

1. Location of Proposed Lease

A. Vicinity Map. Attached as Exhibit 1.

B. Boundary Description. Attached as Exhibit 1.

2. Land Owners

Certified list of riparian owners and copies of Trenton tax maps are attached as Exhibit 2.

3. Research Program and Operation

A. Purpose and Design of the Study

This is an applied research project which began in 2008 on three adjoining 2-acre lease tracts near the head of Goose Cove in Trenton, Maine. The center and eastern tracts (leases BHB GC 2 and BHB GC3) were leased for bottom and suspended culture. The western tract (lease BHB GC1) was leased for bottom culture only. This application is intended to add suspended culture to the western tract. All three leases are currently being considered for renewal by DMR, so that the experiments begun in 2008 can continue to completion.

The experiments are intended to measure the survival and growth of quahogs or hard clams (*Mercenaria mercenaria*) planted on the bottom as small seed clams at varying sizes, densities, and times. Nets are used on some portions of the lease sites to test their effectiveness at preventing predation and mortality of the clams.

Research thus far on this project has shown definitively that planting small clams without nets results in unacceptable levels of mortality due mostly to green crab predation. Without nets, survival rates through the first planting year are as low as 17%. With nets, survival surpasses 90%. Goose Cove contains the northernmost and easternmost population of wild quahogs in the eastern United States. Our project will serve to protect and enhance the existing resource as we are using local clams as brood stock.

Adding permission to use nets on this lease site will not significantly change the presence of the lease in Goose Cove. The activity on this lease site will be the same as that on the two adjoining sites and will not be any more visible or impinge on other activities in the vicinity. I am requesting permission to add nets on this lease site in order to continue the experiments there without incurring unacceptable mortality among the seed clams.

B. The species, amount and proposed sources of organisms to be grown

Quahogs or hard clams (*Mercenaria mercenaria*), 500-750 thousand organisms supplied by the Downeast Institute (DEI) in Beals, Maine.

C. Description of culture and harvesting techniques to be used

Clams will be planted directly into the lease area mud flats with some plots covered with nets to test survival, optimum density, and planting methods. I request to use low-profile netting on the bottom, specifically netting constructed of ¼" black polyester mesh spread over individual plots within the lease site measuring 14' x 20' or smaller. Netting will be anchored to the bottom by trenching and burying edges of the net or staking the net with small pieces (14" +/-) of lath to protrude no more than 5" above the bottom. Clams will be harvested by hand and/or with bullrakes.

D. Expected length of study

Three years. All three leases are currently being considered for renewal by the Department as experimental scientific leases for terms of three years each.

E. Research as scientific or commercial

This research is scientific at this stage, with a goal of determining effective aquaculture techniques for growing quahogs in this region. It is being conducted in part under a grant from the Maine Technology Institute. As I said in my original lease application,

“...excellent markets exist in eastern Maine in the Ellsworth and Bar Harbor area, however natural production [of quahogs] is very low. If the DEI can help demonstrate the efficacy of hard clam farming in eastern Maine, it is possible that this will open the door to other entrepreneurs who wish to create similar opportunities in Hancock and Washington County.”

4. Existing Uses

- Limited/occasional hard clam harvesting, recreational and commercial. There is a limited population of soft shell clams near shore (mostly a closed area at this time) and none in or near the proposed lease site(s). I and one other harvester use this resource commercially. While mussels grow outside the mean low tide line at the edge and beyond the proposed lease site, the area has never been used as a commercial resource that anyone knows of. There may be rare incidental use for mussel harvesting but in the main, mussel harvesting has been non-existent in the area as any kind of traditional use.
- I am the most regular and primary harvester on what is approximately 150 acres of harvestable flats. I use the area 1 to 3 times per week depending on the season. The other harvester is there less than once per week. It is rare to see anyone else harvesting, commercial or recreational.
- There is one boat owner with a mooring in the area, approximately 1800 ft. from the proposed site. The mooring, when in use, is above the half-tide line. There is no general navigational channel or navigational channel in the area. There is minimal ingress and egress for recreation by kayak and canoe.

5. Exclusive Use

This project will continue to require exclusive use on two acres in the subtidal zone at the edge and center of the low tide line in Goose Cove. Very small clams will be planted in succession and rotation will need to be protected from siltation, digging and any disturbance of substrate.

Certain conditions regarding exclusivity were included in the current lease. I request to continue the conditions that apply to the existing lease site in this location, namely:

1. The lease site shall be marked in accordance with the requirements of DMR Rule 2.80. Marking buoys shall be of an easily visible form and color so that the sites are readily identifiable by other harvesters in the vicinity, by boaters, and by

Marine Patrol. The buoy color must be significantly different from whatever buoys the Coast Guard may require for navigational marking purposes and must not resemble navigational buoys. The buoys may be lobster buoys or some other buoy-like floating object.

2. Boating is permitted on the site.
3. The lessee shall have exclusive use of the site for all shellfishing activities.
4. In the event that predator control is required to deter birds or aquatic fur-bearing animals, the lessee shall consult the Maine Department of Inland Fisheries and Wildlife or the U.S. Fish and Wildlife Service, as appropriate for the species in question, as to the methods to be employed.
5. If private property is used for access to the lease sites, written permission from the owner must be obtained by the lessee and provided to DMR, pursuant to rule 2.64 (2) (C) (6).

6 Description of Proposed Lease Site.

A. Environmental Characterization.

This site will work for the aquaculture of hard clams evidenced by the existing wild population in the area. There is good recruitment and survival of young clams from wild spawning in the cove, indicating low predation and other mortality due to weather such as freezing in the winter.

Also, green crabs are present in only small numbers making their impact through predation less of a concern than is likely in other areas. Water temperatures rise early and stay warm longer relative to water depth, tidal flow, and full southern exposure from sunrise to sunset.

1. Bottom characteristics: generally a mix of mud and sand
2. Mean low tide water depth is less than 2 to 5 inches. Mean high tide depth is approximately 10 ft.
3. Topography: bottom is flat with slight incline seaward.
4. Plants are virtually or completely non-existent. Blood and sand worms are common though not at commercially gainful harvestable levels. Hard clams are moderately abundant. Soft shell clams do exist in the cove nowhere near the site. Mussels are common within the 150 ft. of the mean low tide line.
5. Current speed is tidal rise and fall only, north/south.
6. Shoreline is rocky over clay with some areas of gravel and cobble. The upland characteristics include forest and field with homes and camps interspersed.
7. There is no aquatic vegetation evident in the area of the existing lease site.

B. Environmental Impact

The husbandry and harvesting techniques used will not impact the physical or ecological environment around the lease site except as follows:

1. Though not high profile as viewed from shore, corner marker buoys will be visible. Lobster buoy size floats will be used. Stakes (wood) will also be visible and protrude approximately 12 inches above the flats.

2. Any spawning of cultured clams on the site will result in an increase of recruitment of young clams into the larger part of Goose Cove.

7. Structures

As on the two adjacent lease sites, one-quarter-inch mesh netting is planned to be laid directly on the bottom over approximately 50 22' x 14' experimental plots totaling approximately 1/3 acre or 1/6 of the total area of the three adjoining lease sites. Flotation attached to the nets will hold them approximately five inches above the bottom.

A. Plan View: Attached as Exhibit 3.

B. Cross Sectional View: Attached as Exhibit 4.

8. Discharge. Not applicable.

9. Marking.

The lease site is currently marked as required by the Department and will continue to be so marked if suspended culture is permitted, except if weather conditions, such as icing, make marking impractical.

10. Escrow Account or Performance Bond and Rental Fee

I have read MDMR Aquaculture Regulations 2.40 and upon issuance of a lease by MDMR I will either open an escrow account or obtain a performance bond, as required by DMR.

Downeast Acadia Seafarms
68 Downeast Farm Road, Hancock ME 04640
Joe Porada, Sole Proprietor
jporada@downeastacadiaseafarms.com

Diantha C. Robinson

Aquaculture Administrator & Hearing Officer
Maine Department of Marine Resources
PO Box 8
West Boothbay Harbor, ME 04575

Dear Diantha,

Attached is my request to modify my lease # 1 in Goose Cove, BHB GC 1. I propose to add nets to this lease area as written in BHB GC 2 & 3 as attached here.

This change will include the nets as shown or they will be smaller. They will cover most of the site; actually about 50% of the site given spaces between treatments.

It has been definitively shown, through our work thus far, planting small clams without nets results in unacceptable levels of mortality due mostly to green crab predation. Without nets survival rates through the first planting year are as low as 17%. With nets, survival surpasses 90%.

The lease presence in the cove will not be significantly changed as a result of this modification. It is unlikely our new plan will be any more visible or impinging on any activity around the site(s).

Thank you for your consideration.

Sincerely

Joseph Porada
Downeast Acadia Seafarms

Amendment to Lease BHB GC #1, Held by Joseph Porada

Lease Application Article #7: Structures

Modification request:

Currently Lease BHB GC #1 does not include the use of "structure", in this case being low profile netting on bottom.

I request modification to include 14' X 20', or smaller, netted plots as shown in attached drawings. Netting is constructed of 1/4" or smaller mesh anchored to the bottom by trenching and burying edges of the net or staking with small pieces (14" +/-) of lath to protrude no more than 5" above bottom.

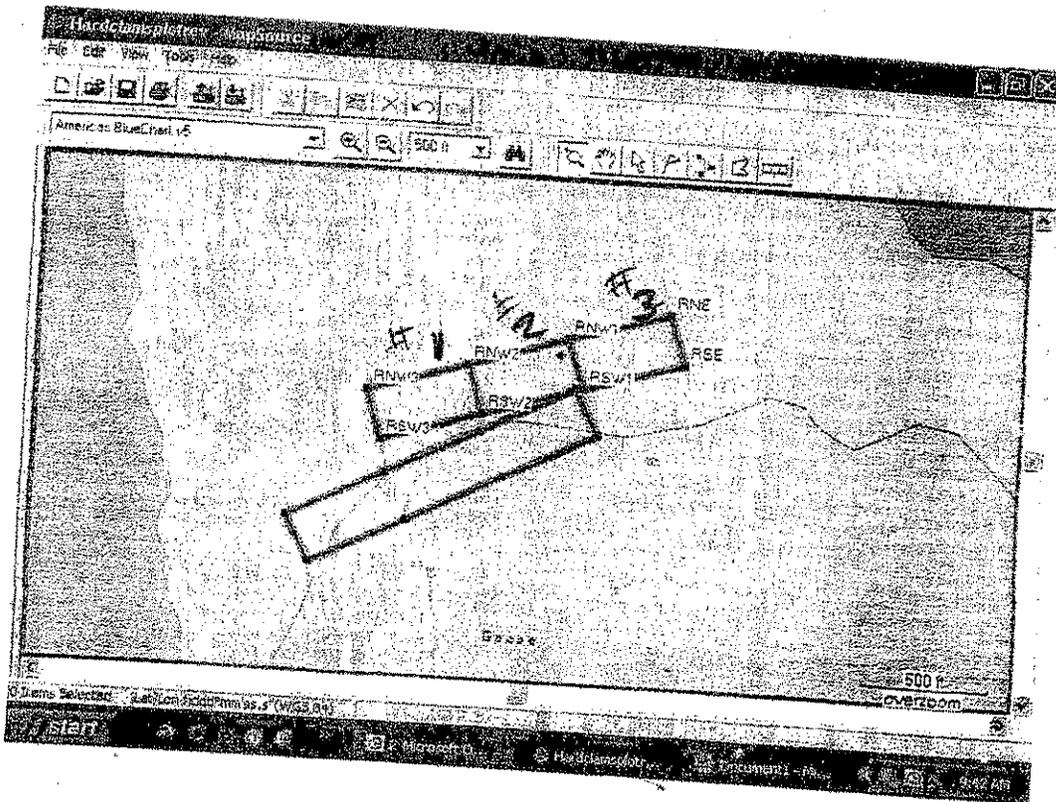
EXHIBIT 1

Joe - Attached is the way the revised location of your leases would plot out. I kept the rock 50 feet inside the northern boundary and 50 feet inside the middle tract. I also shifted the site 10 degrees as you suggested. This is the way it would lay out

The coordinates in degrees minutes and seconds would be (all the corners have an "R" in front of them just for my bookkeeping - you can drop them to avoid any confusion) Each lease would be 416 feet East West by 208 feet North South. Bearings around the lease would be 163 deg, 253 deg, 343 deg and 73 deg. Starting at the NE corner and moving clockwise.

NE	44 25 53.217N	- 68 23 05.360W
SE	44 25 51.253N	- 68 23 04.522W
SW1	44 25 50.052N	- 68 23 10.004W
NW1	44 25 52.016N	- 68 23 10.842W
SW2	44 25 48.851N	- 68 23 15.486W
NW2	44 25 50.815N	- 68 23 16.324W
SW3	44 25 47.650N	- 68 23 20.969W
NW 3	44 25 49.614N	- 68 23 21.807W

COORDINATES FOR
 BHB GC1
 BHB GC2
 BHB GC3



- RIPARIAN OWNERS LIST -

THIS LIST MUST BE
 *** CERTIFIED ***

On this list, please show the current owners' names and mailing addresses for all shorefront parcels within 1,000 ft. of the proposed lease site. Ask the Town Clerk to complete the certification form below. If the parcels are within more than one municipality, provide a separate, certified, riparian list for each municipality.

TOWN OF: Trenton, Maine

RE: Goose Cove Aquaculture Leases: BHB GC-1, BHB GC-2, and BHB GC-3 (Joseph Porada)

This list should contain all shorefront (riparian) lots around the head of Goose Cove, from Map 6, Lot 24 on the southwest side, around the head of the cove to Map 11, Lot 7 on the northeast side. Please check ALL these names and mailing addresses to make sure that the list shows the current listings as held by the Town of Trenton for these lots. If any of these lots have been subdivided, note the new map and lot numbers and the owners' names and mailing addresses.

MAP #	LOT #	Landowner name(s) and address(es)
✓ MAP 6	24 ✓	Norman Gilley, 102 Mountain View Drive, Trenton, ME 04605
✓	23 ✓	Jacob R. & Cathlin H Gordon <u>GET NAME AND ADDRESS</u> PO. Box 669, Gulf Breeze FL 32562
✓	22 ✓	Jeffrey Castonguay, PO Box 512, Bar Harbor, ME 04609
✓	21 ✓	John Cussen, 68 Stackpole Rd, Somerwosorth, NH 03878
✓	20 ✓	Marion Hodgkins, 22 Waters Edge Dr, Trenton, ME 04605 1477 Tremont Rd. Seal Cove, ME 04674
✓	18 ✓	Marion Hodgkins, 22 Waters Edge Dr, Trenton, ME 04605 *see above
✓	16	Associated Properties, PO Box 644, Winsted CT 06098 Lawrence Clive J. Newby St. Elm Cottages
✓	15	Cyress Davon UK EX 5-5 Gordon Hitchcock, PO Box 644, Winsted CT 06098 *Re-mailed to: 56 Bridle Dr., Barkhamsted, CT 06063-3422
✓	11 ✓	Same as above Adrien Hogben, Anne Hogben, 25 Village Inn Rd, Apt 210, Bar Harbor, ME 04609
✓ MAP 10	63	<u>11-1</u> <u>GET NAME AND ADDRESS</u> Same as above Kenneth Gray, 399 Oak Point Road, Trenton, ME 04605

Map 10, Cont'd.

63-1 ✓

Cathy Scarola, 25 Lambert Dr, Sparta, NJ 07871

7 Havenhill Rd.

Hamburg NJ 07419

55 ✓

Peter Gorham, 56 Blackberry Lane, Trenton, ME 04605

16 13th St.

Bangor ME 04401

55-1 ✓

Peter Gorham, 56 Blackberry Lane, Trenton, ME 04605

see above

54 ✓

Anthony Cantonese, 36 Blackberry Lane, Trenton, ME 04605

PO BOX 735

Groton MA 01450

51 ✓

Rebecca Richardson, 157 Sumner Mist Rd, Bar Harbor, ME 04609

*Thundermist Rd.

46 ✓

Steve Savage, 30 Hopkins Meadow, Trenton, ME 04605

45 ✓

Gregory Ball, PO Box 584, Southwest Harbor, ME 04679

44

GET NAME AND ADDRESS

N/A

43 ✓

Dale Worthen, 310 Oak Point Rd, Trenton, ME 04605

42 ✓

Phyllis E Sauter, 750 Oakridge Lane

~~David Baldwin, 49 Academy St., Arlington, MA 02476~~

Belleair Bluffs FL 33770

41 ✓

Robert Johnstone, 60 Commonwealth Ave, Boston, MA 02116

40 ✓

Frederick Warner, 60 Warner Road, Barkhamsted, CT 06063

39 ✓

Phillip Vitiella, 596 Spring Road, Bedford, MA 01730

38 ✓

Dennis Damon, 256 Oak Point Road, Trenton, ME 04605

36 ✓

Michael Voorhees, 2 Brandy Lane, Aliso Viejo, CA 92656-2933

35 ✓

Lucille Harding, 230 Oak Point Road, Trenton, ME 04605

Molly Harding

17 Peninsula Dr.

Sag Harbor NY 11963

56 ✓

Richard Biello, 637 Bark St, Swansea, MA 02777

PO BOX 1247

Fair River MA 02722

55 ✓

Paul Skofield, PO Box 122, Fortuna, CA 95540

MAP 11

MAP 11
Cont'd.

✓ 54 ✓ Herbert Silsby, 10 Pleasant St, Ellsworth, ME 04605

✓ 52 ✓ Mark Nadel, 31 Osprey Lane, Trenton, ME 04605

✓ 51 ✓ <sup>255 21st St. N.W.
Canton OH 44709</sup>
John McQuaide, 1067 Northampton St, Holyoke, MA 01040

✓ 45 ✓ William Labelle Jr., 58 Megan Lane, Mariaville, ME ~~GET ZIP~~ 04605

✓ 44 ✓ Elizabeth S.P. Anthony ~~Trustee~~, Trustee
→ William Wallace, Po Box 926, Northeast Harbor, ME 04662 ← Town's Address
103 Vernon Lane, Moylean PA. 19065

43 **GET NAME AND LOT NUMBER**

✓ 42 ✓ Elizabeth Anthony Trustee
103 Vernon Lane Moylean, PA 19065
Margaret Kroupa, PO Box 5296, Ellsworth, ME 04605

✓ 41 ✓ Leo J. Michaud Ellsworth ME 04605
PO Box 1596
Leo Michaud, 29 & 32 Fran's Way, Trenton, ME 04605
See Above

✓ 40-1 ✓ Frederick Stoddard, 11 Hycrest Lane, Old Town, ME 04468

✓ 40 ✓ Jane McLeod c/o Bar Harbor Trust SVC
~~Katherine MacLeod, 30 Payson Rd, Falmouth, ME 04405~~
135 High St. PO Box 1100, Ellsworth ME 04650

✓ 38-1 ✓ Robert Cameron, 9 Captain Douglas Lane, Trenton, ME 04605

✓ 38 ✓ John Blodgett, 4329 Mountville Road, Jefferson, ME 21755

✓ 37 ✓ John Blodgett, 4329 Mountville Road, Jefferson, ME 21755

✓ 36 ✓ ~~John A Bennett~~
~~Mark Warren, 47 Deasey Road, Trenton, ME 04605~~
47 Deasey Rd, Trenton, ME 04605

✓ 35-1 ✓ Denise Zeller, 71 Deasey Lane, Trenton, ME 04605

✓ 35 ✓ 24 Saranac Rd
Sea Ranch Lakes FL 33308
Richard Post, 33 Fairbanks Rd, Lexington, MA 02421

✓ 9 ✓ David Rand, PO Box 6, Salisbury Cove, ME 04672

✓ 8 ✓ Peter N. & Athena C. Higgins
~~Robert Kirkwood, 26 Carteret St., Upper Montclair, NJ 07043~~

64 Thxis Rd., Madison CT 06443

MAP 11
Cont'd.

7

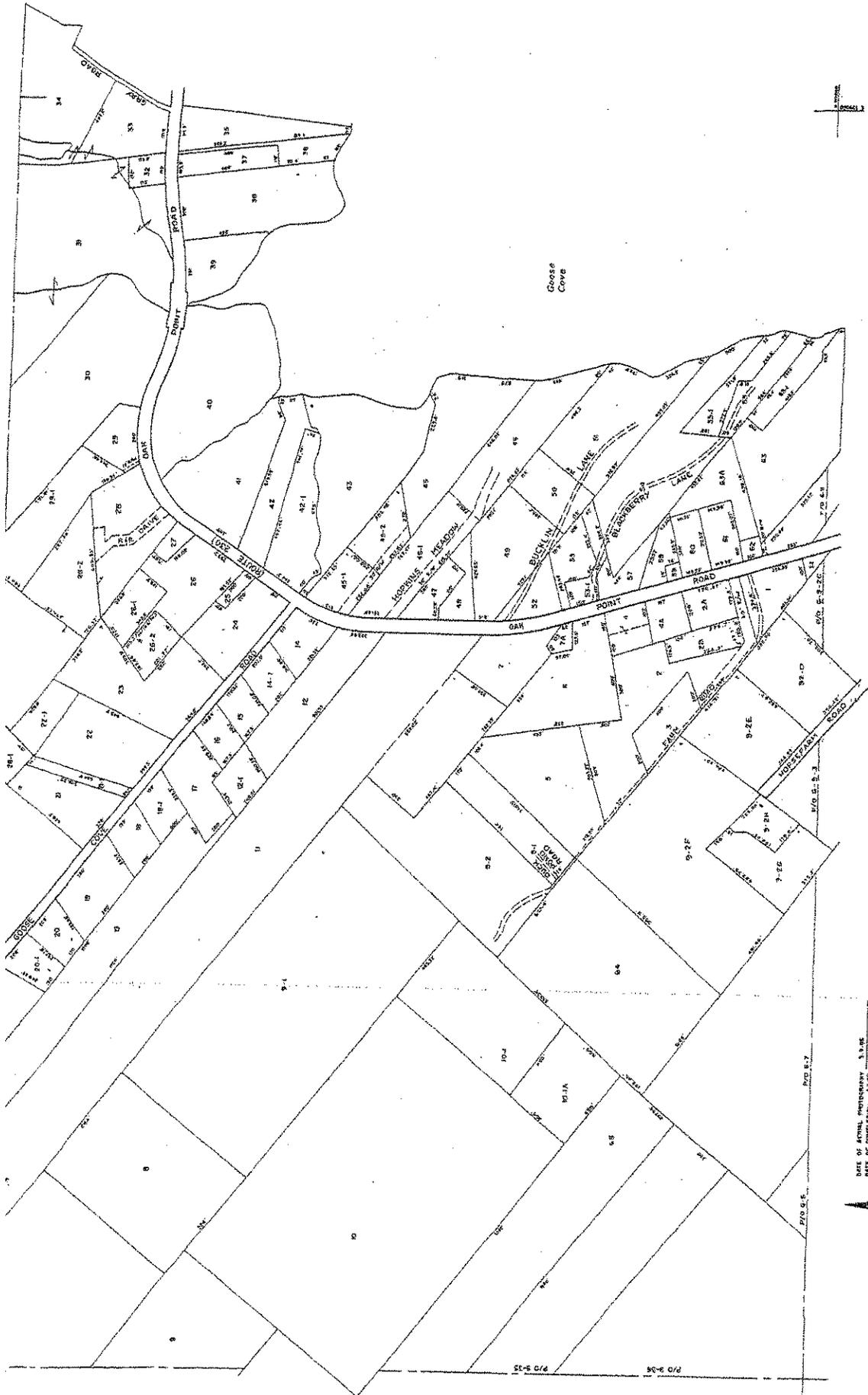
Donald Wheeler, 37 Paradise Lane, Trenton, ME 04605

CERTIFICATION

I, Rachel A. Hyland, Town Clerk of Trenton, certify

that the names and addresses of the property owners listed above are those listed by this municipality and are current as of this date.

SIGNED: Rachel A. Hyland DATE: 1/4/11 SEAL:



14	11
9	10
	6

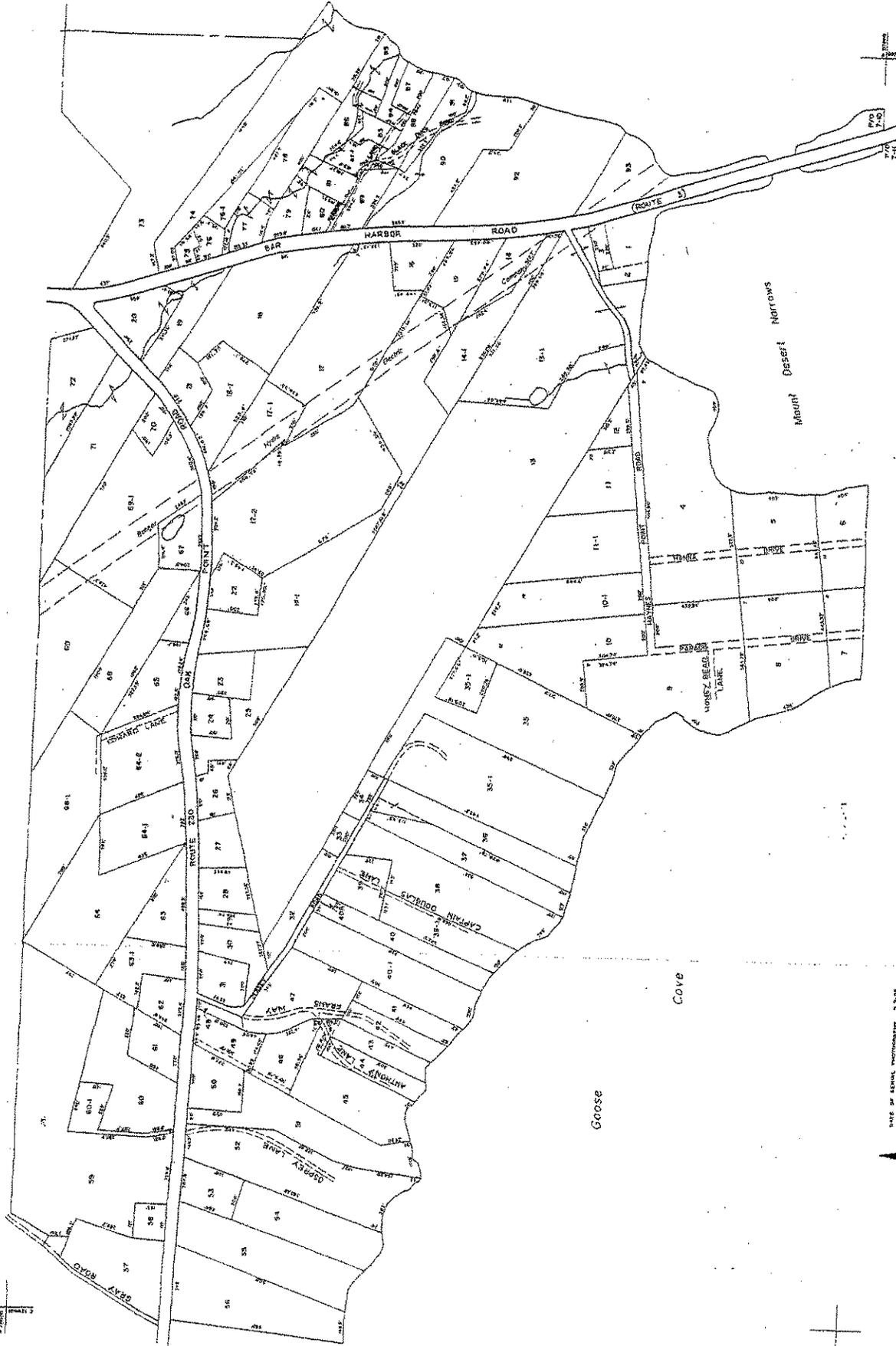
TOWN OF TRENTON
 PREPARED BY
 JAMES W. SEWELL COMPANY, OLD TOWN, MAINE
 SCALE: 1 INCH = 200 FEET

DATE OF ACTUAL SURVEYING 3.8.06
 DATE OF COMPLETION 4.27.07
 DATE OF RECORDING



LEGEND
 PARCEL NUMBERED
 PATCH LINE

For Agreement Purpose
 Not to be used for Reference



15	7
10	11
	12

TOWN OF TRENTON
 JAMES W. SEWELL COMPANY, OLD TOWN, MAINE
 SCALE: 1 INCH = 250 FEET

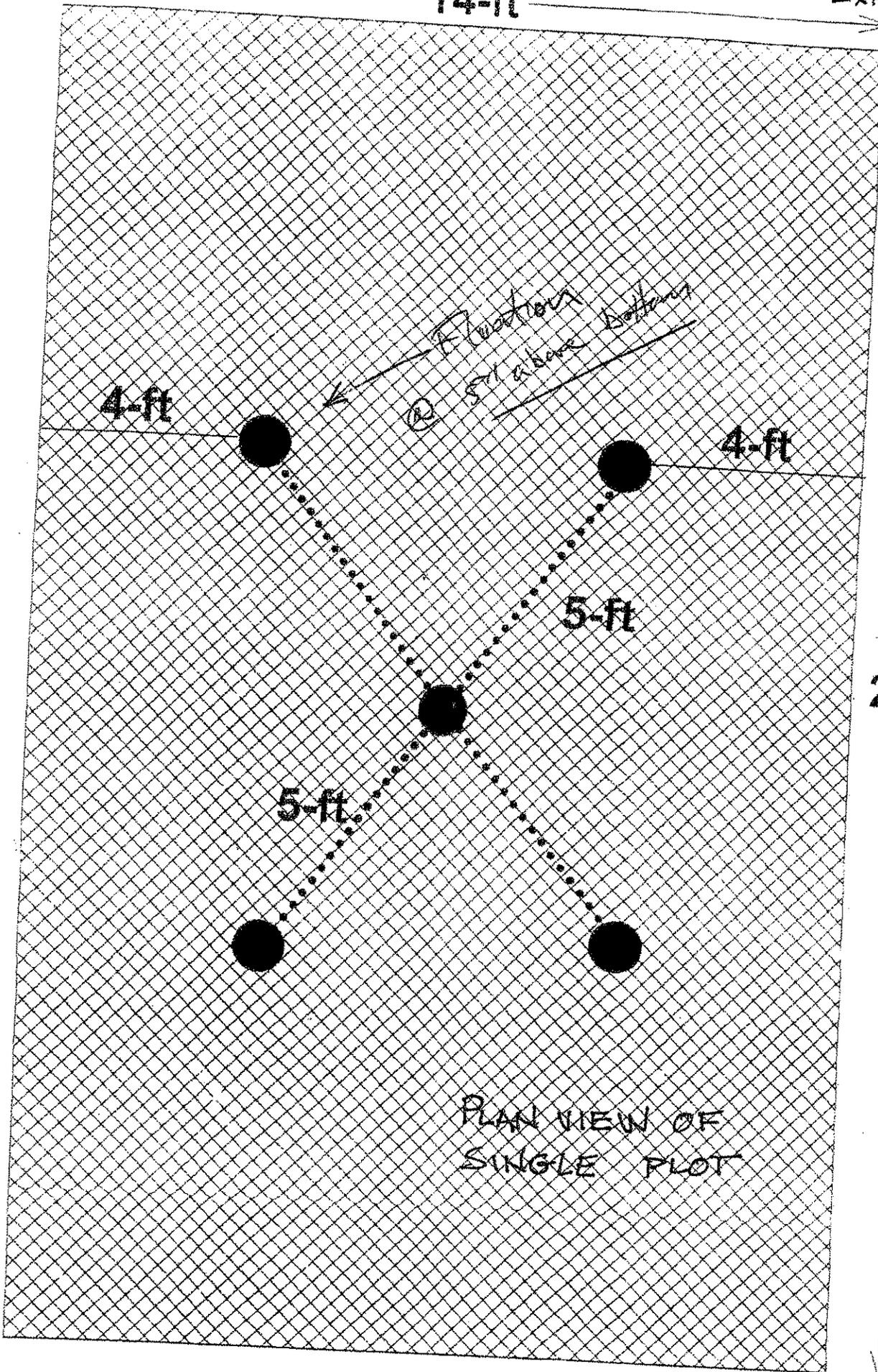
LEGEND
 ALL RIGHTS RESERVED
 DATE OF CONSTRUCTION
 DATE OF REVISION
 DATE OF RECORDING



15

14-ft

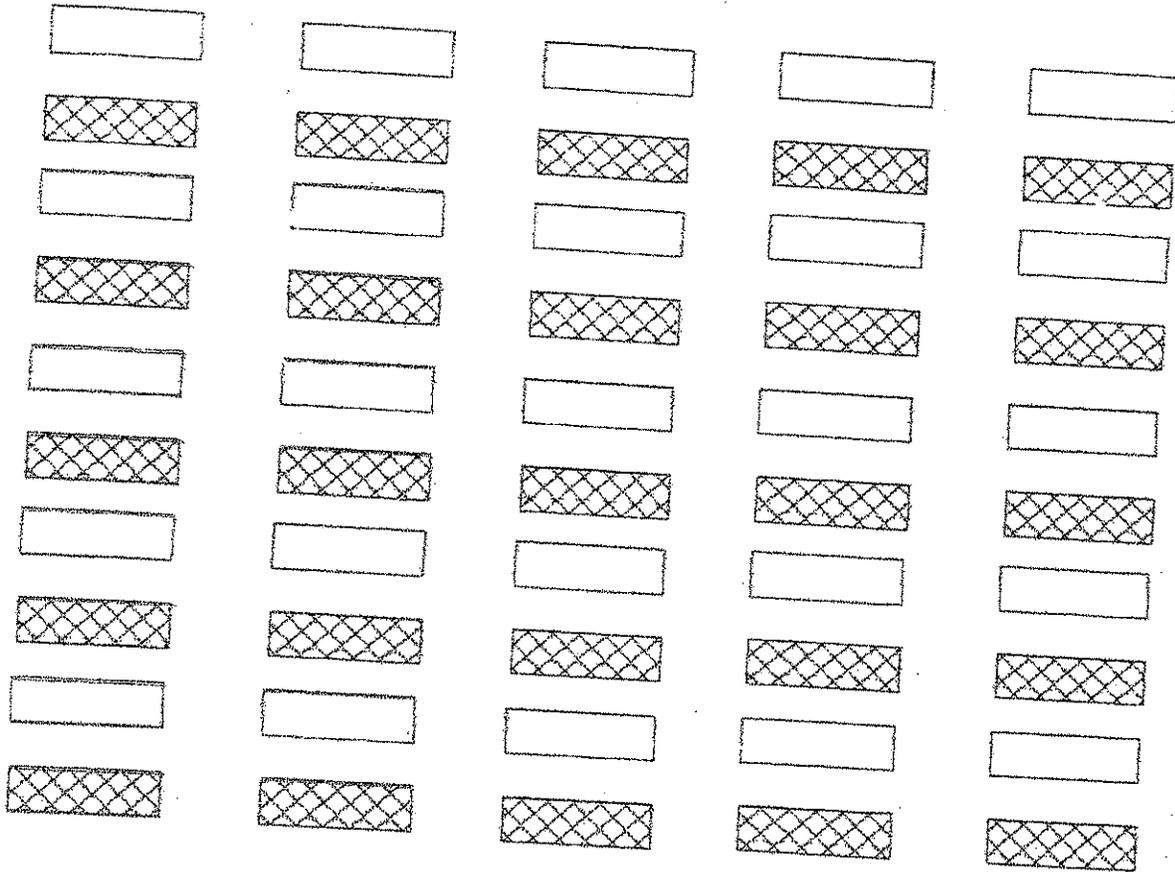
EXHIBIT 3-1



20-ft

PLAN VIEW OF
SINGLE PLOT

West



East

PLAN VIEW OF
MAXIMUM GEAR
LAYOUT ON BHB GC 1

GOOSE COVE LEASE APPLICATION AMENDED FOR STRUCTURE

CROSS-SECTION
OF NETS ON BHB GC1

Netting suspension approx. 5 in.
(Stars indicate floats/plot)

