Canada

Guide to the Pacific Marine Finfish Aquaculture Application

October 18, 2017

BRITISH COLUMBIA

TABLE OF CONTENTS

INTRODUCTION

Multiple agencies participate in the harmonized application review process. Fisheries and Oceans Canada (DFO) is the agency responsible for regulating, monitoring and licensing all marine finfish, shellfish, freshwater and landbased aquaculture operations in the province. DFO's responsibility includes most aspects of the aquaculture industry including, but not limited to: species cultured, production practices and volumes, fish containment, fish health, sea lice levels, marine mammal and escape mitigation, and fish habitat protection measures.

Transport Canada (TC) is the federal department responsible for reviewing and approving applications for the placement of aquaculture containment and/or structures within the navigable waters of Canada.

The Ministry of Forests, Lands and Natural Resource Operations and Rural Development is the provincial ministry responsible for managing Crown land, including the issuance of land tenures. This includes tenures for aquaculture facilities and ancillary uses on land covered by water, upland and foreshore. The Ministry is also responsible for the management and licensing of wild harvest and culture of aquatic plants.

The Guide to the Pacific Marine Finfish Aquaculture Application ("the guide") describes the information required by the federal and provincial agencies to review an application for a marine finfish aquaculture facility in British Columbia.

An application must be submitted for any of the following:

- A new marine finfish aquaculture facility;
- An amendment to an existing federal aquaculture licence or provincial Crown land tenure, such as:
  - Change in tenure area
  - Change in species and/or production
  - Change in infrastructure
- A rebuild, repair or alteration of an existing aquaculture facility that has a *Navigation Protection Act* (NPA) authorization.

As applicable, the federal and provincial agencies will coordinate the review and assessment of applications, including government agency referrals, First Nation consultation, and public comments, and work to synchronize decision making.

At the completion of the review process each agency will make its independent decision under the relevant legislation.

Please note, in addition to the harmonized application form, there may be additional provincial authorizations required for a facility that need to be submitted on separate applications.

PRE-APPLICATION CONSIDERATIONS

It is in the best interest of the proponent to follow the recommendations below as this information may affect the feasibility of the proposal:

- Use the provincial **Natural Resource Sector Online Services** or the **iMapBC** mapping tool to identify interests or conflicts overlapping or in the vicinity of the proposed area;
- Review the **Federal Siting Guidelines** posted on the DFO website;
- Consult the **Introductions and Transfers Committee** (ITC) for advice on applicability of proposed species;
- Ensure the area is zoned for the intended use by contacting **local government** and reviewing **land use plans** or coastal and marine plans;
- Consider information sharing with First Nations.

In response to the *Commission of Inquiry on the Decline of Sockeye Salmon in the Fraser River*; the Province will not accept applications for new salmon net-pen aquaculture facilities, or amendments at existing farms for the purposes of production increases, in the Discovery Islands until September 30, 2020.

ELIGIBILITY REQUIREMENTS

To apply for Pacific Marine Finfish Aquaculture authorizations, an applicant must meet the following requirements:

Provincial Requirements

To be eligible for a Crown land tenure under the BC *Land Act*, applicants must be:

- Canadian citizens or permanent residents 19 years of age or older; or,
- Corporations that are incorporated or registered in British Columbia. Corporations also include registered partnerships, cooperatives or non-profit socieities formed under the relevant Provincial statutes.
- First Nations can apply through Band corporations or Indian Band and Tribal Councils. Band or Tribal Councils require a Band Council Resolution a) authorizing the council to enter into the tenure arrangement, and b) giving the signatories of the tenure document the ability to sign on behalf of the Band. For tenures to be registered in the Land Title Office, First Nations must apply through either a Band corporation or trustees. Band members can elect one or more trustees to hold a tenure on behalf of the Band. Verification of election must be by way of a letter signed by the Chief and councilors of the Band, giving the full names of the trustees and stating that they were elected at a properly convened meeting of the Band. A Band Council Resolution is not required.
- In the case of aquatic land, non-Canadians or non-Canadian companies who are incorporated or registered in BC can apply if they own the adjacent upland. This provision applies to applications for commercial as well as private purposes.

Fisheries and Oceans Canada Requirements

To be eligible for an aquaculture licence under the *Pacific Aquaculture Regulations*, *Fisheries Act* (Canada), applicants must be:

- Individual(s) or companies legally entitled to operate a business in Canada; and
- Individual(s) at least 19 years of age.

Transport Canada Requirements

To be eligible for a *Navigation Protection Act* (NPA) approval, applicants may be:

- A federal, provincial, or municipal government; or
- A person, company, organization or Crown Corporation.

For a change in ownership contact:

westcoast.landreferrals@gov.bc.ca and provide your contact information and tenure file number.

Once a tenure is transferred to a new owner, you must contact DFO at:

amdreferral.xpac@dfo-mpo.gc.ca to request a transfer of the federal aquaculture licence.

GLOSSARY

Amendment – Means a change to an existing authorization.

Application Package - Means the Pacific Marine Finfish Aquaculture Application and supporting materials required for submission of an aquaculture proposal under the *Fisheries Act (Pacific Aquaculture Regulations), Navigation Protection Act* and/or BC *Land Act*.

Chart Datum - Means the level of water from which charted depths displayed on a nautical chart are measured.

Containment Structures - Means net pens, bag cages, tanks or similar structures used to contain fish for the purpose of aquaculture.

Containment Structure Array – Means a group of containment structures physically attached to each other, or in the case of circular structures, up to a maximum of 60m apart.

Finfish - Means vertebrate fish.

Finfish Aquaculture - Means the growing and cultivation of finfish for commercial purposes in any water environment or in human made containers of water.

Glass Sponge Complex - Means structure forming Hexactinellid sponges. Sponges growing in relatively close association, thus providing valuable three-dimensional habitat, will be considered a sponge complex. Sponge complexes can be found growing on multiple planes (e.g. growing on a rock wall).

Grow-out- Means growing-out a product from juvenile to market size or harvest.

Incidental Aquaculture Use – Means the movement, alteration or addition of improvements (including anchors) within the approved tenure and that represents a change of 30% or less to the footprint of improvements. This term is applicable only in reference to the provincial *Land Act.*

Introductions and Transfers Committee (ITC) - Means the Federal-Provincial joint committee responsible for reviewing applications for the introductions and transfers of fish and providing recommendations on issuance of the associated licences.

Third Party Assessment - Means an assessment undertaken by someone other than the government or the applicant.

Tenure – Means a provincial authorization issued under the authority of the Land Act to allow for use and occupancy of the provincially owned Crown land or Crown land covered by water.

PART I – GENERAL INFORMATION

NEW APPLICATIONS VERSUS AMENDMENTS

There are two harmonized application forms:

1. New application – this form is required for any aquaculture site which has not existed previously.

2. Amendment application – this form is used to apply for changes to: the tenure area, species, production, and/or to infrastructure.

Unless otherwise indicated, the following sections apply to both new and amendment applications. Please note there is a small section pertaining only to amendments later in this document.

SITE GENERAL INFORMATION

Land Ownership and/or Tenure Type

Depending on the ownership or controlling interest of land in your area of interest, there may be different requirements.

Provincial Crown land:

- If you are intending to use Crown land or Crown land covered by water, a *Land Act* authorization is required. Applications for marine-based aquaculture sites are submitted using the harmonized application form. Crown upland sites, such as hatcheries, are applied for under the **Commercial or Industrial** policies.
- If there is an existing tenure in your area of interest and you have an agreement with that tenure holder you may require a sub-lease agreement approved by the Province; contact **westcoast.landreferrals@gov.bc.ca** for more information.
- If the land is within a provincial park or conservancy, a **Park Use Permit** is required. Prior to completion of a harmonized application, it is recommended that you consult with BC Parks to assess feasibility of your proposal within a provincial park or conservancy.

Private land, Federal land or Harbour Authority:

- If your proposal falls within land that is not Provincial Crown land you will need to contact the land owner or controlling interest (e.g. harbour authority) to obtain authorization to operate.

First Nations Reserve:

- First Nations intending to operate fully on Reserve land do not require a provincial authorization.

Legal Description

If surveyed, provide the legal description as provided by the Land Title Office, e.g., Lot 1 of Section 31, Township 12 W6M Kamloops Division of Yale District Plan 18411.

A legal description is found in the Certificate of Title. A copy of the Certificate of Title must be attached to the application along with a copy of your Registered Survey Plan, if available.

If not surveyed, provide metes and bounds as described in the document ***iMapBC Instructions for Aquaculture Applications,*** available on the provincial **Land Use – Aquaculture** web page.

Global Positioning System coordinates for the center of the application area/tenure

Global Positioning System (GPS) coordinates are required to depict the general site location for aquaculture mapping purposes. For new applications record the center of the proposed tenure area, and for amendments record the center of the new total tenure area (existing and proposed).

These coordinates may be derived by:

- Differential GPS;
- GIS using a digital mapping program i.e. iMapBC; or
- **Canadian Hydrographic Service** (CHS) charts.

Provide the latitude and longitude for the center of the proposed area in degrees decimal minutes or degrees, minutes, seconds.

Note: To convert Decimal Degrees to Degree Decimal Minutes:
For the latitude 45.57463°, 45 is the Degree Value 0.574639 can be converted to the Decimal Minutes value by multiplying by 60 = 45 Deg 34.478 Min (45°34.478')

To convert Decimal Degrees to Degrees Minutes Seconds:
Continue on with calculation above to convert the minutes value to seconds 0.478 can be converted to the Decimal Seconds value by multiplying by 60 = 45 Deg 34 Min 28.7 Sec (45°34'28.7")
On-line calculators are also available.

FIRST NATIONS CONSIDERATIONS

Canada and the Province of British Columbia are legally obligated to consult and, where appropriate, accommodate First Nations on decisions that could impact treaty rights or aboriginal rights and title ("Aboriginal Interests"). Federal and Provincial decision-makers are responsible for ensuring adequate and appropriate consultation and accommodations.

Proponents are encouraged to engage with First Nations as early as possible in the planning stages to build relationships and for information sharing purposes. You may use the Province's **Consultative Areas Database** to identify which First Nations to engage.

For more information please review the Province's website: '**Consulting with First Nations**'; specifically proponents are advised to review: "**Guide to Involving Proponents When Consulting First Nations**".

For applications put forward by or on behalf of Indigenous or First Nations individuals, organizations or corporations contact marine.finfish.aquaculture@dfo-mpo.gc.ca for additional resource materials and information.

Why is the Government required to consult First Nations regarding my application?

The courts have determined that the Crown has a legal duty to consult First Nations and seek to address their concerns before potentially impacting treaty rights or asserted or established aboriginal rights and title ("Aboriginal Interests"). This duty stems from a constitutional obligation arising from the recognition of aboriginal and treaty rights in the Constitution Act, 1982.

What is an Aboriginal Interest?

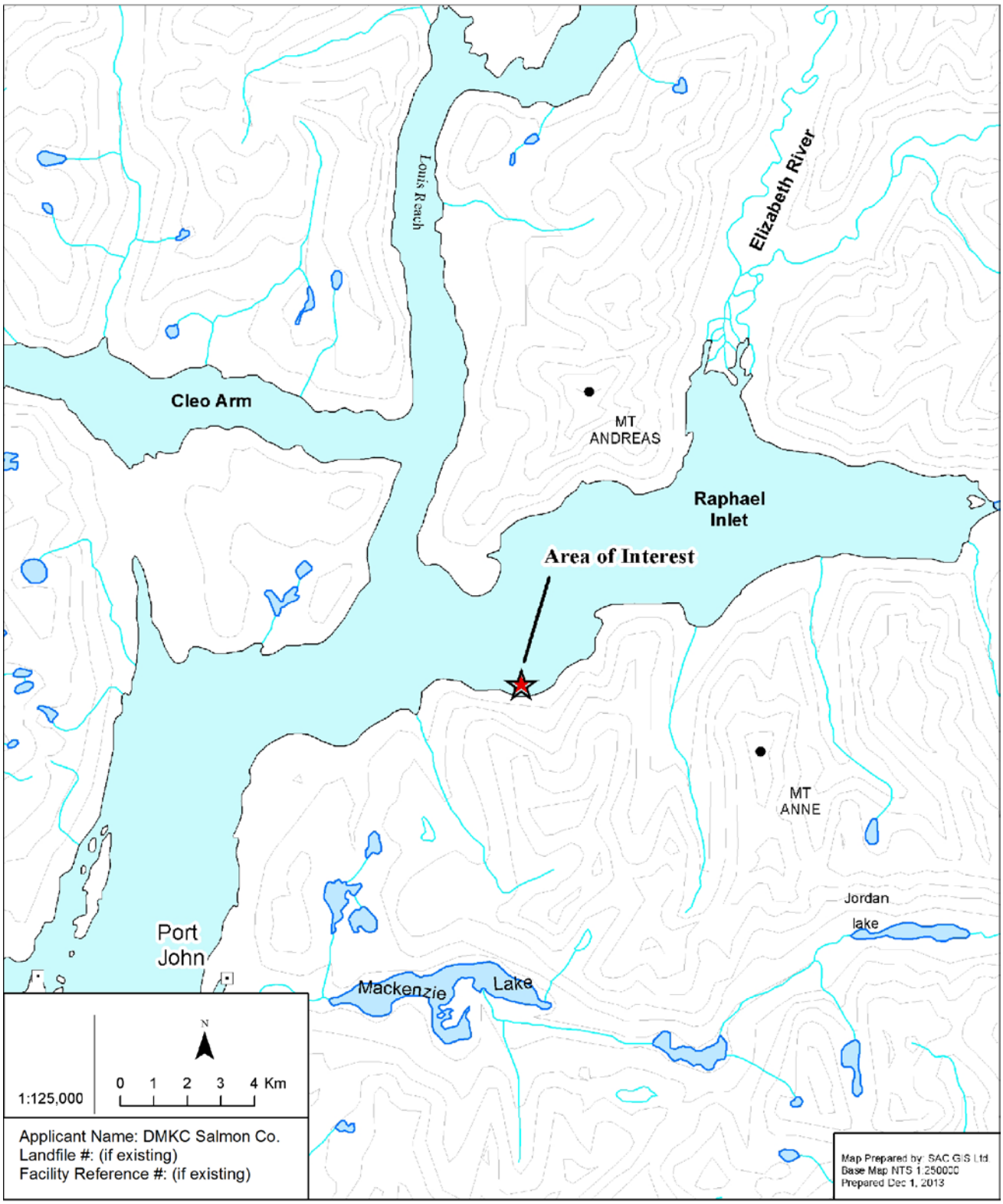
The term Aboriginal Interest refers to claimed or established treaty rights or aboriginal rights (including title). Aboriginal rights are practices or traditions integral to a First Nation culture at the time of contact. Examples include fishing, hunting and gathering plants. Aboriginal title is a subcategory of aboriginal rights that is a unique interest in land that encompasses the right to exclusive use and occupation of land for a variety of purposes. Treaty rights are held by a First Nation in accordance with the terms of a historic or modern treaty agreement with the Crown.

MAPS, DIAGRAMS AND ADDITIONAL REQUIRED DOCUMENTS

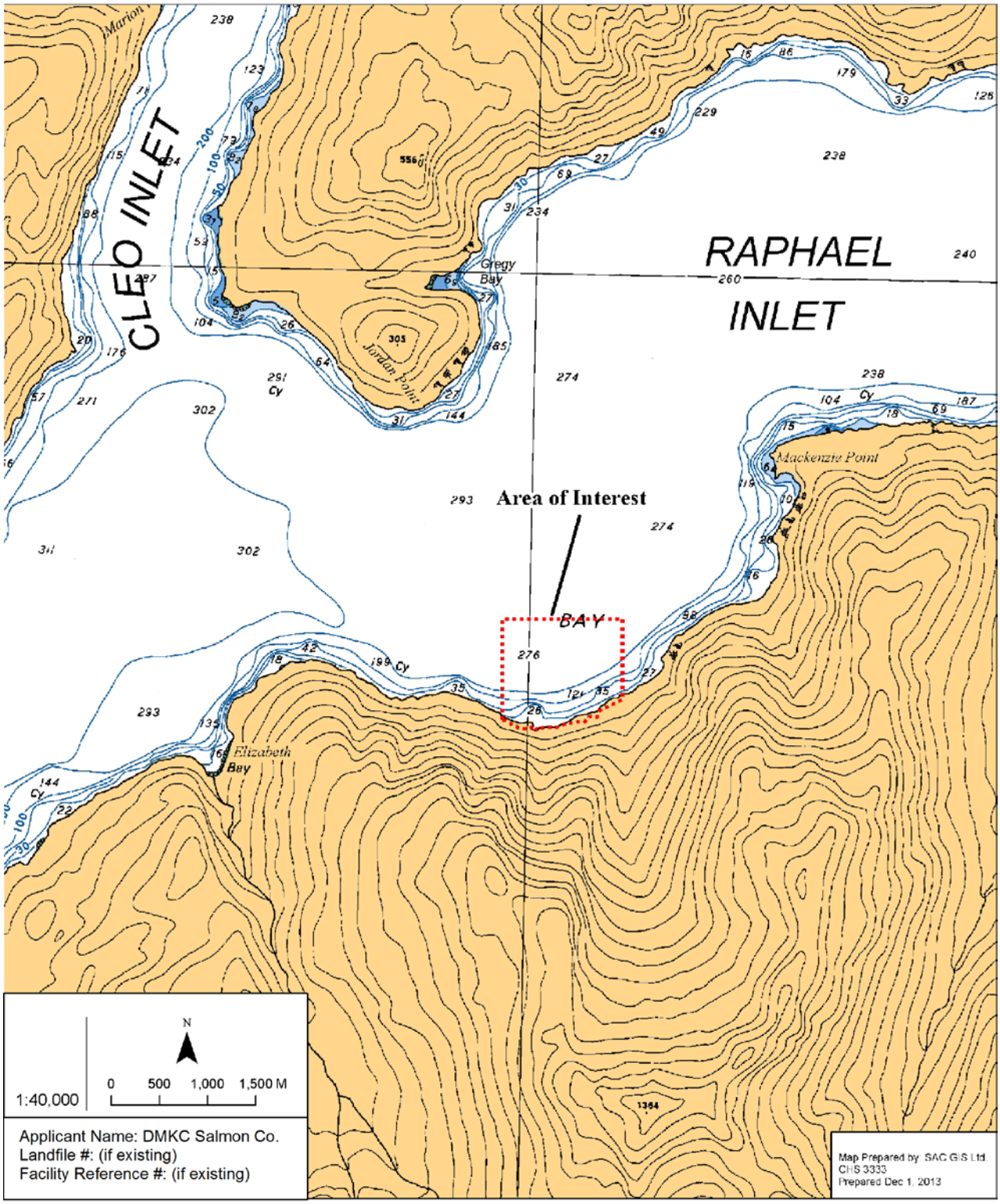
Mapping Instructions

Example maps and diagrams are provided below. For more detailed instructions on creating the general location, detailed location and application area maps using the iMapBC tool, and for instructions on how to create metes & bounds or corner point descriptions, refer to the document ***iMapBC Instructions for Aquaculture Applications***, available on the provincial Land Use – Aquaculture web page.

General Location Map



Detailed Location Map



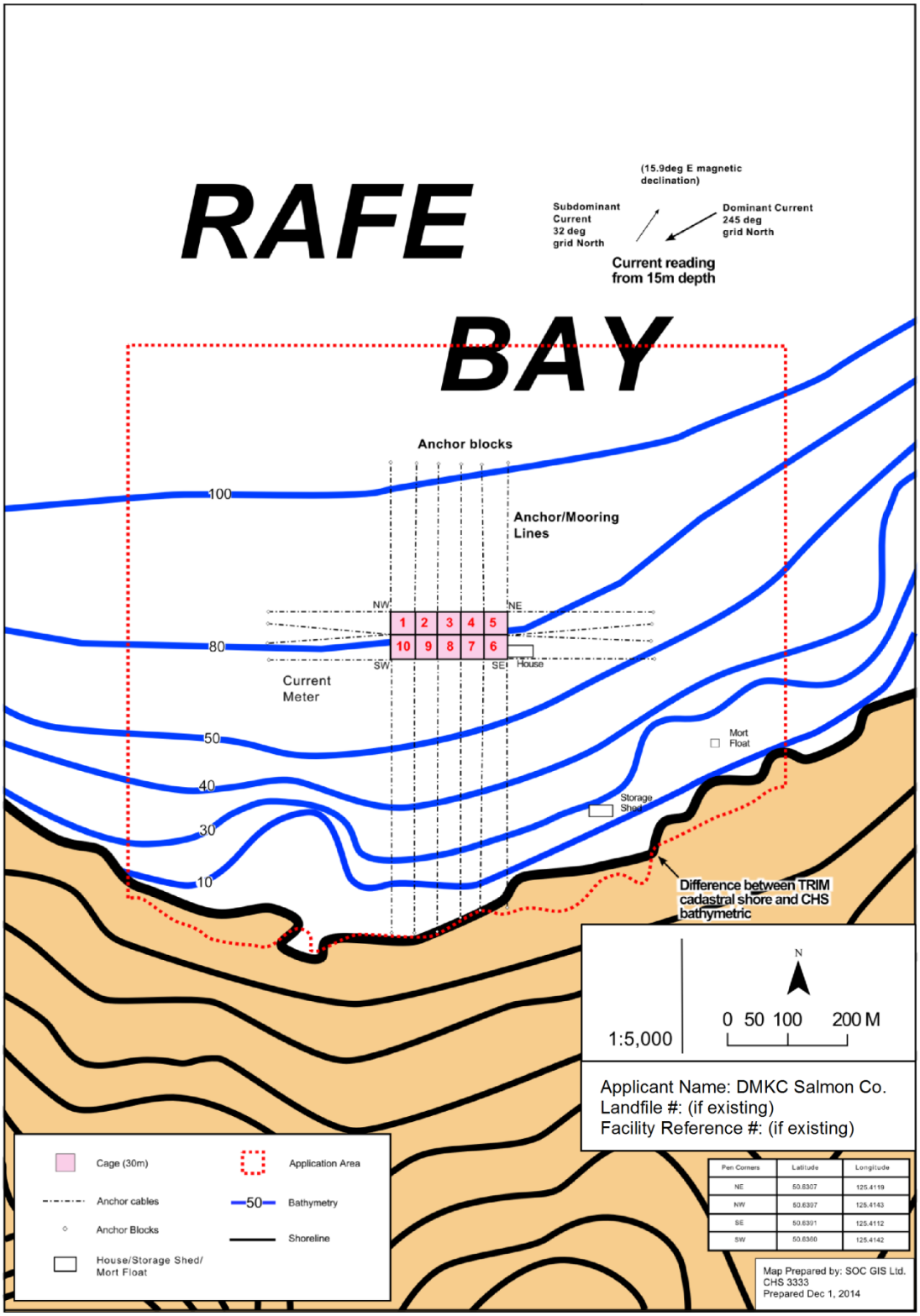
Operational Diagram Instructions

Top View Operational Diagram (New)

- A 1:5,000 scale CHS chart showing the area under application. Please include on the diagram the scale of the original CHS map i.e. 1:30,000 scale and ensure all details on the map are noted relative to the 1:5,000 scale. (Note: distortion will occur during enlargement or reduction of the diagrams so modification may be required to fit the 1:5,000 scale).
- The diagram must include a North arrow and bathymetric contours. The dominant and subdominant current direction(s) should be indicated on the diagram including the bearing(s) (in degrees magnetic) and the location of the current meter should be shown.
- All physical structures associated with the proposed operation must be indicated on the diagram, including all containment structures, anchor lines, feed barges, living accommodations, mort floats, docking stations, miscellaneous work floats, etc.
- The structures noted on the diagram must be the same information contained in the Infrastructure Information Table in the application.
- Containment structures should be labeled from 1 through n, beginning in the north-west corner and proceeding clockwise from there. If an alternate labeling system already exists for the facility, please provide an explanation when the diagram is submitted. These numbers must remain consistent through the length of a grow-out period.
- A table with the latitude and longitude in degrees decimal minutes of each corner of the containment structure array(s) must be submitted. Geographic coordinates for proposed cage corners may be obtained using electronic mapping software; however the licence holder shall ensure a professional Global Positioning System (GPS) is used to obtain real-time (RT) differential or post-processed (PP) differential corrected (corrected dGPS) readings for each corner of the containment structure at high slack tide and submitted to DFO prior to transferring fish onsite.
- A table with the latitude and longitude in degrees decimal minutes of the proposed sampling stations or transects must be submitted. The location of the proposed sampling stations or transects must be established by the process outlined in the *Aquaculture Activities Regulations* and indicated on the 1:5000 (or appropriate scale) Habitat Map submitted with the application.

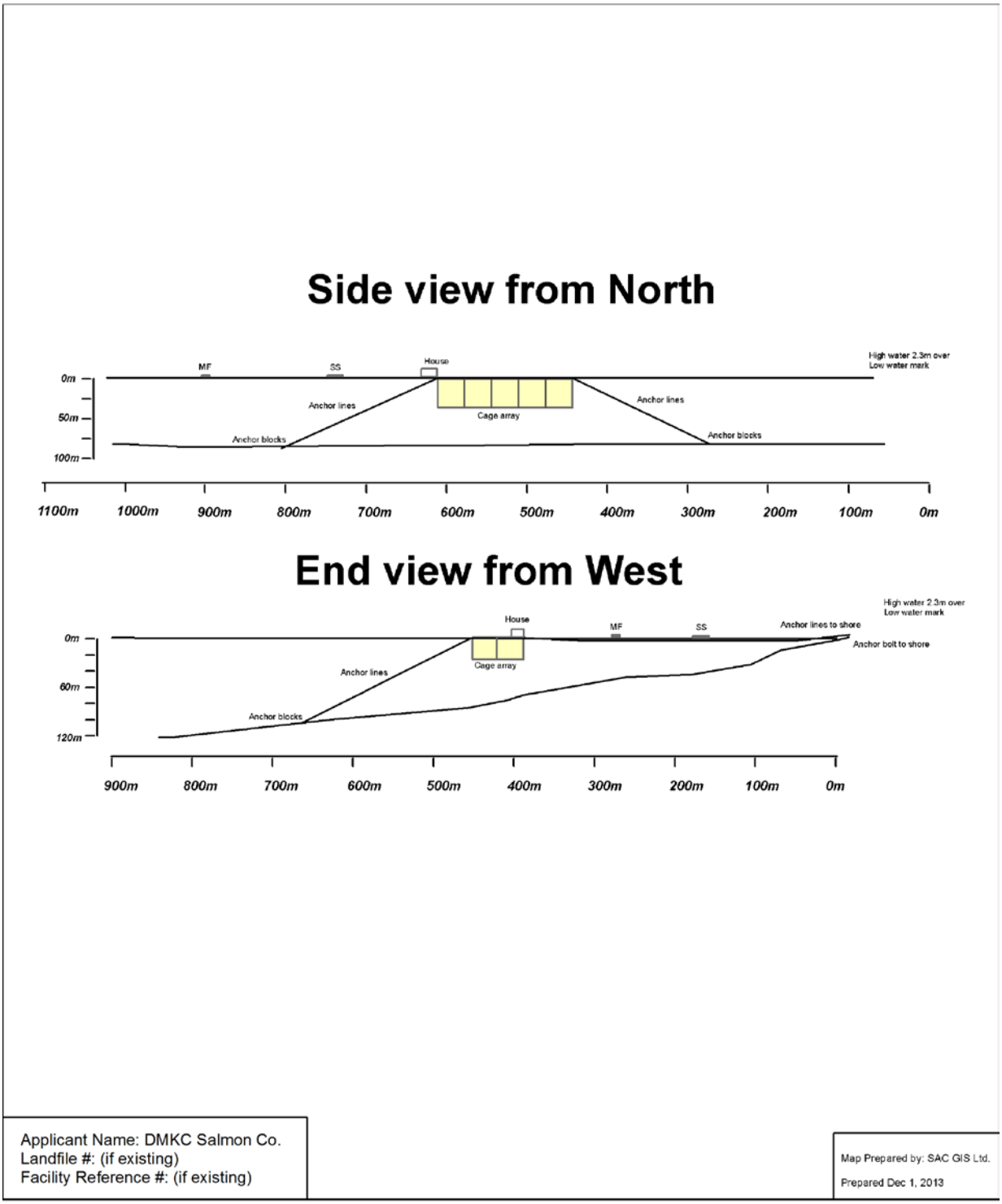
Note: The structures noted on the **top** and **side** view diagrams must be the same information contained in the Infrastructure Information table of the application.

Top View Operational Diagram



Side View Operational Diagram

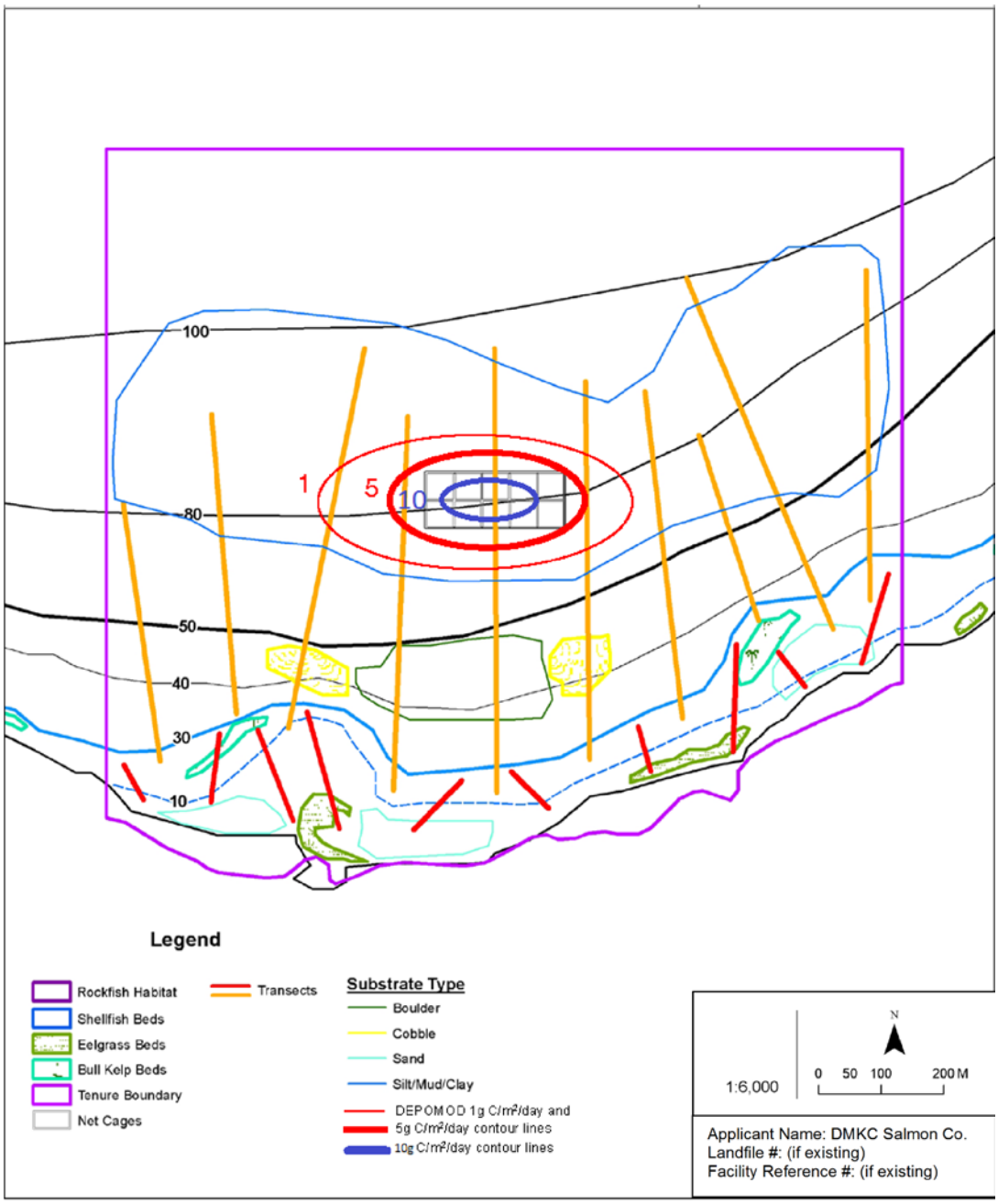
Where possible, the ocean bottom can be used as a reference provided detail is not compromised.



Habitat Map

Contact marine.finfish.aquaculture@dfo-mpo.gc.ca to request more information on assessing the marine species and fish habitat characteristics present in a proposed or existing finfish tenure area. Characteristics include bottom substrate type, depth contours, location and type of megafauna (e.g. glass sponge complexes, coral complexes), shellfish beds, eel grass beds, rockfish habitat and kelp beds. Baseline dive and/or video transect locations and benthic sampling locations must be included. Current meter location, sampling locations and DEPOMOD max feed rate predictions should also be on this map.

Habitat Map — Marine Finfish Site



Intensive Use Area of Site

For the purposes of calculating rent the Province separates the application into intensive use area and extensive use area. The intensive use area is the Crown land occupied by structures that have a physical presence on the surface of the water and includes a 30 metre buffer around those structures. The 30 metre buffer is intended to cover the area where anchor lines are likely to pose a restriction to navigation. The determination of the 30m buffer will vary depending on the layout of improvements, described below.

A worksheet with intensive use area calculations is required (see Part 1, section E of the application form). If more than one cage array option is proposed, i.e. arrays that would not be used concurrently, please submit one worksheet per cage array.

A sample worksheet and calculations are provided below. When completing the worksheet please follow these principles:

Cage Arrays:

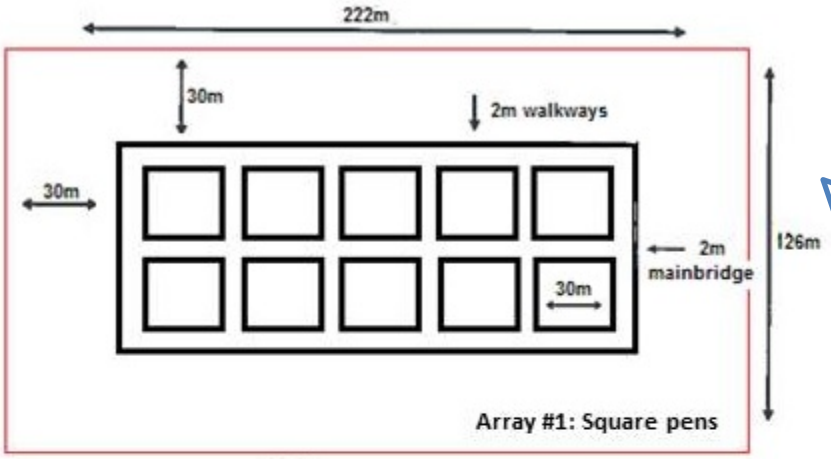
- List each cage array as a separate line item in the worksheet.
- Calculate the intensive use area for each cage array separately, including walkways and a 30 m buffer around each array.
- For circle cage arrays apply the 30 metre buffer around the outside anchor buoys of the grid array.

Ancillary Structures:

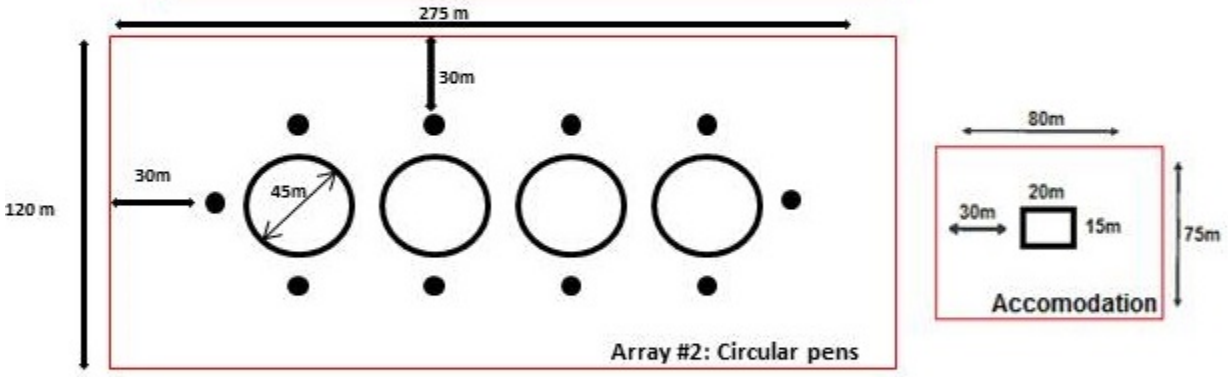
- List each structure as a separate line item in the worksheet.
- Calculate the intensive use area for each structure separately, including walkways, and with a 30 m buffer around each structure.
- If ancillary structures will be permanently grouped in the same location on the tenure, apply a 30m buffer to the perimeter of the grouping and list as a single item on the worksheet.

EXAMPLE: Intensive Use Area Worksheet

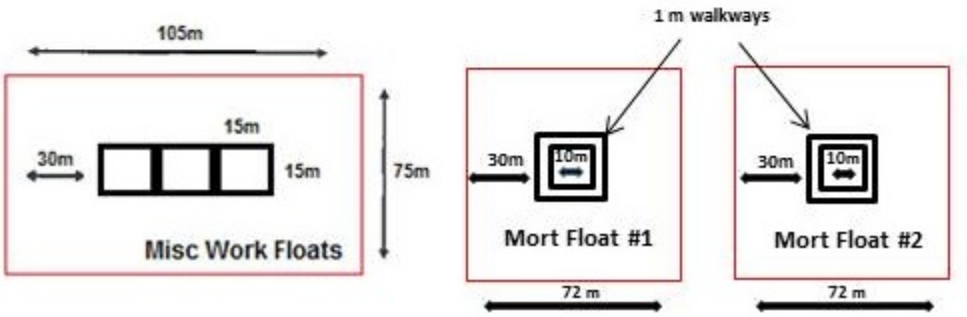
NOTE: This worksheet is required to fulfill application requirement Part 1 Sec. E1-7.



NOTE: For amendments: please label worksheet with the Crown land file number.



NOTE: If the site has multiple cage options, please submit one worksheet per configuration.



Improvement Description	Improvement Dimensions (m)	Quantity of Improvements	Intensive Use Area Calculation (m)	Intensive Use Area (m^2)
Array #1	30m X 30m	10	222m X 126m	27,972m^2
Array #2	45m	4	120m X 275m	33,000m^2
Accommodation	20m X 15m	1	80m X 75m	6,000m^2
Misc. Work Floats	15m X 15m	3	105m X 75m	7,875m^2
Mort Float #1	10m X 10m	1	72m X 72m	5,184m^2
Mort Float #2	10m X 10m	1	72m X 72m	5,184m^2
Total Intensive Use Area (ha*)				**8.52ha** (85,215m^2)

*Rounded to two decimal places.

ADDITIONAL CONSIDERATIONS FOR AMENDMENT APPLICATIONS

Change in Tenure Area

Expansion

Applications to expand the current tenure boundary require an amendment. Please ensure that the Application Area Map and Top View Operational maps for amendments clearly indicate the existing tenured area and the new area being requested.

Reduction

Applications to reduce tenure area may be considered a minor amendment if there are no other changes to the authorization, such as changes in infrastructure. Applications for minor amendments do not require referrals to other government agencies or consultation with First Nations or members of the public. If an application to reduce tenure area involves other changes, such as a change in infrastructure, the full application package may still be required.

Relocation

All requests for relocation of aquaculture sites will be considered against the restrictions in the **Land Use Operational Policy for Aquaculture**. Where proponents are requesting to relocate an aquaculture site from an existing location to an entirely new location that has not been previously used for aquaculture, the proposal should be submitted using the new application form. All other requests for relocation will require an amendment application (i.e. boundary shifts or relocating to a site currently used for aquaculture).

Change in Infrastructure

Incidental use

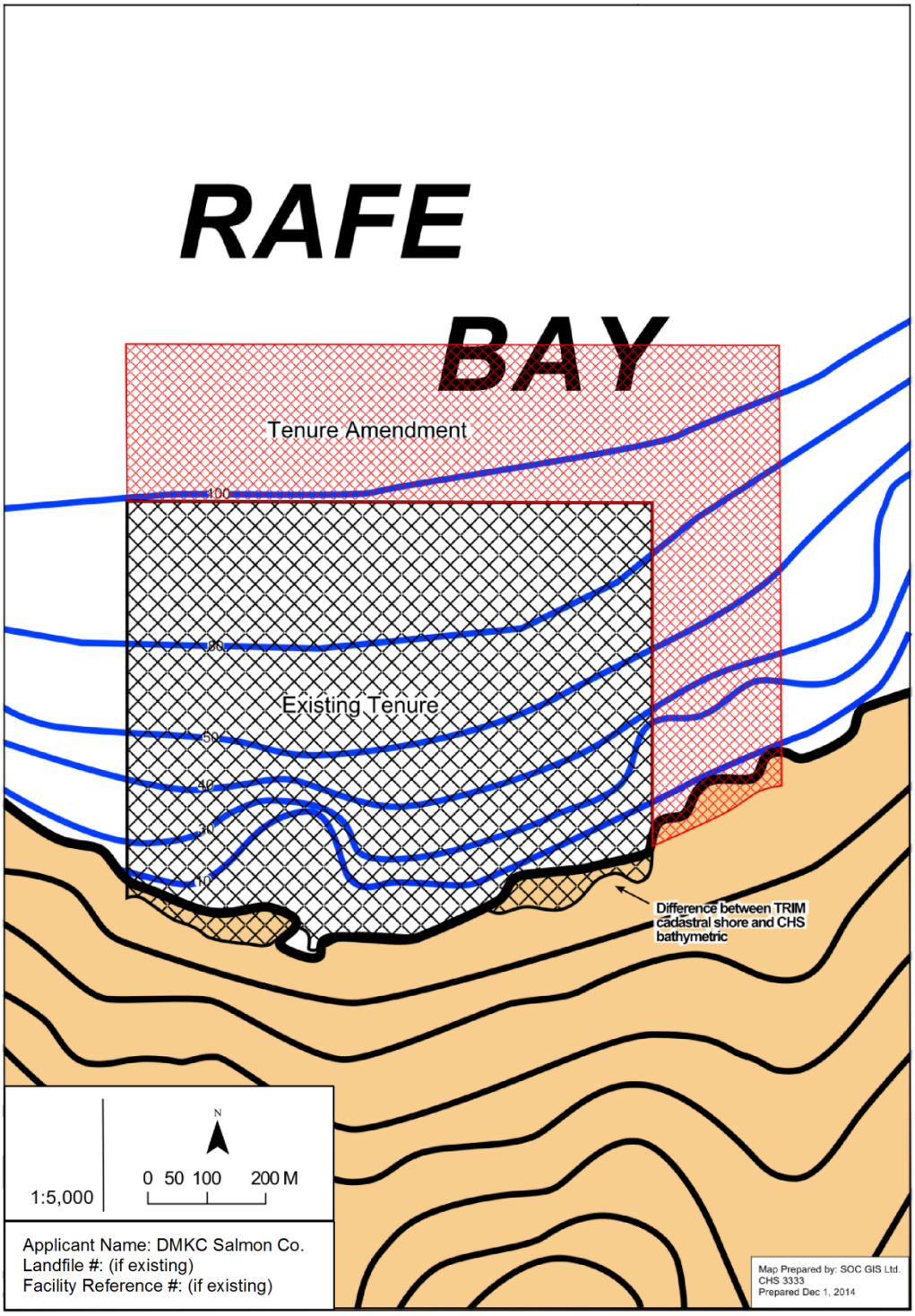
Changes to improvements within an existing aquaculture tenure area that are not considered by the Province to be substantial alterations are considered incidental aquaculture use. Proposed changes that represent an increase of 30% or less of the currently approved Intensive Use Area may be eligible for consideration as incidental aquaculture use.

Incidental use does not require a tenure amendment. More information on eligibility can be found under Section 8.1.1. of the **Land Use Operational Policy for Aquaculture**. If your proposal is eligible under Incidental Use, you may select the check box in Section A2, Infrastructure of the amendment application form and are not required to complete Part II (Sections A and B), nor submit provincial application fees.

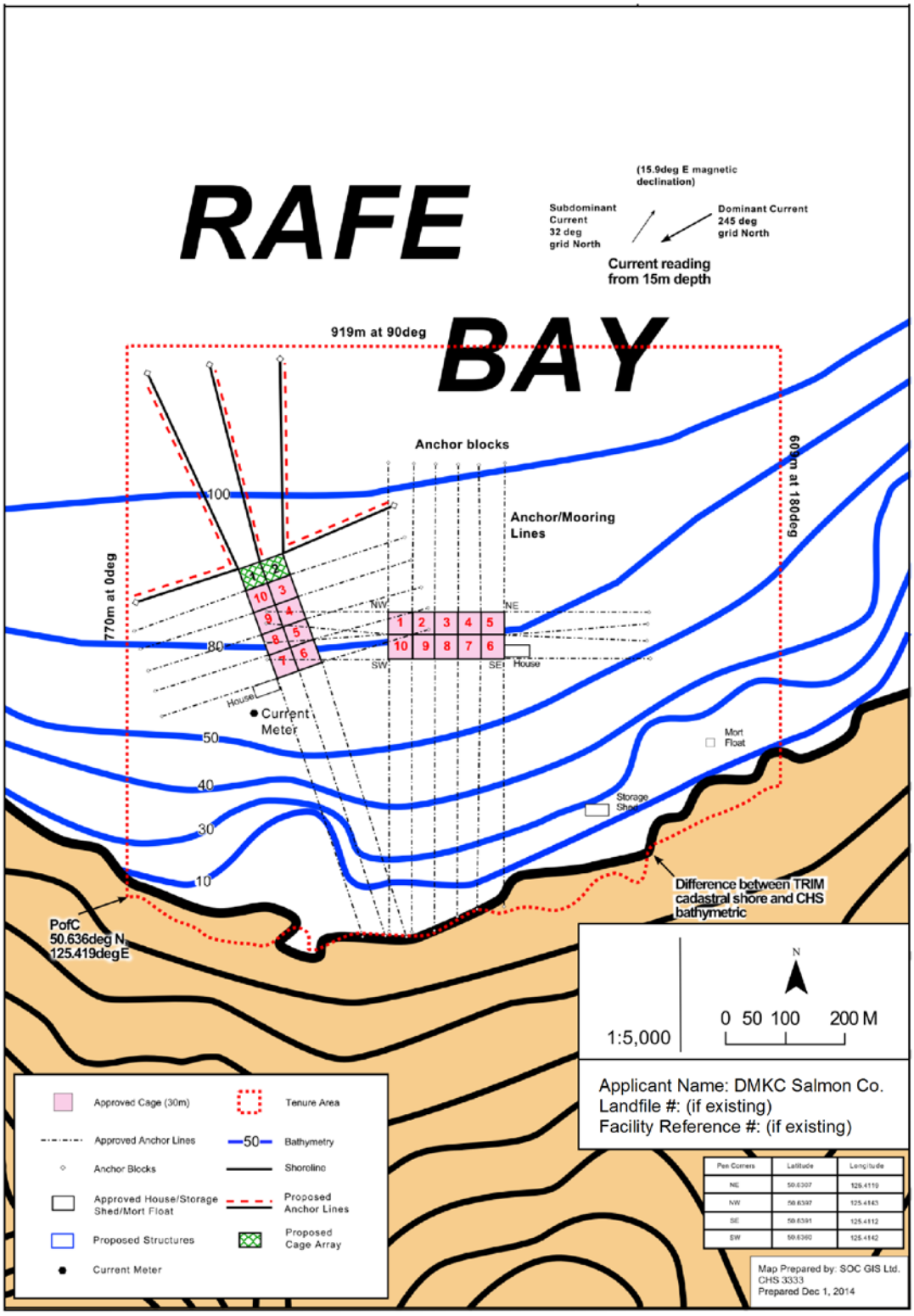
Cage Array Numbering

Applications for amendments within a grow-out period, where pen arrays are altered, must ensure each pen maintains its original number throughout the grow-out period.

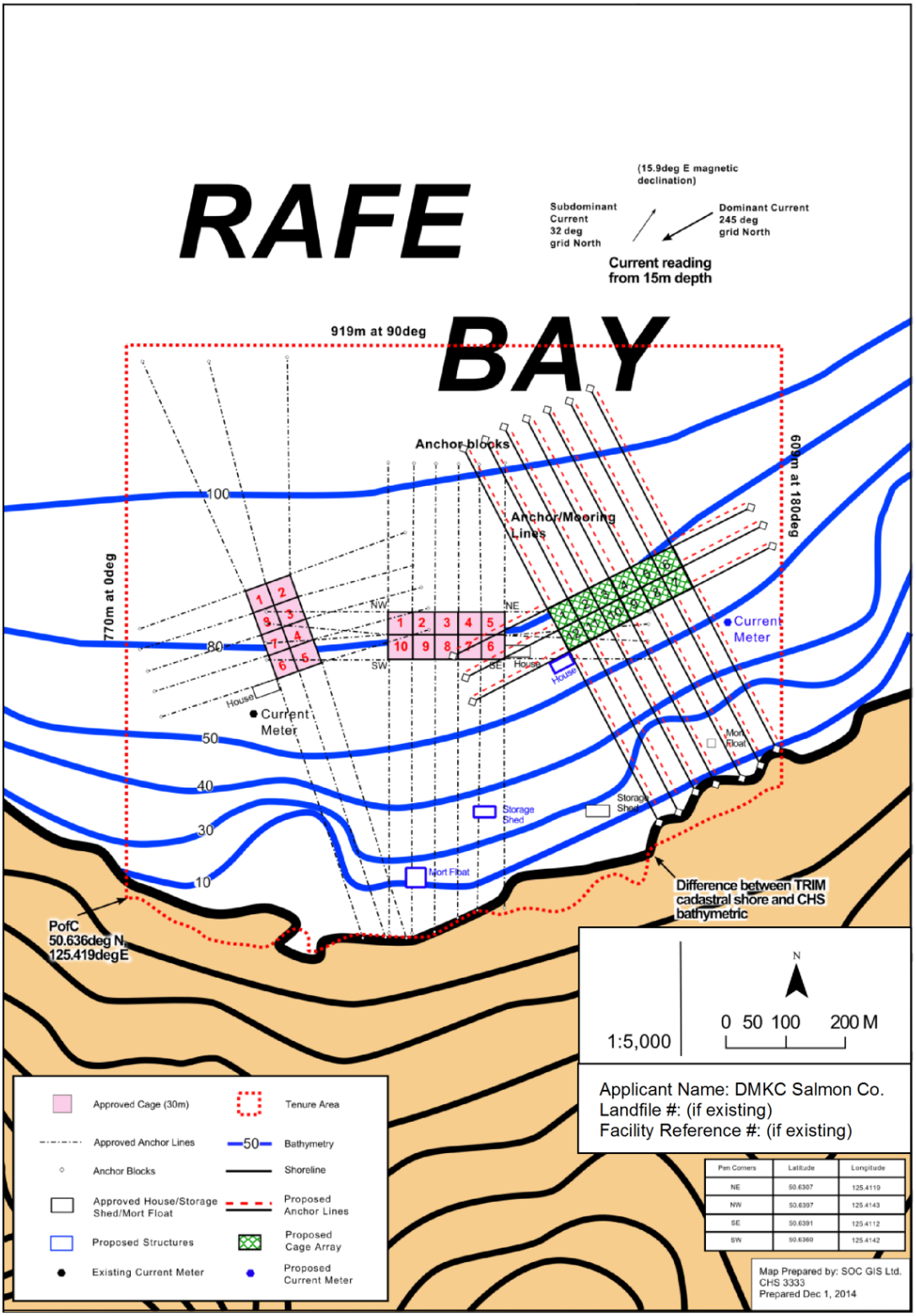
Application Area Map for Amendments



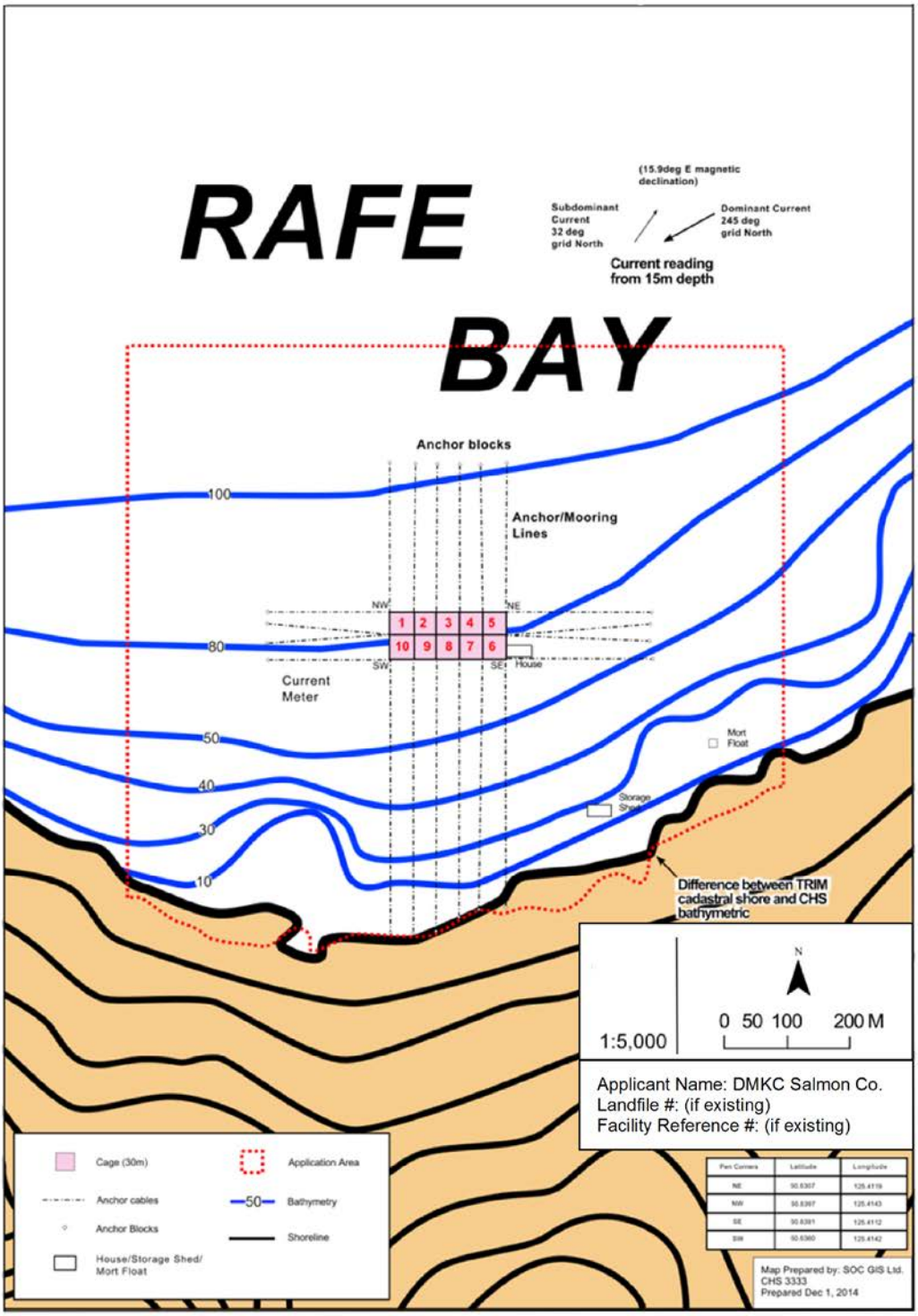
Top View Operational Diagram for Amendments to an Existing Array (4a)



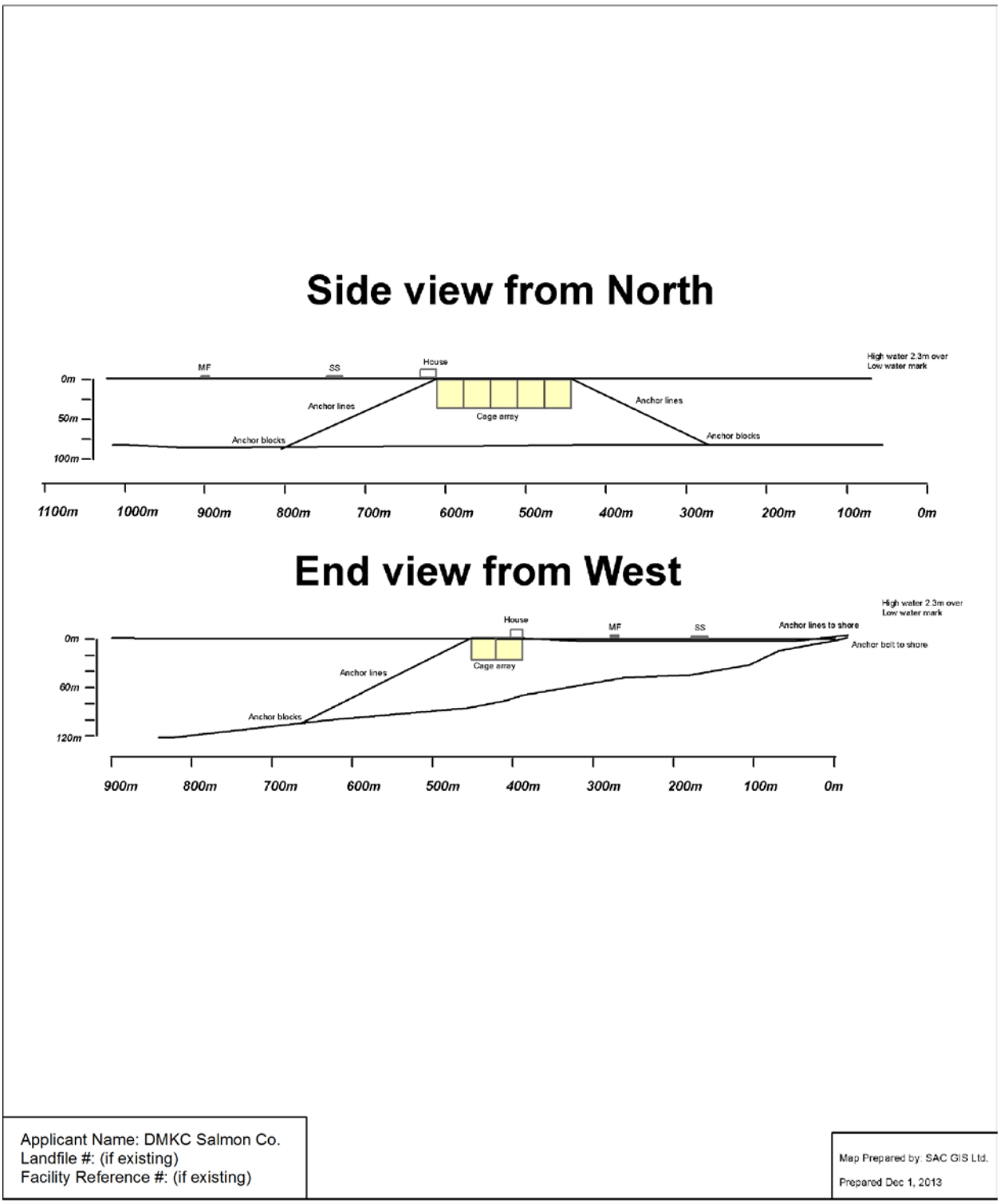
Top View Operational Diagram for Amendments - Licensed & Proposed arrays (4b)



Top View Operational Diagram for Amendments - Finished Array (4c)



Side View Operational Diagram for Amendments



PART II – INFORMATION FOR THE BC MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT

The **Land Use Operational Policy for Aquaculture** applies to the siting and placement of improvements on tenures required for the cultivation of finfish, shellfish and marine plants on aquatic Crown land or foreshore. Please review the policy prior to completing your application.

SITING CONSIDERATIONS

A number of siting considerations are defined in the provincial **Land Use Operational Policy for Aquaculture**. Where proposals do not meet the established siting considerations, applicants must include a detailed explanation and justification for proceeding with the application. It is recommended that applicants work with relevant agencies when developing adaptive management strategies.

We recommend using **Natural Resource Sector Online Services** or **iMapBC** to identify interests or conflicts in the area. Refer to the document ***iMapBC Instructions for Aquaculture Applications***, available on the provincial **Land Use – Aquaculture** web page, for Instructions on using iMapBC to research a proposed area and create the necessary maps. This instructional guide demonstrates how to add additional layers to assist in answering the siting questions. For each of the siting considerations referenced below, the applicable iMapBC layers have been identified with a"/"denoting differences between layers and sub-layers. If polygons appear when the layers are added, more information can be found by right-clicking your mouse on the polygon and selecting 'What's here? (Identify)'.

IMapBC also has a measuring tool to allow you to determine distance between your proposed area and other interests, e.g. provincial parks.

Does your proposal infringe on the riparian rights of an upland owner?

IMapBC layer: Land Ownership and Status/ Integrated Cadastral Fabric

Landowners of waterfront property have the right to access their property along all points of the natural boundary, or waterfront; this is commonly referred to as riparian rights. Placement of improvements should not infringe on the riparian rights of the upland owner without their consent. This applies to both private and Crown land ownership.

If the upland is privately owned, and the application infringes on riparian rights, (i.e. infrastructure will be placed such that it impedes access to the upland), you must obtain a letter of consent from the landowner(s). To determine the name of the upland owner, find the Parcel Identification (PID) Number in iMapBC, then

provide the PID to the Land Title and Survey Authority which will be able to identify the upland owner.

Upland owners are not obligated to provide consent. If consent is provided, it may be time limited and is non-transferable if the landowner changes.

When the Crown owns the upland, further discussions with provincial ministries may be required as any designations on the upland parcel need to be considered.

Applicants who are unsure about the legal rights of upland owners are encouraged to independently seek legal advice.

Sample upland owner consent letter

Is the intended use consistent with approved local government bylaws for land use planning and zoning?

IMapBC layer (s): Administrative Boundaries / ABMS- Regional Districts, Island Trust, Municipalities

Local governments have authority to approve broad objectives, policies and guidelines respecting land use and development. Local governments exercise their authority through zoning bylaws, permits and other instruments (such as an Official Community Plan).

Applicants should contact the applicable local government to determine whether Zoning or Rural Land Use Bylaws apply to aquaculture activities on the specific parcel under application. Local governments review aquaculture applications and provide comments in relation to their Official Community Plans.

If your proposal is not consistent with the current local government land use designations, zoning or bylaws, you are strongly recommended to contact the applicable local government to discuss your proposal prior to submitting an application. Your proposal may be subject to a rezoning process. If rezoning is required, please provide details and copies of any relevant correspondence between the applicant and local government. A positive decision by the Province regarding Crown land tenure does not guarantee that the activity can occur.

All tenure holders must abide by all applicable laws including zoning and bylaws.

Is the site situated greater than one km in all directions from a First Nation Reserve?

IMapBC layer: Administrative Boundaries/ Indian Reserves Including Band Names

Close proximity to a First Nations Reserve or community often indicates the presence of stronger aboriginal interests.

If the proposed tenure boundary is situated within one kilometre of a First Nation Reserve, proponents are required to obtain an Official Band Council Resolution supporting the application. Details of any relevant correspondence or communication should be provided to the Province.

The one kilometre distance should be measured from the edge of the First Nation Reserve to the nearest edge of the proposed tenure boundary. Proponents are strongly encouraged to communicate with First Nations early in the process.

Is the site situated greater than one km in a direct line of sight from existing federal parks, regional district parks, provincial parks, marine protected areas, and conservancies (or approved proposals for these)?

IMapBC Layer(s): Administrative Boundaries/ Provincial Parks, Eco Reserves, etc.- Tantalis/ Conservancy Areas - Tantalis

IMapBC Layer: Base Maps/ Local and Regional Greenspaces

The one kilometre distance should be measured in a direct line of sight from the park, marine protected area, or conservancy boundary to any surface improvement at the proposed aquaculture facility. Park information can be found on the **BC Parks web page**.

In general, aquaculture applications are not considered if they are within one kilometre. However, if the proposed site is within the one kilometre distance, proponents may be required to provide additional information to support the application including correspondence with the parks governing agency.

This siting consideration may be relaxed if an aquaculture proposal is within one kilometre of a park or conservancy greater than 1000 hectares in size, or if less than 1000 hectares in size, the proposed site is not highly visible from the park visitor-use areas. The approval to relax the siting consideration is subject to a site-specific review by the aquaculture tenure decision maker with input from the agency responsible for the specific park.

Applicants are advised to contact relevant agencies directly to determine if there are any approved proposals for federal, provincial or regional parks or marine protected areas, prior to submitting their aquaculture proposal.

Is the site situated greater than one km from ecological reserves smaller than 1000 ha or approved proposals for ecological reserves smaller than 1000 ha?

IMapBC Layer(s): Administrative Boundaries/ Provincial Parks, Eco Reserves, etc. Tantalis / Ecological Reserves - Tantalis

Applicants should determine the distance between the site applied for and any nearby existing or approved proposals for ecological reserves less than 1000 hectares. The one kilometre distance should be measured from the edge of the ecological reserve to the edge of the proposed tenure boundary at the site location. Information can be found on **BC Parks web page**.

For more information on proposed ecological reserves you may contact **BC Parks** directly.

Is the site situated greater than one km from the mouth of an anadromous salmonid bearing stream determined as significant by the Province?

It is strongly recommended that a new facility proposal be at least one kilometre away from any anadromous salmonid bearing streams. A proposal to locate within one kilometre of a salmonid bearing stream determined as significant by the Province requires a mitigation strategy reviewed by provincial Fish and Wildlife biologists.

The one kilometre distance should be measured from the lower intertidal area where the stream enters the ocean to the edge of the proposed net cage location.

The applicant is responsible for determining whether streams within one kilometre of the proposed site have anadromous salmonid fish present. It is recommended to first determine if information about fish and fish habitat already exists. The following resources may be helpful:

- **Fish & Fish Habitat** information
- **Habitat Wizard**: Habitat Wizard is a map-based tool that allows users to spatially access detailed fish, wildlife and ecosystem information online.
- **Fisheries Inventory Data Queries** (FIDQ): FIDQ provides easy access to BC lake, stream and fish data, as well as fish stocking data and downloadable bathymetric maps through a set of topic-based queries that extract information from the provincial BC Geographic Data Warehouse (BCGW).
- **Cross-Linked Information Resources** (CLIR): CLIR is a tool for searching several databases at once. You can find a variety of files (reports, studies, data, etc.) on a range of environmental and natural resource topics.
- **EcoCat Ecological Reports Catalogue** (EcoCat): EcoCat provides access to reports on ecological activities in British Columbia, plus related files such as maps, datasets and published inventories when available. Subject areas include: aquatic species and habitats, terrestrial species and habitats, floodplain mapping, reservoirs, ground water and vegetation.
- **Fish-stream Identification Guidebook**: Additional information on the classification of fish streams is available from this Forest Practices Code guidebook.

If there is no existing information on fish presence, you are required to undertake stream assessments on all streams within one kilometre of the proposed site.

Field surveys for fish-stream identification must be designed and carried out by Qualified Environmental Professionals. Persons trained to the level of expertise necessary for these surveys most commonly include biologists, biological technicians and environmental technicians.

Surveying must occur at the time(s) of year when anadromous salmonids are expected to be present and Qualified Environmental Professionals should be consulted to assess the appropriate sampling window.

Proponents are required to obtain a provincial **Scientific Fish Collection Permit** prior to commencing fieldwork as required under the *Wildlife Act*. To ensure that the data collected will be acceptable surveys must follow Resources Information Standards Committee's (RISC) **Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Standards and Procedures**

Is the intended use consistent with a local area Land Use Plan or Marine Plan?

Applicants are required to review any provincial land use or marine plans that are relevant to the application area. It is the applicant's responsibility to determine whether their proposal is consistent with those plans before submitting their application. If the intended use is not consistent contact Front Counter BC.

More information on **Land and Coastal Marine Plans in BC** and the **Marine Planning Partnership for the North Pacific Coast** (MaPP) is available online. The **Marine Plan portal** on this site allows for detailed research about the MaPP study area.

ADDITIONAL CROWN LANDS INFORMATION

Applications made by more than one individual (Joint Tenant or Tenants in Common)

When more than one individual is identified as the proponent there are options for indicating the relationship between the parties**:**

- Joint Tenants (Land Tenure): In a joint tenancy situation, if one of the tenants expires, his/her interest in the land passes to the surviving joint tenant(s).
- Tenants in Common (Land Tenure): In a tenants in common situation, if one of the tenants expires, his/her interest in the land passes to his/her estate.

If a positive decision is made regarding your application, a multiple tenant relationship will be recorded on any subsequent legal documents. The preferred tenancy relationship must be declared when the application is submitted. Each person indicated in a multiple tenant relationship must meet the mandatory eligibility requirements. Applicants are encouraged to seek independent legal advice before choosing an option.

WATER USE

The *Water Sustainability Act* was passed in February 2016. Important changes include the regulation of groundwater in addition to surface water. If your proposal involves the use of a fresh water source you will need to apply for a Water Licence. More information can be found on the Province's **Water Licences & Approvals** web page.

PART III – INFORMATION FOR FISHERIES AND OCEANS CANADA

INDIVIDUAL APPLICANTS

Fisheries and Oceans Canada (DFO) requests that all applicants provide their date of birth. This information will only be used by DFO as a means to correctly identify licence holders. If there is more than one applicant, insert the names of each applicant.

CULTURED SPECIES AND PRODUCTION

Species intended for culture other than species currently licensed by DFO (species in the 'Other' category) will require an in-depth review and/or risk assessment by the Introductions and Transfers Committee (ITC). Additional information on **introductions and transfers** is available on the DFO website.

For amendments, indicate all currently licensed species and Combined Peak Biomass in this section.

NOTE: To receive additional guidance on reporting or monitoring elements, or how to conduct the following surveys contact DFO at:

marine.finfish.aquaculture@dfo-mpo.gc.ca.

WILD FISH, FISH HABITAT AND SITING CONSIDERATIONS

Modelling and Currents

Depositional Modelling

The location and intensity of seabed impact from biological oxygen demanding (BOD) matter from all proposed containment structure arrays is required for all new site applications. For amendments, historic information will be accepted if it is still relevant and all elements below can be submitted. If there is a larger containment array being proposed, a change in location of a containment array, or an increase in tonnage that results in a new or bigger benthic footprint, new information is required. This can be achieved using acceptable models such as DEPOMOD.

Predicted BOD matter results for all proposed containment structure arrays should be submitted including:

- Diagram(s) of the farm's footprint(s) based on maximum feeding rate including the 1g, 5g and 10g C/m^2/day contours;
- Diagram(s) of the farm's footprint(s) based on average feeding rate including the 1g, 5g and 10g C/m^2/day contours;
- Carbon flux area summary table;
- Site information summary table; and

- All results and data products.

Current Metering

Ocean current characterization near all proposed locations of containment structure arrays within a tenure is required for all new site applications. For all amendments, historic data will be accepted if it was collected meeting the standards below; otherwise new data must be collected. This can be achieved by deploying current meters in the following manner and submitting the results:

- Within 30 metres of the edge of a proposed containment structure array or within 100 metres if the array is already in place;
- Collecting information at the following depths:
    - 15 metres below the surface;
    - 5 metres above the bottom; and
    - Mid-water if the depth is greater than 50 metres;
- Recording speed and direction instantaneously or as averages from continuous measurements over 2 minutes at least once every 30 minutes over a period of at least 30 days;
- Recording current direction in degrees magnetic and degrees true. When reporting current direction in degrees true the magnetic readings and correction factors must be included; and
- Recording current speed in centimetres per second.

Wild Fish and Fish Habitat Surveys

Wild fish and fish habitat surveys to quantify fish species presence/usage of the area and assess the fish habitat present in order to determine the risk of potential impacts are required for all new site applications. For all amendments, historic data will be accepted if it was collected meeting the standards below and is from the area where new benthic impact is expected; otherwise new data must be collected. If you are unsure if your amendment requires new fish habitat surveys, please contact DFO.

Nearshore Benthic Survey

Information to be collected and reported:

- Video data of the seabed in the intertidal area along the foreshore of the tenure;
- Survey should include at least one transect parallel to shore (a zigzag pattern is recommended);
- Habitat and substrate type(s), and significant changes noted (include depths);
- Transect location(s);
- Presence of macrofauna, macrophytes, and critical or sensitive habitats; and
- Observations must be submitted including a species list table and features identified on a habitat map.

Deepwater Benthic Survey

Information to be collected and reported:

- Video data of the seabed in the subtidal area of the tenure;
- Survey can be more intensive in the area encompassed by the 1gC m^2/day flux zone (based on maximum feeding rate) prediction than that outside; but within the 1gC, transects should be a maximum of 100m apart;
- Video data collected at two reference stations for new sites;
- Survey should include a majority of transects running perpendicular to shore, but at least one parallel to shore through the middle of the proposed use area, thus forming a "grid";
- Habitat and substrate type(s) and significant changes noted (include depths);
- Transect locations and a depth profile for each transect;
- Bathymetry and topography;
- Presence of macrofauna (video quality must be such that biota 1-2cm in size may be distinguished), macrophytes, and critical or sensitive habitats;
- Any existing anthropogenic impact sources/evidence; and
- Observations must be submitted including a species list table and features identified on a habitat map.

Reference Station Data

Reference station data for comparison to aquaculture sites must be collected for all new site applications, but is not required for amendments. The following should be considered when choosing reference stations:

- They should be located between 0.5 and 2.0 km away from the proposed farm site;
- They should not be exposed to BOD matter deposition from any farms sites or other anthropogenic sources;
- The depth should be within +/- 25m of the proposed farm sampling stations; and
- The topography, seabed type, current and tidal regimes, sediment grain size and amount of freshwater runoff influence should be similar to the proposed site.

If any of the above cannot be met, a written explanation must be provided and the next best alternative site(s) assessed.

Sediment Sampling

Sediment sampling to assess the baseline conditions of the seabed is required for all new site applications. For amendments that propose new containment arrays or new array locations, historic or operational monitoring will be accepted if it was collected meeting the standards below and is from appropriate locations; otherwise new data must be collected. Information to be collected and reported:

- Sediment sampling from the seabed at 0m, 30m and 125m from the proposed location(s) of the containment structure array(s) along the two primary current directions;
- Sediment sampling at two reference stations for new sites;
- Location (latitude/longitude using dGPS), depth, date and time of sampling;
- Physical parameters of sediment including colour, odour, texture, gas bubbles, flocculent organic matter, marine worms, estimation of surface coverage of bacterial mats, fish feed, fish feces, presence of macrofauna and macrophytes, terrigenous material and farm litter;
- Chemical parameters of sediment including free sulfides, redox potential, total volatile solids, sediment grain size, and a total metals package;
- A photo of each sediment sample;
- For new sites, biological samples in which biota is taxonomically identified to at least the level of family with all major taxa identified to the level of species, and counted
- Observations must be submitted including sampled and observed data and sampling locations identified on a map.

Sensitive and Critical Habitat Survey(s) or Data

Additional surveys are required for all new sites and some amendments as described below. Other surveys are only required if critical or sensitive habitats are identified in the wild fish and fish habitat surveys. If not already described in the following sections, the information to be collected and reported includes:

- A map showing location(s) of the critical or sensitive habitat(s);
- Transect locations and a depth profile for any transect assessed;
- Video data; and
- Observations must be summarized in a species list table and features identified on a habitat map.

Stream Surveys

An inventory of streams/rivers within 5 km of the proposed site to determine wild salmonid usage must occur for all new site applications. For amendments that propose an increase to production or the addition of new species, historic data will be accepted if it was collected meeting the standards below although historic numbers should be updated if new data is available; otherwise new surveys are required.

Information to be collected and reported:

- The names and locations of all streams within 5 km of the site and a map showing their location; and
- Existing information regarding salmonid species presence and usage for each stream; or
- Where no existing information exists, a survey of the stream must occur to identify salmonid species present, estimate population numbers, and locate salmonid habitat.

Historic Herring Spawn Activity

The DFO herring spawn database must be utilized to determine historic herring spawn activity within 5 km of the proposed site for all new site applications. It should also be assessed for amendments that propose an increase to production or the addition of a new species to the licence. If any historic herring spawn activity is identified, a map of spawn proximity in relation to the farm site and its ranking should be submitted.

Marine Mammal Usage

Information regarding known marine mammal congregation areas within 5 km of the proposed site, such as haul-outs or areas of high usage, must be submitted for all new site applications. A map of these locations in relation to the farm site and their description should be submitted.

Eelgrass and Kelp Beds

If the nearshore benthic survey identifies eelgrass or kelp beds, additional surveys must occur in the summer months to map the bed(s) for all new site applications. This should also occur for amendments that propose an increase to production or a new array where DEPOMOD predicts a 1g contour within 50m of the eelgrass or kelp bed.

Glass Sponge Complexes

If wild fish and fish habitat surveys identify individual glass sponges in high concentrations or forming complexes, additional surveys must occur to map them for all new site applications, as well as amendments where new benthic impact will fall within 50m of the sponges. Species, numbers and size of reef complexes along with location should be submitted.

Shellfish Beds

If wild fish and fish habitat surveys identify bivalve siphons in a density and spatial area great enough to be considered a shellfish bed, additional survey(s) must occur to map the bed(s). This may differ depending on the species and area, so professional judgment must be applied.

Northern Abalone

All new sites must be assessed to determine if they are located in Northern Abalone critical habitat, but is not required for amendments as this assessment will already have been done for historic sites. The DFO Northern Abalone Action Plan shows a map of four geospatial areas including: the east and west side of Haida Gwaii, north & central coast, and Barkley Sound. If new farms are located in those areas, the site must be surveyed to determine if critical habitat is present, which are sites at least $20m^2$ in size and with ≥0.1 abalone/m^2 and also contain all of the following features:

- Primary substrate: Bedrock or boulders with adequate rugosity is necessary for attachment. Secondary substrate: some cobble may be

present but little or no gravel, sediment, sand, mud, or shell present. ≤10m depth (datum)

- Normal salinity (>30ppt; not low salinity as found close to river run off), moderate to high water exchange (tidal current or wave action present)
- Presence of coralline algae (e.g. *Lithothamnium spp.*)
- Presence of macroalgae (e.g. *Nereocystis, Macrocystis, Pterygophora or Laminaria sp*)

If the nearshore benthic survey finds northern abalone in areas outside the four geospatial areas above, abalone must be identified in the wild fish and fish habitat survey report, but additional work is not required.

Lingcod

If wild fish and fish habitat surveys identify lingcod in elevated numbers and the site has rocky areas with moderate-high currents, additional survey work must occur to determine if the area is used for spawning. This should be done for all new site applications, as well as amendments where new required baseline collection is required which indicates lingcod presence. This work should be done when lingcod egg masses are present and a map of egg masses in relation to the farm site and their description should be submitted. Please contact DFO if you require guidance on this kind of survey.

Rockfish Rearing/Nursery Areas

If wild fish and fish habitat surveys identify rock reefs or rock walls where juvenile rockfish are present in elevated numbers, additional survey work must occur to map the rearing and nursery habitats and identify species and numbers of rockfish utilizing the area. This should be done for all new site applications, as well as amendments where new baseline collection is required and this habitat is identified.

MANAGEMENT PLANS

For examples of management plans and reporting templates, refer to the appendices in the Marine Finfish Conditions of Licence (MFF COL) available at the following website: **http://www.pac.dfo-mpo.gc.ca/aquaculture/licence-permis/mar-eng.html**

Templates are also available for download on the Province's Land Use – Aquaculture web page.

INVENTORY PLAN

- A projected 24-month inventory plan for all licensed species including biomass and age class at this facility must be provided. The inventory plan is considered proprietary information and will not be released as part of the referral process.

HEALTH MANAGEMENT PLAN (HMP)

Industry submitted Health Management Plans (HMPs) in their draft form are initially considered proprietary information and will not be released as part of the referral process. If an application is approved, the finalized HMP forms an appendix of the Marine Finfish Aquaculture Licence and becomes publicly available.

New sites require complete HMPs and associated Standard Operating Procedures (SOPs) which contain detailed operational elements used to implement the HMP. Amendments that have new species, additional risk elements, or a proposed coordinated health management approach linked to other farms require updated SOPs.

- Applicants planning to culture salmonids in the marine environment shall submit:
    a) Part One: An HMP addressing the principles, concepts and required elements of fish health management; and
    b) Part Two: HMP-SOPs may be facility-specific or practiced at all Licence Holder's facilities. These SOPs are considered 'evergreen' documents that will change regularly and they are considered proprietary.
    c) Single licence holders submit one HMP and one set of HMP-SOPs;
    d) Multiple licence holders may submit one HMP, identifying each of the licences to which the HMP applies; and, if necessary, identifying which HMP-SOPs are facility-specific (i.e. applicable to individual licences).
- Applicants planning to culture non-salmonid species in the marine environment shall submit a Carcass Management Plan (CMP). As an alternative, HMPs specific to each non-salmonid species reared can be submitted provided they encompass CMP requirements. Amendments would follow procedures as per the Marine Finfish Conditions of Licence (MFF COL).

ESCAPE PREVENTION AND RESPONSE PLAN

- Applicants shall submit to the Department an Escape Prevention and Response Plan. The plan must contain all of the elements described in the template (as per link above) which includes equipment design to prevent escapes, net and infrastructure inspection, maintenance and record keeping, and the response to a fish escape or suspected escape.

MARINE MAMMAL INTERACTION MANAGEMENT PLAN

- Applicants shall submit to the Department a Marine Mammal Interaction Management Plan. The plan must contain all of the elements described in the template (as per link above) which includes the mitigation used to minimize marine mammal interactions and procedures to respond to marine mammal conflict.

PART IV – INFORMATION FOR TRANSPORT CANADA

SITING CONSIDERATIONS

Upon request, clients may be requested to provide additional information; a review pursuant to the ***Navigation Protection Act*** may require additional information that is specific to Transport Canada's mandate for marine navigation.

ADDITIONAL TRANSPORT CANADA INFORMATION

Waterway Name

The name of the water where the planned work is located *must* be included on the application. Both the official name and any local names should be noted. If the waterway has a very common name, e.g. Fish Lake, or any name which might be confused for another location, please add an identifier, e.g. "23 km west of Hwy 2 at 8th Line Rd", or include clearly written directions to the site as one of your supporting documents.

Width (m) and Depth Range (m)

The width and depth can be roughly determined by using Google Earth, Topo Maps, Canadian Hydrographic Services (CHS) navigational charts (if the subject waterway is charted) or actual measurements. In charted waterways, these measurements should refer to a chart datum (the measured elevation bench mark noted in the legend of the chart) and on uncharted waterways it should reference the normal or ordinary water level.

Nearest Community

If the proposed work is in an area that has not been surveyed, indicate the nearest community and provide the distance from the nearest kilometre post, if applicable.

New, Existing or Modification of an Existing Work

New: If your work is a new proposal that has not yet been constructed or received an authorization under the *Navigation Protection Act* (NPA).

Existing: If the work has been constructed but does not have an NPA authorization.

Modification: If the work is for the rebuild, repair or alteration of work that has an NPA authorization.

Photographs

Photographs can be very useful in determining the navigability of the waterway and the potential impacts of the works. If taking pictures of a waterway to assist the Navigation Protection Program (NPP) in making a determination, please include photographs that are representative of the waterway.