

# Appendix 23

## Refining NZ Crude Shipping Project (AUT.037197) resource consent

**BEFORE THE ENVIRONMENT COURT  
I MUA I TE KOOTI TAIAO O AOTEAROA**

IN THE MATTER of the Resource Management Act 1991 (the  
"Act")

AND of an appeal under section 120 of the Act

BETWEEN THE NEW ZEALAND REFINING  
COMPANY LIMITED

(ENV-2018-AKL-000159)

Appellant

AND NORTHLAND REGIONAL COUNCIL  
Respondent

Environment Judge J A Smith sitting alone under s 279 of the Act  
In Chambers at Auckland

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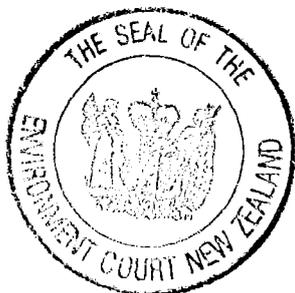
**CONSENT ORDER**

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[A] Under s 279(1)(b) of the Resource Management Act 1991, the Environment Court, by consent, orders that:

- (1) the appeal is allowed subject to the amended conditions of consent attached to this order in **Annexure A**.
- (2) the appeal is otherwise dismissed.

[B] Under s 285 of the Resource Management Act 1991, there is no order as to costs.



## REASONS

### Introduction

- [1] In July 2018 Northland Regional Council granted resource consents to the New Zealand Refining Company Limited (**Refining NZ**) for the Crude Shipping Project, being the deepening and realignment of the Whangarei Harbour shipping channel and associated changes to the channel's aids to navigation. Refining NZ filed a notice of appeal relating to the following conditions:
- (a) conditions 107-114 and Schedule 3 regarding establishing, monitoring, and compliance with water quality and clarity limits; and
  - (b) condition 69, which imposes a "no dredge" period between 1 October and 31 January each year.

### Agreement

- [2] The parties have now reached an agreement that will resolve this appeal in its entirety. The agreed changes relate to:
- (a) the conditions of consent concerning water quality and clarity;
  - (b) the Turbidity Monitoring Programme set out in Schedule 3 to the consent conditions; and
  - (c) an amendment to condition 69 so that the seasonal prohibition on dredging would apply only to the inner and mid-harbour areas identified (namely Mair and Marsden Banks), which are agreed to be the relevant areas for shellfish spawning and recruitment processes.
- [3] In making this order the Court has read and considered the appeal and the parties' memorandum dated 7 December 2018.
- [4] Patuharakeke Te Iwi Trust Board and Northport Limited have given notice of an intention to become parties under s274 and have signed the memorandum setting out the relief sought.
- [5] No other person has given notice of an intention to become a party under s274.



## Evaluation

- [6] The conditions follow a consent / Management Plan approach. This generally follows an issue / objective / measurement / plan content approach. Issues are dredging, biosecurity, pests and weeds, noise, marine mammals, coastal birds [particular species], sedimentation and benthic.
- [7] It also sets up a Liaison Committee and Kaitiaki Group with particular notes set out in the conditions. This includes input and participation in aspects of the various plans.
- [8] There are also provision for Harbour Restoration and Enhancement – with purposes set out in condition 59.
- [9] Issues such as transparency and conflicts are also addressed as are practical issues such as dredging, dealing with crude oil shipping while dredging and sedimentation.
- [10] It sets out the methods and requirements for baseline water quality data and limits.
- [11] There is also benthic ecological reporting, followed by specific conditions relevant to particular consents.
- [12] In short the agreement offers a comprehensive approach to issues and outcomes in the resource consent. The appeal related to issues such as measuring turbidity of water, monitoring water quality and other minor changes.
- [13] It also sought to amend the no dredging conditions 69 which prevented Dredging between 1 October and 1 January.
- [14] The agreed provisions alter conditions 107-14 to provide an agreed approach to water quality and turbidity. I accept the solution is one agreed by relevant experts and is robustly explained in the conditions.
- [15] The parties have now agreed the dredging prohibition for 1 October to 1 January should apply only to the inner and mid sections of the harbour identified on maps and related to Mair and Marsden Banks. Again the change is suggested by relevant experts and properly expressed in the consent.



## Outcome

[16] The Court is making this order under s279(1)(b) of the Act, such order being by consent rather than representing a decision or determination of the merits under s297. The Court understands for present purposes that:

- (a) all parties to the proceeding have executed the memorandum requesting this order; and
- (b) all parties are satisfied that all matters proposed for the Court's endorsement fall within the Court's jurisdiction, and conform to the relevant requirements and objectives of the Act, including in particular Part 2.

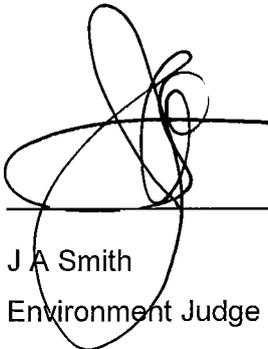
## Order

[17] Therefore the Court orders, by consent, that the appeal is allowed to the extent that the conditions of consent for the Crude Shipping Project are amended as shown in tracked text in **Annexure A** (additions from the conditions in the Northland Regional Council's decision are shown in underline and deletions are shown in ~~strikethrough~~).

[18] This consent order resolves in its entirety the appeal by Refining NZ (ENV-2018-AKL-000159).

[19] There is no order as to costs in relation to this order.

Dated at Auckland this 14<sup>th</sup> day of December 2018

  
\_\_\_\_\_  
J A Smith  
Environment Judge



**ANNEXURE A: AMENDMENTS TO CONDITIONS**



## APPENDIX 1

### THE NEW ZEALAND REFINING COMPANY LIMITED, PRIVATE BAG 9024, WHANGĀREI 0171

To undertake the following activities in the Whangārei Harbour entrance and approaches:

*Note: All location co-ordinates in this document refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection.*

- AUT.037197.01.01** Capital dredging of the Whangārei Harbour entrance and approaches between the refinery jetty, at or about location co-ordinates 1735387E 6033137N, and a point within Bream Bay, at or about location co-ordinates 1735683E 6027182N.
- AUT.037197.02.01** Discharge decant water from a dredge hopper or barge into coastal waters as a result of capital dredging operations.
- AUT.037197.03.01** Deposition of capital dredging spoil at two defined marine disposal sites within Bream Bay, at or about approximate location co-ordinates 1736739E 6027636N and 1743686E 6024450N.
- AUT.037197.04.01** Discharge of sediment and water associated with capital dredging spoil disposal at two defined marine disposal sites within Bream Bay, at or about approximate location co-ordinates 1736739E 6027636N and 1743686E 6024450N.
- AUT.037197.05.01** Removal of sand, shell and other capital dredging material from the coastal marine area for land-based disposal.
- AUT.037197.06.01** Erection, placement, alteration, and maintenance and repair of navigation aids.
- AUT.037197.07.01** Maintenance dredging of the Whangārei Harbour entrance and approaches between the refinery jetty, at or about location co-ordinates 1735387E 6033137N, and a point within Bream Bay, at or about location co-ordinates 1735683E 6027182N.
- AUT.037197.08.01** Discharge decant water from a dredge hopper or barge into coastal waters as a result of maintenance dredging operations.
- AUT.037197.09.01** Deposition of maintenance dredging spoil at two defined marine disposal sites within Bream Bay, at or about approximate location co-ordinates 1736739E 6027636N and 1743686E 6024450N.
- AUT.037197.10.01** Discharge of sediment and water associated with maintenance dredging spoil disposal at two defined marine disposal sites within Bream Bay, at or about approximate location co-ordinates 1736739E 6027636N and 1743686E 6024450N.
- AUT.037197.11.01** Removal of sand, shell and other maintenance dredging material from the coastal marine area for land-based disposal.
- AUT.037197.12.01** Discharge water and contaminants (comprising predominantly seabed materials and construction materials) into water when installing the new aids to navigation and relocating the existing aids to navigation.
- AUT.037197.13.01** Take coastal water when undertaking dredging.



Subject to the following conditions:

### General Conditions for all Consents

- 1 The Consent Holder shall keep the coastal marine area free of debris resulting from the Consent Holder's activities.
- 2 The Consent Holder shall monitor the exercise of these consents in accordance with these conditions and Schedules 1–3 (**attached**).
- 3 The Consent Holder shall, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with these consents, undertake the following:
  - (a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and
  - (b) Immediately notify the council by telephone of an escape of contaminant; and
  - (c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and
  - (d) Report to the council's Compliance Manager in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

For telephone notification during the council's normal opening hours the council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the council's normal opening hours, then the Environmental Hotline shall be contacted.

**Advice Note:** *The Environmental Hotline is a 24 hour, 7 day a week, service that is free to call on 0800 504 639.*

- 4 The council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of March for any one or more of the following purposes:
  - (a) To deal with any adverse effects on the environment which may arise from the exercise of the consents and which it is appropriate to deal with at a later stage; or
  - (b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment arising from the discharges; or
  - (c) To review any or all of the conditions relating to maintenance dredging and disposal activities should monitoring show that the areas disturbed by the dredging footprint and/or the disposal areas associated with the capital dredging have not recovered to the level specified by Condition 117(b) within two years of the completion of the capital dredging.
  - (d) To respond to any new technology, standards or monitoring parameters relevant to the environmental monitoring undertaken in accordance with these consents.

The Consent Holder shall meet all reasonable costs of any such review.



**Advice Note:** *Notwithstanding (and in addition to) Condition 4, the council may also, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions any time for the following purposes:*

- (a) *To provide for compliance with rules relating to minimum standards of water quality in any regional plan that has been made operative since the commencement of the consent; or*
- (b) *To provide for compliance with any relevant national environmental standards that have been made; or*
- (c) *Where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of consent are such that it is necessary to apply more appropriate conditions.*

5 These consents shall not lapse until their expiry.

### **Certification**

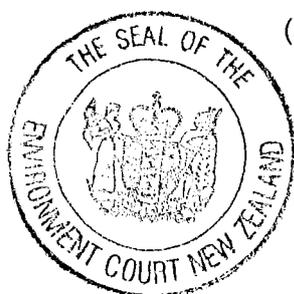
6 Where any condition requires the Consent Holder to submit a report or management plan to the council for "**certification**" it shall mean the process set out in the following paragraphs (a) to (d) and the terms "certify" and "certified" shall have the equivalent meanings:

- (a) The Consent Holder supplies a report or a management plan to the council's Compliance Manager, and the council assesses the documentation submitted to ensure that it achieves the requirements of the relevant condition(s) of consent (for management plans, this will include that the plan proposed for certification meets the objective(s) and content requirements set out in the condition(s));
- (b) Should the documentation supplied in accordance with (a) above, in the opinion of the council, achieve the requirements of the relevant condition(s), the council's Compliance Manager shall issue a written confirmation to the Consent Holder that the requirements of the relevant condition(s) have been satisfied;
- (c) If the council is not satisfied that the documentation supplied in accordance with (a) above achieves the requirements of the relevant condition(s), the council's Compliance Manager shall advise (in writing) the Consent Holder of the council's concerns and ask that the report or management plan be modified so as to address the concerns, and then be resubmitted;
- (d) This process shall be repeated until the council's Compliance Manager is able to certify that the requirements of the applicable condition(s) have been satisfied.

7 Where no written confirmation, pursuant to either Conditions 6(b) or 6(c), is provided within 20 working days of a report or management plan being provided to the council, the report or management plan shall be deemed to be certified for the purpose of the respective condition to which the document pertains.

8 **Suitably Qualified and Experienced Person** means a person or persons:

- (a) With a recognised tertiary qualification(s) relevant to the topic being assessed; and



- (b) Who has more than 10 years relevant experience in the topic being assessed.

### **Biosecurity**

- 9 The Consent Holder shall, if a dredge vessel(s) is to be used that has not been in the coastal waters within the jurisdiction of the council for at least one month prior to the dredging event, provide a Biosecurity Management Plan ('BMP') to the council's Compliance Manager for Certification. The BMP shall be prepared by an independent Suitably Qualified and Experienced Person and be provided to the council not less than two months prior to the scheduled arrival of the dredge vessel(s) in New Zealand. The BMP shall set out the measures to be implemented by the Consent Holder to avoid the introduction of any unwanted or risk species through the use of dredging plant and equipment which is to be brought to the site from other locations. The BMP shall include details regarding the cleaning and inspection of machinery and plant brought into the Whangārei Harbour and of dredging plant personnel training, monitoring and reporting mechanisms.

The BMP shall have the following objectives:

- (a) To avoid the introduction of any unwanted or risk species into Bream Bay and the Whangārei Harbour from dredging plant and associated equipment, including support vessels and barges;
- (b) To ensure effective treatment of all plant and equipment used in association with the dredging to ensure these do not become a vector for the spread of any unwanted or risk species; and
- (c) To set out a dredging plant biodiversity monitoring and reporting system.
- 10 The BMP shall be prepared in general accordance with the draft BMP provided as part of the resource consent application (Annexure F to the evidence of Mr Justin Cross, *Refining NZ – draft Biosecurity Management Plan*, Royal HaskoningDHV, February 2018).
- 11 The Consent Holder shall undertake all activities authorised by these resource consents in accordance with the Certified BMP.
- 12 Prior to the first use of any dredging plant and equipment from an area known to harbour unwanted or risk species, the Consent Holder shall arrange inspection of the same for infestation of any unwanted or risk species and obtain certification by an independent Suitably Qualified and Experienced Person of the plant and equipment having been treated and inspected in accordance with the BMP. A copy of this certification shall be provided to the council's Compliance Manager on request. The Consent Holder shall not allow any plant or equipment used for dredging under its control or direction associated with the proposal to be used, that is not certified as having been treated and inspected as required by this condition.

### **Response to Adventive Pests & Weeds**

- 13 Should the post dredging monitoring undertaken in accordance with Condition 102(c) of these resource consents demonstrate, in the opinion of an independent Suitably Qualified and Experienced Person, that adventive pest or weed species are dominating the re-colonisation of any disturbed area, the Consent Holder shall:

- (a) Within five working days, notify the Ministry for Primary Industries; and



- (b) Work collaboratively with the Ministry for Primary Industries, and the council's Compliance Manager to determine and implement appropriate procedures to control adventive pests and weeds present within the disturbed area, including eradication if practicable.

## Noise Management

- 14 The Consent Holder shall, at least one month prior to the commencement of the capital dredging event authorised by these resource consents, lodge a Noise Management Plan ('NMP'), prepared by an independent Suitably Qualified and Experienced Person, with the council's Compliance Manager for Certification. The NMP shall apply at all times during dredging and must set out the specific restrictions applying (if any) on any dredging occurring north of the No.18 buoy when the noise limit in Schedule 1 of this consent is 45dB  $L_{Aeq}$ . All capital and maintenance dredging activities shall be carried out in accordance with the certified NMP.

The NMP shall as a minimum address the measures required to ensure compliance with the noise limits referred to in Condition 16 (and specified in Schedule 1) and the following matters:

- (a) Procedures for noise monitoring at the commencement of capital dredging for each dredge used to determine actual noise emissions;
  - (b) Based on the outcome of (a), details of the recalibration of the computer noise models for each dredge to determine whether any operational restrictions on dredging are required when dredging occurs north of the No.18 buoy when the noise limit in Schedule 1 is 45dB  $L_{Aeq}$ ;
  - (c) Ongoing monitoring methods and procedures to ensure compliance with the noise limits in Schedule 1, including any restrictions arising from (b) above;
  - (d) Procedures for the promotion of the awareness of noise management for the crew of each dredging vessel, including maintenance of noisy plant or equipment; and
  - (e) A procedure for the receipt, response and management of any noise related complaints received during the dredging period.
- 15 The NMP shall be prepared in general accordance with the draft NMP provided as part of the resource consent application (Appendix B to the evidence of Mr Jon Styles, *Whangarei Harbour Entrance and Marsden Point Channel Realignment and Deepening – draft Noise Management Plan*, Styles Group, 12 February 2018).
- 16 Noise generated by all dredging activities shall comply with the noise limits specified in Schedule 1. The night time limits of 45dB  $L_{Aeq}$  and 75dB  $L_{Amax}$  may be exceeded at the notional boundary of any occupied residential dwelling if the occupier of the residential dwelling has consented, in writing, to such an exceedance(s) and a copy of that written consent has been provided to the council's Compliance Manager beforehand.

**Advice Note:** *For the avoidance of doubt, all dwellings should be assumed to be occupied unless it can be proven otherwise.*

- 17 The Consent Holder may operate more than one dredge at a time provided that the following controls apply:



- (a) Two dredges shall only be operated northwest of Busby Head between the hours of 0730 and 2000 from Monday to Friday and 0730 to 1800 on Saturdays only;
  - (b) No more than one dredge can operate northwest of Busby Head at any other time; and
  - (c) Two dredges may be operated in any other area, at any time.
- 18 The Consent Holder shall undertake all activities authorised by these resource consents in accordance with the Certified NMP.
- 19 The NMP shall be reviewed prior to the commencement of any maintenance dredging campaign if one or more of the dredging vessels to be used differs from those used for capital dredging or any previous maintenance dredging campaign. Any amendments to the Certified NMP proposed by the Consent Holder shall be certified by the council's Compliance Manager.
- 20 The Consent Holder shall ensure that the dredge vessels and equipment used are maintained so as to minimise the generation of airborne noise as far as practicable.

### Marine Mammal Protection

- 21 The Consent Holder shall, one month prior to the commencement of the capital dredging and disposal event, and two weeks prior to the first maintenance dredging and disposal event or pile driving for the aids to navigation ('navaid') placement, lodge a Marine Mammal Management Plan ('MMMP'), prepared by an independent Suitably Qualified and Experienced Person in consultation with the Kaitiaki Group, with the council's Compliance Manager for Certification. The MMMP shall address operational measures to protect any marine mammals within the vicinity of vessels used for or associated with dredging, spoil disposal or pile driving operations.

The MMMP shall, as a minimum, include the following matters:

- (a) Vessel operating guidelines to minimise the risk of vessel strike (including compliance with the Marine Mammals Protection Regulations 1992);
  - (b) Debris management guidelines to avoid entanglement of marine mammals or their ingestion of waste material;
  - (c) Underwater noise management, including passive acoustic monitoring for all capital dredging, and implementation measures for the shutdown zones provided in Condition 25;
  - (d) Department of Conservation and Iwi liaison procedures;
  - (e) Incident reporting procedures; and
  - (f) Training and observation procedures for on-board monitoring of marine mammals.
- 22 The MMMP shall be prepared in general accordance with the draft MMMP provided as part of the resource consent application (AEE Annexure 2: Technical Report (i) *Assessment of Effects on Marine Mammals from Proposed Deepening and Realignment of the Whangarei Harbour Entrance and Approaches*, Cawthron Institute, Report No. 2910, August 2017, Appendices 3 and 4).



- 23 The Consent Holder shall undertake capital and maintenance dredging in accordance with the Certified MMMP.
- 24 The Consent Holder shall monitor the presence of marine mammals in the vicinity of dredging, spoil disposal and pile driving works in accordance with Schedule 2, **attached**.
- 25 All dredging and/or pile driving activities shall cease immediately if a marine mammal is observed within any of the following distances, hereafter referred to as 'shutdown zones':
- (a) a 50 metre radius of an operating dredge;
  - (b) a 100 metre radius of a pile driver vessel using vibro-hammer equipment; or
  - (c) a 300 metre radius of a pile driver vessel using traditional impact equipment.

The dredge or pile driving activity shall not recommence until such time as the animal has visually been confirmed as having moved outside of the applicable shutdown zone or 30 minutes have elapsed since the last marine mammal sighting.

- 26 The Consent Holder shall, not less than two months prior to each maintenance dredging event, engage an independent Suitably Qualified and Experienced Person to test a representative sample of the marine sediments that are to be dredged. The independent Suitably Qualified and Experienced Person shall test the sediments to see if they contain contaminants that, if mobilised, would present a risk to the health of marine mammals. The independent Suitably Qualified and Experienced Person shall produce a report summarising their findings and advice prior to each maintenance dredging event commencing. If the independent Suitably Qualified and Experienced Person advises that contaminants are present in the sediment that could pose an unacceptable risk to the health of marine mammals (that is, if they are above the relevant Interim ANZECC Guidelines for Sediment (ISQG-Low), they shall recommend a strategy to reduce the risk to a point that is, in their opinion, acceptable. Sediment guidelines for contaminants which are considered to be bioaccumulative shall be the primary focus, in particular polychlorinated biphenyls (PCBs) and organochlorides. The Consent Holder shall implement the strategy recommended by the independent Suitably Qualified and Experienced Person.
- 27 Should the sampling undertaken in accordance with Condition 26 show that the marine sediments to be dredged do not pose an unacceptable risk to the health of marine mammals, for the first three maintenance dredging events, the Consent Holder may discontinue further monitoring (in accordance with Condition 26) for future maintenance dredging events. This exemption does not apply if the period between dredging events exceeds six consecutive years, in which case the sediments to be dredged shall be sampled in accordance with Condition 26.
- 28 The Consent Holder shall ensure that the dredge vessels and pile driving vessels and the equipment used are maintained so as to minimise the generation of underwater noise.

### Coastal Bird Protection

- 29 The Consent Holder shall, following the completion of capital dredging, undertake the following monitoring:



- (a) A one-off survey, in the following November, of the breeding season habitat use of coastal birds between both:
  - (i) Marsden Point to Northport; and
  - (ii) Darch Point to Home Point;
- (b) A total of four surveys, in the following period February to March, of coastal bird abundance and habitat use in the following areas:
  - (i) Two surveys at Mair Bank;
  - (ii) One survey between the Refinery jetty to Northport; and
  - (iii) One survey at Urquharts Bay; and
- (c) A one-off survey, in the following period November to January, in the embayments from Reotahi Bay to Urquharts Bay (inclusive) to record the daily dusk arrival counts of kororā (little penguins).

The Consent Holder shall complete the monitoring and provide a written report on the findings to the council's Compliance Manager and the Kaitiaki Group within 18 months of the completion of capital dredging.

***Kororā (Little penguin)***

- 30 The Consent Holder shall, in consultation with the Department of Conservation, seek to enhance the breeding success of kororā by:
- (a) Installing at least 15 predator traps on Motukaroro Island and/or in locations within Whangārei Harbour/Bream Bay where suitable kororā breeding habitat occurs. The predator traps are to be placed to maximise the number of predator species that are trapped. If located on the mainland, traps are to be placed in locations to minimise the number of pest incursions from the mainland to the Island.
  - (b) Installing tracking tunnels at the same time as the traps are installed. The tracking tunnels shall monitor the effectiveness of the predator traps and are to be placed in areas where predators are expected to frequent.
  - (c) Arranging for traps and tracking tunnels to be inspected monthly.
- 31 The trapping and monitoring required by Condition 30 shall commence not less than six months prior to the commencement of capital dredging and shall continue for the term of these resource consents.
- 32 Within one year of commencement of the first trapping and monitoring exercise required by Condition 31, the Consent Holder shall, in consultation with the Department of Conservation, install 24 nesting boxes either at Motukaroro Island, or in locations within Whangārei Harbour/Bream Bay that are likely to be attractive for kororā. The Consent Holder shall maintain the nesting boxes for five years following their installation.
- 33 The Consent Holder shall, within six months of the installation of the nesting boxes required by Conditions 30 and 31 above, invite Kaitiaki Group representatives to inspect the works carried out to enhance the breeding success of kororā.

**Advice Note:** *Installing predator traps, tracking tunnels and/or nesting boxes may require third party landowner approval.*



### **Ōi (Grey-Faced Petrel)**

- 34 At least six months prior to the commencement of capital dredging and also at least six months prior to each maintenance dredging campaign, the Consent Holder shall contribute \$7,500.00 (inclusive of GST) (CPI adjusted from the date of commencement of these resource consents) to either the Department of Conservation, the Bream Head Conservation Trust or another suitable conservation body that the council's Compliance Manager agrees is able to undertake the works needed for the purposes of pest control for ōi in the Bream Head area. The purpose of the contribution is to compensate for any mortality of ōi from collisions with dredge vessels, while also recognising the likely benefits of the contribution to other bird species. The Consent Holder shall provide written verification of the contribution being made to the council's Compliance Manager within five working days of the payment being made. The payment shall not bear interest, and a default shall not attract a financial penalty under these conditions.
- 35 In the event that a suitable community or conservation body cannot be identified or does not exist at the time the contribution is due to be made under Condition 34, the Consent Holder shall make the contribution towards a similar avifauna initiative/programme endorsed by the Department of Conservation.
- 36 Any dredge vessel used for works authorised by these consents shall be audited by an independent Suitably Qualified and Experienced Person. The purpose of the audit shall be to ensure appropriate levels of light spill from dredge vessels, to minimise the potential for bird strike. The audit shall make recommendations of any changes/modifications to dredge vessels or precautions that need to be taken to ensure appropriate levels of light spill, and may include:
- (a) reduction in unnecessary deck and cabin lighting;
  - (b) where possible orientation of all deck lights to a downward position and appropriate shielding of these to prevent upward or horizontal light projection;
  - (c) use of light dimmers and/or timers for areas where people are not constantly active; and
  - (d) use of coloured and/or LED lights to reduce overall light intensity.
- 37 A copy of the lighting audit shall be provided to the council's Compliance Manager for Certification, within one month of audit completion. The Consent Holder shall ensure that any audit recommendations are implemented before dredging commences (with written confirmation of such implementation to be provided to the council's Compliance Manager) and are maintained throughout dredging. If an 'un-audited' vessel is intended to later commence dredging, it shall be audited (and any recommendations complied with) prior to commencing dredging.

**Advice Note:** *Nothing in Conditions 36 and 37 above is intended to prevent or restrict compliance with maritime safety requirements, including pursuant to the Maritime Rules.*

### **Refining NZ Marsden Point Liaison Committee (MPLC)**

- 38 The Consent Holder shall resource the existing Marsden Point Liaison Committee with respect to the dredging and spoil disposal activities authorised by these consents. The Consent Holder shall invite the following groups to provide one representative to sit on the MPLC:



- (a) Department of Conservation;
- (b) Whangarei Harbour Marine Reserve Advisory Committee;
- (c) Whangarei Heads Citizen Association;
- (d) Ruakaka Residents and Ratepayers Association;
- (e) Fisheries Inshore NZ;
- (f) Northland Scallop Enhancement Company;
- (g) Bream Bay Coastal Care Trust;
- (h) Bream Head Conservation Trust;
- (i) The Kaitiaki Group established by these resource consents; and
- (j) Any other directly affected party that the MPLC identifies and recommends for inclusion with the agreement of the Consent Holder.

39 The role of the MPLC shall be as follows:

- (a) To receive reports from the Consent Holder as to progress on the channel deepening and realignment;
- (b) To discuss management plans to ensure that relevant concerns and needs are taken into account in their preparation/implementation;
- (c) To receive the results of monitoring undertaken by the Consent Holder in relation to the activities covered by these consents and to be advised of the implications of the monitoring results;
- (d) To identify, develop and establish suitable studies or projects designed to improve water quality, coastal processes, environmental, ecological, and cultural health of the Whangārei Harbour entrance [including its shores] and northern Bream Bay; and
- (e) To receive copies of any reports on environmental incidents requested by the council, in relation to the exercise of these resource consents.

40 The Consent Holder shall appoint two senior officers, either one of whom will represent the Consent Holder at all meetings of the MPLC.

41 The Consent Holder shall ensure that where the Chair of the MPLC considers it necessary, appropriate technical experts attend meetings of, or provide information to, the MPLC.

42 The Consent Holder shall provide the venue and administrative support for all meetings of the MPLC. Meetings are to be held in a suitable venue at Marsden Point unless otherwise agreed.

43 The Consent Holder shall hold meetings with the MPLC at least once every 12 months, unless a simple majority of the nominated representatives decide otherwise, whereby the meeting frequency could be reduced or the recurrent meetings stopped. The Consent Holder shall keep a record of each MPLC meeting held. Meeting records shall list the names of those who attended the meeting, the main topics of discussion and any agreed outcomes/areas of disagreement. They shall also record any decision of the majority to reduce the frequency of, or to stop the recurrent meetings. The Consent Holder shall provide a copy of any meeting record(s) to the council's Compliance Manager on request, and to the attendees of each meeting.

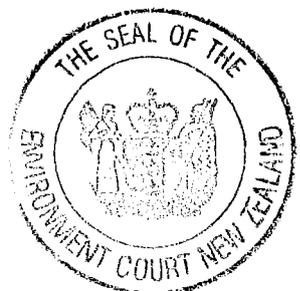


## Kaitiaki Group (KG)

- 44 The Consent Holder shall, at least six months prior to the date that the capital dredging is intended to commence, provide a written offer to the relevant representative entities of tangata whenua groups of Whangārei Te Rerenga Parāoa to establish and maintain a Kaitiaki Group ('KG').
- (a) For the purposes of these resource consents the 'relevant representative tangata whenua groups' are: Patuharakeke, Te Parawhau, Ngāti Kahu o Torongare, Te Waiariki, Ngāti Korora, Ngāti Tu, Te Uriroroi, and Ngātiwai;
  - (b) The entities nominated to represent the tangata whenua groups listed in clause (a) of this condition shall be identified by tangata whenua. Tangata whenua shall advise both the Consent Holder and the council as to whom their representative entities will be; and
  - (c) Other tangata whenua groups may be invited to join the KG where they have been endorsed by the majority of the members of the KG and confirmed by the council.

**Advice Note:** *There are several existing groups exercising various roles aimed at improving the health of Whangārei Te Rerenga Parāoa, including, for example the "Kaitiaki Roopu" which was established under resource consents granted to Northport for its port expansion.*

- 45 Each of the above parties listed in Condition 44 who accepts the Consent Holder's offer may nominate one representative and an alternate representative to the KG. The Consent Holder may also nominate one representative and an alternative representative to the KG.
- 46 As soon as practicable after acceptance of the Consent Holder's above offer by one or more parties, a Charter establishing the KG shall be executed by the Consent Holder and the accepting parties, following which the KG shall be constituted. The Charter shall set out/include the following, as a minimum:
- (a) The name by which the KG shall be formally known;
  - (b) The functions of the KG in accordance with Condition 47 below, and how such functions shall be exercised by the KG;
  - (c) The composition of the KG and the process by which membership may be amended;
  - (d) How the KG intends to carry out its functions, including the frequency and format of KG meetings, and methods for decision-making;
  - (e) A dispute resolution process whereby any differences that may arise in establishing and/or operating the KG may be resolved by direct discussions between the parties in dispute, and failing that, by reference to mediation by an AMINZ affiliated mediator (the costs of the mediator to be met by the Consent Holder);
  - (f) The rates of remuneration for members of the KG; and
  - (g) The period the KG shall operate for; which shall be no shorter than is necessary to fulfil the KG's functions under these resource consents.



### **Functions of the KG**

47 The functions of the KG are to:

- (a) Recognise and provide for the importance of Whangārei Te Rerenga Parāoa as a taonga to tangata whenua, within the framework of these resource consents;
- (b) Recognise and provide for the kaitiakitanga of Māori who have a kaitiaki relationship with Whangārei Te Rerenga Parāoa, within the framework of these resource consents;
- (c) Facilitate the involvement of Māori who have a kaitiaki relationship with Whangārei Te Rerenga Parāoa in the exercise of these resource consents;
- (d) Facilitate the incorporation of kaitiaki responsibilities and values in the exercise of these resource consents; and
- (e) Provide a forum for engagement between Māori who have a kaitiaki relationship with Whangārei Te Rerenga Parāoa, the Consent Holder and the council regarding the exercise of these resource consents.

### **Roles of the KG**

48 In fulfilling its functions, the role of the KG shall be to:

- (a) Nominate up to two people with knowledge of mātauranga Māori to train as marine mammal observers;
- (b) Nominate a representative to sit on the MPLC;
- (c) Receive reports and information from the Consent Holder required pursuant to these resource consents, including but not limited to, predator control and installation of nesting boxes for kororā/little penguin (see Condition 30), and notification of any discovery of archaeological material (see Condition 66);
- (d) Review and comment, as necessary, on the following (amongst other things): the MMMP required by Condition 21; the Harbour Restoration and Enhancement monitoring programme required by Condition 56; the BEMP required by Condition 99; and the RMP required by Condition 124;
- (e) Review and comment, as necessary, on the monitoring reports produced by the Consent Holder prior to them being submitted to the council to ensure the KG views are made known to council prior to any review;
- (f) Work collaboratively with the council and the Consent Holder to determine and implement appropriate procedures to control any adventive pests and weeds present within any disturbed area;
- (g) Receive updates every five years on new technology and processes related to the Dredge Management Plan;
- (h) Develop a Matauranga Māori Monitoring Framework;
- (i) Receive from the Consent Holder notification of any receiving water quality limit exceedances (see Condition 108); and consult with the council's Compliance Manager regarding any receiving water quality limit exceedances in accordance with Condition 108;
- (j) Provide advice on enhancing access to mahinga kai sites;



- (k) Identify, develop, establish and/or approve suitable studies or projects designed to improve water quality, coastal processes, environmental, ecological, and cultural health of the Whangārei Harbour entrance (including its shores) and northern Bream Bay; and
  - (l) Receive requests from Māori who have a kaitiaki relationship with Whangārei Te Rerenga Parāoa for the undertaking of any cultural ceremonies relating to the exercise of these resource consents, including without limitation in the event of discovery of kōiwi; and for facilitating the provision of any such cultural ceremonies the KG reasonably deems to be appropriate.
- 49 The Consent Holder shall provide written confirmation to the council's Compliance Manager within two weeks of execution of the Charter establishing the KG pursuant to Condition 46.
- 50 The first KG meeting shall be held as soon as practicable after execution of the Charter establishing the KG. The KG shall determine how it conducts/administers its functions under these resource consents.
- 51 The Consent Holder shall:
- (a) Meet the reasonable costs, up to a maximum of \$10,000 per year, incurred by the KG in fulfilling its functions under these resource consents, including KG meetings and remuneration of KG members; subject to normal business practices, including invoicing and accounting, and in accordance with the Charter produced under Condition 46;
  - (b) Give members at least three weeks' advance notice of the date, time and location of KG meetings;
  - (c) Take Minutes of KG meetings, which shall be forwarded to KG members and the council within three weeks of each meeting;
  - (d) Provide copies of the relevant reports and documentation required by the conditions of this resource consent to the KG;
  - (e) Provide the KG with opportunities to review and comment on the following documents: the MMMP required by Condition 21, the Harbour Restoration and Enhancement monitoring programme required by Condition 56, the BEMP required by Condition 99, and the RMP required by Condition 124;
  - (f) Have particular regard to any relevant comments provided by the KG under Condition 51(e) in the preparation and implementation of the documents (including any subsequent amendments) referred to in that condition; and
  - (g) Provide monthly email updates to the KG on any dredging undertaken, and on the outcomes of monitoring conducted in general accordance with these resource consents.
- 52 The Consent Holder shall provide funding to the KG as follows:
- (a) An initial payment of \$150,000 (plus GST, if any) within one month of the KG being constituted in accordance with Condition 46 (referred to below as the 'Initial Kaitiaki Fund');
  - (b) Ten annual payments of \$50,000 each (plus GST, if any), with the first payment to be made within six months of completion of the capital dredging authorised by these resource consents (referred to below as the 'Ongoing Kaitiaki Fund'); and

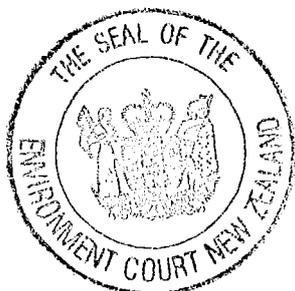


- (c) Ten annual payments of \$50,000 each (plus GST, if any), with the first payment to be made within six months of completion of the capital dredging authorised by these resource consents (referred to below as the 'Poupouwhenua Fund').

- 53 The Initial Kaitiaki Fund in Condition 52(a) above is intended to provide immediate working capital for the KG to assess the effects of the capital dredging authorised by these resource consents on Whangārei Te Rerenga Parāoa. The Ongoing Kaitiaki Fund in Condition 52(b) above is intended to enable the KG to continue to monitor the effects of the exercise of these resource consents on Whangārei Te Rerenga Parāoa, including maintenance dredging. Nothing in this condition, however, is intended to limit the use of the funding provided by the Consent Holder pursuant to Condition 52, provided such use is consistent with the KG's Charter.
- 54 The Poupouwhenua Fund in Condition 52(c) above is to be utilised towards restoration or enhancement projects at Poupouwhenua, including (without limitation) the examples set out in Condition 59 below. The Poupouwhenua Fund shall be held and administered separately to the Initial Kaitiaki Fund and Ongoing Kaitiaki Fund. The use of the Poupouwhenua Fund shall be determined by the Patuharakeke representative to the KG at their discretion. The Patuharakeke representative may, entirely at their own discretion, include other members of the KG in determining how the fund is used.
- 55 Except where the context requires otherwise, all the Consent Holder's obligations with respect to the KG under these resource consents are conditional on the KG being validly constituted, including execution of the KG Charter through agreement by the relevant parties.

### Harbour Restoration and Enhancement

- 56 The Consent Holder shall, not less than six months in advance of dredging commencing, appoint an independent Suitably Qualified and Experienced Person to:
- (a) design a monitoring programme in close conjunction with the KG to better understand:
    - (i) the physical and ecological interactions at Mair and Marsden Banks;
    - (ii) pipi spawning, larval development, and juvenile recruitment, including the importance of the "berth pocket" area for pipi recruitment on Mair and Marsden Banks
  - (b) implement the monitoring programme required to be prepared by clause (a); and
  - (c) prepare a report that summarises the results of the monitoring programme required by clauses (a) and (b) and advises:
    - (i) whether works or actions can be practicably undertaken to assist in the successful recovery of the shellfish population and biomass, including particularly pipi, on Mair and Marsden Banks. The report shall include an assessment on whether re-seeding shellfish beds on Mair and Marsden Banks is likely to be successful in achieving recovery of the shellfish populations; and
    - (ii) if works or actions can be practicably undertaken, recommends the specific works or actions that shall be undertaken.



- 57 If the independent Suitably Qualified and Experienced Person advises that works or actions can be practicably undertaken to assist in the successful recovery of the shellfish population and biomass, including particularly pipi, on Mair and Marsden Banks, the Consent Holder shall consult with the council, the MPLC, and the KG over the implementation of any works or actions recommended in the report required by Condition 56(c). Should the council agree to advance the works or actions with the Consent Holder, the Consent Holder shall contribute \$150,000.00 (GST inclusive) to the implementation of those works.
- 58 Should the independent suitably Qualified and Experienced Person advise that works or actions cannot be practicably undertaken to assist in the successful recovery of the shellfish population and biomass, including particularly pipi, on Mair and Marsden Banks or the council advises that it does not agree to advance the works or actions in accordance with Condition 57, the Consent Holder shall contribute \$150,000.00 (GST inclusive) towards other ecological restoration projects in the Whangārei Harbour as specified in Condition 59. The fund shall be administered by the Consent Holder and allocated to projects identified and agreed by the MPLC and KG.
- 59 The contributions made or works undertaken in accordance with Condition 58 shall be for the purpose of enabling improvements to the health of the Whangārei Harbour entrance and northern Bream Bay area, and may include:
- (a) Enhancing benthic communities in any Marine 1 Management Areas ('M1MAs') (as shown on the planning maps attached in Schedule 4) in the lower Whangārei Harbour;
  - (b) Restoring and/or extending seagrass beds;
  - (c) Studying coastal bird nesting/roosting/feeding areas;
  - (d) Maintenance or enhancement of habitat of oystercatcher and other shorebirds;
  - (e) Mahinga kai/kaimoana enhancement and restoration initiatives; and/or
  - (f) Works to improve coastal water quality in the lower Whangārei Harbour.
- 60 The contributions made or works undertaken in accordance with Condition 58 shall be paid/completed within ten calendar years of the first dredging event being undertaken in accordance with this resource consent. The Consent Holder shall provide written verification of all contributions made in accordance with Condition 58 to the Consent Authority Manager within five working days of each payment being made. The payments shall not bear interest, and a default shall not attract a financial penalty under these conditions.

### Website Obligations

- 61 At least six months prior to the commencement of capital dredging the Consent Holder shall have in place, and maintain for the duration of these resource consents, a website that is accessible to, and readily usable by, the public.
- 62 The website shall include contact details for the Consent Holder; and the following documents (as they become available):
- (a) A copy of these resource consents;
  - (b) A copy of the AEE;
  - (c) A copy of all of the Certified management plans required by these conditions;



- (d) A mechanism for members of the public to raise matters with, make an enquiry of, or lodge a complaint with, the Consent Holder during capital and maintenance dredging; and
- (e) A statement that projects the timing and duration of the next maintenance dredging event to be conducted in accordance with these resource consents.

### Complaints

- 63 The Consent Holder shall keep a register of complaints lodged with it in respect of the exercise of these resource consents.
- 64 The register maintained in accordance with Condition 63 shall record the following details for each complaint that is made:
- (a) The date and time of the complaint;
  - (b) The name and contact details of the complainant (if they are provided to the Consent Holder);
  - (c) A description of the complaint;
  - (d) Any investigations that the Consent Holder undertook in response to the complaint;
  - (e) Any action that was undertaken to address the concerns raised in the complaint; and
  - (f) Any feedback provided to the complainant.
- 65 The Consent Holder shall provide a copy of the complaints register to the council's Compliance Manager within five working days of receiving a request to do so from the council.

### Accidental Discovery Protocol

- 66 In the event of any discovery of archaeological material, the Consent Holder shall immediately:
- (a) Cease dredging operations in the affected area, and mark the affected location using GPS coordinates on the dredge vessel(s);
  - (b) Notify the council's Compliance Manager;
  - (c) Notify the Northern Regional Office of Heritage New Zealand Pouhere Taonga; and
  - (d) Notify the KG (if established) and/or other tangata whenua representatives as appropriate.



- 67 If the archaeological material is determined to be kōiwi (human bones) by Heritage New Zealand Pouhere Taonga, the Consent Holder shall immediately notify the New Zealand Police and tangata whenua representatives. Kōiwi is not to be further disturbed until such time as tangata whenua and Heritage New Zealand Pouhere Taonga have responded. Heritage New Zealand Pouhere Taonga representatives and the Consent Holder will engage with tangata whenua representatives to determine the appropriate procedures in accordance with mana whenua tikanga to ensure the safety of contractors and workers, tangata whenua, and the public. Mana whenua will take the lead role in carrying out appropriate customary and cultural rites and practices to ensure the safety of all parties.
- 68 Dredging may only recommence at the marked location if the council's Compliance Manager provides written confirmation to the Consent Holder that it is appropriate to do so.

#### **AUT.037179.01.01 and AUT.037179.07.01 – Capital and Maintenance Dredging**

- 69 No capital or maintenance dredging shall be undertaken between 1 October and 31 January (inclusive) in Harbour Areas A (inner) and B (mid), as identified on the attached Royal HaskoningDHV Ltd drawing referenced as "Northland Regional Council Plan Number 4782/1".

**Advice Note:** *The 'no-dredge' period required by condition 69 is intended to avoid adverse effects on shellfish spawning and recruitment at existing shellfish beds within Whangarei Harbour, in particular Mair and Marsden Banks.*

- 70 These consents apply only to the parts of the Whangārei Harbour entrance and approaches identified in colour on the **attached** Royal HaskoningDHV Ltd drawing referenced as "Northland Regional Council Plan Number. 4782/1".
- 71 The design depth of capital and/or maintenance dredging in the channel areas, excluding the refinery jetty berth pocket, shown on the drawing referenced in Condition 70 shall not exceed that shown on the **attached** drawing, referenced as "Northland Regional Council Plan Number. 4782/2", plus an additional overdredge allowance of up to 0.3 metres.
- 72 Capital and maintenance dredging in the refinery jetty berth pocket shall not exceed a design depth of 17.9 metres below chart datum, plus an additional overdredge allowance of up to 0.3 metres.
- 73 Dredging in the refinery jetty berth pocket shall occur only during daylight hours. At all other locations, dredging and disposal activities may occur at any time, subject to the Consent Holder complying with all of these conditions.
- 74 The volume of capital dredging shall not exceed 3,700,000 cubic metres.
- 75 The volume of maintenance dredging shall not exceed 122,000 cubic metres per year, annualised averaged over the period between maintenance dredging events. Material shall only be removed from the channel, for the purpose of maintaining the depths set out in Conditions 71 and 72.

***Advice Note:*** *Rates of sedimentation in the dredged channel are estimated to require maintenance dredging of up to 122,000 cubic metres per year.*



*However, it is recognised that maintenance dredging campaigns will not necessarily be carried out annually.*

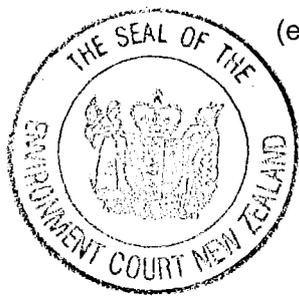
- 76 The dredge volumes in Conditions 74 and 75 above shall be determined by reference to the bathymetric surveys required pursuant to Conditions 85 and 88 below. An analysis by an independent Suitably Qualified and Experienced Person to determine the amount of material dredged shall be provided to the council's Compliance Manager within one month of completion of each survey.
- 77 The Consent Holder shall ensure that a copy of this consent is provided to the person who is to carry out the dredging, prior to any work commencing. A copy of the consent shall be held on the dredger, and available for inspection by the public, during the work.
- 78 The Consent Holder shall notify the council, the MPLC Chairperson, and the KG in writing of the date each dredging event is intended to commence at least two weeks before commencing work. The notification shall include details of the location, volume, type and method of dredging, location for disposal of dredging spoil, and duration of the planned work. For maintenance dredging, bathymetric plans for the area to be dredged shall also be provided to the council at this time.
- 79 The Consent Holder shall publicly advertise the location and timing of the dredging in the Northern Advocate at least one week but not more than two weeks, in advance of commencing dredging operations on each occasion.

#### **Dredge Management Plan (DMP)**

- 80 The Consent Holder shall, at least two months prior to the commencement of the capital dredging event and one month prior to the first maintenance dredging event authorised by these resource consents lodge a Dredge Management Plan (DMP) with the council's Compliance Manager for Certification. The objective of the DMP is to specify procedures for the management of Dredging operations to ensure that any actual or potential adverse effects of dredging are appropriately avoided, remedied or mitigated.

**Advice Note:** *Potential effects relating to other commercial users of the Whangārei Harbour, including Northport and ships visiting Northport, are addressed in Conditions 91-94 below and are not included within the scope of the DMP.*

- 81 The DMP shall, as a minimum, include:
- (a) The number and types of dredge vessels to be used;
  - (b) The dredging methodology(s) and disposal strategy(s) to be used, including (subject always to the requirement for dredged material to be deposited at Disposal Site 1.2 in accordance with the Replenishment Management Plan) whether disposal of maintenance dredging material to land is the best practicable option;
  - (c) How the location and quantities of dredged material discharged to the disposal sites are to be recorded;
  - (d) The planned maintenance of the equipment and systems that are to be used during dredging;
  - (e) How hazardous substances on the dredge vessel(s) will be handled and stored during dredging;



- (f) The outdoor lighting measures that are to be used to reduce light spill (to minimise the potential for bird strike);
- (g) The measures that will be implemented to manage any potential conflicts between the dredging programme and any recreational activities in Whangārei Harbour and/or Bream Bay;
- (h) Any turbulence-reducing mechanism or systems that are to be incorporated into the dredge vessel(s) to minimise turbidity;
- (i) Training to be given to dredge vessel crews to ensure compliance with the conditions of these consents and the DMP;
- (j) All other operational dredging measures, systems, and training that will be implemented to avoid, remedy or mitigate adverse effects on the receiving environment; and
- (k) Contaminant testing procedures for maintenance dredging material that will be removed.

82 The DMP shall be prepared in general accordance with the draft DMP provided as part of the resource consent application (Annexure E to the evidence of Mr Justin Cross, *Refining NZ – draft Dredge Management Plan*, Royal HaskoningDHV, February 2018) and including the principles set out in the *Comment by Richard Reinen-Hamill in Response to Minute #7 of Hearing Commissioners*, dated 13 April 2018.

83 The Consent Holder shall undertake all activities authorised by these resource consents in accordance with the Certified DMP.

84 The Consent Holder shall notify the council's Compliance Manager in writing as soon as each dredging event is complete, and, within one month of completion of capital dredging the Consent Holder shall, in writing, notify:

Hydrographic Surveyor  
Land Information New Zealand  
PO Box 5501  
Wellington 6145

Maritime New Zealand  
PO Box 27006  
Marion Square  
Wellington 6141

The Consent Holder shall include a bathymetric plan of the completed dredged area with the notification to each of the above parties.

85 For a period of five years after the capital dredging authorised by these consents is completed, the Consent Holder shall, to the extent that it is not already being undertaken by third parties and made available to the Consent Holder, undertake an annual survey of the bathymetry of:

- (a) the dredged areas of the harbour channel and approaches;
- (b) Mair Bank;
- (c) the shallow subtidal part of the ebb tide delta above the 5 metre depth contour; and
- (d) Disposal Site 1.2.

The bathymetric surveys should be sufficient to enable an assessment of the volume of material to be dredged and the changes in volume between the survey periods.



At the same time, an annual assessment of wave monitoring at the Wave Rider Buoy and water levels recorded at the port shall also be undertaken.

- 86 Within three months of completion of each annual survey required by Condition 85 (or receipt of such survey data from another party), the Consent Holder shall provide the council's Compliance Manager with a written report detailing:
- (a) changes in bathymetry from the previous survey and associated rates of sediment deposition or erosion;
  - (b) areas requiring maintenance dredging, if any, and the proposed timing of such dredging; and
  - (c) any need for and volume of maintenance dredging spoil disposal at Disposal Site 1.2 in order to maintain the sediment budget of the ebb tide delta.

The report shall include an electronic copy of all survey data (x, y, z).

- 87 After five years, the results of all the annual bathymetric surveys required by Condition 85 and the wave and water level monitoring shall be evaluated to confirm that the effects on physical coastal processes arising from capital and maintenance dredging and spoil disposal activity are consistent with the predictions set out in Section 5 of the Tonkin and Taylor Limited report, dated July 2017, and entitled:

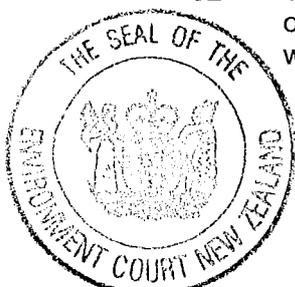
*Crude Shipping Project – Coastal Processes Assessment. Job Number 30488.CPA.v9*

A written report on the evaluation shall be provided to the council's Compliance Manager and the KG within two months of completion of the review. If the actual effects differ materially from those predicted then the council may review the maintenance dredging and spoil disposal consent conditions in accordance with Condition 4.

- 88 Following each maintenance dredging operation, the Consent Holder shall provide a bathymetric plan of the areas dredged, and records of volumes dredged, to the council's assigned monitoring officer within one month of completion of dredging. The bathymetric plan shall show the positions of the channel marks and shall indicate by shading or similar identification the locations where maintenance dredging was carried out.
- 89 All dredged spoil disposed of within the coastal marine area shall only be at the disposal sites authorised by **AUT.037179.03.01** and **AUT.037179.09.01**.
- 90 Appropriate navigation signals shall be shown at all times during dredging activities.

#### **Crude Shipping Project Management and Safety Plan (CSPMSP)**

- 91 Following consultation with members of the Whangarei Harbour Safety Committee including representatives from Northport Limited, North Tugz Limited and the Harbourmaster, the Consent Holder shall, prior to the commencement of capital dredging, lodge a Crude Shipping Project Management and Safety Plan ('CSPMSP') with the council's Compliance Manager for Certification.
- 92 The objective of the CSPMSP is to specify procedures for the management of dredging operations to ensure that any actual or potential adverse effects of dredging – including with respect to harbour safety and vessel navigation – on other commercial shipping



operations in the Whangārei Harbour/Bream Bay area are appropriately avoided, remedied or mitigated.

- 93 In order to achieve the objective set out in Condition 92, the CSPMSP shall, as a minimum, include:
- (a) The processes and procedures that will be implemented to manage commercial shipping schedules, including for ships visiting Northport;
  - (b) The measures/procedures that will be implemented in relation to dredging operations to manage any potential conflicts between the dredging programme and other commercial shipping, including ships visiting Northport;
  - (c) The measures/procedures that will be implemented in relation to dredging operations to maintain the safety of all commercial users of the Whangārei Harbour and Bream Bay area;
  - (d) Any changes required to the existing Dynamic Under Keel Clearance System as a result of the dredging, and the necessary implementation processes for any such changes; and
  - (e) The training and/or information regarding the above matters that will be provided to dredge vessel crews.
- 94 The Consent Holder shall undertake all activities authorised by these resource consents in accordance with the Certified CSPMSP.

#### **Potential Sedimentation at Northport Structures and Turning Basin**

- 95 The Consent Holder shall, not less than three months before capital dredging is completed, engage an independent Suitably Qualified and Experienced Person to assess any survey data provided to it by Northport directly relevant to potential changes in the bathymetry of the areas in the immediate vicinity of the Northport structures and turning basin post capital dredging.
- 96 The independent Suitably Qualified and Experienced Person engaged in accordance with Condition 95 above shall review any data provided to the Consent Holder in accordance with that condition, and (if data is provided by Northport) prepare a report that, as a minimum:
- (a) Describes the levels of sedimentation, if any, in the areas in the immediate vicinity of the Northport structures and turning basin, and outlines any changes that have occurred since the most recent survey data provided by Northport or any preceding report produced in accordance with Condition 97; and
  - (b) Based on the monitoring undertaken, stipulates whether or not it is possible to conclusively determine that any increased sedimentation at the Northport structures or turning basin has been caused by the capital dredging and, if so, whether the capital dredging has in fact caused the increased sedimentation.
- 97 The Consent Holder shall no later than 18 months following the completion of capital dredging, submit the first report required by Condition 96 to Northport, if the requisite survey data has been provided. Thereafter, reports shall be submitted annually to Northport for a further five years, if required in accordance with Conditions 95 and 96.
- 98 Where a report produced under Condition 96 concludes that the capital dredging has conclusively caused increased sedimentation at the Northport structures or turning



basin, the Consent Holder shall engage with Northport to determine an appropriate mechanism to fund the actual and reasonable costs of any maintenance dredging required to be undertaken by Northport to return the levels of sedimentation at the Northport structures or turning basin to pre-capital dredging levels.

**Advice Note:** *The above conditions do not require the Consent Holder to obtain any authorisations required for any dredging of the Northport structures or turning basin required under these conditions, which shall remain the responsibility of Northport. It is anticipated that any dredging of the Northport structures or turning basin required by these conditions shall be carried out by Northport under existing maintenance dredging consents held by Northport.*

## Benthic Ecology

### **Benthic Ecology Management Plan (BEMP)**

- 99 The Consent Holder shall, six months prior to the commencement of the capital dredging event and one month prior to the first maintenance dredging event authorised by these resource consents, lodge a Benthic Ecology Management Plan ('BEMP'), prepared by an independent Suitably Qualified and Experienced Person in consultation with the KG, with the council's Compliance Manager for Certification.
- 100 The BEMP shall be prepared in general accordance with the updated draft BEMP provided as Appendix B to the Supplementary Statement of Evidence of Dr Brian Coffey dated 8 March 2018 entitled "*Benthic Ecology Management Plan (BEMP): Crude Shipping Project, FINAL DRAFT*", prepared by Kerr & Associates March 5, 2018".
- 101 The Consent Holder shall undertake all activities authorised by these resource consents in accordance with the Certified BEMP.
- 102 The objective of the BEMP is to specify procedures for the monitoring and management of dredging operations to ensure that any actual or potential adverse ecological effects of dredging are adequately understood, and appropriately avoided, remedied or mitigated. Specific purposes of the BEMP are:

- (a) *Pre-dredging monitoring:* To set out monitoring sites and procedures for the acquisition of baseline data for benthic communities in Marine 1 (protection) Management Areas of the lower Whangārei Harbour; including macroalgae, sponges, seagrass and shellfish communities exhibiting considerable temporal variability in order to remove the temporal variability component; and for pre-impact communities that will benefit from additional description.

**Advice Note:** *This monitoring will be used in conjunction with existing baseline information on benthic communities derived from sources summarised in Table 6 of the report entitled 'Crude Shipping Project: Assessment of marine ecological effects excluding seabirds and marine mammals', prepared by Brian T Coffey and Associates, and dated 10 August 2017.*

- (b) *During-dredging monitoring and management:* To set out effective monitoring sites and procedures during capital and maintenance dredging, including so that management responses to ecological indicators, including water clarity, total suspended solids (TSS) concentration, and turbidity can be effectively implemented;



- (c) *Post-dredging monitoring*: To set out effective monitoring sites and procedures after capital dredging to enable effects from dredging to be understood (including regarding comparisons between the effects of dredging versus effects predicted in the AEE; and the state of ecological communities before dredging versus after dredging).
- (d) Overall, to facilitate the acquisition of data through monitoring so that the combined data from pre-dredging, during-dredging and post-dredging monitoring will enable adverse effects of the proposal to be confirmed.

103 The BEMP shall, as a minimum include the following matters:

- (a) *Pre-dredging monitoring and reporting: seagrass, shellfish and dredging footprint baseline monitoring*
  - (i) Monitoring that is to be completed before dredging within the dredging footprint generally and in order to define the extent of benthic communities in M1MAs (as shown on the planning maps attached in Schedule 4) in the lower Whangārei Harbour; including macroalgae, sponges, seagrass and shellfish communities within or adjacent to the dredging footprint.
- (b) *During-dredging monitoring/management: water quality*
  - (i) The methods the Consent Holder will implement to monitor water clarity and total suspended solids concentration/turbidity during capital and maintenance dredging in order to determine whether receiving water quality limits are met after reasonable mixing (see Condition 108); including the equipment type, number, and location, and the methodologies of the monitoring to be implemented in general accordance with the water quality monitoring required by the conditions of these consents.; and
  - (ii) The photoquadrat methodology the Consent Holder will implement to monitor the state of health of hard shore communities within the Motukaroro Island Marine Reserve and Home Point, including multivariate analysis.
- (c) *Post-dredging benthic ecology monitoring*
  - (i) Monitoring to be completed once dredging is complete, including in order to:
    - Compare the actual benthic ecological effects of dredging and disposal with effects predicted in the AEE, in particular the rate of recovery of the benthic ecological communities; and
    - Compare the state of benthic ecological communities, including within adjacent M1MAs (as shown on the planning maps attached in Schedule 4), before and after dredging and disposal.
  - (ii) The Consent Holder shall complete post-dredging monitoring within 12 months of the completion of capital dredging. Further surveys shall be completed by the Consent Holder each year following the completion of capital dredging, unless an independent Suitably Qualified and Experienced Person determines that the affected ecological communities within the dredge footprint and disposal sites have recovered at least to the level required by Condition 117(b).



### **Baseline Water Quality Data Collection**

- 104 The Consent Holder shall collect turbidity (measured in nephelometric turbidity units (NTU)) and TSS concentration data for a period of not less than 12 months prior to the commencement of capital dredging operations, at the following locations:
- (a) In the vicinity of the Motukaroro Marine Reserve ~~(the exact location shall be decided in consultation with the council's Compliance Manager);;~~
  - (b) In the vicinity of Home Point / Busby Head ~~(the exact location shall be decided in consultation with the council's Compliance Manager);;~~
  - (c) Mair Bank;
  - (d) In the outer channel ~~(the exact location shall be decided in consultation with the council's Compliance Manager) when sea conditions permit;~~
  - (e) Within Disposal Site 3.2; and
  - (f) Within Disposal Site 1.2.

The exact locations in (a)-(f) above shall be determined in consultation with the council's Compliance Manager.

Turbidity measurements shall be recorded at sites (a), (c) and (d) using fixed turbidity meters of the same type, specifications and manufacture. Turbidity measurements at sites (e), (d), (e) and (f) shall be made weekly for a minimum of 50 weeks using a hand-held turbidity meter of the same manufacture as the fixed turbidity meters, when sea conditions permit. An additional hand-held turbidity measurement shall be taken on top of Mair Bank when tides and sea conditions permit.

**Advice Note:** *The term 'NTU' or 'Nephelometric Turbidity Units' has become a generic term often used for any instrument that measures clarity of a water sample via a reflected light source. Technically nephelometry is the 90° side-scatter of light, however instruments which measure backscatter (i.e. 180° from the light source) are often sold, referenced, and reported in NTU as well. While 'NTU' is used in these conditions, it is being used generically to describe units from any optical turbidity measuring device with the understanding that make and model of sensor must also be reported with any data collected in order to avoid any confusion and allow cross-calibration if necessary.*

105. At the same time and location as turbidity measurements are undertaken in accordance with Condition 104, water samples shall also be taken and analysed as follows:
- (a) Three replicate water samples shall be collected from each site at no less than weekly intervals, sea conditions permitting, and the time that each water sample is collected shall be noted so that it can be correlated with the corresponding turbidity measurement for that same location;
  - (b) Each of the three samples shall be sent to an accredited laboratory and TSS concentration shall be measured.
- 106 After a period of not less than 12 months, the results of monitoring in accordance with Conditions 104 and 105 shall be assessed by an independent Suitably Qualified and Experienced Person to determine whether a scientifically robust relationship exists between field turbidity measurements (NTU) and TSS concentrations for each site.



If required, sample collection and field turbidity measurements shall continue to be undertaken every week until a scientifically robust relationship, in the opinion of the independent Suitably Qualified and Experienced Person, is established between field turbidity measurements and TSS concentration.

The Consent Holder shall use the baseline water quality data to determine the range of ambient values for each site and use this data and the results from any tank testing undertaken to derive a robust relationship between ambient NTU and TSS for each site shall be calculated.

If a scientifically robust relationship between field turbidity measurements (NTU) and TSS concentrations for each site is not established following 12 months of monitoring, then the default NTU values shown in the table following condition 108 shall be used unless and until a scientifically robust relationship is established in accordance with these conditions 104-106.

**Advice Note:** A scientifically robust relationship for the purposes of this condition will likely be constituted if the coefficient of determination ( $R^2$ ) value is greater than 0.75.

**Receiving Water Quality Limits**

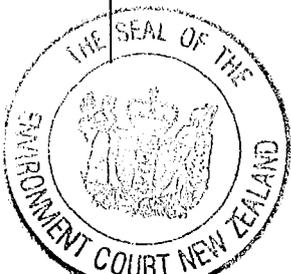
107 The Consent Holder shall monitor turbidity in the vicinity of dredging and spoil disposal activity in accordance with Schedule 3, **attached**.

108 The dredging and disposal activities shall not result in any exceedances of the following default water quality limits in the receiving waters at the edge of the relevant specified mixing zone boundary for each dredging and disposal area as identified on the Northland Regional Council plan numbers 4782/5 and 4782/6 attached:

Location	Radius (m)	Maximum Allowable TSS Concentration (g/m <sup>3</sup> )	Maximum Allowable Increase (%)
All dredging activity, including discharge of decant water and any discharge arising from the transfer of dredging spoil to land, within the lower Whangārei Harbour (adjacent to MIMAs), being the area north of a line drawn between No.6 and No.3 buoys Harbour Areas A (inner) and B (mid).	400 metres	15	20% <u>6</u>
All other dredging activity and use of Disposal Sites 1.2 and 3.2.	300 metres	20	33% <u>8</u>

108A. If background water quality readings exceed the default limits in Condition 108, then background water quality limits shall not be increased by more than 33% above background as a result of dredging or disposal activity.

109 The Consent Holder may request the council to update and replace the default ~~TSS concentration~~ water quality limits specified in Condition 108 following collection and analysis of the baseline water quality data ~~required by and tank testing referred to in~~ Conditions 104 to 106. Any replacement of the default ~~TSS concentration limit~~ water



~~quality limits shall be based on the 95<sup>th</sup> percentile statistic of the baseline water quality dataset for that location analysis performed in condition 106.~~ Any replacement TSS concentration water quality limit shall not take effect until it has been certified by the ~~council~~ council's Compliance Manager, in writing. In considering certification of any replacement TSS concentration limit the council shall have regard to the robustness and quality of the data collected, and any spatial variation.

- 110 Compliance with the default ~~TSS concentration~~ water quality limits specified in Condition 108, or any replacement ~~TSS concentration~~ water quality limits provided for by Condition 109, may be based on turbidity measurements if a scientifically robust relationship between turbidity and TSS concentrations has been established in accordance with Condition 106- (or using the default NTU values shown in Condition 108). The applicable turbidity (NTU) values for each TSS concentration limit specified in Condition 108 shall be determined by an independent Suitably Qualified and Experienced Person and described in a report that shall be submitted to the ~~council~~ council's Compliance Manager for certification.

**Advice Note:** *In the event that the Consent Holder has satisfied the council that it can use turbidity as a surrogate for TSS concentrations, as provided for in this condition, then it does not need to collect water samples in accordance with Conditions 111 to 113 and may rely on field measurements of turbidity to assess compliance with the TSS concentration limits in Condition 108. However, in the event that the Consent Holder has not satisfied the council that it can use turbidity as a surrogate for TSS concentrations then the Consent Holder will need to collect water samples and have them analysed for TSS concentration and the results used to determine compliance with the limits in Condition 108- (except insofar as it is relying on the default NTU values in Condition 108).*

- 111 Receiving water quality monitoring shall be undertaken daily (no less than 15 minutes after commencement of dredging activities) when dredging operations occur within the lower Whangārei Harbour, being ~~the area north of a line drawn between No. 6 and No. 3 buoys, as follows:~~ Harbour Areas A (inner) and B (mid), as identified on Northland Regional Council Plan Number 4782/1 attached. Monitoring shall comprise
- (a) ~~measurement of water clarity of the receiving waters up-current of the dredging and at the edge of the 100 metre mixing zone down-current using a Secchi disc; and~~
  - (b) ~~collection of water samples or field measurements of turbidity at the edge of the 100 metre mixing zone~~ nearest relevant mixing zone boundary (as specified in condition 108 above) down-current of the dredging.

The monitoring required by this condition shall occur when the dredge is operating at the closest point to any M1MA boundary (as shown on the planning maps attached in Schedule 4) for that day of operation.

- 112 Receiving water quality monitoring shall be undertaken daily (no less than 15 minutes after commencing dredging activities) for the first week of operations and thereafter weekly when dredging operations occur outside of the lower Whangārei Harbour, being ~~the area as south of the No. 6 and No. 3 buoys, as follows:~~ Harbour Area C (outer), as identified on Northland Regional Council Plan Number 4782/1 attached. Monitoring shall comprise



- (a) ~~measurement of water clarity of the receiving waters up current of the dredging activity and at the edge of the 300 metre mixing zone down current using a Secchi disc; and~~
- (b) ~~collection of water samples or field measurement of turbidity at the edge of the 300 metre mixing zone nearest relevant mixing zone boundary (as specified in condition 108 above) down-current from the point of the dredging.~~

113 Receiving water quality monitoring shall be undertaken daily (no less than 15 minutes after commencing and no more than 30 minutes after completing disposal activities) for the first week of operations and thereafter weekly when disposal activities commence at each of the disposal sites, ~~as follows:~~ Monitoring shall comprise

- (a) ~~measurement of water clarity of the receiving waters up current of the disposal activity and at the edge of the 300 metre mixing zone down current using a Secchi disc; and~~
- (b) ~~collection of water samples or field measurement of turbidity at the edge of the 300 metre mixing zone nearest relevant mixing zone boundary (as specified in condition 108 above) down-current from the point of discharge.~~

114 If any of the water quality limits specified in Condition 108 (including as amended by condition 108A, if applicable) are exceeded, a second series of water quality readings shall be carried out as soon as practicable following receipt of results from the initial testing. Should the results of the second series of readings continue to exceed the water quality limits specified in Condition 108, then the Consent Holder shall:

- (a) ~~immediately cease the dredging or disposal activity in that location;~~
- (b) ~~(a) Upon receipt of results of the second series of water quality readings, immediately implement operational controls to avoid sediment impacts on M1MA (such as moving to another location, only operating when currents/tides direct the sediment plume away from M1MA, reducing rates of dredging, operating south of the No. 6 and No. 3 buoys); and/or operating outside of Harbour Areas A (inner) and B (mid), as identified on Northland Regional Council Plan Number 4782/1 attached).~~
- (b) Undertake a third series of water quality readings after at least 30 minutes of implementing operational controls.
- (bc) If, following analysis of the further series of water quality readings taken after undertaking operational controls, the readings continue to exceed the water quality limits specified in Condition 108, immediately cease the dredging or disposal activity in that location and not restart without the prior approval of the council's Compliance Manager.

In addition to the above, the Consent Holder shall:

- (ed) ~~notify the council and the KG within 48 hours of the an exceedance;~~
- (de) ~~undertake an assessment of the cause of the breach exceedance and the effectiveness of any operational response by an independent suitably qualified person; and~~
- (ef) ~~provide the council and the KG with a copy of the assessment required under clause (ive) within two weeks of the breach exceedance.~~



- 115 During dredging and disposal activities, no discharge of wastes (e.g. sewage, oil, bilge water) other than hopper or barge decant water shall occur from any vessel associated with the exercise of these consents.

***Benthic Ecological Reporting***

- 116 An independent Suitably Qualified and Experienced Person shall prepare, in consultation with the KG, a pre-dredging or 'baseline' monitoring report in advance of the capital dredging event that is authorised by these resource consents. The report, which shall be complete prior to the capital dredging event proceeding, shall present and discuss the results of pre-dredging monitoring and shall be provided to the council's Compliance Manager at least one month prior to the commencement of capital dredging.
- 117 An independent Suitably Qualified and Experienced Person shall review the relevant post-dredging monitoring data and prepare an annual report that, as a minimum:
- (a) Describes the benthic ecological communities that exist within, and adjacent to, the disturbed areas (dredge footprint and disposal areas) and outlines any changes that have occurred from the baseline results and also since the preceding report produced in accordance with this condition (if one exists);
  - (b) Assesses whether the benthic ecological communities of the disturbed areas (dredge footprint and disposal areas) have recovered to a level where they support at least 50% of the species richness and abundance for macrofauna benthic taxa of comparable reference sites; and
  - (c) In the event that the benthic ecological community of any disturbed area(s) has not recovered to the level specified in clause (b), assesses whether the recovery in that area is progressing in line with the predictions made in the Assessment of Environmental Effects provided with the application, and if not, why not.

The Consent Holder shall no later than 18 months following the completion of capital dredging submit the first report required by this condition to the council's Compliance Manager. Thereafter, reports shall be submitted annually until an independent Suitably Qualified and Experienced Person has determined that all the affected habitats have recovered to the level specified in clause (b) of this condition.

- 118 An independent Suitably Qualified and Experienced Person shall prepare, in consultation with the KG, a comprehensive post-dredging monitoring report after the completion of the capital dredging event authorised by these resource consents. The report shall provide a summary of all the ecological monitoring, investigations and operational responses that were conducted/implemented before, during and after the dredging. The post-dredging monitoring report shall include the following:
- (a) A summary of all of the monitoring that was undertaken prior to, during, and following the capital dredging;
  - (b) A list of the operational responses that were implemented by the Consent Holder, including: to respond to any exceedances of the water quality standards; to respond to any instances of non-compliance with the conditions of these resource consents; to address any complaints; or to respond to any other matter; and



- (c) Recommendations from the expert as to the changes (if any) to operations (including disposal strategies) and to monitoring that need to be undertaken for maintenance dredging events in accordance with these resource consents.

The Consent Holder shall submit the post-dredging report to the council's Compliance Manager no later than six months following the completion of all post-capital dredging monitoring.

#### **AUT.037179.02.01 and AUT.037179.08.01 – Discharge of Decant Water**

- 119 Any discharge of decant water into coastal waters from a hopper or barge receiving and/or transporting dredging spoil shall meet the receiving water quality limits set out in Condition 108.

#### **AUT.037179.03.01, AUT.037179.04.01, AUT.037179.09.01 and AUT.037179.10.01 – Marine Dredging Spoil Disposal**

- 120 These consents apply only to marine disposal of dredging spoil at Disposal Site 1.2 and Disposal Site 3.2 as identified on the **attached** Tonkin and Taylor drawing, referenced as "Northland Regional Council Plan Number. **4782/3**".
- 121 The total volume of capital dredging spoil disposed of at Disposal Site 1.2 shall not exceed 185,000 cubic metres and the total volume disposed of at Disposal Site 3.2 shall not exceed 3,607,500 cubic metres.
- 122 The total volume of maintenance dredging spoil disposed of at either Disposal Site 1.2 or Disposal Site 3.2 shall not exceed 122,000 cubic metres per year (on average over the term of these consents).
- 123 Any trailing suction hopper dredge (TSHD) used for capital or maintenance dredging shall discharge overflow water at keel level as a turbidity reduction measure.
- 124 The Consent Holder shall, one month prior to the commencement of the first capital dredging event authorised by these resource consents, lodge a Replenishment Management Plan ('RMP'), prepared by an independent Suitably Qualified and Experienced Person, with the council's Compliance Manager for Certification against the below objectives.
- 125 The RMP shall establish the performance indicators and mechanism to determine the volume of dredged material to be placed at Disposal Site 1.2, and the area of placement of that material. The objectives of the RMP shall be to:
- (a) Maintain the sediment budget of the active part of the ebb tide delta affected by the dredging activities; and
  - (b) Increase the sediment budget to the ebb tide delta to address natural erosion cycles and possible climate change effects.
- 126 The RMP shall be prepared in general accordance with the draft RMP provided as part of the resource consent application (*Draft Replenishment Management Plan for Site 1.2 (rev 2)* forming Appendix C to the Applicant's closing legal submissions dated 29 May 2018).
- 127 The Consent Holder shall undertake activities authorised by these resource consents in accordance with the Certified RMP.



- 128 Not less than two months prior to commencing each maintenance dredging campaign, the Consent Holder shall either:
- (a) re-confirm to the council's Compliance Manager that its disposal strategy set out in the DMP remains the best practicable option, including having specific regard to the RMP and the requirements of Conditions 129 to 131 which require the Consent Holder to take all practicable steps to find land-based disposal options and document the efforts made; or
  - (b) advise the disposal strategy to be adopted for the upcoming maintenance dredging.
- 129 In respect of maintenance dredging, any amount of dredged material not required to be disposed of at Disposal Site 1.2 pursuant to the RMP shall be disposed of on land, where practicable.
- 130 The Consent Holder shall, following the capital dredging, take all practicable steps to try to find land based uses and/or storage facilities (so that the material can be made available for future land based use) for the material that is expected to be dredged during the maintenance dredging operation not required to be disposed of at Disposal Site 1.2 pursuant to the RMP.
- 131 The Consent Holder shall, not less than two months prior to undertaking each maintenance dredging campaign, provide the council with a report in respect of the material that is expected to be dredged during the next maintenance dredging operation not required to be disposed of at Disposal Site 1.2 pursuant to the RMP, which outlines the efforts it has made in respect of:
- (a) Finding land based uses for the material, either by the Consent Holder and/or third parties; and
  - (b) Securing resource consents and other authorisations to store and/or use the material.

**AUT.037179.05.01 and AUT.037179.11.01 – Land-based Dredging Spoil Disposal**

- 132 Any discharge arising from the transfer of dredging spoil from a hopper or barge to land shall meet the receiving water quality standards set out in Condition 108.

**AUT.037179.06.01 and AUT.037197.12.01 – Erection, Placement and Alteration of Navigation Aids**

- 133 This consent applies to the erection, placement, alteration and maintenance and repair of the following existing and new navigation aids (navaids) as shown on the **attached** Royal HaskoningDHV Ltd drawing referenced as "Northland Regional Council Plan Number. **4782/4**".

Activity	Navaid	Purpose
Alteration (relocation)	existing Fairway Buoy and channel marker buoys 2, 3, 5, 8, 11, 12, 14 and 18	Marking of water navigable by large vessels
Placement	new port and starboard channel markers	Marking seaward end of extended channel
Alteration (upgrading)	existing lead lights	Improved port entry guidance
Placement	two new lead lights on Calliope Bank	Additional navigation guidance





## SCHEDULE 1

### NOISE LIMITS FOR DREDGING ACTIVITIES (Referred to in Condition 16)

Time of Week	Typical Duration	Noise Limit	
		L <sub>eq</sub>	L <sub>max</sub>
Weekdays	0630 – 0730	55	75
	0730 – 1800	70	85
	1800 – 2000	65	80
	2000 – 0630	45	75
Saturdays	0630 – 0730	45	75
	0730 – 1800	70	85
	1800 – 2000	45	75
	2000 – 0630	45	75
Sundays and public holidays	0630 – 0730	45	75
	0730 – 1800	55	85
	1800 – 2000	45	75
	2000 – 0630	45	75

The above noise limits are based on Table 2 of New Zealand Standard (NZS) 6803: 1999 “Acoustics – Construction Noise”, Standards New Zealand.

Sound levels shall be measured and assessed in accordance with NZS 6803:1999 “Acoustics – Construction Noise”. Measurement shall be at the notional boundary of any occupied dwelling.

**Advice Note:** For the avoidance of doubt, all dwellings should be assumed to be occupied unless it can be proven otherwise.



## SCHEDULE 2

### ECOLOGICAL MONITORING PROGRAMME

The Consent Holder, or its authorised agent, shall undertake the following monitoring:

#### 1. BENTHIC ECOLOGY

[Refer to Conditions 99 to 118]

#### 2. COASTAL BIRDS

[Refer to Conditions 29 to 37]

#### 3. MARINE MAMMALS

##### 3.1 Visual Sighting Data Collection

A trained marine mammal observer (at least two of whom may be nominated by the KG) shall be stationed on board all dredge vessels during daylight hours for the duration of the capital and maintenance dredging.

Operators of vessels associated with the project shall also be instructed to keep a lookout for any marine mammals in the vicinity. Steps shall also be undertaken by the Consent Holder to encourage commercial and recreational boaties and the general public to report any sighting to the Consent Holder or the Department of Conservation.

All reported marine mammal sightings in and around Whangārei Harbour and within Bream Bay shall be recorded from one month before capital dredging to one month after completion of capital dredging; and for any maintenance dredging

Records shall include the following information:

- Date and time of first sighting
- General location
- Location co-ordinates
- Species involved
- Number of animals
- Animal activity
- Sighting vessel type and activity at the time of sighting
- Observer
- Weather and sea conditions
- Shutdowns and duration of shutdowns



### 3.2 Acoustic Data Collection

Passive acoustic monitoring for the presence of marine mammals shall be undertaken during each of the following periods:

- (a) One month prior to the start of capital dredging;
- (b) Two separate fortnightly periods during the capital dredging period; and
- (c) One month following the completion of capital dredging.

During each of the periods, passive acoustic moorings shall be placed in a minimum of four locations within the harbour entrance and within Bream Bay. Exact sites shall be selected in consultation with the council's Compliance Manager.

## 4. REPORTING

Written report on the results of the monitoring, as required by Sections 1, 2 and 3 of this schedule, shall be provided to the council, the KG, the MPLC and the Department of Conservation within three months of the required monitoring being undertaken.



## SCHEDULE 3

### TURBIDITY MONITORING PROGRAMME

The Consent Holder, or its authorised agent, shall undertake the following monitoring in relation to dredging and dredging spoil disposal operations:

#### 1. DREDGING Adjacent to Marine 1 Management Areas

This monitoring provision applies to any dredging within the lower Whangārei Harbour, being ~~the area located north of a line drawn between the No. 6 and No. 3 buoys~~ Harbour Areas A (inner) and B (mid), as identified on Northland Regional Council Plan Number 4782/1 attached.

Prior to dredging operations, ~~a minimum of three~~ continuous recording, data transmitting turbidity meters (CTM) shall be deployed along the open channel boundary of the adjacent Marine 1 Management Area at the locations specified below, mounted below the surface of the water at a sufficient depth (suggested 1-2 metres) where wave induced air bubbles and/or any freshwater and/or any brackish layer do not adversely affect the data.

Two continuous turbidity meters shall be deployed at the boundary of the Motukororo Marine Reserve M1MA area; two meters at the Home Point/Busby Head M1MA area; one meter at or near the Mair Bank/Marsden Bank M1MA area; and one meter at the eastern tip of the ebb tide delta. These locations are shown approximately on the Northland Regional Council Plan Number 4782/5 attached.

Turbidity levels shall be recorded in nephelometric turbidity units (NTU).

Real time data shall be sent from the recorders and a running six hour average NTU calculated from this data. Results shall be submitted to the council's assigned monitoring officer weekly, in excel format, via fax or email. Copies of the weekly data will also be provided to the KG and MPLC. Access to real-time calculated running six hour average NTU shall also be made available on request.

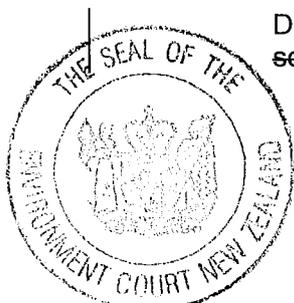
The turbidity meters used shall be verified prior to deployment and thereafter in accordance with the recommendations of a Suitably Qualified and Experienced Person.

Should any of the turbidity meters suffer a malfunction (such that they are no longer operable) or be lost, dredging within 300 metres of that meter location shall cease until either:

- (a) the meter is repaired or replaced, or
- (b) an interim monitoring methodology is agreed with the council's Compliance Manager and implemented by the Consent Holder.

#### 2. DREDGING IN Other Areas

During dredging operations ~~outside of the lower Whangārei in~~ Harbour, ~~being the area south of a line drawn between the No. 6 and No. 3 buoys~~ Area C (outer), as identified



on Northland Regional Council Plan Number 4782/1 attached, the Consent Holder's nominated agent shall use hand-held turbidity meters to assess levels upstream (current) and downstream (current) of the dredging activity. Such monitoring shall be undertaken daily during the first week of dredging, and then once per week thereafter: (sea conditions permitting).

On each sampling occasion, three separate turbidity measurements shall be taken at a depth of approximately two metres approximately 100 metres up-current of the dredge site and the average background turbidity in NTU determined.

Three separate turbidity measurements shall then be taken at a depth of approximately two metres at the ~~channel edges approximately 300 metres~~ nearest relevant mixing zone boundary as shown approximately on the Northland Regional Council Plan Number 4782/6 attached down current of the dredge location. If the plume is not clearly visible, the measurement location for compliance purposes may be determined using either a floating line, a drogue, or GPS, whichever is the most practicable.

Results of the daily turbidity measurements are to be recorded in a written log book by the Consent Holder, and submitted to the council's Compliance Manager weekly, in excel format, via ~~fax or~~ email. Copies of the results of daily inspections will also be provided to the KG and MPLC.

### 3. DREDGING DISPOSAL SITES 1.2 and 3.2

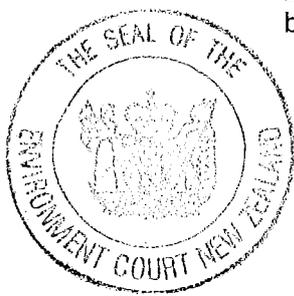
During ~~dredging~~ spoil disposal operations, the Consent Holder's nominated agent shall use hand-held turbidity meters to assess levels upstream (current) and downstream (current) of the ~~dredging~~ activity. Such monitoring shall be undertaken daily during the first week of commencing disposal at that disposal site, and then once per week thereafter: (sea conditions permitting). This is required for each disposal site when disposal activities are taking place at that site.

On each sampling occasion, ~~a drogue~~ either the visual plume shall be released at the dredge disposal site and tracked or, if the plume is not clearly visible, the Measurement Location may be determined using either a floating line, a drogue, or GPS until it either, whichever is the most practicable. The measurement location will be determined as the point where the visible plume or the line/drogue:

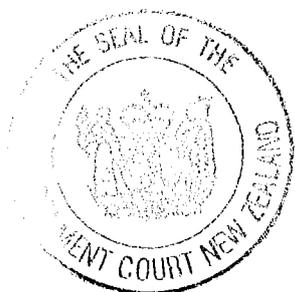
- (a) reaches a point being 300 metres from the disposal site boundary or, as shown approximately on the Northland Regional Council Plan Number 4782/6 attached, or
- (b) if (a) has not occurred after 15 minutes ~~it has not reached the boundary~~, a straight line shall be extended from the release location and the location of the drogue extending to the nearest point being 300 metres from the disposal site boundary.

Three separate turbidity measurements shall be taken at a depth of approximately 2 metres ~~at the boundary~~ in accordance with (a) or (b) above, whichever is applicable, and the average turbidity in NTU determined.

Three separate turbidity measurements shall then be taken at a depth of approximately 2 metres on the opposite (up-current) side of the dredge disposal site and the average background turbidity in NTU determined.



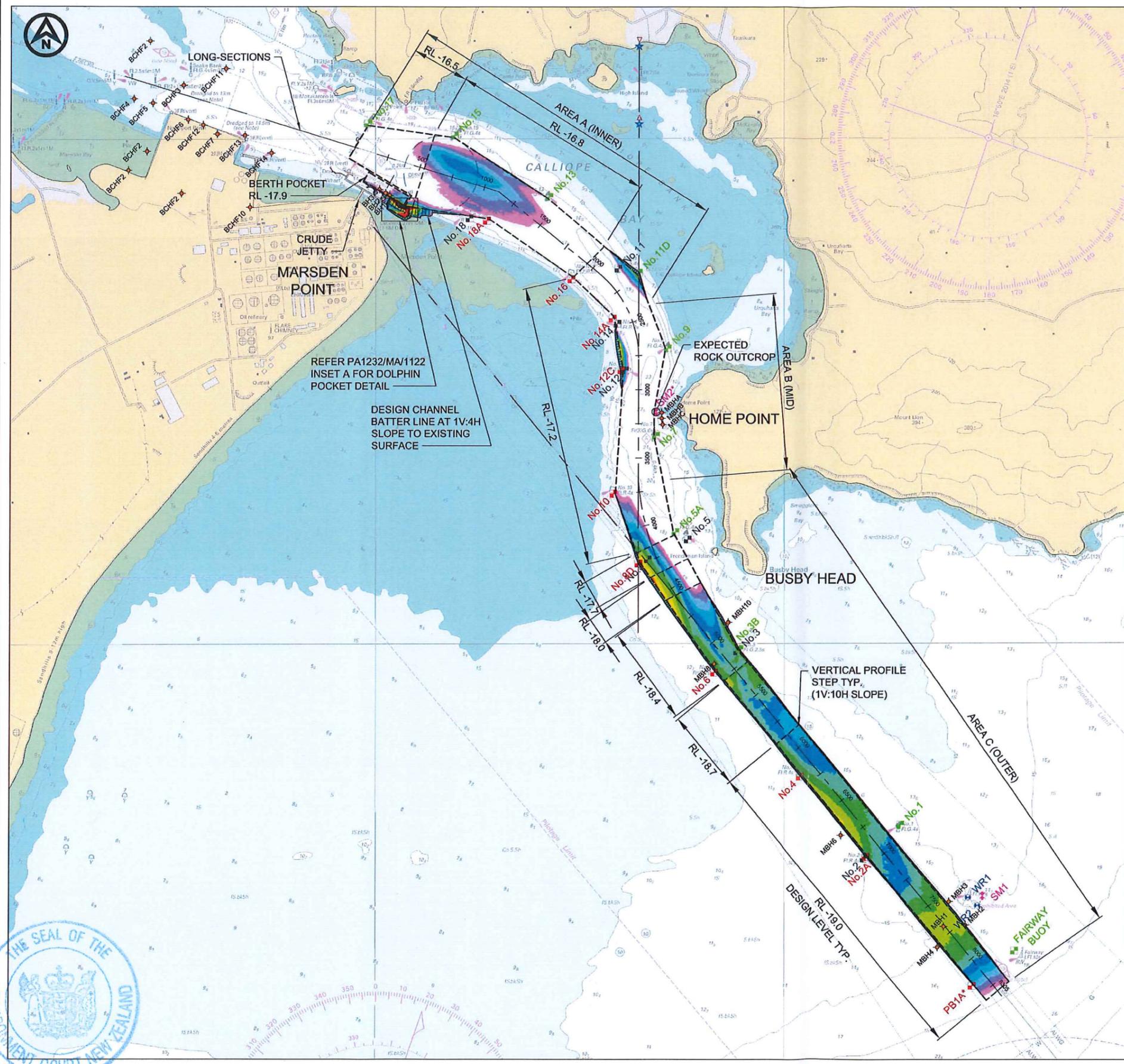
Results of the daily turbidity measurements are to be recorded in a written log book by the Consent Holder, and submitted to the council's assigned monitoring officer weekly, in excel format, via fax or email. Copies of the results of daily inspections will also be provided to the KG and MPLC.



## SCHEDULE 4

### Regional Council Planning Maps





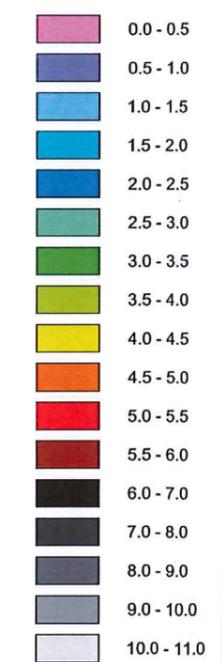
PLAN - DREDGE FOOTPRINT  
1:15,000 (A1)

DREDGING QUANTITIES		
AREA	DREDGING VOLUME, TO DESIGN LEVEL (m³)	DREDGING VOLUME, INCLUDING OVERDREDGING (m³)
AREA A (OUTER)	2,652,000	2,971,000
AREA B (MID)	50,000	57,000
AREA C (INNER)	476,000	610,000
TOTAL	3,177,000	3,638,000

**LEGEND:**

- DESIGN TOE LINE
- DESIGN CHANNEL CENTRELINE
- PROPOSED RELOCATED BUOYS (e.g. No. 11A)
- STARBOARD BUOYS
- PORTSIDE BUOYS
- WAVERIDER BUOYS
- SPECIAL MARK BUOYS
- EXISTING BUOYS TO BE RELOCATED
- HISTORICAL BOREHOLES (e.g. MBH1) (HAWTHORN, 2009) (e.g. BCHF1) (BCHF, 1992-1993)

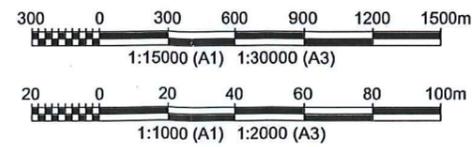
**DREDGED DEPTH BELOW EXISTING SURFACE (m):**



**NORTHLAND REGIONAL COUNCIL**  
REF : 037197  
Plan Number **4782/1**

**CHART DATUM**

**NOT FOR CONSTRUCTION**



**NOTES:**

1. SURVEY UNDERTAKEN BY DML, DATED APRIL 2015. INCLUDES BATHYMETRIC SURVEY SHOWN AT 1m CONTOURS, COASTAL OUTLINE, MARSDEN POINT JETTY STRUCTURES AND LOCATION OF NAVIGATION AIDS.
2. HORIZONTAL DATUM MOUNT EDEN CIRCUIT, NZGD1949.
3. ALL LEVELS REDUCED TO CHART DATUM.
4. DREDGING DESIGN LEVELS VARY ALONG CHANNEL AND ARE BASED ON AN APPROXIMATION OF THE 98% ACCESS PROFILE FOR 16.6m VESSEL DRAFT DEVELOPED BY OMC (2015) TO DEFINE DECLARED DEPTHS. ADDITIONAL ALLOWANCES HAVE BEEN ADDED FOR SILTATION TO DETERMINE DREDGING DESIGN LEVELS.
5. DREDGING ALLOWANCES:
  - a. A SILTATION ALLOWANCE OF 0.5m (OUTER HARBOUR) AND 0.3m (INNER HARBOUR) HAS BEEN ADOPTED WITH THE OUTER HARBOUR DEFINED AS BEING OFFSHORE OF BUOY No. 5.
  - b. AN OVERDREDGING ALLOWANCE OF 0.3m HAS BEEN APPLIED TO ESTIMATE DREDGING VOLUMES.

REV	DATE	DESCRIPTION	BY	CHK	APPD
A	02.12.15	REVISED FROM 95% ACCESS	BAM	RM	

CLIENT  
CHANCERYGREEN ON BEHALF OF:  
**REFINING NZ**  
Your Energy Hive

PROJECT:  
REFINING NEW ZEALAND  
CRUDE FREIGHT PROJECT

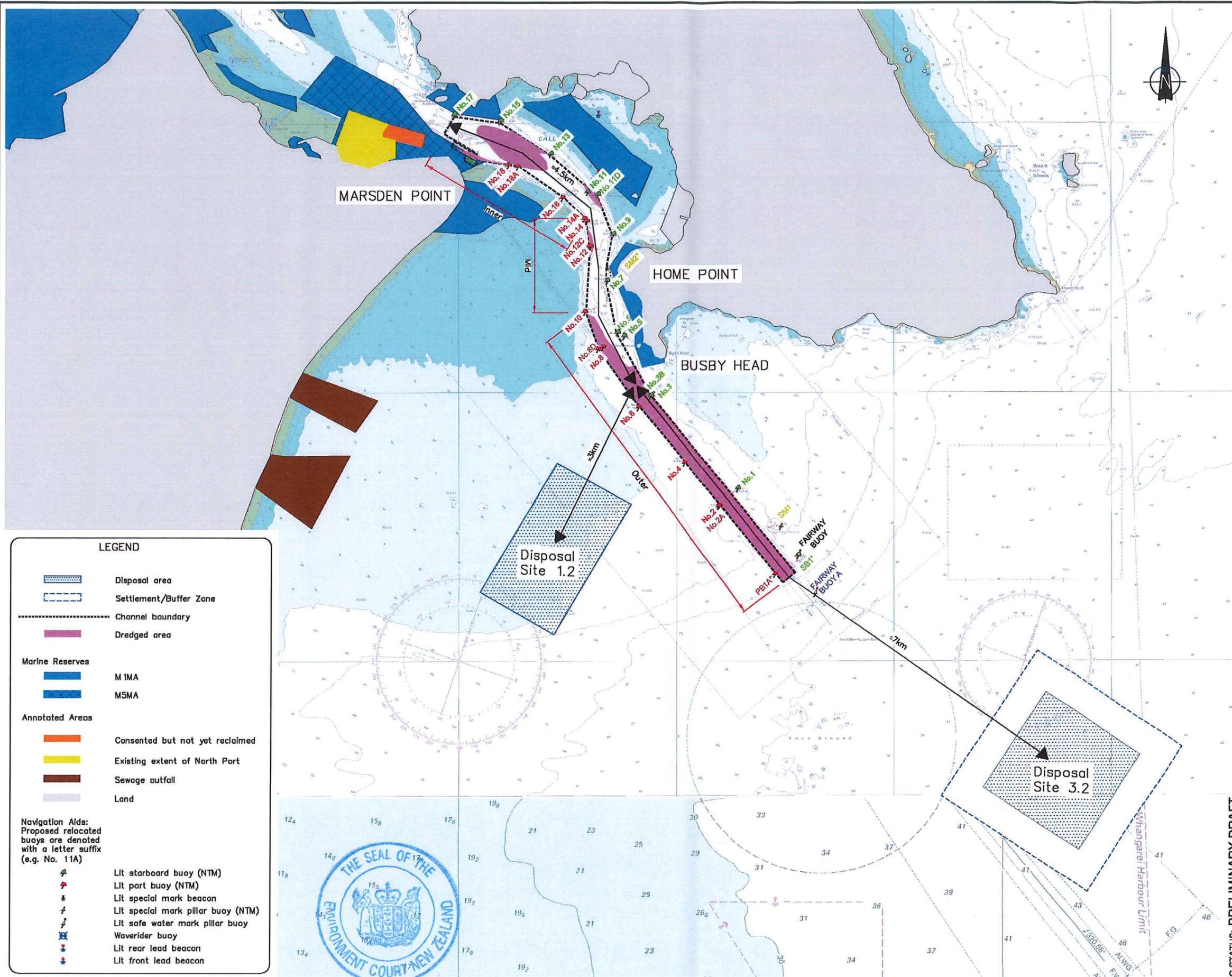
DRAWING TITLE:  
CHANNEL DESIGN  
OPTION 4-2  
DREDGE FOOTPRINT  
16.6m DRAFT VESSEL, 98% ACCESS  
1V:4H CHANNEL BATTER

HASKONING AUSTRALIA PTY LTD SYDNEY  
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Enhancing Society Together

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DRAWN BAM DATE 02/12/2015 JOB No. PA1028  
AUTOCAD REF. PA1028-MA-OP4-2H-95%  
SCALE AT A1 AS SHOWN  
DRAWING No. **PA1028/MA/1123** REVISION **A**





NOTES :

- Hydrographic chart sourced from Linz Data Service (NZ 5214/5219)
- Navigation aids and relocation placements from Royal HaskoningDHV drawing PA1025/MA/1121 rev K.

**NORTHLAND REGIONAL COUNCIL**

REF : 037197

Plan Number **4782/3**

REVISION DESCRIPTION	BY	DATE
DESIGNED :	RRH	Feb. 17
DRAWN :	BMAN	Feb. 17
DESIGN CHECKED :		
DRAFTING CHECKED :		

CADFILE : \\30488-01.dwg

APPROVED FOR CONSTRUCTION

This drawing is not to be used for construction purposes unless signed as approved

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**T+T**

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**NZ REFINING COMPANY LTD**

CRUDE FREIGHT PROJECT

MARSDEN POINT NORTHLAND

Proposed Works Plan

DRAWING STATUS: PRELIMINARY DRAFT

SCALES (AT A3 SIZE)	REV.
1:50,000	0
DWG. No. 30488-01	

**LEGEND**

- Disposal area
- Settlement/Buffer Zone
- Channel boundary
- Dredged area

**Marine Reserves**

- M1MA
- M5MA

**Annotated Areas**

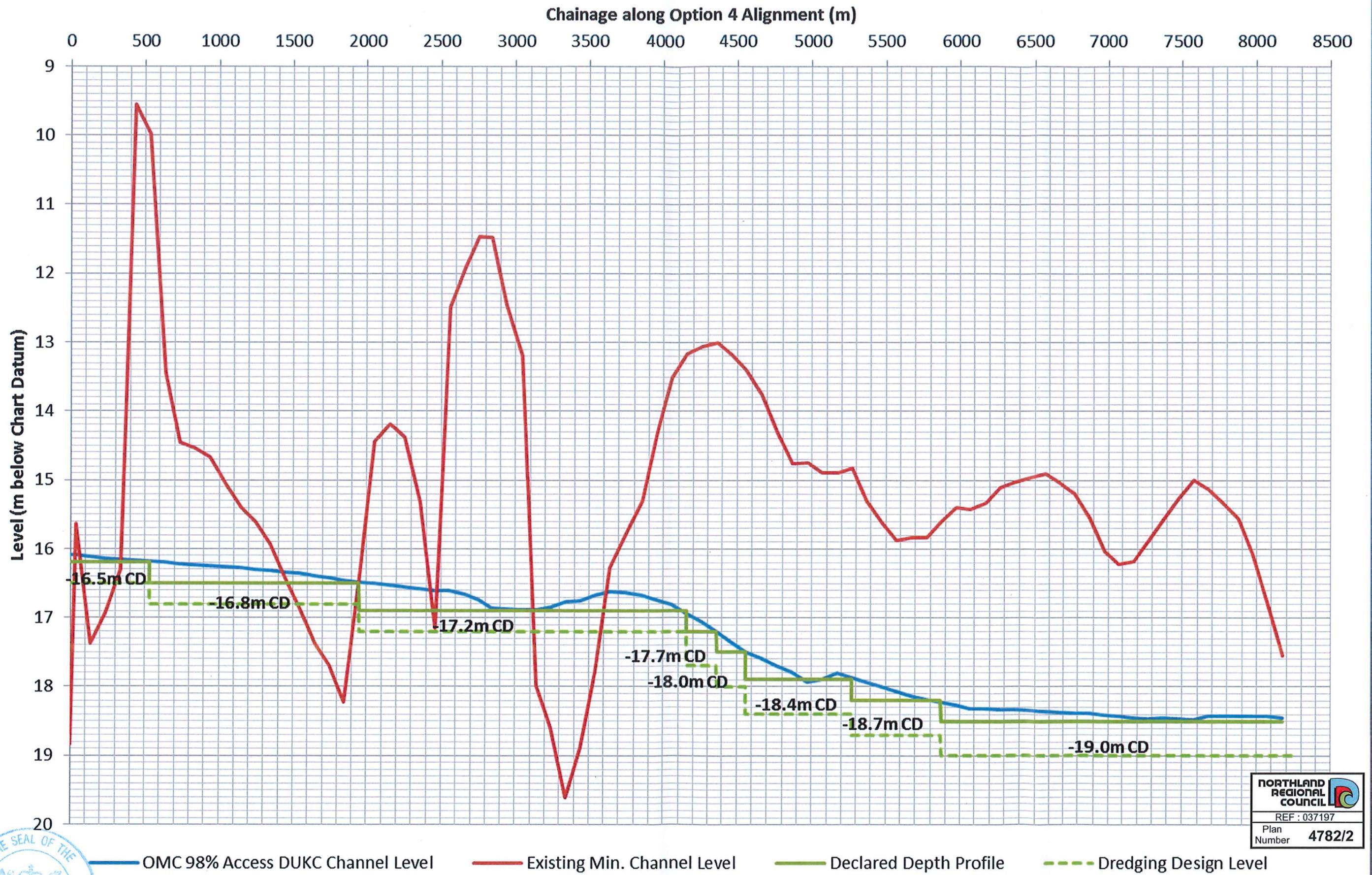
- Consented but not yet reclaimed
- Existing extent of North Port
- Sewage outfall
- Land

**Navigation Aids:**  
 Proposed relocated buoys are denoted with a letter suffix (e.g. No. 11A)

- Lit starboard buoy (NTM)
- Lit port buoy (NTM)
- Lit special mark beacon
- Lit special mark pillar buoy (NTM)
- Lit safe water mark pillar buoy
- Waverider buoy
- Lit rear lead beacon
- Lit front lead beacon

L:\30488\WorkingMaterial\CAD\DWG\30488-01.dwg, 01, 7/02/2017 9:38:03 a.m., bman

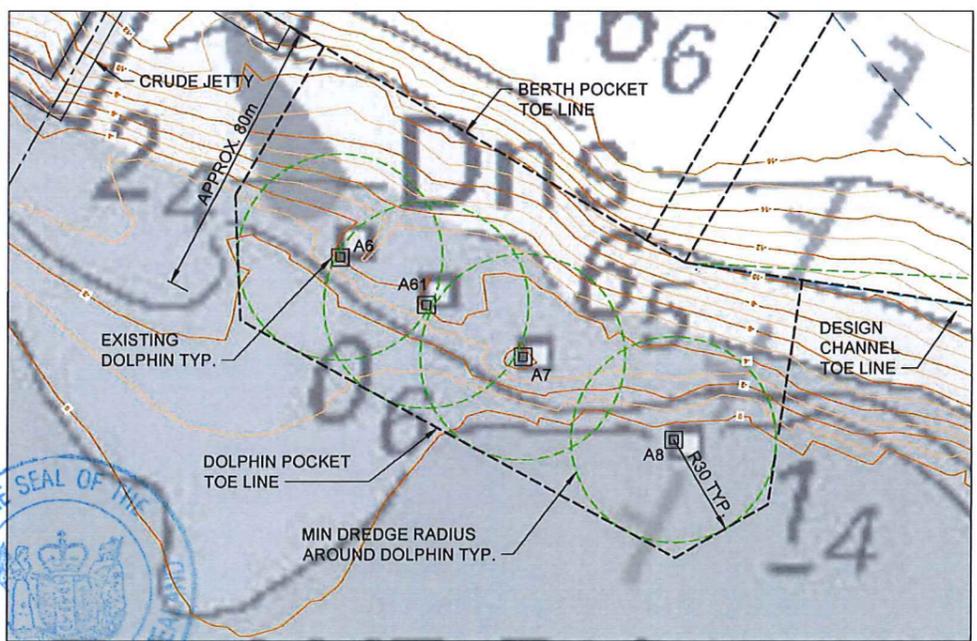
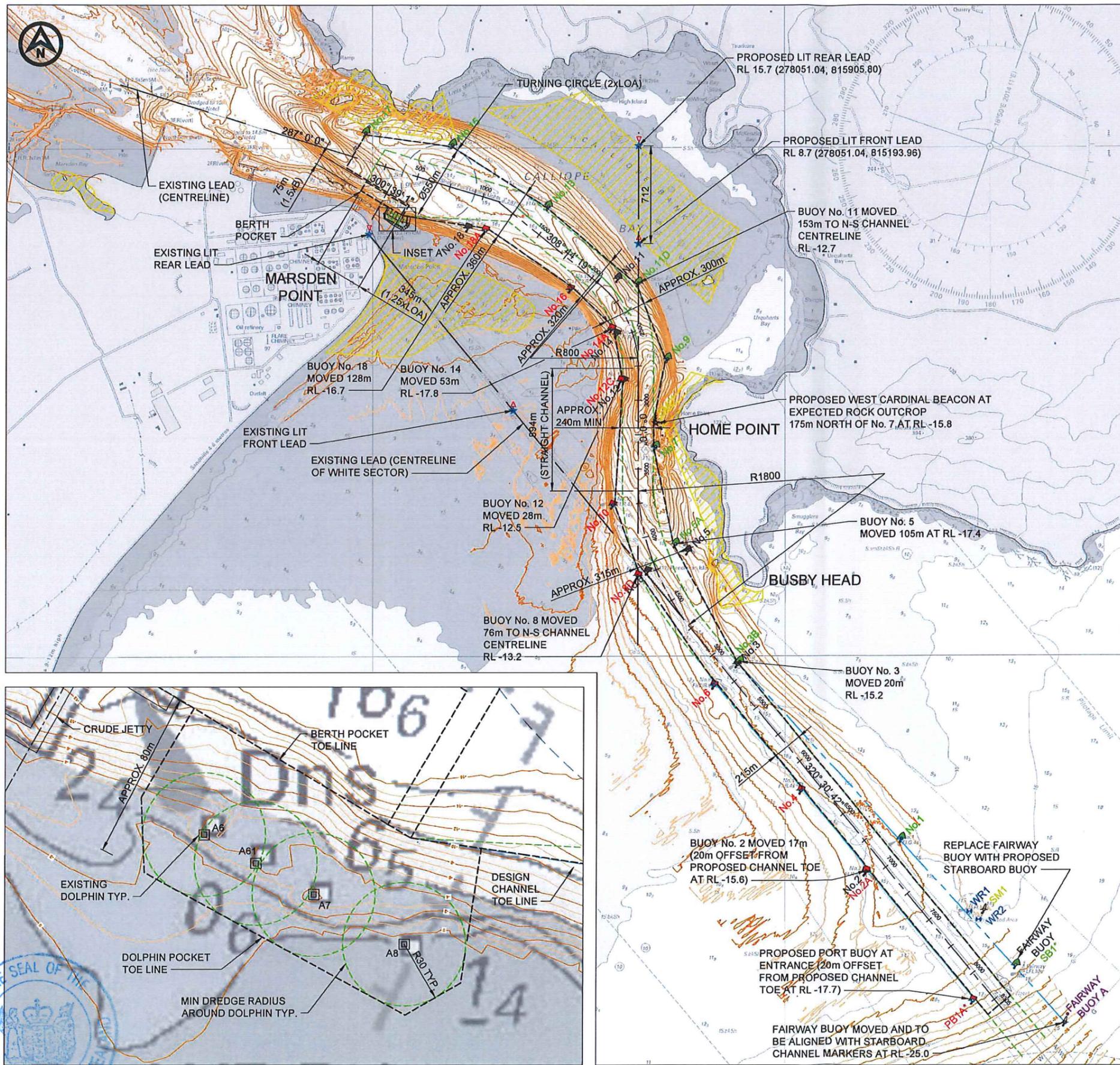




**NORTHLAND REGIONAL COUNCIL**  
 REF : 037197  
 Plan Number **4782/2**



Figure 3: 16.8m Vessel Draft Channel Design Profile



INSET A - DOLPHIN POCKET  
1:1,000 (A1)

PLAN - CHANNEL ALIGNMENT  
1:15,000 (A1)

LEGEND:

- DESIGN TOE LINE
  - DESIGN CHANNEL CENTRELINE
  - THEORETICAL TOE LINE
  - THEORETICAL CHANNEL CENTRELINE
  - BUOY BOUNDARY (15m MINIMUM OFFSET FROM BUOY)
- NAVIGATION AIDS:  
PROPOSED RELOCATED BUOYS ARE DENOTED WITH A LETTER SUFFIX (e.g. No. 11A)
- LIT STARBOARD BUOY (NTM)
  - LIT PORT BUOY (NTM)
  - LIT WEST CARDINAL BEACON
  - LIT SPECIAL MARK PILLAR BUOY (NTM)
  - LIT SAFE WATER MARK PILLAR BUOY
  - EXISTING BUOY TO BE RELOCATED
  - WAVERIDER BUOY
  - LIT REAR LEAD BEACON
  - LIT FRONT LEAD BEACON
  - LEAD LINE

CONSTRAINTS:

- MM1 BOUNDARY

NOTES:

1. SURVEY UNDERTAKEN BY DML, DATED APRIL 2015. INCLUDES BATHYMETRIC SURVEY SHOWN AT 1m CONTOURS, COASTAL OUTLINE, MARSDEN POINT JETTY STRUCTURES AND LOCATION OF NAVIGATION AIDS.
2. HORIZONTAL DATUM MOUNT EDEN CIRCUIT, NZGD1949.
3. ALL LEVELS REDUCED TO CHART DATUM.
4. GEOMETRY OF DESIGN CHANNEL AND BERTHING AREA BASED ON SUEZMAX VESSEL WITH LENGTH OF VESSEL (LOA) = 276m AND BEAM (B) = 50m.
5. THE DAYLIGHT LEADS ON THE OFFSHORE APPROACH CHANNEL BETWEEN THE FAIRWAY BUOY AND BUOYS 3/6 SHOULD BE MADE MORE SENSITIVE TO ADEQUATELY SHOW THE NAVIGATION LIMITS OF THE NEW CHANNEL AND BE BRIGHT ENOUGH TO SUPPORT OPERATIONS IN ADVERSE ENVIRONMENTAL CONDITIONS. AN ADDITIONAL FRONT LEAD SHOULD BE ESTABLISHED WITH DAY AND NIGHT LIGHTS IN THE CURRENT FRONT LEAD POSITION. THE EXISTING FRONT LEAD SHOULD BE REPLACED WITH A SIMPLE DAY/NIGHT LIGHT LEAD WITH NO DAY SHAPE.
6. NORTHPORT TO REMOVE THE DAY SHAPE TOP STRUCTURE FROM THE EXISTING FORE LEAD STRUCTURE AND PLACE A NEW 1.2m HIGH STRUCTURE (ON TOP) TO HOLD THE PROPOSED LIGHT. LIGHT COLOUR TO BE CONFIRMED.

REV	DATE	DESCRIPTION	BY	CHK	APPD
M	22.09.16	WEST CARDINAL MARK ADDED	BAM	JOC	
L	24.08.16	LEADS AND FAIRWAY BUOY MOVED	BAM	JOC	
K	23.08.16	LEADS MOVED	BAM	RM	
J	22.08.16	FAIRWAY BUOY MOVED	BAM	RM	
H	02.12.15	REISSUED FOR REVIEW	BAM	RM	
G	27.10.15	DREDGING AROUND DOLPHINS ADDED	BAM	RM	
F	23.10.15	LABELS REMOVED	BAM	RM	
E	22.10.15	REVISED SUEZMAX VESSEL	BAM	RM	
D	18.10.15	BUOYS No.2 AND P81 SHIFTED	BAM	RM	
C	13.10.15	CHANNEL CENTRELINE ADDED	BAM	MP	
B	12.10.15	PROPOSED N-S LEAD ADDED	BAM	MP	
A	10.09.15	REVISED FROM OPTION 4-1	BAM	MP	

REVISIONS

CLIENT  
CHANCERYGREEN ON BEHALF OF:



PROJECT:  
REFINING NEW ZEALAND  
CRUDE FREIGHT PROJECT

DRAWING TITLE:  
CHANNEL DESIGN  
OPTION 4-2  
CHANNEL ALIGNMENT

HASKONING AUSTRALIA PTY LTD  
SYDNEY

Royal HaskoningDHV  
Enhancing Society Together

DRAWN BAM DATE 26/08/2016 JOB No. PA1028

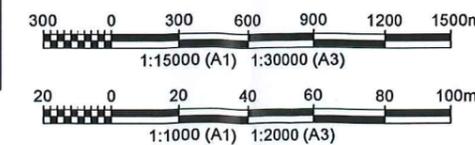
AUTOCAD REF. PA1028-MA-OP4-2L-98%

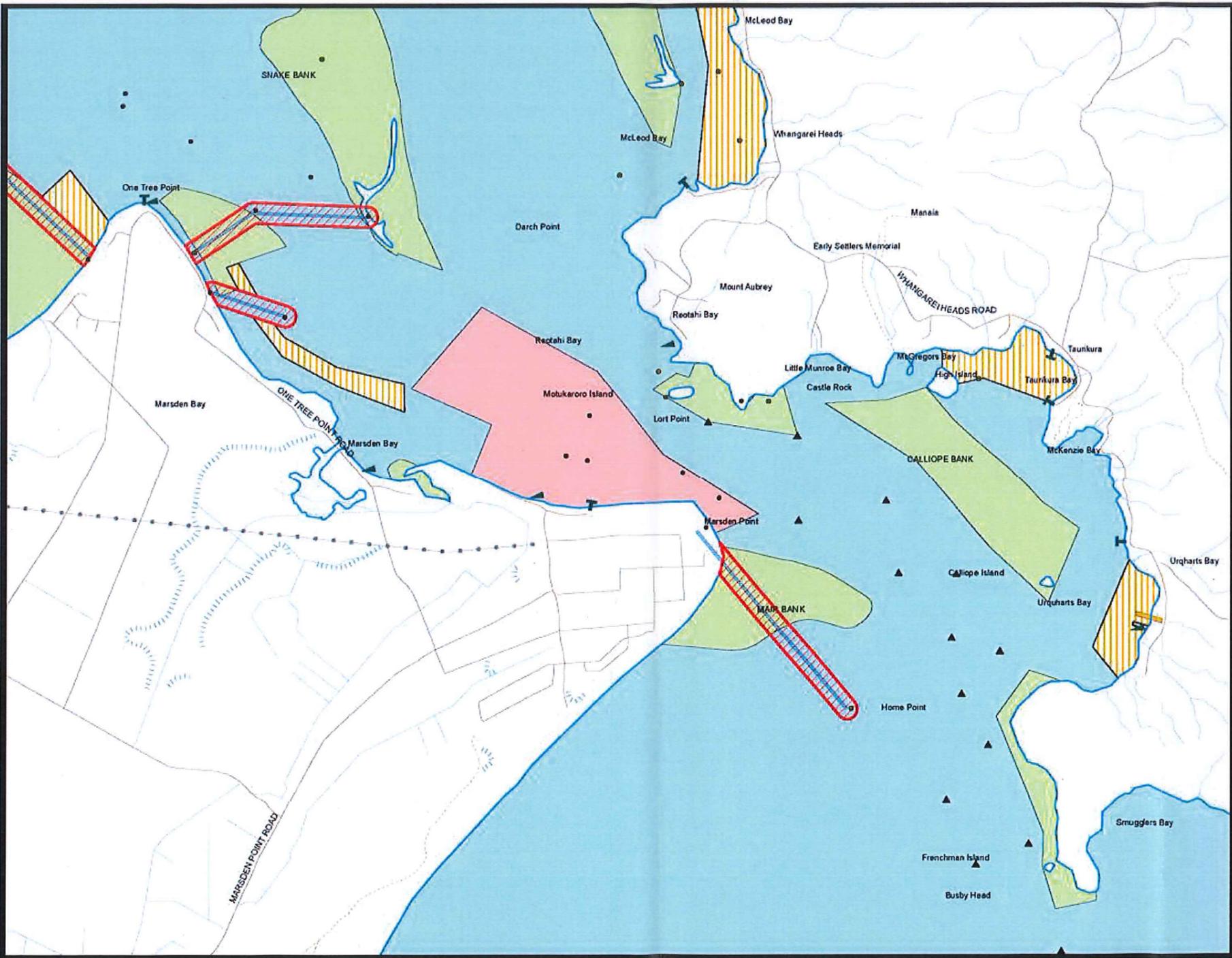
SCALE AT A1 AS SHOWN

DRAWING No. PA1028/MA/1121 REVISION M



CHART DATUM  
NOT FOR CONSTRUCTION





**Map C13**  
**Whangarei Harbour**  
**Marsden Point**

N

**Map Scale**  
**1:25,000**

LEGEND LOCATED AT BACK OF MAP FOLDER

Topographical and Cadastral Information derived from Land Information NZ. CROWN COPYRIGHT RESERVED

Map grid values are shown in NZTM co-ordinates NZGD 2000

This map is an indicative representation, for more specific information contact the NRC.

The RCP for the island covers the coastal marine area which extends from the landward extent of Mean High Water Springs and the negative cross river to such boundary to the 12 Nautical Mile limit.

Caution: This map should not be used for navigational purposes.

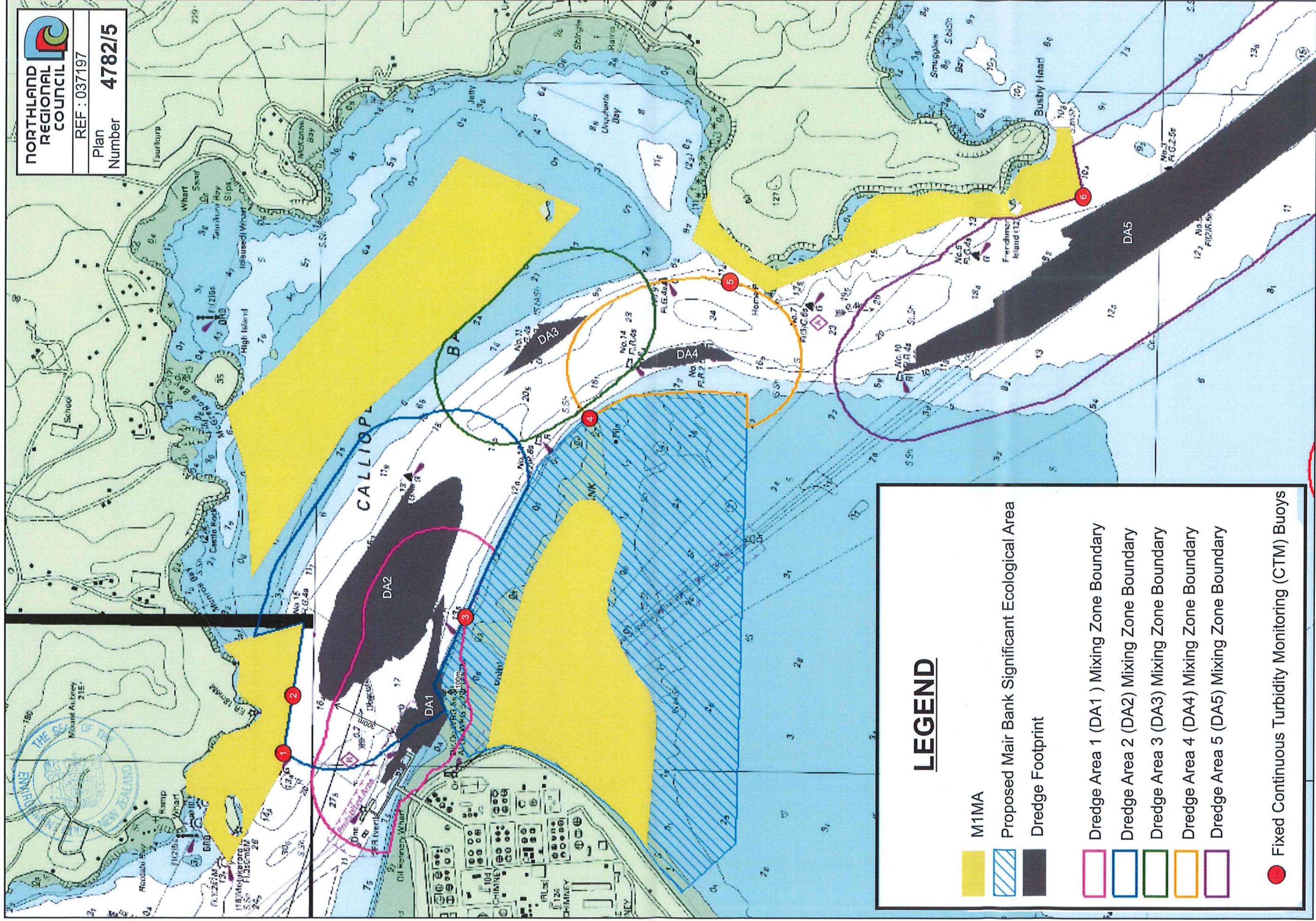
**Locality Map:**

**NORTHLAND REGIONAL COUNCIL**



Northland Regional Coastal Plan Map Legend			
	Regional Boundary Line		Cliff Edge
	TLA Boundary		Track & Walkway
	State Highway		River
	Road		Coastal Marine Area Boundary
	Aircraft Beacon		Surfing Area
	Boat Ramp		Land outside NRC Region
	Jetty/Wharf		Prohibited Anchorage Area
	Pontoon		Skilane
	Grid Point		Marine 1 (Protection) Management Area
	Slip		Marine 2 (Conservation) Management Area
	Protected Anchorage		Marine 3 (Marine Farms) Management Area
<b>Beacon</b>			Coastal Permitted Marine Farms (Post 20 December 1994)
	lit		Marine 4 (Controlled Mooring) Management Area
	unlit		Marine 4 (Discretionary Mooring) Management Area
<b>Buoy</b>			Marine 5 (Port Facilities) Management Area
	lit		Marine 6 (Wharves) Management Area
	unlit		Cultural Water Quality
<b>Bridge</b>		<b>Water Quality</b>	
	Foot Traffic		CA
	Train		CB
	Vehicle		CN
	Powerline		Mixing Zones For Major Discharge
	Underwater Cable		
	Underwater Pipe		





**LEGEND**

- M1MA
- Proposed Mair Bank Significant Ecological Area
- Dredge Footprint
- Dredge Area 1 (DA1 ) Mixing Zone Boundary
- Dredge Area 2 (DA2) Mixing Zone Boundary
- Dredge Area 3 (DA3) Mixing Zone Boundary
- Dredge Area 4 (DA4) Mixing Zone Boundary
- Dredge Area 5 (DA5) Mixing Zone Boundary
- Fixed Continuous Turbidity Monitoring (CTM) Buoys

# LEGEND

M1MA



Proposed Mair Bank Significant Ecological Area



Dredge Footprint



Dredge Disposal Sites



Dredge Area 1 Mixing Zone Boundary (Inner)



Dredge Area 2 Mixing Zone Boundary (Inner)



Dredge Area 3 Mixing Zone Boundary (Inner)



Dredge Area 4 Mixing Zone Boundary (Mid)



Dredge Area 5 Mixing Zone Boundary (Outer)



Disposal Area Mixing Zone Boundary



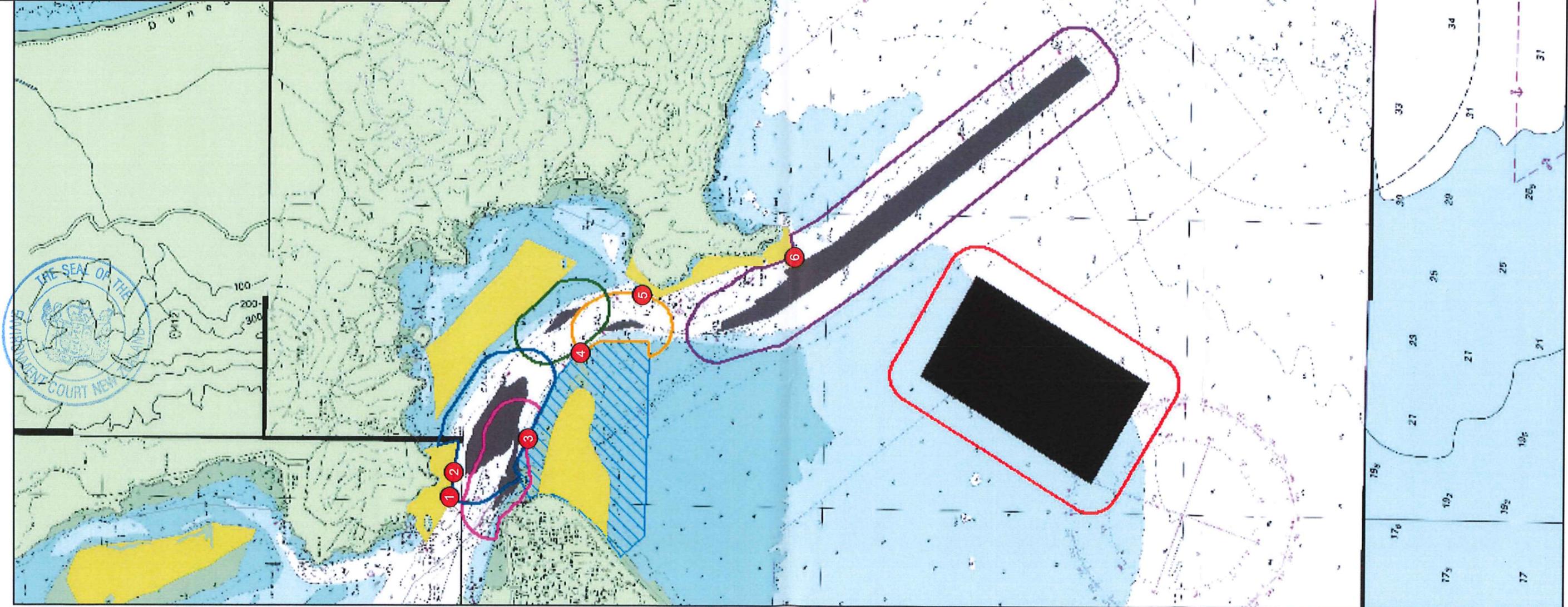
Fixed Continuous Turbidity Monitoring Buoys



REF : 037197

Plan

Number 4782/6



Whangarei Harbour Limit