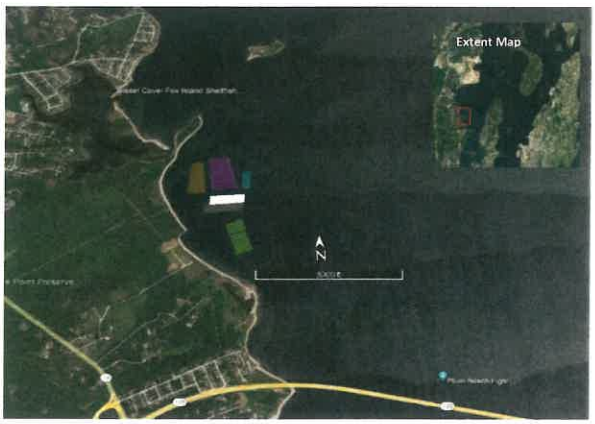

Figure 1. Proposed expansion of CRMC 2018-08-071. White box represents area of proposed expansion. Other boxes are existing leases.

2.4 Type of Facility

Commercial lease, floating cage, bottom cages

2.5 Location of facility

North Kingstown, Rhode Island
West passage of Narragansett Bay
Between Rome Point and Green Point
3.8 acres

Lease corner	Latitude	Longitude
NW	41.542654°	-71.422248°
SW	41.542038°	-71.422307°
NE	41.542717°	-71.419519°
SE	41.542133°	-71.419576°

Table 1. Coordinates of corner points of proposed expansion (WGS84).

2.6 Species grown

Crassostrea virginica	Eastern oyster
Argopecten irradians	Bay scallop
Saccharina latissima	Sugar kelp

All aquaculture operations will be conducted in accordance with the Rhode Island Biosecurity board protocols, RIDEM regulations, and CRMC regulations.

2.7 Gear description

Oysters: Eastern oysters will be grown predominantly using the same technology that is already deployed in all the leases between Rome Point and Green Point; OysterGro™ and Flow N Grow™ cages constructed of 4 in. vinyl coated wire mesh with two polyethylene floats fixed to the top. The floating cages are configured with 3 rows of two tiers, capable of holding six, 35 in. x 18 in. vexar mesh bags and have outside dimensions of 62 in. x 42 in. x 19 in. (Figure 6). Twelve cages will be spliced into a 180 ft. longline (9/16 in. polysteel), running north to south, and anchored on each end with double 5 ft. helical anchors (Figures 2 and 3). During the growing season, April to November, cages will be floated on the surface. During winter months, November to April, the majority of the cages, baring those designated for winter harvest, may be submerged to the bottom (Figures 4 and 6). Each floating cage will have a bird deterrent fin to dissuade birds from perching on the gear (Figure 6). Market size oysters will be stocked in bottom cages, consisting of two rows with four tiers each, capable of holding a total of eight 3.3 ft. x 1.7 ft. vexar mesh bags (Figures 8 & 9), a minimum of 7 days prior to harvest. In efforts to reduce the visual footprint of our farm we will experiment with low profile, FlipFarm™, floating gear with dimensions of 30 in. x 11 in. x 11 in. per basket (Figure 10). Twenty baskets may initially be installed on one long line to test its efficacy in a high energy environment. A maximum of 38 long lines, spaced 20 ft. apart, totaling 456 cages (Flow N Grow™ /OysterGro™ & bottom cages) will be deployed within the expansion.

Bay scallops: Bay scallops will be placed in vexar mesh bags with appropriate mesh size, held inside bottom cages. Bottom cages consist of two rows with four tiers each, capable of holding a total of eight 3.3 ft. x 1.7 ft. vexar mesh bags (Figure 9). Up to twelve bottom cages may be attached to the four most western longlines in the expansion for a total of 48 cages (Figure 5).

Note. The applicant is aware of the challenges associated with growing bay scallops in an aquaculture setting. Production of bay scallops will not be the primary focus of this aquaculture site, rather a

secondary crop to further personal and communal knowledge of bay scallop culture techniques in New England and to diversify farmed species to mitigate financial loss in the event of a single species failure. Bay scallop culture on the lease will begin on a small scale and grow dependent upon successful growth and marketability of the product.

Kelp: During winter months (November-May) sugar kelp may be grown on a second longline, above submerged floating cages, at a depth of 5 ft. below the surface (Figure 4). The longlines will utilize the same helical anchors as the floating cages. Long lines will be suspended in the water column using 5 ft., ½ in. PVC spacers with a six lb. concrete block tied into the longline and an 11 in. lobster buoy providing floatation (Figure 7). Spacers will be deployed every 50 ft. along the kelp line. After harvest in April, the kelp long line and buoys will be removed and the floating cages will be floated to the surface.

2.8 Site build out, access and infrastructure maintenance

The proposed site will be built in the same fashion as our adjacent lease (2018-08-071). We will use in-house divers to install helical anchors every 20 ft. on either side of the long axis of the lease area. Longlines will be installed directly to the anchors without using metal shackles or chains to mitigate oxidation causing failure. This method has been successfully employed on 2018-08-071 and has proven to withstand winds of over 70 mph from the northeast with an eight-mile fetch. The site will be accessed from our commercial slip in Wickford Cove. Anchors, longlines and bridals will be checked annually via SCUBA to ensure infrastructure is secure. Farm work described herein will take place 3-5 days per week, between sunrise and sunset, during the shellfish growing season (April – November). Kelp work on the farm will be limited to 1 day a week (November – May) to assure gear is properly in place. Gear type is detailed in section 2.7.

2.9 Identifying markers

Each of the four corners of the lease will be located with a global position system using WGS84 coordinates with submeter accuracy. The corners will be marked with 10 in. x 20 in. buoys and a 5 ft. highflyer (radar reflector). Buoy color will be chosen in coordination with the North Kingstown Harbor Commission and CRMC to allow for differentiation from existing leases in the area. The poles of the highflyer will be wrapped in reflective tape. The CRMC assent number will be printed on each of the four corner markers. Corner markers will be secured to the bottom with 5 ft. helical anchors and 9/16 in. polysteel rope to ensure lease boundaries do not move. Corner marker anchors and lines will be assessed annually via SCUBA. Corner markers will be registered with the USCG Paton registration system.

2.10 DEM Shellfish Harvesting Classification

Narragansett Bay, West Passage, 7A - Approved waters.

2.11 Description of practices and procedures

2.11.1 Seed Source and Husbandry

Oysters: Oyster seed will be sourced from a commercial hatchery or oyster farm (e.g. Mook Sea Farms, Muscongus Bay Aquaculture, Fisher Island Oyster Farm, Aquaculture Research Corporation), with an approved pathology report. Determination of exact seed source will be dependent upon hatchery supply. The CRMC Aquaculture Coordinator will be notified of seed source and size and provided a corresponding pathology report (if source is outside the biosecurity zone) at least seven days in advance of moving any seed onto the farm. Seed will be purchased with a minimum valve length of 4 mm and grown in floating cages until market size is achieved. Market oysters will be held in bottom cages prior to harvest. Throughout the growing season oysters will be sorted according to size and density of and will be thinned to mitigate overcrowding and food competition. The number of seed purchased annually will be dependent upon available space on the farm.

Bay Scallops: Scallop seed will be sourced from a New England based commercial hatchery or oyster farm (e.g. Mook Sea Farms, Muscongus Bay Aquaculture, Fisher Island Oyster Farm, Aquaculture Research Corporation), with an approved health certificate. Determination of exact seed source will be dependent upon hatchery supply. The CRMC Aquaculture Coordinator will be notified of seed source and size and provided a corresponding pathology report at least seven days in advance of moving any seed onto the farm. Seed will be purchased with a minimum valve length of 4 mm and grown in bottom cages as described in section 2.7. Throughout the growing season scallops will be sorted according to size and density and will be thinned to mitigate overcrowding and food competition. The number of seed purchased annually will be dependent upon available space on the farm and market demand.

Kelp: Kelp will be purchased on seeded spools from New England based commercial providers. Reproductively active kelp tissue will be harvested from Rhode Island water and provided to the hatchery for spore production. The CRMC Aquaculture Coordinator will be notified at least seven days prior to planting kelp and provided required documentation if needed. Kelp will be planted on the longlines in November, timing dependent upon water temperature (<50˚F) and grown until March or April. Growing kelp does not require maintenance of shoot density or anti-fouling practices, therefore, husbandry will be limited to making sure lines are secure and correctly positioned in the water column.

2.11.2 Gear Maintenance

Oysters: To mitigate fouling, floating cages will be turned upside down on the integrated floats, once per month (April – November), allowing the oysters, bags, and cages to air dry for 24 hours. Anchors and longlines will be checked via SCUBA annually to ensure infrastructure is secure.

Bay Scallops: Fouled bags will be removed from the site to air dry on shore at the home residence of this applicant and replaced with clean bags. Cages will not need regular fouling control as they will be constructed of 4 in. wire mesh allowing adequate flow when fouled. If necessary, in-situ hand scrubbing of cages will be employed.

Kelp: Growing kelp does not require maintenance of shoot density or anti-fouling practices; therefore, husbandry will be limited to making sure lines are secure and correctly positioned in the water column.

2.11.3 Harvest, Storage and Transportation

All handling of shellfish to be consumed will follow the recommendations/regulations set forth by RIDEM (Rhode Island Marine Fisheries Regulations, Part IV Shellfish) and in accordance with the RIDEM Vibrio Management Plan, as instituted 1 July 2014. All handling of kelp to be consumed will follow recommendations/regulations set forth by regulating agencies as protocols are developed. All shellfish/kelp movement and sales will be recorded with appropriate tagging as mandated by RIDEM and RIDOH and those records will be maintained by Matthew Griffin and will be available for review upon request. Shellfish and kelp will be sold to wholesale dealers for public consumption. Market size oysters will be placed in bottom cages a minimum of seven days prior to harvest for public consumption.

2.12 Bird mitigation for floating gear

Each floating cage will have a bird deterrent fin to dissuade birds from perching on the gear (Figure 6). Market size oysters will be stocked in bottom cages, consisting of two rows with four tiers each, capable of holding a total of eight 3.3 ft. x 1.7 ft. vexar mesh bags (Figures 8 & 9), a minimum of seven days prior to harvest. Electronic farm maps are used which include last date of air drying at the cage level and date last handled.

2.13 Production capability

Maximum yield for the proposed lease is estimated at 300,000 oysters and 50,000 bay scallops annually. This equates to 93,000 market shellfish per acre, per annum. Kelp production may be employed on the lease as a tertiary crop with annual yield under 15,000 lbs. With 19 years of experience in the shellfish industry, Matt Griffin/Saltbox Sea Farm has proven capability to sustain the lease to a high standard of organization and maintenance. Saltbox Sea Farm has an adequate customer base and demand for products to move the additional shellfish produced within the expansion.

2.14 Storm preparedness and response

The proposed gear layout and anchoring system has proven to withstand annual New England storm cycles. The floating cages used have caps on either end of the float which allows for flooding and submersion during large storm events with sustained winds greater than 65 mph. The depth of the proposed lease is 14 ft. (MLW), which is an adequate depth to protect cages in severe weather conditions. All cages on the proposed lease will be marked with embossed polyethylene tags including CRMC lease number, name, and phone number of lease holder to allow for rapid contact and subsequent clean up in the event of a cage breaking loose. High winds and storms in Rhode Island emanate predominantly from the northeast which is our greatest exposure on the proposed expansion. Consequently, if cages break free from the lease during severe weather, they will end up on the adjacent uninhabited beach to the southwest, 1,500 ft. from the lease.

2.15 Procedures for maintaining records for operations using seed acquired from out-of-state.

Records of seed purchases will be maintained by Matthew Griffin for review by CRMC upon request. CRMC will be notified prior to seed purchases and supplied with the appropriate documentation

including: the origin of the seed (hatchery name and location), spawn date, number purchased, date of delivery, mean size of seed and pathology report(s).

2.16 Procedures for maintaining records for upwellers in prohibited waters.

Seed that originated from upwellers in prohibited waters will be kept separate from other cohorts by marking bags with red tags. Tags will contain the date the seed was transplanted to ensure sales do not occur prior to 6 months of growth in approved waters of the lease. Seed which originated in prohibited waters will not be mixed with seed originating from approved waters prior to the 6 month threshold. Oyster seed will be moved from up upwellers in prohibited waters prior to valve height of 32 mm.

2.17 Procedures for maintaining records for operations using seed from prohibited waters.

Seed purchased from a third party that originated from prohibited waters will be kept separate from other cohorts by marking bags with red tags. Tags will contain the date the seed was purchased, name of supplier and size at planting to ensure sales do not occur prior to 6 months of growth in approved waters of the lease.

Note: Saltbox Sea Farm uses an electronic farm map which contains meta-data at the cage and bag level including seed source, cohort, size, prohibited status, date last serviced and, date planted. CRMC will be notified a minimum of seven days prior to planting seed from: out of state waters, prohibited waters or waters from a different biosecurity zone, and supplied with the appropriate documentation including the origin of the seed (hatchery name and location), spawn date, number purchased, mean size, date of delivery and pathology report(s).

3.0 Written responses to RICRMP Category B Requirements

3.1 Demonstrate the need for the proposed activity or alteration

The current aquaculture leases Saltbox Sea Farm operates are at maximum capacity and the demand for product is higher than our available output. We are currently employing three full-time, year-round positions. Our current acreage and subsequent product capacity is limiting for sustained business success. Expanding our operation by 3.8 acres will allow us to meet market demand, sustain our employees and hire one more full-time and one seasonal employee.

In addition to income stability, the proposed expansion will also allow us to increase our involvement in shellfish restoration activities in Rhode Island waters. Matt Griffin has a 19-year history of conducting shellfish restoration and enhancement in the state. The additional acreage of our proposed lease will allow us to develop a dedicated nursery for rearing juvenile oysters and scallops for restoration activities with our partners (i.e. USDA, TNC, RIDEM, RWU).

3.2 Demonstrate that all applicable local zoning ordinance, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met.

Permits required for the proposed lease will be obtained through RI CRMC pending approval of subsequent applications. Rules and regulations in accordance with RICMP 1.3.1 (K) will be met and maintained throughout the duration of this lease.

3.3 Describe the boundaries of the coastal waters and land areas that are anticipated to be affected.

The proposed lease is located between Rome Pt. and Green Pt. in the west passage of Narragansett Bay. The lease is bordered by the Chafee Nature Preserve and Sturgis compound to the west. The closest home (Parel 43-9) to the proposed lease is within the Sturgis compound and located approximately 1,100 feet away from the proposed lease and is out of direct view of the lease. One home in the Sturgis compound can view the proposed lease and is approximately 1,600 feet away from the lease. Both homes were constructed within the last year and are within direct view of other aquaculture farms between Rome Point and Green Point that have been in operation for 22 years. A letter and map explaining the proposed expansion herein was mailed and emailed to the owners of Parcel 43-9, as a phone number was not available. Eastward of lease is open (type 4) waters of Narragansett Bay's west passage.

Land abutting the lease (708 ft. from the closest point) is coarse sand beach and upland forest of the Chaffee Nature Preserve. The proposed lease is sited between existing aquaculture leases; 161 ft. away from the lease to the north and 761 ft. away from the lease to the south. Shellfish lease holders in the vicinity (Table 2) have verbally approved this proposal. The west passage of Narragansett Bay is to the east of the proposed site. See Figures 1, 15 & 16.

3.4 Demonstrate that the alteration or activity will not result in significant impacts on erosion and/or deposition process along the shore and tidal waters.

Impacts of erosion and or deposition are not applicable to this project as the gear used will have little effect on the hydrodynamics in the area.

3.5 Demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life.

The proposed lease will not result in significant impacts on the abundance and diversity of plant and animal life. Eastern oysters play a critical ecological role within our coastal environment by providing complex biogenic structures, which increase species density, biomass and richness over nearby mud habitats (Tolley and Volety 2005, Manley *et al.* 2010, Abeels *et al.* 2012, Quan *et al.* 2012). Shellfish and associated culture gear serve as essential fish habitat (Coen *et al.* 1999, Peterson *et al.* 2003, Forrester 2007); ultimately increasing productivity within our coastal waters (Grabowski *et al.* 2004, Grabowski *et al.* 2008). Sugar kelp provides habitat for sessile and mobile species. There is no submerged aquatic vegetation on the proposed lease.

3.6 Demonstrate that the alteration will not unreasonably interfere with, impair, or significantly impact existing public access to, or use of, tidal waters and/or the shore.

Aquaculture between Rome Point and Green Point in the west passage of Narragansett Bay has a 22-year history and has developed to its current capacity due, in part, to limited impacts on resource stakeholders of the water body. While conflicts with stakeholders of the resource between Rome Point and Green Point are minimal, we realize the cumulative impacts of shellfish farms in the area can make vessel passage to and from the beach confusing for those not familiar with aquaculture. To mitigate this issue, we have proposed to fund, install, and maintain a navigation channel between the southern boundary of our lease and the northern boundary the lease to the south (Figures 1, 15 & 16). This proposed channel has been discussed with the surrounding aquaculture farms and the North Kingstown Harbor Commission with verbal approval from all parties. Channel markers will be registered in the USGS Paton registration system and will appear on federally produced navigation charts. This channel will be funded and maintained by Saltbox Sea Farm without the use of public funds and will increase clear, safe access to the shoreline for recreational boaters.

3.7 Demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation.

Impacts of water circulation, flushing, turbidity, and sedimentation are not applicable to this project as the gear used will have little effect on the hydrodynamics in the area.

3.8 Demonstrate that there will be no significant deterioration in the quality of water in the immediate vicinity as defined by DEM.

The proposed lease will have no negative effect on water quality. Oysters are capable of benthic-pelagic coupling by filtering phytoplankton and seston and transporting this organic matter to the benthos, thus supplementing benthic food webs and accelerating nutrient cycling within the system (Dame 1993, Smaal and Prins 1993, Pietros and Rice 2003). Through filter feeding activities, oysters increase water clarity, reduce turbidity (Cloern 1982, Newell 1988) as well as reduce carbon, nitrogen, (Hargis and Haven 1999) and pollutants from the water column (Tolley *et al.* 2005).

3.9 Demonstrate that the alteration or activity will not result in significant impacts to areas of historic archeological significance.

There is no known historic archeological significance in the proposed lease.

3.10 Demonstrate that the alteration or activity will not result in significant conflicts with water-dependent uses and activity such as recreational boating, fishing, swimming, navigation, and commerce.

The cove between Rome Pt. and Green Pt. is lightly used by recreational boaters, who anchor along the shoreline. The lease is a long rectangle with the short axis (230 ft. in length) 708 ft. away from the shoreline (Figures 1 and 2). The expanse of water between the shoreline and the short axis of the lease is 14 ft. at mean low tide allowing boats to anchor or traverse between the shoreline and oyster culture gear. The expanse of navigable water between the proposed lease and existing lease to the north and south (161 ft. and 233 ft., respectively) is adequate to allow boat traffic to enter the cove. Total access to the cove will be reduced by 220 ft. to the north of our lease, as the proposed lease parallels a current aquaculture lease (Figures 1, 15 & 16). To aid in clear, safe navigation between leases we propose to

fund, install and maintain a USCG registered navigation channel between the southern boundary of our current lease and northern boundary of the lease to the south, as described in section 3.6 (Figures 1, 15 & 16). Longlines, as described in section 2.7, will be 20 ft. apart allowing watercraft to navigate between cages. Kayakers and small watercraft navigate between our existing longlines of 2018-08-071 and often come up to our boats to discuss aquaculture, which provides an excellent opportunity for education and environmental stewardship.

Swimming in the cove occurs from recreational boats anchored along the shoreline or wading from the beach. The location of the proposed lease will not impede swimming, as it is 708 ft. from the shoreline.

The proposed lease is outside of commercial boat traffic routes.

Impact to the wild harvest shellfish industry and recreational shell fishermen will be limited as quahog densities are low (0.7 clams m^{-2} ± 0.4 SE; Leavitt and Griffin 2013, unpublished data) and natural oyster populations are non-existent within the proposed lease.

Impacts to recreational fin fishermen will be limited as the benthic substrate is soft mud providing little habitat for resident fish or foraging pelagics. Rock reefs, providing habitat and foraging for game fish, exist to the north and south along the edges of the cove. Access to the reefs will not be impaired by the proposed lease. Shellfish aquaculture provides structure and habitat and has shown to increase local biodiversity and fish production (See section 3.5).

Commercial shellfish lease holders between Rome Point and Green Point are in support of the proposal herein.

3.11 Demonstrate that measures have been taken to minimize any adverse scenic impacts.

The configuration of the lease (230 ft. by 750 ft.) was designed to parallel, with a gap of 161 ft. and 233 ft. existing floating aquaculture to the north and south, respectively. This allows the proposed lease to blend in with already existing shellfish infrastructure. The gear in the proposed lease will not deviate from gear in the existing leases between Rome Point and Green Point. The proposed lease will be laid out in a grid pattern using a differential GPS and SCUBA to provide an orderly configuration of gear.

One house within the Sturgis Compound will be able to view the proposed lease, however, their view will not change, as the house was built within the last year and is direct view of the other aquaculture farms in the area with a 22-year history.

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5.0 Figures

Figure 1. Site location. Note: This map includes proposed expansions of both Saltbox Sea Farm and West Passage Oyster Co. and current aquaculture assents between Rome Point and Green Point, Narragansett Bay, RI.

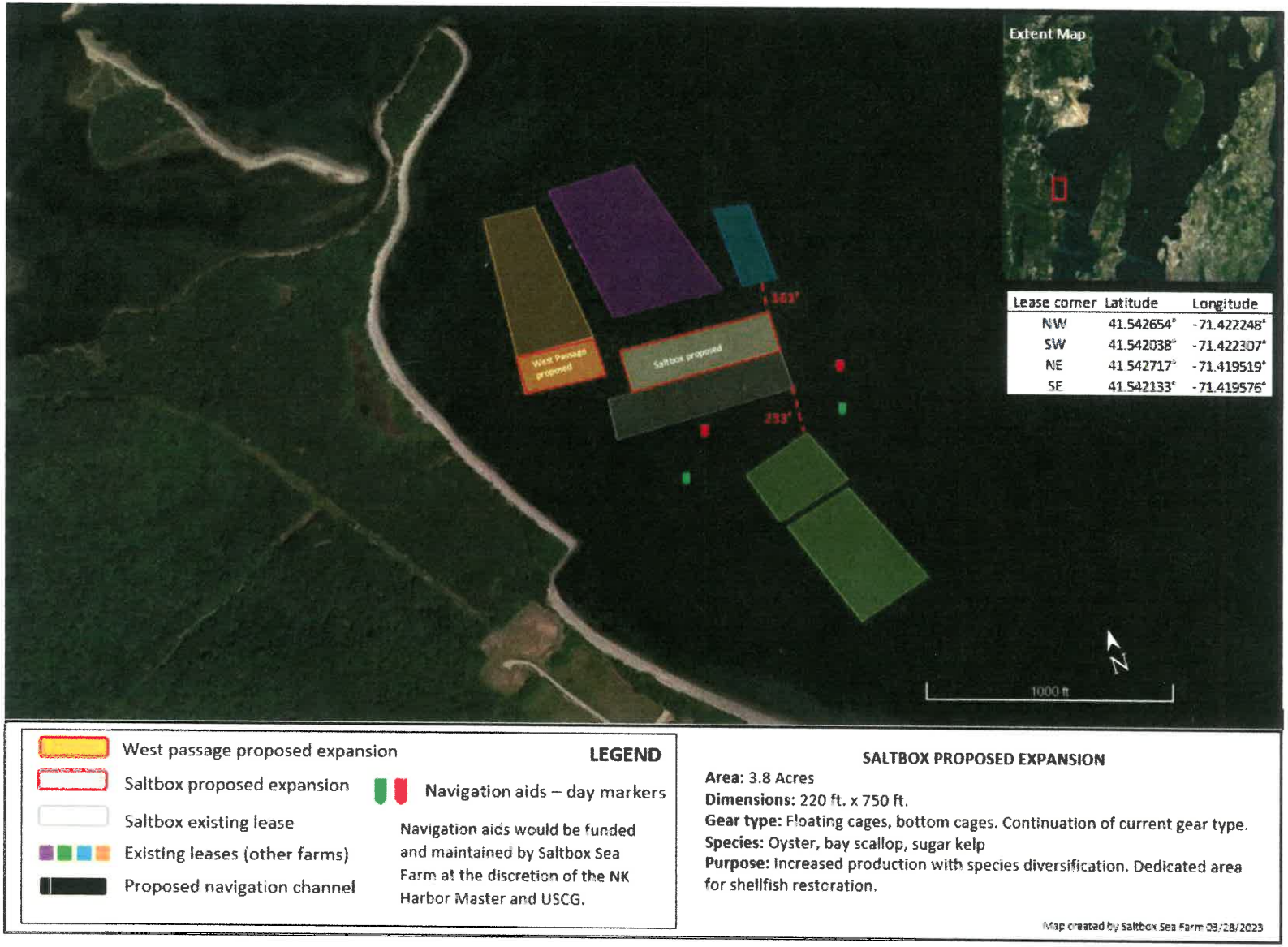
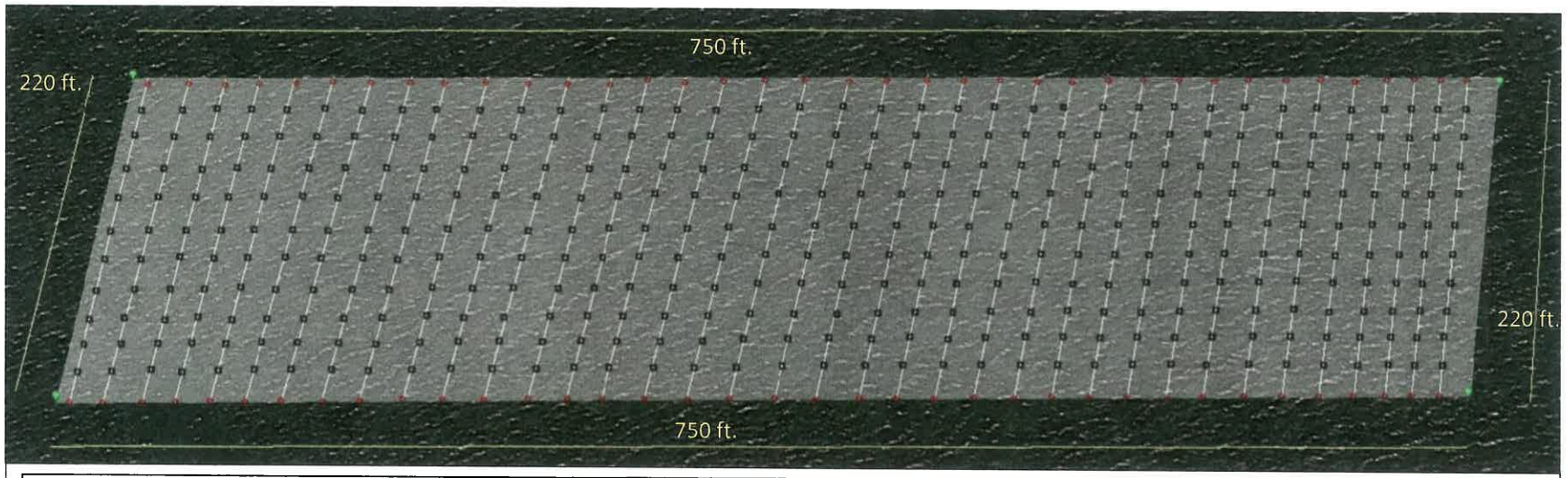


Figure 2. Plan view. Longlines spaced 20 ft. apart and anchored with double 5 ft. helical anchors on either end. A maximum of 38 longlines with 12 cages each can be deloyed on the proposed lease. Water depth is 14 feet at MLW.



Primary gear type is floating oyster cages (section 2.7, Figure 6). A maximum of 48 bottom cages may be deployed in place of floating cages to retain market oysters and bay scallops. During winter months (November-April) cages may be submerged and kelp lines placed 5 ft. under the water in the same location.

Figure 3. Cross section of the eastern most part of the proposed lease depicts oyster cages while at the water's surface (April-November). Trawl lines continue west for a total of 38 trawls encompassing 750 ft. along the east-west axis (see Figure 2). Double, five ft. helical anchors will be used on either side of each long line. *Figure created by M. Griffin - modified from Oyster Gro, 12/2017.*

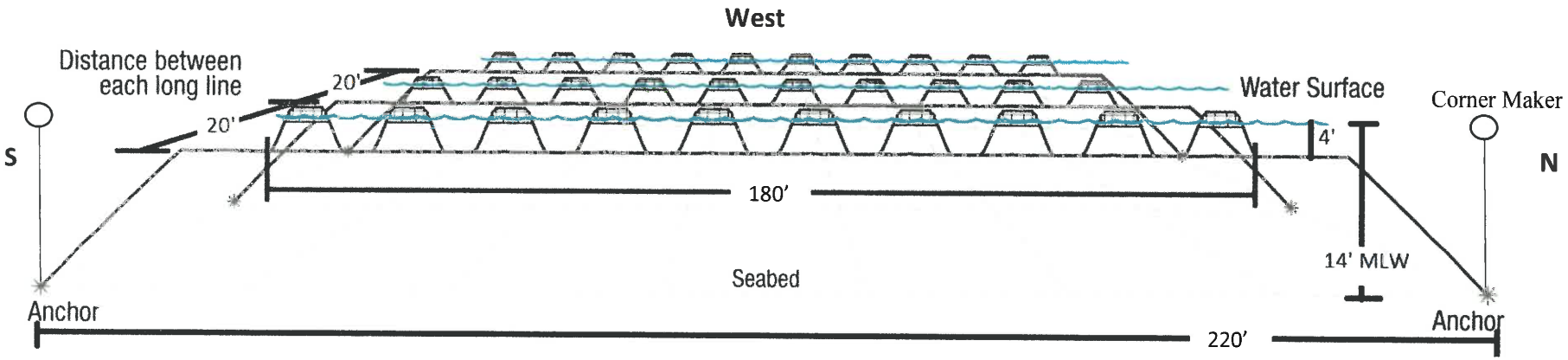
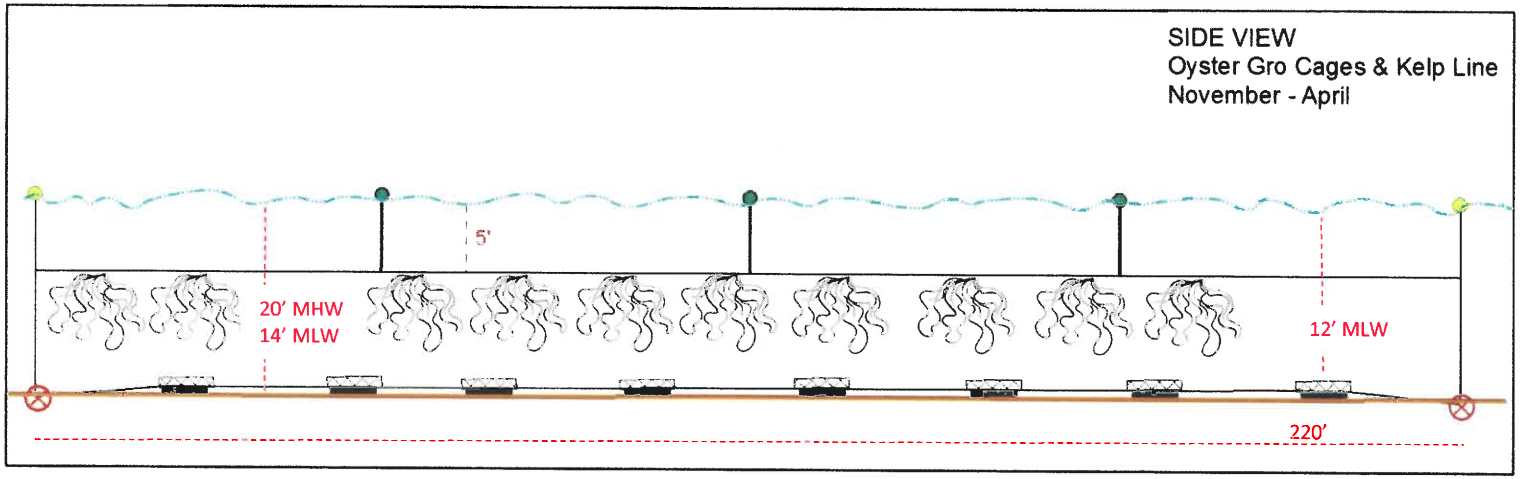


Figure 4. Cross section of oyster cages submerged during winter months with kelp planted above. A maximum of 30 kelp lines will be deployed utilizing the same space and ground tackle as the oyster cages. Kelp Lines will be placed according to the location of oyster cages which have been submerged for the winter. *Figure created by M. Griffin 12/2017.*



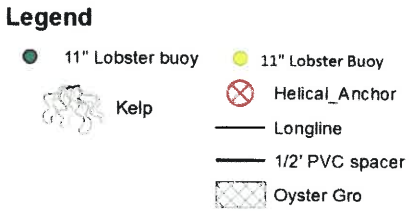


Figure 5. Cross section of scallop cages and oyster bottom cages on the proposed lease. When utilized, bottom cages will be placed on the four western most longlines. *Figure created by M. Griffin 12/2017.*

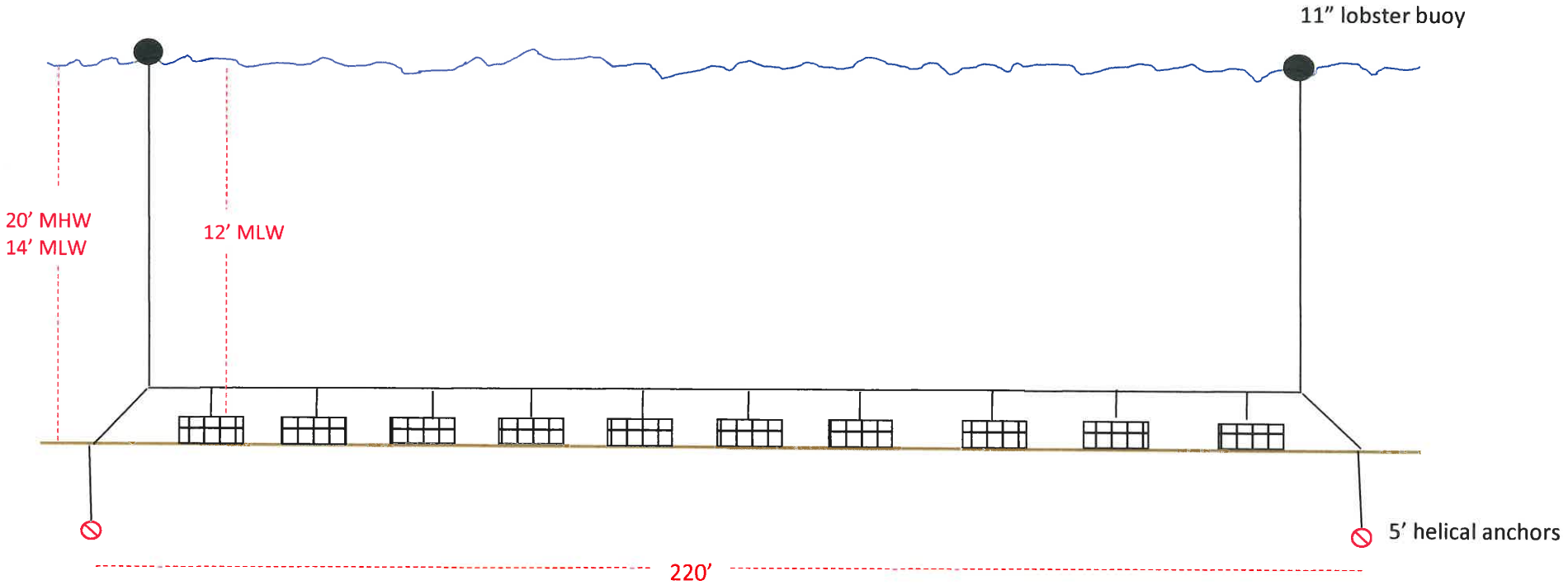


Figure 6. Floating oyster cage diagram. Images created by M. Griffin and adapted from Oyster Gro 12/2017.

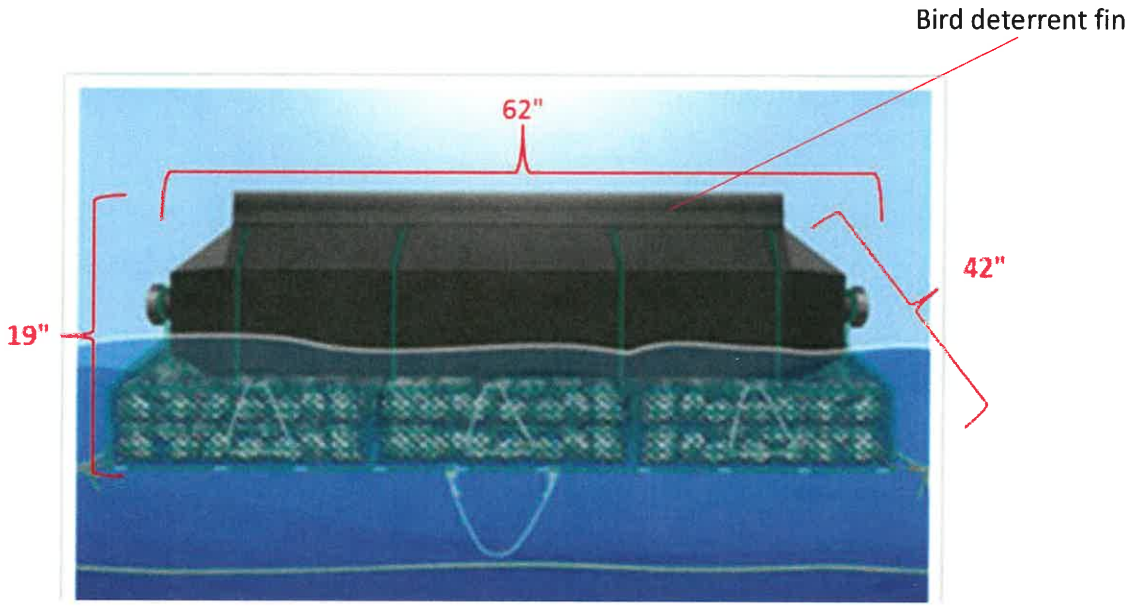


Figure 7. Kelp long line spacer. Three spacers will be placed along each kelp line at 50 ft. intervals to hold the line 5 ft. below the water surface. *Image created by M. Griffin and adapted from (Kelp Farming Manual, A Guide to the Process, Techniques, and Equipment for Farming Kelp in New England Waters) 12/2017.*

Figure 8. Scallop cages and oyster bottom cages. Cages will be placed on a 180 ft. longline and sit on the seafloor. Images created by M. Griffin 12/2017.

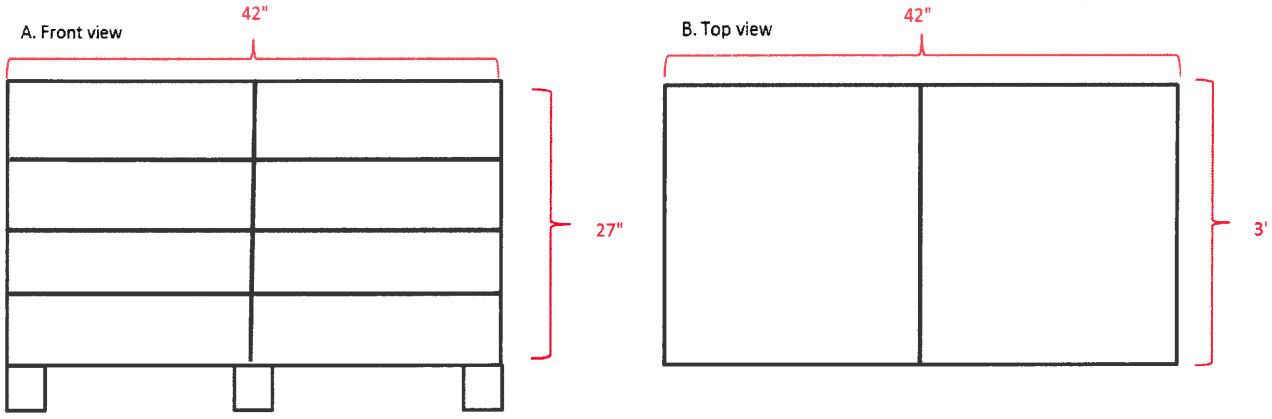


Figure 9. Vexar bags holding oysters and scallops. Bags placed in floating and bottom cages. *Image created by M. Griffin and adapted from oyster-mesh.com 12/2017.*

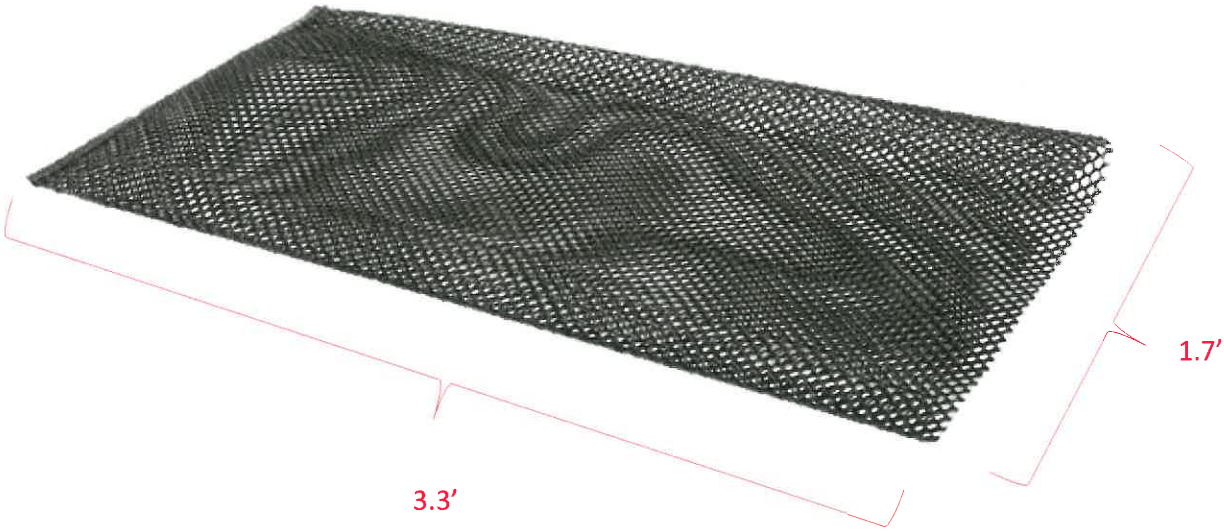


Figure 10. Flip Farm™ basket.

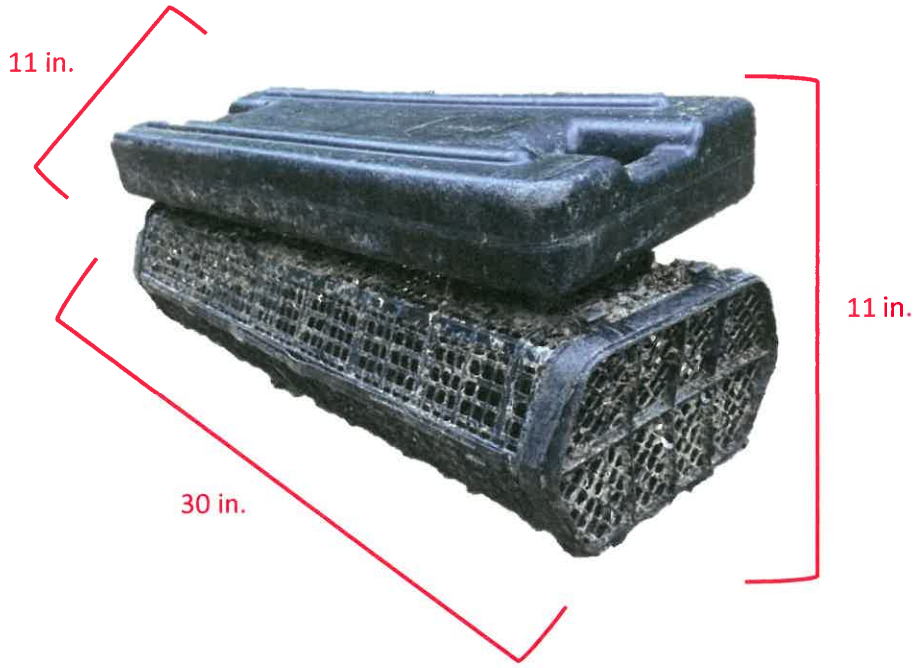


Figure 11. View looking north from proposed lease.

Figure 12. View looking east from proposed lease.

Figure 13. View looking south from proposed lease.

Figure 14. View looking west from proposed lease.

Figure 15. Map depicting 1,000 ft. radius in all directions from the proposed aquaculture lease.

Saltbox proposed expansion
Existing leases
1,000 ft. radius from proposed lease
Proposed navigation channel
Navigation aids – day markers

SALTBOX PROPOSED EXPANSION

Area: 3.8 Acres
Dimensions: 220 ft. x 750 ft.
Gear type: Floating and bottom cages. Continuation of current gear type.
Species: Oyster, bay scallop, sugar kelp
Purpose: Increased production with species diversification. Dedicated area for shellfish restoration.

Table 2. Existing uses within 1,000 ft. from the proposed lease as defined in Shell-fAST-RI Viewer < https://crc-uri.maps.arcgis.com/apps/webappviewer/index.html?id=806df39d4a6649e2a22a5f299b03ae4b >.

CATEGORY	META-DATA	DIST. FROM LEASE (ft.)	NOTES
Property Owners			
Maria Renzuli	Parcel 43-9	1,100	New construction (2023). Not within direct view of lease.
Approved Aquaculture leases			
G. Watson	CRMC 2019-11-010	145	Approves expansion
R. Blank	CRMC 2001-05-133	174	Approves expansion
R. Pinherio	CRMC 2019-01-063	161	Contact NA
T. Blank	CRMC 2019-10-057	438	Approves expansion
Golden Nugget Oysters	CRMC 2004-09-146	761	Approves expansion
CRMC Right of Ways			-
Chaffe Nature Preserve	Parcel 31-47	708	-
CRMC Water Use Types			-
Within lease	Type 4	0	-
West of lease	Type 1	207	-
Protected Shorlines			-
Chaffe Nature Preserve	Parcel 31-47	708	-

Figure 16. Map depicting the proposed lease and current aquaculture leases, overlaid on NOAA bathymetry contours.