NORTHLAND REGIONAL COUNCIL

Report and Decision of independent Hearing Commissioner Sharon McGarry
Hearing held at Forum North, Whangārei
on 13 and 14 August 2019

I was delegated functions and powers under section 34A of the Resource Management Act 1991 (**RMA** or 'the Act') by the Northland Regional Council (**NRC**) to hear and determine an application by the Whangārei District Council (**WDC** or 'the Applicant') for resource consents associated with the dredging ('extraction' or 'excavation') of sand from the Matapōuri Estuary and the replenishment of sand on Matapōuri beach and spit; and ongoing maintenance the sand dunes and spit. The application was lodged with the Northland Regional Council on 4 October 2018 and referenced as NRC Application No. APP.040490.01.01. This is my written report and decision in accordance with section 113 of the RMA.

HEARING REPRESENTATIONS AND APPEARANCES

Applicant:

Mr K. Littlejohn, Counsel, Quay Chambers
Ms S. Irwin, Infrastructure and Planning Team Leader, WDC
Mr M. Haag, Senior Civil Engineer, RS Eng Ltd
Dr. A. Spyksma, Ecologist, 4Sight Consulting Ltd

Submitters:

Ms S. Hawken, on behalf of Te Rangiwhakaahu Hapu Trust
Mrs N. Spencer
Mr G. Shaw
Mrs L. Jones
Mr D. Roy
Mrs J. Wilson-Stewart

Written statement tabled:
Department of Conservation

Section 42A Reporting Officer:

Mr P. Maxwell, Coastal & Works Consent Manager, NRC

BACKGROUND AND PROCEDURAL MATTERS

1. The resource consents sought are for similar activities carried out by the WDC in 2005 to re-form the sand dunes along Matapōuri beach between Waetford Road and Morrison Road ('Stage 1'); and in 2007 to dredge sand from the Matapōuri estuary and place it on Matapōuri beach and spit ('Stage 2'). The Stage 2 works were authorised by resource consent CON20041221701(01-09) granted by NRC in October 2006, which expired on 30 September 2016.

2. The application seeks to replace the previous resource consent held for beach replenishment and is based on the previous works and resource consent monitoring undertaken.

3. The hearing of the application for the proposed activities commenced at 9am on Tuesday 13 August 2019. Evidence was heard over the course of two days and the hearing was adjourned at 3.05pm on Wednesday 14 August 2019 to enable the Applicant to provide a set of revised proposed conditions and plans.

4. The NRC provided a report under section 42A of the RMA ('Staff Report') which was circulated to the parties[1] prior to the hearing. The Staff Report recommended that application for resource consents for the proposed sand dredging and beach replenishment be granted subject to conditions. A set of recommended consent conditions was appended to the Staff Report for consideration.

5. The Applicant's evidence was also pre-circulated prior to the hearing[2]. The application documentation, submissions, Staff Report and pre-circulated evidence were pre-read and I directed that it was 'taken as read' during the hearing[3].

6. The Applicant provided a revised set of plans (dated 5 August 2019), which were circulated to the parties prior to the hearing.

7. A written statement from the Department of Conservation (dated 30 July 2019) was tabled at the hearing.

8. At the beginning of the hearing, Mr Paul Maxwell (Coastal & Works Consent Manager, NRC) advised the Staff Report had been written by a consultant planner processing the application, whom was unable to attend the hearing. He noted he would therefore appear for the NRC's as the Reporting Officer and formally adopt the Staff Report conclusions and recommendation. He stated he was familiar with the application and the site. He also provided a copy of Schedule 2, which had not been attached to the written statement received from the Department of Conservation (**DoC**).

9. I undertook a site visit of Matapōuri beach, spit and estuary at mid to low tide on Monday 12 August 2019, accompanied by Ms Alissa Sluys (Hearings Administrator, NRC).

10. The Applicant provided the revised set of proposed consent conditions and attached plans on Friday 30 August 2019, as directed at the adjournment of the hearing.

1 In accordance with section 103B of the RMA
2 In accordance with section 103B of the RMA
3 As provided for by section 41C(1)(b) of the RMA.

11. I issued a Minute on Monday 2 September 2019 setting out directions for the circulation of the revised proposed consent conditions and plans, timeframes for providing further written comment from the Reporting Officer and submitters, and the provision of a written right of reply from the Applicant.

12. The Applicant provided a written right of reply on 24 September 2019.

13. I formally closed the hearing on 26 September 2019.

14. I would like to acknowledge the parties' willingness to respond to my requests for further information, further revision of conditions, and responses to information provided throughout the process. I consider the approach taken has greatly assisted me in fully understanding environmental effects of the proposed activities and determining appropriate consent conditions. I thank all the parties for their contributions in this regard. I also thank Ms Sluys for the assistance that she provided to all parties throughout the hearing process. I wish to thank those parties who attended the hearings and presented evidence.

THE APPLICATION

15. The Staff Report detailed background information to the application and described the proposed activities and application site.

16. In summary, the proposed activities include the following:

    (a) The excavation and removal ('dredging') of up to 15,000 cubic metres (**m^3**) of sand from three areas within the Matapōuri estuary (comprising 10,400 m^3 from 'Area A', 4,400 m^3 'Area B', and 4,400 m^3 from 'Area C');

    (b) Deposition of sand on Matapōuri beach and spit to replenish the upper beach and sand dunes;

    (c) Forming new public accessway over the sand dunes;

    (d) Establishing and maintaining plantings on the formed sand dunes; and

    (e) Ongoing disturbance of the foreshore for maintenance of the sand dunes and beach on the seaward side of the spit.

17. A consent term of 30 years is sought.

18. At the commencement of the hearing, the Applicant confirmed the application did not include any hard protection structures or replenishment of sand on the estuary side of the spit. The Applicant also confirmed that the proposed public accessways over the sand dunes and sand dune plantings were an integral part of the proposed beach replenishment works.

19. As requested at the hearing, the revised plans provided by the Applicant after the hearing adjournment show only the proposed activities applied for and removed any potential works which may have been discussed with the community, but for which consent is not sought as part of this application.

REGIONAL PLAN RULES AFFECTED

20. The Staff Report stated the proposed activities are classified under the operative Regional Coastal Plan for Northland (**RCP**) and the Proposed Regional Plan (**PRP**) as follows:

Consent Type	For	Detail	Classification
Coastal Permit	Capital Dredging	Capital Dredging of 15,000 cubic metres of sand from three areas within the Matapōuri Estuary.	Discretionary activity (Rule 31.4.8(g) RCP). Discretionary activity (Rule C.1.5.12 PRP).
Coastal Permit	Beach Replenishment	Deposition of sand on to the Matapōuri Beach foreshore and ongoing beach maintenance.	Discretionary activity (Rule 31.4.8(e) RCP). Restricted Discretionary activity (Rule C.1.5.11 PRP).
Coastal Permit	Maintenance Dredging	Maintenance dredging within the coastal marine area of the Matapōuri Estuary for maintenance of replenished beach.	Discretionary activity (Rule 31.4.8(d) RCP). Controlled activity (Rule C.1.5.9 PRP).
Land Use Permit	Earthworks	Earthworks in the riparian management zone/coastal hazard management area to deposit sand for beach replenishment and ongoing beach maintenance.	Discretionary activity (Rule 34.3 RWSP). Permitted activity (Rule C.8.4.1 PRP).
Coastal Permit	Disturbance to the foreshore in the coastal marine area	Disturb the foreshore in the coastal marine area of Matapōuri Beach and Matapōuri Estuary during activities associated with beach replenishment works and ongoing beach maintenance.	Discretionary activity (Rule C.8.4.3 of the PRP).

SITE DESCRIPTION

21. The Staff Report described the application site and the surrounds of Matapōuri Bay. For the purpose of my assessment, I adopt the description of the application site, as outlined in the Staff Report (pg. 5-7).[4]

22. I note the Staff Report stated the coastal marine area (**CMA**) affected is classified as 'Marine 2 (Conservation) Management Area'' (M2MA) under the RCP; and as a 'General Marine Zone' under the PRP; and the upper beach outside the CMA affected is classified under the NRC's Regional Water and Soil Plan for Northland (**RWSP**) as a 'Riparian Management Zone (**RMZ**).

23. The Staff Report stated the PRP maps classify the CMA of Matapōuri beach and estuary as being in the following areas:

- Significant Ecological Area (**SEA**) (Tutukaka to Taiharuru Coast reef edge): The values of the SEA are identified as being:

[4] In accordance with section 113 of the RMA

> *"This exposed coast is generally rugged with complex topology resulting from erosion and the characteristics of its volcanic origins. The reefs are hotspots of biodiversity, with high productivity of fish species at various life stages, and strong algal communities – both macro algae and encrusting species. The little bays and a string of small high-value estuaries add considerable value to the marine ecological values of this stretch of coast. The Tutukaka and Taiharuru headlands extend out in the seaward direction and are influenced by the East Auckland Current, which brings warm water masses and subtropical larval species to this coast, thus adding to the diversity of these reefs."*

- Significant Bird Area and a Significant Marine Mammal and Seabird Area - as they both support a diverse range of habitats for highly mobile and dispersed species.
- Regionally Significant Surf Break – Matapōuri Bar has a weighted total of 34.5, ranking it alongside, Waipū Cove, Paradise Bay, Elliots, and Rangaunu Harbour Bar surf breaks. (pg.5-6).

24. The Staff Report also noted the Regional Policy Statement (**RPS**) and PRP natural character overlays classify the estuary as an area of high natural character. The values of this area are described in the PRP maps as:

> *"Largely indigenous diatom cover and infauna (intertidal flats). Dune vegetation is relatively mature indigenous vegetation for site conditions and natural disturbance regime/history although there are alien species on the crest of the foredune. Water quality relatively high compared to natural state, with good oceanic flushing. Few obvious human structures."*

25. The Staff Report noted Matapōuri Bay and estuary are mapped as being within a 'Coastal Hazard Zone' and provided a copy of Figure 10-1 titled *'Northland Regional Council Coastal, Erosion Hazard Assessment, Matapouri, Site 10'* showing the boundaries of the 'Coastal Erosion Hazard Zone 1' (**CEHZ1**) and 'Coastal Erosion Hazard Zone 2'. (**CEHZ2**).

NOTIFICATION AND SUBMISSIONS

26. The application was publicly notified on 27 March 2019.

27. Thirty submissions were received within the submission period. Seventeen submissions were in opposition to the application; eight submissions were in support; five submissions were neutral. Two submitters in support and eight submitters in opposition indicated they wished to be heard.

28. The Staff Report noted that the key reasons for the submissions in opposition included:

(a) *It is a short-term fix;*

(b) *Cost;*

(c) *Nature should be left to its own;*

(d) *The dynamic system is ever changing, therefore the information the application is based on is not accurate, and a survey would need to be carried out confirming sand volumes prior to commencement; and*

(e) *Adverse effects on the estuary, both on its benthic fauna, ecology and birds, its physical attributes, its use for recreation and its unique natural environment.*

29. The Staff Report noted that reasons for the submissions in support included:

(a) The necessity for protection and maintenance of the beach, dune and spit;

(b) Improved beach access via new walkways and stairways; and

(c) Cultural values.

30. The Staff Report noted the reasons for the neutral submissions included

(a) Quality of the material to be dredged form Area B;

(b) Implementation of a revegetation program to retain the level of the spit;

(c) Increase threat of erosion to estuary properties; and

(d) Protection of existing private access ways.

31. I was provided with, and have read, copies of all of the submissions received and consider the issues raised were accurately summarised in the Staff Report, as detailed above.

SUMMARY OF EVIDENCE

Applicant's Case

32. The notified application and AEE documentation were prepared by consulting engineers RS Eng Ltd and are dated 23 June 2017. The following documents were appended to the application:

(a) *'Historical Review and Analysis of Matapouri Beach Regime'* by Richardson Stevens Consultants (1996) dated 28 April 2017 prepared for WDC*;*

(b) A graphic timeline of previous reporting;

(c) Aerial and site photographs;

(d) Cost estimates for Stage 2 works;

(e) *'Matapouri Beach Replenishment Engineering Report'* by Richardson Stevens Consultants (1996) dated 9 June 2017 prepared for WDC*;*

(f) Engineering Drawings No. 15059 Sheets 1-10 Beach Replenishment by Richardson Stevens Consultants (1996) dated 19 May 2017;

(g) Engineering Drawings No. 15059 Sheets 1- 2 Streambank Protection by Stevens Consultants (1996) dated 25 May 2018;

(h) Plan 29508.005 Figure 10-1 titled '*Northland Regional Council Coastal, Erosion Hazard Assessment, Matapouri, Site 10'* and site description for Site 10: Matapouri (pg. 49-51)[5]*;*

(i) Sand grading curves for sand samples – May 2017;

(j) Test Report No. C17-299 'Matapouri Sand Analyses – Particle Sand Distribution' by Geo Civil dated 1 June 2017;

[5] '*Coastal Erosion Hazard Assessment for Selected Northland Sites'* by Tonkin & Taylor prepared for NRC dated April 2017.

(k) 'Matapouri Sand Management Ecological Report 2017' by Dr Arie Spyksma of 4Sight Consulting dated 6 October 2017 prepared for WDC ('**Ecological Report 2017**');

(l) '*Review of 2017 Matapouri Beach Replenishment Plan*' by LaBonté Coastal Consultants dated February 2017[6] ('**LaBonté Report 2017'**);

(m) *'Beach Nourishment Scenarios for Matapouri'* by Dr J. Gibbs dated 11 July 2006 prepared for WDC and NRC;

(n) '*Review of Resource Consent – Matapouri Sand Management Plan'* by Dr T. M. Hume dated August 2005 prepared for NRC;

(o) *'Hydrological and sediment transport assessment for Matapouri Estuary'* by Barnett & MacMurray Ltd dated September 2007 prepared for WDC;

(p) A summary of public submissions opposed – 2007 works; and

(q) A community update letter from WDC dated 7 August 2018.

33. Further information requested by NRC under section 92 of the RMA was provided on 8 January 2019.

34. A set of revised plans (Engineering Drawings No. 15059 Sheets 1-14 Beach Replenishment by RS Eng Ltd dated 5 August 2019) was provided by the Applicant prior to the hearing.

35. **Mr Kitt Littlejohn**, legal Counsel for WDC, conducted the Applicant's case by presenting legal submissions and calling three witnesses. In summary, he made the following key points:

(a) Matapōuri Beach is iconic and highly regarded by residents and visitors, and is the highest use beach in the Whangārei District;

(b) Coastal processes have been significantly altered by human activities which has resulted in an imbalance of tidal and flood processes, and the accumulation of beach sand in the estuary;

(c) Previous beach replenishment works have been undertaken in 2002 and 2005/2007, with minimal environmental effect;

(d) The consents sought will enable the WDC to undertake sand management works on an 'as required' basis over the next 30 years and it is anticipated this will be approximately once every ten years;

(e) The WDC have investigated a wide range of options, in addition to sand management, to address ongoing erosion of the sand dune system, however, regular sand management is the most cost effective and environmentally sustainable way to manage the asset;

(f) The AEE lodged in June 2017 has been updated overtime to incorporate additional work and feedback from consultation;

[6] Including a copy of '*Matapouri, New Zealand Shore Protection Assessment*' by Dr R.G. Dean dated July 2002 prepared for LaBronté Coastal Consultants Ltd;

(g) Updated plans provided prior to the hearing include further details (tide levels, notes of survey information, clearance distances from mangroves, batter slopes and shortened cross sections for presentation);

(h) The evidence in support of the application and the Staff Report agree consent should be granted subject to conditions, and the DoC accepts the imposition of conditions would meet their concerns;

(i) There are a number of positive effects in relation to the sand management programme including: the maintenance of natural character and the functioning of a natural system; restoration of the estuary and sand dunes; protection of private and public property; and improved recreational value of the beach and public access to and along the CMA; and

(j) The adverse effects of the application are avoided, remedied or mitigated by the proposed conditions of consent and are consistent with the objectives and policies of the relevant plans, therefore the consents sought should be granted.

36. **Ms Sarah Irwin**, Infrastructure Planning Team Leader for WDC, presented a written statement of evidence addressing the background to the application, the investigation of options, other funding available for public facilities, and pressure from increasing visitor numbers. She noted the sand management programme is a large part of the overall project to improve visitor infrastructure and public access. She considered the restoration of the sand dunes and the new public accessways over the dunes would be an overall improvement. In response to my requests, Ms Irwin provided a WDC planning map (Zone Map 28Z Matapouri) showing the landownership of public and private land in the bay and estuary; and an aerial photograph showing the WDC reserves (including esplanade reserves) along the bay and estuary.

37. **Mr Max Haag**, a Senior Civil Engineer with RS Eng Ltd, provided a written statement of evidence addressing the findings of the key field assessments, the findings of the Staff Report, conditions and public submissions. He considered the 2007 sand replenishment project showed the adverse effects would be no more than minor. He stated his findings confirmed there is an imbalance between wave energy and the current river flow (caused by the existing causeways and bridges), which has reduced the natural capacity to 'flush' river sediments from the estuary to the beach. He confirmed the proposed works were a 'standalone' cost effective solution and were not dependent on further potential works within the estuary, such as the rock revetments shown on the plans. He noted the areas identified for extraction are characterised by soft mobile sediments and 'new' sand which has accumulated since 2007 and is restricted to material available above mean sea level (**MSL**), except for minor channel straightening and widening. On the basis of the 2007 works, topographical survey information, sand sampling, observations of coastal processes and peer reviews, Mr Haag concluded the potential and actual effects associated with the application would be no more than minor.

38. Appended to Mr Haag's statement was a copy of a PowerPoint presentation given at a community meeting. Mr Haag showed this presentation at the hearing and spoke to a number of issues including the cause of sedimentation in the estuary, the Tonkin & Taylor coastal hazard study findings, and the protection of public and private assets.

39. **Dr Arie Spyksma**, an Ecologist with 4Sight Consulting Ltd, provided a written statement of evidence summarising the findings of the 2017 field assessment and addressing potential ecological effects of the application. He described the seagrass survey and macroinvertebrate survey of the low tide channels of the Te Wairoa and Parangaraahu channels, and comparisons with previous surveys. He noted the mean total abundance was greater in 2017 than in previous surveys, but that the species dominance of had changed relative to previous years, with cockle now more abundant that pipi. He addressed concerns raised by submitters and discussed proposed conditions. He concluded the adverse effects of the application would be short term and no more than minor.

40. Dr Spyksma also provided a supplementary statement of evidence (dated 5 August 2019) addressing the further comments from the DoC received prior to the hearing. He clarified the changes to the seagrass monitoring methodology, agreed to by the NRC, to avoid damage to the beds during sampling; the intention to monitor 'macroinvertebrate communities' and not just 'edible shellfish'; mangrove monitoring by photographic record; and timing of the monitoring.

Submitters

41. **Ms Sandra Hawken** spoke in support of the application on behalf of Te Rangiwhakaahu Hapu Trust (**TRHT**'). She presented a written statement outlining her whakapapa and connection to Matapōuri as tangata whenua and kaitiaki. She noted the Trust sought the addition of erosion protect works for the estuary side of the spit, which they consider are connected to the proposed sand management works. She said it made no sense to fix the front (beach) when the back (estuary) was still eroding away. She noted there were unrecorded sites of cultural importance that need to be protected (such as midden sites) and that a Cultural Impact Assessment (**CIA**) should be provided as soon as possible. She acknowledged that to 'do nothing' would be worse in the long run than doing the proposed works, and that there was much to consider. She highlighted the recent rahui (tikanga practise of closure or access prohibition) and placement of a pou rahui (sign of access prohibition) at the northern end of the beach was a first step to restoring the mauri of Matapōuri Bay. She confirmed the Trust's willingness to work with the Applicant to care for and minimise negative impacts on the moana (water) and whenua (land).

42. **Mrs Nicola Spencer** provided a written statement in support of the application. She advised and her family leases the most southern property on the spit. Her statement addressed changes in sand levels since 2016, potential effects on the surf break, the locations of public pedestrian access, extending the planting and fencing area, potential effects on birds, contaminated sand, transportation from Area C, the inclusion of hard protection structures on the estuary side of the spit, and ongoing erosion of her leased property on the spit. Her statement included comments on the recommended conditions and a number of photographs. She requested a number of minor amendments to the proposal, a number of changes to the proposed conditions, and confirmation from the WDC that the revetments shown on application plans were part of the application. She stated that all the changes requested would improve the public benefits and reduce environmental effects in a cost-effective way.

43. **Mr Greg Shaw** presented a written statement in opposition to the application and called on Mrs Jones to briefly outline changes to the estuary over time. Mr Shaw owns a property at 882 Matapouri Road, adjacent to the estuary. He outlined a number of errors and inaccuracies in the Applicant's engineering drawings. He expressed frustration that the Applicant had not corrected these after receiving his original submission or in the further revised plans. He noted missing information such as water levels was critical in assessing effects and that structures which were not part of the application continued to be shown on the revised plans. He was concerned the proposed replenishment of the beach would result in erosion of the estuary properties. He considered the Applicant's ecological assessment was not based on the best available information and that the sampling methodology was flawed. He noted that the Applicant's fiscal analysis is based on works occurring once every 10 years and did not take into account the increased frequency of the works overtime due to the effects of sea level rise (**SLR**). He considered the costs of more frequent works should be compared to better solutions which have been rejected on the basis of cost such as mangrove and bridge abutment removal, bridge extensions, and managed retreat of coastal properties. He stated the WDC should not protect private land and the application should be declined.

44. **Mrs Laura Jones** (née Clemence) spoke to her submission in opposition to the application and provided historic photographs of the estuary and of the view from her property before 2007. She resides at 883 Matapouri Road and has lived in the area for over 50 years. She was concerned the estuary used to have more clean sand and that this had changed over time to more black sand. She noted she had dug numerous holes in Areas A and B and that black sand was very close to the surface in many places. She said the previous works in 2007 had been extremely upsetting due to the excessive volumes of sand placed at the spit and the loss of their view of Matapōuri Bay. She said that at that time there had been no consideration of the loss of their view, but that it was like 'looking at a dam wall'. She confirmed the view had since returned (for the last 6-7 years), but that the level of the spit was still much higher than before the 2007 works. She opposed any extraction of sand from the estuary or protection works and considered nature should be left to take its course. She noted the existing erosion hot spot (**EHS**) did not threaten any houses therefore the works were unnecessary. She requested that the application be declined.

45. **Mr David Roy** presented a written statement in opposition to the application and tabled a copy of newspaper article from the Northern Advocate (September 2016) interviewing the late Mr Lew Richie, a marine biologist and Matapōuri resident. Mr Roy and his family own a property at 868 Matapōuri Road. He highlighted the special nature of the area and its classification as an area of 'Outstanding Natural Character', a 'Significant Ecological Area', and a 'Significant Bird Area'. He noted the works undertaken 12 years ago had only been beneficial for a short time and had shown to be ineffective after a couple of major storm events. He said this temporary mitigation was unacceptable given the disturbance and the short-term relief provided. He strongly objected to the removal of sand from a 'pristine' estuarine environment given public awareness about protecting coastal environments. He called the proposal 'eco-vandalism' and said the previous works showed it won't work. He was concerned Area B was too close to his property and the existing rock walls providing protection from king tides and high river flows. He considered a 30-year consent duration was 'horrifying' and that extraction every two years was not appropriate. He requested the application be declined.

46. **Mrs Jennifer Wilson-Stewart** spoke in opposition to the application. Mrs Wilson-Stewart has lived in Matapōuri all her life and is collecting the history of the area. She noted the dates of bridge construction provided by Mr Haag were incorrect and provided photographs of the bridge plaques. She said the bridges were originally constructed in the late 1920s and were completed in the early 1930s. She advised the original bridges were upgraded and the abutments extended in 1969 (Parangaraahu) and 1973 (Te Wairoa). She opposed the extraction of sand and the placement on the beach and considered nature should be left to take its course, as the sand is moving all the time. She noted there used to be two sand dunes at the northern end of the beach and that the depression between them was filled some years ago, with spoil from road upgrades. She supported planting the existing sand dunes and creating new public accessways over the dunes to prevent damage from pedestrians. She did not support sand deposition on the spit, as she considered building up the spit had caused the existing scarp. She noted that installation of penguin boxes had improved things, but that dogs were still a problem for nesting birds.

47. **DoC** provided a letter dated 20 June 2019, which was tabled at the hearing. The acknowledged the beach replenishment proposal is a more appropriate option than hard protection structures for the management of coastal processes. It stated that additional conditions had been agreed with the Applicant, which had resulted in the DoC no longer opposing the application. Appended to the letter were the agreed additional conditions.

Section 42A Staff Report

48. The s42A Staff Report was tabled at the hearing and Mr Maxwell formally adopted the report, which had been drafted by a consultant planner. He said that having heard the evidence and submissions, he remained for the view the consents should be granted subject to conditions. He noted he recommended a number of changes to the proposed conditions to address concerns raised and that he needed the opportunity to review and comment on the Applicant's revised proposed conditions and plans.

49. In summary, Mr Maxwell made the following points at the hearing:

(a) Any change to the extraction areas identified would not be within the scope of the application, as notified;

(b) The plans provided should be simplified and amended to show only those works that form part of the application and to correct errors;

(c) The proposed sand dune planting and creation of the public accessways form part of the application as they are integral to the restoration and protection of the dune system;

(d) The reduced levels (maximum depth of excavation) in the wording of the conditions were critical limits and that appending a typical beach profile to be achieved (i.e. a slope of 1 in 6) would be appropriate;

(e) The requirement to undertake pre-work and post-work surveys were critical in identifying locations of available sand and ensuring maximum depths were not exceed;

(f) The northern end of the bay demonstrates the natural sand dunes can be stabilised with re-forming and planting, and protected by management of public access;

(g) Some sand below the surface will appear black from a lack of oxygen (anaerobic), but such sand would bleach on exposure to air and stockpiling for short periods (2-3 days);

(h) Excavator operators would be able to identify fine silts and muds and would be able avoid extraction of such material, which is not suitable for beach replenishment;

(i) Sand extraction from the low tide channels should be a last resort and is only a relatively small area;

(j) Testing sediment quality prior to extraction from Area B would address any concerns relating to microbial pathogen contamination;

(k) The most sensitive environment is the estuary and low tide channels, and the period between works needs to allow time for the biota to recover;

(l) Beach works and re-contouring may need to be undertaken more frequently and could be undertaken without extraction activity;

(m) There is a need for some flexibility for methods of extraction from Area C (e.g. using a long reach digger) and it would be helpful to identify truck access routes;

(n) The proposed conditions do not currently limit machinery operating in water therefore water quality monitoring for total suspended solids (TSS) and oils/films would be required;

(o) There would be no 'significant' adverse effect on the surf break and the limited response from eCoast indicated there would be an improvement;

(p) Monitoring any effect on the surf break would be difficult given the natural variability and difficulties in establishing cause-effect links;

(q) The spit needs remediation works to form a slope that can be planted and stabilised; and

(r) The Applicant is not required to look at alternative sources of sand.

Applicant's Right of Reply

50. The Applicant provided written submissions in reply addressing the matters raised by the Reporting Officer and submitters and a final set of proposed consent conditions and plans. The reply reiterated the purpose of the works and the positive effects; confirmed the scope of the application; set out the key planning objectives and policies; commented on submitter presentations; and outlined revised conditions.

ASSESSMENT

51. In assessing the application before me, I have considered the application documentation and further information, the Staff Report, submissions and all evidence provided throughout the hearing process, including further comments received after the adjournment.

52. I record that the findings I have made and the decision I have arrived at are based squarely on the evidence before me and my consideration of that material within the context of the statutory framework.

53. I have reviewed and summarised all of the evidence provided to ensure there is an accurate record of the hearing process. I have taken an inquisitorial approach to my consideration to ensure the decision is based on the best available information. I have focused on ensuring the hearing process is fair and that all parties had the opportunity to comment on any new information or amendments to the application.

54. I have not considered matters relating to proposed hard protection structures and beach replenishment within the estuary, or the potential construction of further private accessway over the sand dunes. The Applicant confirmed these activities do not form part of this application. I accept the beach replenishment activities proposed do not depend on the implementation of other activities such as revetments/rock walls along the estuary.

55. I am satisfied that the final set of plans provided by the Applicant clearly show the activities that form part of this application. I have based by assessment on the proposed activities which form part of the application.

56. Similarly, I have not considered requests from submitters regarding the removal of the existing bridge abutments or dredging of the mangrove area, as this is not proposed by the Applicant as part of this application.

57. I have based my assessment of the application on the final set of engineering drawings and proposed conditions provided with the Applicant's right of reply.

58. Mr Shaw raised concern that his statement of evidence, as a submitter, would be dismissed and not accorded similar weight to the Applicant's 'expert evidence', despite his qualifications and experience as a civil engineer and a statutory decision maker.

59. I reassure Mr Shaw that I have not dismissed any submitter evidence and through comparing and contrasting the evidence, I have focused on points of difference. I consider the observations and experience of submitters provides an invaluable part of available information. I acknowledge the relevant skills and experience of both Mr Shaw and Mrs Spencer and the benefit of these in making their submissions.

Scope of the Applications

60. I have considered requests by some submitters to include consideration of hard protection structures within the estuary, which were shown on the original application plans. However, the Applicant confirmed that these works were not part of the application and provided a revised set of plans showing only the works for which authorisation is sought.

61. I have limited my assessment to the activities set out in the Staff Report and those applied for by the Applicant.

62. I accept that the notification documents clearly show the extraction areas and that these areas limit the scope of the application and prevent extraction of material over a wider area.

Jurisdictional Matters

63. I acknowledge that the beach replenishment and enhancement works effectively 'straddle' the NRC/WDC jurisdictional boundary of mean high water springs. However, I agree with the Applicant that the proposed public accessways, and sand dune formation and planting are critical components of the sand management works and form part of a 'bundle' of measures to ensure the works are effective and adverse effects are avoided, remedied and mitigated.

Adequacy of the Information

64. Mr Shaw raised concern that the information available was insufficient to enable a robust assessment of environmental effects. He was concerned that revised engineering drawings (Sheets 1-14), circulated prior to the hearing, continued to show works that are not part of this application and contained a number of errors. He noted the cross-section details were inaccurate and are based on a 2017 survey. He was concerned at the age of the survey information and physical changes that had occurred since this time.

65. Ms Irwin considered the information provided was 'fit for purpose' and was sufficient to enable a robust assessment of environmental effects. She considered any concerns regarding the age of the survey information used to create the cross-section plans would be addressed through the requirement to undertake surveys prior to commencing the works and after the works. She noted that proposed maximum excavation depths would limit the sand volume removed to that which is available at the time the works are carried out.

66. Ms Irwin and Mr Haag acknowledged that the plans had been drafted for multiple purposes (community consultation and district council consent requirements) and accepted they could be simplified and corrected to reflect only the authorisations sought as part of this application.

67. Mr Maxwell considered the 2017 survey data indicated there was sufficient material available for extraction and this information was sufficient for the purpose of assessing the effects of the application. He agreed that the physical environment would have changed since this time, but that the general trend suggested more material would have accreted in the estuary since this time. He noted a requirement for pre-work and post-work surveys would ensure available sand could be targeted and that maximum excavation depths were adhered to. While he acknowledged the plans should be simplified and errors corrected, he concluded they were sufficient for the assessment purposes.

68. I consider the available information is adequate to enable a robust assessment of environmental effects. I am satisfied the final set of plans clearly define the location, scale and extent of the proposed works. I acknowledge changes in profiles would have occurred since the 2017 survey, but consider this is addressed by requiring pre-work and post-work surveys. The Applicant accepts the volume of material to be extracted will ultimately be determined by how much sand is available above MSL within the extraction areas and 0.5m below MSL in the channels, at the time the works are scheduled. The Applicant accepts these limitations. They accept there is a risk that there may be no sand available in some parts of the identified extraction areas.

Status of the Activities

69. The starting point for my assessment of the application is to determine the activity class status of the activities under the RCP, PRP and RWSP. There was agreement between Mr Maxwell and Mr Littlejohn that the activities should be bundled and assessed as discretionary activities.

70. I accept the proposed activities should be considered as **discretionary activities** under sections 104 and 104B of the RMA.

Sections 104 and 104B

71. Section 104(1) of the RMA states that, when considering an application for resource consent and any submissions received, I must, subject to Part 2 of the Act (which contains the Act's purpose and principles), have regard to-

(a) Any actual and potential effects on the environment of allowing the activity;

(ab) Any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;

(b) Any relevant provisions of a national environmental standard, other regulations, a national policy statement, a New Zealand coastal policy statement, a regional policy statement or a proposed regional policy statement, a plan or proposed plan; and

(c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application.

72. Section 104(2) of the RMA states that, when forming an opinion for the purposes of section 104(1)(a), I may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. This is referred to as the application of the 'permitted baseline'.

73. Section 104(3)(a)(ii) states that I must not have regard to the effect on any person who has given written approval to the application.

74. Section 104B of the RMA states that I may grant or refuse the application sought; and if granted I may impose conditions under section 108 of the Act.

SECTION 104(1)(a) – ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT

75. There was agreement that there is no relevant permitted baseline of adverse effects. I agree, and record that I have not applied any permitted baseline.

76. There was significant discussion during the hearing regarding the frequency of works that could be allowed over the 30 year consent term. The Applicant subsequently proffered a condition that extraction of sand from the estuary would not occur more frequently than once every five years. My assessment of effects on the environment has been undertaken on this basis. During the hearing, I confirmed the conclusions of the expert witnesses had taken this frequency of works into account.

77. The Staff Report assessed the following environmental effects of the application:

(a) Effects on Ecology;

(b) Effects on Water Quality;

(c) Effects of Sand Extraction;

(d) Effects of Sand Placement;

(e) Effects on Natural Character and Visual Impact;

(f) Effects on Public and Private Access;

(g) Effects of Coastal Hazards and Sea Level Rise; and

(h) Effects on Regionally Significant Surf Break.

78. The Staff Report concluded that overall any adverse environment effects from beach replenishment would be short lived and no more than minor. The Staff Report noted the works would result in improved amenity by the creation of a wider beach berm, improved public access to and along the CMA, and enhanced coastal hazard protection.

79. The Applicant provided further details on the transportation and temporary stockpiling of material. Overall, I am satisfied the construction related effects will be temporary and short term and can be adequately managed by the implementation of management plans, fixed access points and routes, times of operation, and the adherence of buffer zones.

80. I accept the Applicant is seeking to remove clean sand and can generally avoid the removal of fine silt and mud material. I also accept the extraction of black anoxic sand will be closely monitored and, if necessary, sand will be stockpiled for a short period (2-3 days) to enable it to be turned and oxygenated. I accept the evidence of Mr Haag and Mr Maxwell that this can be managed without causing offensive or objectionable odours at any private property boundary.

81. On the basis of the sediment size analysis undertaken, I am satisfied the sand material to be extracted is compatible for beach for beach replenishment, as it is similar or slightly larger in grain size than the existing beach sand.

82. I accept that issues relating to the potential contamination of the sediment in Area B from septic tank discharges can be addressed by the imposition of a condition requiring representative pre-work sediment sampling.

83. I note the Applicant is not seeking to consent build up the height of the spit or to increase its extent. Mr Maxwell considered this could be managed through conditions to ensure there is no change to the existing views from the estuary. I therefore agree with Mr Maxwell that there will be no adverse effects on the view or visual amenity of Mrs Jones or other people when viewed from within the estuary.

84. I accept the conclusion of the Staff Report that any effects on natural character and visual impacts, once the works are completed, will be positive by replicating the existing beach profile, reforming the natural dune system and eliminating the erosion scrap.

85. On the basis of the evidence before me, I have focused my assessment on the following potential and actual environmental effects:

(a) Effects on ecological and water quality (including shellfish and kaimoana);

(b) Effects on coastal processes and coastal hazard risk;

(c) Effects on public access and recreational values; and

(d) Effects on cultural values and relationships.

86. I consider the key actual and potential environmental effects in relation to the proposed activities and the principle issues in contention below.

Effects on Ecology and Water Quality

87. The key ecological concerns raised in submissions related to adverse effects on the general health of the estuary and its marine life, including on seagrass, pipi, cockles, tuatua, mangroves and juvenile fish.

88. One submitter raised concern that the two mangroves in extraction Area B would be disturbed.

89. The TRHT submission requested that the Applicant transplant shellfish from the affected areas to ensure traditional sources of kai are protected. Ms Hawken noted that seagrass used to cover most of the estuary when she was a child.

90. Mrs Spencer supported the imposition of conditions to avoid adverse effects on threatened and 'at risk' birds. She noted little blue penguins were known to nest under bachs near the estuary from May to June and that numbers had declined since 2009. She asked for consideration of impacts on their nesting.

91. Mr Shaw considered the Applicant's ecological assessment was not based on the best available information and that sampling was outside of the area to be excavated. He noted there was no sampling of shellfish in the affected areas and that all shellfish removed would die. He said it was incorrect for Dr Spyksma to say the sand in the extraction areas do not contain many shellfish. He provided Appendix 1 showing his calculations of the estimated total biomass of pipi and cockles in the channels in 2007 and 2017. He concluded the residual quantum of shellfish in 2017 was significantly less than in 2007. He questioned the veracity of the ecological evidence and the definition of terms such as 'edible shellfish', 'recover quickly', and 'recovery'. He requested evidence of expected recovery timeframes and vegetation establishment timeframes. He noted Figure 1 did not identify all the seagrass beds identified. He considered excavation of the low tide channels should be prohibited to avoid ecological effects.

92. Mr Roy stated that threatened brown teal/pateke were common visitors to the estuary. He also noted the estuary had very clear water and a clean sandy bottom, supporting many juvenile fish and invertebrates.

93. The Ecological Report (2017) stated that the estuary is ecologically significant for its marine values and that it contains productive shellfish communities, intact mangrove-saltmarsh sequences and seagrass beds. The Report concluded the estuary retained high ecological values and that there is no evidence the ecology of the estuary has been compromised by the previous sand management works.

94. The Ecological Report noted there were no marked changes in the low tide channels and that edible shellfish (cockle and pipi) continue to be highly abundant in both channels. It noted cockle have become the dominant species within the Te Wairoa channel and that most abundant size classes observed suggested cockle recruitment had been strong 3-4 years ago. It noted pipi remain the dominant species within the Parangaraahu channel, with evidence of strong settlement into the channel. The Report concluded it is not uncommon for such variability in the relative proportions of pipi and cockle to occur over time, but that importantly the biomass of invertebrates and shellfish remains high.

95. The Ecological Report mapped the location and extent of seagrass beds within the Te Wairoa channel and recorded that the overall extent appeared to be reduced in comparison to other previous surveys. It noted an additional bed along a small tributary feeding into the Te Wairoa channel from the true right bank, which had not been described previously. The Report noted that the reduced extent of the seagrass observed was likely to be as a consequence of the time of survey (September), as opposed to an actual reduction in seagrass, due to minimal growth in late winter. It noted seagrass appeared to be increasing in its distribution on parts of the intertidal zone of lower elevation and these areas should be marked and avoided.

96. The Ecological Report noted mangrove seedlings continue to be recruited into the Mangrove Management Zone (**MMZ**) and that a small stand of mangroves had established to the north-west of the site. It stated there would be no activity within the MMZ area and that no impacts on mangroves were expected.

97. The Ecological Report noted the elevated sand platform in the estuary is utilised by a number of native bird species, including the New Zealand dotterel, New Zealand kingfisher, variable oystercatchers, spur-wing plovers, red-billed gulls, southern black-back gulls and little black shag.

98. The Ecological Report stated the need to avoid activities within the low tidal channels and avoid any significant changes to channel forms and positions, as had previously been done in 2007. It concluded that any increase in turbidity would be temporary and highly unlikely to disrupt the migratory behaviour of juvenile eels, banded kokopu, or other native fish and invertebrates.

99. The Ecological Report stated there would be short-term losses to the sparse community of arthropods (sand hoppers) currently habiting the sand dunes, however, this is expected to quickly recover.

100. The evidence of Dr Spyksma was based on the findings of the field assessments and observations documented in his Ecological Report (2017) and comparisons with previous macroinvertebrate surveys conducted before sand extraction in 2007 and after extraction works in 2012. He noted the assessment methodology was in accordance with Schedule One of the previous resource consent (CON20041221701(01-09)) and the modifications to these agreed with the NRC in 2012.

101. Dr Spyksma noted four of the bird species (New Zealand dotterel, variable oystercatcher, red-billed gull and the little black shag) identified in the Ecological Report are classified as 'At Risk' under the New Zealand Threat Classification Lists 2016. He stated the elevated sand flats do not provide adequate roosting or nesting habitat, and food is limited. He considered there was unlikely to be any residual impacts on birds or bird habitat given the existing level of human activity and presence of dogs.

102. Dr Spyksma highlighted the change in pipi abundance in Te Wairoa channel (which occurred at some time between 2012 and 2017) but considered that this was not surprising given shellfish abundance and distribution can be highly variable spatially and temporally. He noted this change was not observed in the Parangaraahu channel where pipi continue to be abundant. He noted that while pipi had declined, cockle had increased to a greater extent, and that overall biomass had probably increased.

103. In response to questions, Dr Spyksma said it appeared that pipi in the Te Wairoa channel had experienced limited recruitment at some time between 2012 and 2017, and that this was supported by the abundance of size classes observed. He noted that pipi prefer cleaner and coarser sand, but that there had been no decrease in coarseness. He was confident the changes in dominance observed during this period were not related to sand extraction, as changes would have also been observed in the Parangaraahu channel if that was the case.

104. Dr Spyksma stated that tuatua occupy the lower intertidal and shallow subtidal zone, which are outside the footprint of the proposed works and would therefore not be adversely affected.

105. Dr Spyksma considered the seagrass expansion indicated a healthy ecology. However, he noted evidence of negative impacts caused by members of the public during boat launching activities, which needed to be addressed. He concluded the ecological health of the estuary appeared to be similar to that documented in 2012. He disagreed with Mr Roy that the estuary is 'inherently fragile', and noted flora and fauna within estuarine environments experience strong environmental gradients in salinity, temperature, oxygen levels, turbidity, sediment load and flow, which requires resilience and opportunistic characteristics.

106. Dr Spyksma stated any ecological risk is largely avoided if the works do not extend into the biologically diverse areas within the low tide channels within the lower estuary. However, he considered the recovery of sand which had 'spilled' into the channel would not pose a risk to adjacent 'stable' and biodiverse habitat. He noted the extraction would potentially cause short term and localised elevated turbidity within the low tide channels, but that this would rapidly dissipate and posed no significant risk to marine fish or migratory freshwater species. He noted any adverse effects to banded kokopu migration would require at least weeks of exposure to high turbidity in the spring to early summer.

107. Dr Spyksma stated the sand extracted would be closely monitored (by visual observation) for quality and the extraction of anoxic sediment would be avoided. He said any anoxic sediment exposed would be quickly restored to an aerobic state through the process of tidal flushing. He noted any odour caused by anoxic sediments would be eliminated within a few tidal cycles.

108. Dr Spyksma stated that he had not assessed the potential for microbial pathogen contamination of the sediment, but that if this was considered to be a risk it could be addressed by a condition requiring pre-extraction sediment testing.

109. Dr Spyksma stated that the retention of the two mature mangroves in Area B was more of an aesthetic consideration than an ecological one given they serve little ecological function. However, he noted extraction had previously occurred in this area without any damage.

110. In response to questions, Dr Spyksma said any ecological loss of arthropods on the main beach would recover within weeks to six months. He noted that any adverse impacts on sand binding vegetation should be remediated.

111. In response to questions relating to the frequency of the excavations and implications for his assessment of effects, Dr Spyksma noted the relatively short time needed for recolonisation and recovery. He considered that the results of the monitoring indicated the ecological system would be effectively 'reset' within 3-5 years.

112. In response to questions, Dr Spyksma said he had a high level of confidence in his assessment of effects given the long data set available and the 2007 baseline information undertaken before any sand extraction was carried out.

113. Mr Haag stated that the extraction works would be carried out at mid tide or less, with machinery positioned on the landward side of the tide level. He estimated the works would take no more than 10 working days.

114. Mr Haag noted it is proposed to keep a 4 metre (**m**) clearance from the root stem of each tree. He highlighted that the trees had not be adversely affected during previous extraction in the area.

115. Mr Haag confirmed machinery would avoid any areas of seagrass and that temporary markers would be used to ensure these areas were clearly visible to machine operators.

116. Mr Haag stated that the extraction of contaminated sand would be avoided by providing 50 millimetre (mm) thick buffer of clean sand. He said monitoring would be carried out to prevent contaminated sand being exposed.

117. The Staff Report accepted the conclusions of the Ecological Report and the agreed that any potential adverse effects on ecology would be short lived and minor. It noted the proposed works were proven and the adverse effects known.

118. Mr Maxwell considered the ecological assessments undertaken were sufficient and noted the 2007 baseline surveys had occurred before any works. He highlighted the proposed conditions focused on avoiding adverse ecological effects on seagrass, birds, shellfish, mangroves and water quality. He agreed the low tide channels were the most sensitive areas and noted that pre-survey and recovery of shellfish was proposed for pipi and cockle beds.

119. Mr Maxwell supported a priority approach to extraction, with preference given in to extracting material from Area A, then B, then C and the channels. He said there should not be extraction from the low tide channels any more frequently than every five years given the 'reset' time estimated by Dr Spyksma.

Findings

120. The 2017 field assessments focused on the low tide channels and bivalve shellfish (cockle and pipi), and surveyed seagrass beds. Comparison of this survey with the 2007 baseline survey and the 2012 survey, shows the estuary retains a high level of ecological value.

121. The results of the 2017 macroinvertebrate survey demonstrate the critical importance of undertaking the surveys at a similar time of year to avoid effects of seasonal fluctuations and ensure results collected over time are directly comparable. I accept this has been adequately recognised and can be addressed by conditions.

122. Overall, I am satisfied that the ecological assessments undertaken show the ecological values of the estuary remain high and that sand can be extracted without causing significant adverse effects. I rely on the evidence of Dr Spyskma that the biomass of invertebrates and shellfish within the surveyed low tide channels remains high and that the overall biomass has probably increased. I consider this is strong evidence that sand extraction from the tidal flats can be undertaken without significant adverse effects on the sensitive ecology in the low tide channels.

123. I note the Ecological Report stated that '…*consent conditions need to be prescriptive to exclude any activity within, or which otherwise may affect, the physical structure of the low tide channels*' (pg. 12). I note that the previous extraction areas did not include low tide channels.

124. I note the evidence of Dr Spyksma that direct activity and machinery operation within the low tide channels was excluded in 2007; and his evidence stating the importance of avoiding these biologically diverse areas. I consider a similar approach should be taken to any future extraction activities and that works and extraction within the ecologically sensitive low tide channels within the estuary (adjacent to Areas A and B) should not be allowed.

125. I consider prohibiting machinery from extracting sand from within the low tide channels and from operating in water (standing or flowing) will avoid direct disturbance and potential adverse water quality impacts. Avoidance of the low tide channels will also avoid impacts on juvenile fish and seagrass beds. I accept the Applicant's evidence that proposed works can be undertaken in 'the dry', during mid to low tide. On this basis, I am satisfied any adverse effects on water quality will be of a short duration for a period of no more than 10 days.

126. I consider that excluding the low water channels from extraction will avoid the need for a pre-construction shellfish survey and the need for water quality monitoring during extraction works. It will also avoid the originally proposed requirement to recover, temporarily store and ultimately restore shellfish to any disturbed channel areas, which I consider would be problematic.

127. Overall, I accept the evidence of Mr Spyksma that there is limited biota within the identified elevated tidal sandflats and that the removal of accumulated sand to MSL will not have significant ecological effects. I accept the excavated areas will be rapidly recolonised (within 18-24 months) by the same or similar species to its current ecological state, and will effectively be reset after five years.

128. I note extraction Area C was not formally surveyed. However, I accept the evidence that this area contains highly mobile sediments and is unlikely to contain biota that is as diverse or potentially sensitive as the low tide channels within the estuary. I note previous survey work showed little biota in this zone.

129. On the basis of the evidence, I am satisfied that any adverse effects from excavating, transporting and relocating sand can be avoided and mitigated by imposing appropriate operating procedures and minimising the number and extent of vehicle movements.

130. I note the Applicant has proffered a condition restricting the proposed timing of the works to April to July, which will avoid the main bird nesting season. It will also avoid the critical period for the migration of inanga (whitebait) species in late winter and spring. I am satisfied the timing of the works will avoid adverse effects on the habitats of threatened and endangered bird and fish species.

131. I note the further comment from Mrs Spencer requesting the original timing of works and the requirement to look for nests. However, I note the Applicant accepts the works timing restriction and consider this avoids the need for pre-work bird nest surveys.

132. I acknowledge extraction works in Area A could potentially disturb little blue penguins nesting along the estuary, however, I consider this is of low risk given the extraction areas are on the opposite side of the low water channel, the works will progressively move and will be relatively short term. I consider avoiding extraction in the low tide channels will avoid any significant water quality impacts and will avoid creating any sediment barriers to little blue penguins entering the estuary to nest during May to June. It is acknowledged that other impacts from predators and uncontrolled dogs are likely to be the primary cause of declining number for nesting pairs.

133. Mr Haag confirmed the estimated quantity of sand material within the low tide channels is not a significant proportion of the identified extraction areas. On this basis, I consider the limited volume of material to be extracted from within the low tide channels does not warrant disturbance of these sensitive areas.

134. I have considered the priority approach to the extraction areas, as discussed at the hearing, but find the potential risk to key ecological values can be avoided by prohibiting extraction from the low water channels.

135. On the basis of the evidence, I accept that any risk of disturbing sediments contaminated by microbial pathogens can be addressed through the imposition of pre-extraction sediment testing of Area B, adjacent to the existing houses.

136. I have considered the potential for adverse cumulative effects on ecological values. I accept the evidence of Dr Spyksma that the tidal areas outside the low water channels will be relatively rapidly recolonised and that the system will be effectively reset every five years. I accept the Applicant has proffered a condition that limits sand extraction activities within the estuary to once every five years. I consider this requirement in conjunction with prohibiting extraction from the low tide channels within the estuary will avoid any significant adverse cumulative effects on existing ecological values of the estuary.

137. Overall, I find that with the avoidance of extraction from the low tide channels and the imposition of conditions, any significant adverse effects on ecology and water quality can be avoided.

Effects on Coastal Processes and Coastal Hazard Risk

138. Some submitters have raised concern that the previous works have only worked for a very short period and that proposed works will again only last for a short time. Concerns were raised that the proposed works are unnecessary and unsustainable, and that nature should be left to take its course.

139. Mrs Spencer highlighted changes to the beach profile since 2016 and the potential need to change the deposition plan. She noted that sand deposited in the EHS would not result in sand moving onto the spit above MHWS and would not address the existing erosion scarp. She said that the photographs in her evidence illustrate the changes since the LaBonté Report was completed. She requested the deposition of material along the erosion scarp of the spit to form a more stable gradient for plantings.

140. Mrs Spencer raised concern that the application could potentially affect the regionally significant surf break. She stated she had noticed the tidal window for surfing had been reduced over the last four years from higher levels of sand deposited west of Area C. She noted the RPS required that any application within one kilometre of a regionally significant surf break must be accompanied by an assessment of the effects on the surf break and that this had not been done. However, she considered this may not be necessary if adequate monitoring was undertaken before and after the works.

141. Mrs Spencer highlighted the importance of plantings in stabilising the sand dunes and the need for fencing to protect vegetation. She requested the reformation of the sand dune and replanting be extended to include the spit, and that this is fenced off until at least 80 percent vegetation cover is achieved. She noted loss of fencing and lack of maintenance of fencing had resulted in ongoing damage to the spit and plantings by pedestrians; and that loss of vegetation had resulted in sand blow outs and rapid erosion.

142. Mrs Spencer outlined ongoing erosion damage to her property at the end of the spit and the need for a revetment structure along the estuary side to protect the right of way and private properties. She said this work was urgent to prevent further washouts and holes, and ultimately the undermining of buildings.

143. Mr Shaw raised concern that the proposed excavation could increase erosion adjacent to his property and noted historical shoreline data showed the estuary had at times cut close to his property.

144. Mr Shaw stated that the importation of sand should be considered instead of excavating sand from the estuary and destroying shellfish beds.

145. Mr Shaw noted that deeper wider channels means slower velocities, which means less ability to transport sand and flush sediment from the estuary. He considered this was counter-productive to the aim of getting more sand onto the beach. He noted the evidence of Mr Haag was that the sand would infill Area C within six months, highlighting the short time nature of the solution. He questioned how long the sand would remain on the main beach and noted the cumulative impact of repeated sand extraction had not been addressed in Mr Haag's evidence. He noted managed retreat should be considered as part of the Ministry for the Environment's adaptive management policy

146. Mr Shaw considered any change to the tidal prism would be *de minimus* given the volumes to be extracted and present tidal volume.

147. Mrs Jones requested the volume of sand placed on the spit be limited and that she would prefer the level of the spit be lowered to fill the toe of the scarp.

148. Mr Haag reviewed historic data and reports for the estuary, and the reporting for the beach replenishment work carried out in 2007. He noted the wave energy from the from the east refracts into the bay, focusing most of the energy near the middle of the beach. As a result, the natural net movement within the system is for sand movement from the high energy area to the ends of the beach and into the estuary. He noted the imbalance of the wave energy at the beach and flood river flow (from the bridges) results in extensive infilling of the estuary. He said sand entering the estuary was effectively 'trapped' and that the estuary is functioning as a 'sediment sink'.

149. Mr Haag highlighted the findings of the Tonkin & Taylor coastal hazard study which show the overall trend over 80 years was of erosion of the spit and accretion in the estuary. He noted that other small fluctuations observed were 'background noise' to this underlying long-term trend. He said recent evidence of accretion referred to by some submitters was related to few short period wave events (typically from tropical cyclones) and was likely to be only short-term.

150. Mr Haag estimated that removal of the two existing bridges would be in the order of $15-18 million and that consenting such activities would be difficult given the areas upstream of the estuary are identified as having high significant ecological value.

151. Mr Haag noted that in 2007, approximately 12,000 m^3 of sand was extracted from the estuary and placed on the main beach, and that this had effectively replicated the natural 'flushing' process that would have occurred prior to construction of the bridge abutments. He stated that the 2007 works were considered to be a success based in the predicted 10-year life of the works and a resulting annual cost of $30,000 per annum. He stated that the 2017 sand sampling undertaken showed up to 0.5m of sand from the 2007 works remained on the main beach, which again demonstrates it had been successful.

152. Mr Haag noted the 2007 works had a relatively steep beach profile of 1m vertical for 4m horizontal (1V:4H), which had led to a relatively short-term redistribution of the beach profile. However, he considered the sand placement had maintained protection despite being perceived by some people as unsuccessful. He noted this proposal was for a flatter profile of 1V:6H to better match the existing beach slope of 1V:8H and that the sand sampling undertaken supported this approach.

153. Mr Haag noted that the previous works had placed large volumes of sand at the spit to act as a soft groyne to prevent sand entering the estuary. However, the current proposal design is to place the majority of the sand in the EHS (defined as between cross-sections 6 to 10) and to allow the sand to redistribute overtime and improve protection of the sand spit. He stated this approach would increase the life/performance of the works and was supported by the LaBonté peer review. He noted the peer review suggested little to no replenishment of the spit, however, this would lead to rapid redistribution over the short-term. He noted that as a result of the peer review significantly more sand would be placed within the EHS area and only limited volumes would be deposited at the spit.

154. Mr Haag highlighted the areas targeted for extracted are characterised by mostly newly deposited mobile sand which has accumulated since 2007; and is mostly confined to areas above MSL.

155. Mr Haag confirmed his investigations included consideration of the causes and issues associated with the scouring adjacent to Te Wairoa Street, which are related to water velocity effects of the upstream bridge abutments. He concluded the proposed extraction activities would not affect the existing scouring or exacerbate erosion along the sides of the estuary.

156. Mr Haag noted agreement with the Staff Report that the sand extraction would increase the tidal prism, which would lend to improving flushing, but considered any benefit would be small.

157. Mr Haag agreed with Mr Maxwell's consideration of the effects of SLR and that a 'do nothing' approach would likely lead to the erosion of beachfront properties within a 10 to 20-year period.

158. Mr Haag considered concerns raised regarding the properties adjacent to the Parangaraahu Bridge (868 Matapōuri Road) and stated any erosion in this area was likely to be short term given the net increase shown in the Tonkin & Taylor hazard survey. He also noted the proposed straightening of the channel in this area would reduce the chance of scour on the upper bank.

159. In response to questions regarding alternative sources of sand, Mr Haag said he had talked to the Refinery and North Port. However, he considered the sand quality from those sources may not be the same as that sought and that introducing sand into a closed system would not help with improving flushing of the estuary.

160. In response to questions relating to the frequency of the proposed works over 30 years and assumptions of the AEE that this would only be approximately once every 10 years, Mr Haag noted the previous works had been carried out 12 years ago. He considered this demonstrated the expected 'life' of the works and noted the WDC needed the flexibility to carry out the works when necessary.

161. The Staff Report noted the 2005 works had been successful in stabilising the sand dunes and providing a useable beach width at high tide. It noted the beach replenishment would improve the level of coastal hazard protection provided to public land and to the 17 private properties immediately adjacent to the beach.

162. Mr Maxwell considered the application was unlikely to have significant adverse effects on the surf break given the volumes of sand to be extracted and the locations of the extraction areas. He did not consider it was necessary to monitor the surf break before and after, and questioned the value of doing so in a highly dynamic environment. He noted the response received by the Applicant from eCoast and the view the works may improve the surf break.

163. Mr Maxwell agreed that there should be no further increase in the height of the spit and that limited volumes material should be used along the toe of the scarp to enable planting and stabilisation. He considered the Applicant needed some flexibility to achieve this.

164. Mr Maxwell stated that the extraction of sand from the estuary was utilisation of material from a 'sand sink' and could not be considered as restoration of the estuary.

Findings

165. The engineering report and the coastal hazard report by Tonkin & Taylor acknowledge coastal erosion at Matapōuri and identify approximately twenty private properties at risk based on the CEHZ2 hazard line (based on 49m of estimated erosion width at 2115).

166. It is clear that the southern end of the bay and spit are subject to ongoing coastal erosion from storm events. The area is identified as CEHZ1 where it is recognised the land is at high risk from coastal hazards and SLR.

167. It is clear that poorly designed and managed pedestrian access has created blow outs in the sand dunes in the middle of the bay where wave energy is the greatest. It is also apparent that unrestricted pedestrian access is resulting in damage to vegetation along the spit and formation of the erosion scarp.

168. I accept there is a need to enable sand to be deposited on the spit to address the existing erosion scarp and enable dune reformation and revegetation. I note the proposal to deposit limited amounts of sand at the spit for remediation is consistent with the recommendations of the LaBonté Report and early advice from Dr Robert Dean. I am also satisfied the proposal to deposit most of the sand at the EHS is consistent with the expert advice.

169. I accept the evidence that the overall long-term trend is of erosion on the beach side and accretion in the estuary. I accept the estuary is functioning as a 'local sediment sink'. I note the Tonkin & Taylor report states that the southern end of the beach adjacent to the mouth of the river is a 'local sediment sink'. This coincides with identified Extraction Area C.

170. I am satisfied that any change in the hydrodynamics of the estuary will be small given the relatively small change to the tidal prism and existing channels the locations, shallow depth of excavation, and the relatively small volume to be extracted.

171. I accept the evidence of Mr Haag that the extraction of sand from the areas identified will not exacerbate the existing level of erosion evident along the edges of the estuary or increase the existing level of coastal hazard risk posed to properties adjacent to the estuary.

172. I accept the view of Mr Maxwell that application is unlikely to have a 'significant' effect on the identified 'regionally significant surf break' at Matapōuri given the dynamic nature of the sediments, and the frequency and volumes of sand to be extracted and deposited.

173. Overall, I find the proposed works will enable remediation of the sand dune system and establishment of vegetation to increase the resilience of the beach to coastal erosion processes. I acknowledge concerns raised that the proposed works are not a long-term solution, but accept such sand replenishment works are designed to increase resilience, while recognising and protecting natural systems. I accept soft protection works may be short-term, depending on the frequency of storm events, and maybe sacrificial in nature.

Effects on Public Access and Recreational Values

174. A key concern of some submitters in opposition to the application was the potential adverse effect on recreational values in the harbour, as a safe and shallow area to swim.

175. Mrs Jones raised concern that the extraction of sand from the estuary would result in the loss of a large area of shallow water and clean sand that children currently play in.

176. The TRHT submission requested a gradual extraction gradient to one metre depth in Areas A and B to ensure safe usage for families. It also requested walkways and accessway be fenced to protect the sand dune and plantings; and better use of signage.

177. Mrs Spencer noted plan sheet 13 attached to Mr Haag's evidence showed a new public accessway to the beach from the end of the private right of way used to access her property. She said there was no landowner approval to use the private right of way.

178. Mr Shaw stated the Applicant had not assessed the effect of reduced sand transportation in the estuary on navigational safety within the channels. He was also concerned there would be a loss of amenity in the estuary for children due to loss of shallow water. He stated that some shallow areas would become 1m deep, which is more than a minor effect. He noted that the previous deposition of sand on the spit had resulted in a loss of visual amenity.

179. Mr Haag said it had been easier for the WDC to manage people and vehicle access at the northern end of the bay due to the existence of the large Council managed esplanade reserve. He noted that at high tide the water touches the grass, which pushed people onto the dunes and vegetation.

180. Mr Haag noted that the proposal is to restore the estuary to MSL and that this maximum depth would maintain a shallow recreational area that would still be exposed at low tide.

181. The Staff Report noted that replenishment of the beach would improve the amenity of the beach by increasing the width of the berm by approximately 2m. It noted the proposed formed accessways over the dunes would improve public access to and along the beach.

182. Mr Maxwell said he was unaware of the extent of recreation within the estuary or use of the sand tidal flats by children. However, he noted there would still be shallow areas along the beach and within the estuary. He noted the sand flats would still be exposed at mid tide through to low tide and submerged at high tide, but that the water would be approximately 1m deeper at high tide. Overall, he concluded that the increase in depth at high tide would be a small positive for small boat use and a small negative for young sand flat users.

Findings

183. The LaBonté Report noted that it is evident that public encroaching on the seaward edge of the vegetation is damaging the vegetation and reducing its ability to recover from storm events. I accept this application will enhance the resilience of the sand dune vegetation through re-formation of the dune system, planting, weed management and protection of vegetated areas from pedestrian access. The proposed properly designed and constructed dune overwalks, fencing and signage will assist in protecting the recontoured dunes and plantings from damage. The northern end and the middle of the beach clearly demonstrate the contrasting results of successful management and poor management of public access to the beach.

184. On the basis of the evidence, I accept that overall any effects on recreation values will be positive on the beach users. I am satisfied the proposal will result in significant benefits to public access to and along the CMA.

185. I agree with Mr Maxwell that any adverse effect of reducing the height of the tidal flats within the extraction areas will be minor and note that these areas will still be exposed from mid-tide.

186. The Applicant has confirmed it will not be depositing large volumes of sand on the spit and that a limited amount of sand would be used around the toe of the existing scarp to reform the sand dune and enable planting. I am satisfied that the conditions of consent prevent raising the level or extent of the spit, as was done in 2007. I do not consider the works proposed will result in any loss of visual amenity, which was experienced by Mrs Jones after the 2007 works.

Effects on Cultural Values and Relationships

187. The submission from TRHT in support of the application made a number of recommendations in relation to including erosion protection works on the estuary side of the spit, gradual excavation depths, transplantation of shellfish from affected areas, fencing and signage, restoration to a 'better state', refuelling outside the CMA, and monitoring for a 3-5 year period after the works.

188. Ms Hawken requested a CIA be provided to support the protection of sites of significance to tangata whenua on the spit which are threatened by coastal erosion.

189. Ms Hawken stated consultation between TRHT and the Applicant had been insufficient, not adequate, or ineffective. She considered the consultation undertaken did not meet RPS Policy 8.1.2 or 8.1.1; and that therefore the NRC could not meet RPS Policy 8.1.3 or 8.2.1. She requested a two-week period for hapū, the NRC and the WDC to 'develop common understandings' and to 'develop methodologies' for the implementation of the plans for the proposed works.

190. In response to questions, Ms Hawken said that effective consultation would give the Applicant a better understanding of tangata whenua's worldview.

191. The Staff Report noted that the effects on tangata whenua and their taonga were not specially addressed in the AEE, but that the concerns raised in relation to kai moana had been addressed. It set out the relevant planning provisions and noted the relevance of Policy D.1.1 of the PRP, which may be triggered by the presence of shellfish within or close to the area affected.

192. The Staff Report noted that the policy provisions of the NZCPS and RPS take into account the principles of Te Tiriti o Waitangi and kaitiakitanga when determining activities in the coastal environment; and recognise and provide for the relationship Maori have with the coastal environment.

Findings

193. I note that while it is good practise to consult with tangata whenua, there is no requirement to undertake consultation and there is no ability for me to direct further consultation to be undertaken.

194. I note that the recommendations by TRHT in relation to fencing and signage, restoration of the affected areas, and no refuelling of machinery within the CMA have been incorporated by the Applicant.

195. I acknowledge the concerns raised regarding the need for a CIA, but accept that any effect on identified significant sites is likely to be positive given the works aim to protect the spit and beach from further erosion.

196. I am mindful that the Applicant has not identified any specific shellfish beds and that the evidence shows the low tide channels are of most significance. I have considered the need to undertake further assessments of potential effects on kai moana species, but find this is not necessary if extraction is prohibited from the ecologically sensitive low tide channel areas.

197. Overall, I find that with the imposition of conditions any adverse effects on tangata whenua and their taonga can be avoided and that any unidentified potential sites of significance located on the spit and beach will be protected by implementing the proposed works. I am satisfied the consent process has provided TRHT sufficient opportunity to have input into how the sand management activities will be undertaken.

SECTION 104(1)(ab) – ENVIRONMENTAL OFFSETS AND COMPENSATION

198. Section 104(1)(ab) of the RMA requires me to have regard to any measure proposed or agreed to by the Applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity.

199. I accept that the proposed activities will enable the restoration of the sand dunes and improved public access to the beach, without causing damage to the existing fragile dune system and established plantings.

200. I am satisfied the beach replenishment works will have an overall positive effect by maintaining and enhancing the existing natural character and amenity values of Matapōuri Beach.

201. I am satisfied the beach replenishment works will provide for increased resilience of the upper beach and dune system from ongoing coastal erosion driven by storm events and SLR.

202. I accept the beach replenishment works will improve the current level of coastal hazard protection for the private property located along the spit and foreshore, as well as for public land held as Council reserve.

SECTION 104(1)(B) OF THE RMA – RELEVANT PLANNING PROVISIONS

203. There was agreement between the parties that the provisions of the PRP should be given more weight that the RCP given decisions have been released. There was agreement that the provisions of the soon to be replaced RCP should be afforded little weight. There was also agreement that in higher order documents (NZCPS and RPS) should be given more weight, if there is any conflict between the provisions of the planning documents. Although no conflicts were highlighted by any party.

204. Mr Shaw considered the application to be contrary to the NZCPS Objective 1 because it interferes with a natural process. He also noted NZCPS Objective 1.3 and 4 and the need to consider managed retreat.

205. The Staff Report noted the relevance of NZCPS Objective 2 and RPS Objective 3.13 and RPS Policies 7.1.4 and 7.2.1. The Report stated the application would restore the beach and estuary to their previous ‘natural state’ and would maintain the existing natural character of the bay.

206. The Staff Report noted the relevance of NZCPS Objective 6 and NZCPS Policy 6(2b). It stated the proposed activities would maintain the beach and dune system, which is important for the environment and the social, economic and cultural wellbeing of the community, while improving public access and recreational values.

207. The Staff Report noted the relevance of NZCPS Policy 26 and stated the application would help to restore and maintain the natural dune system, while removing sediment from the estuary.

208. The Staff Report noted the relevance of RPS Objective 3.13 and Policies 7.1.4 and 7.2.1 which seek to not compromise the effectiveness of existing defences (natural and man-made), reduce the risk to people and property from natural hazard events, and to restore and enhance natural systems and features that reduce the impacts of natural hazards. It concluded the proposed works would enhance the natural defences, while providing for improved access to and along the CMA.

209. The Staff Report noted RCP Policies 26.4.1, 26.4.2 and 26.4.3, and stated there is a reasonable level of knowledge of how the beach and estuary function, and of the effects of the previous sand management works.

210. The Staff Report noted PRP Policies D.5.28 and D.5.29 regarding the effects on surf breaks and concluded the extraction from Area C would most likely improve wave conditions and would not change the existing amenity values or feeling of wilderness or isolation. Mr Maxwell advised these policies relating to the surf break are subject to appeal.

211. The Staff Report noted the relevance of PRP Policies D.5.23 and D.5.24 and concluded the application would provide protection to existing dwellings, restore the upper beach and dune, assist with flushing of the estuary, and improve recreational value and natural character.

212. In relation to the protection of indigenous biodiversity, the Staff Report noted the relevance of NZCPS Policy 11, RPS Objective 3.4 and Policy 4.4.1, RCP Policy 9.2.4.1 and PRP Policy D.2.16. It concluded the application would avoid adverse effects on significant bird habitat and on seagrass and mangroves.

213. Mr Maxwell noted soft engineering approaches were preferred to hard engineering approaches. In response to questions regarding transitional measures to address coastal hazard risk areas, he said managed retreat was feared by the community. He acknowledged the proposed works would enable the community time to plan for long term solutions, such as relocation and managed retreat.

214. In reply submissions, Mr Littlejohn noted the guidance of NZCPS Objective 5 and Policies 24, 25, 26 and 27 to decision makers under the Act, and to lower order statutory documents such as the RPS and PRP. He highlighted the direct relevance of recognising, protecting, restoring and enhancing natural systems to reduce natural hazards. He noted PRP Objective F.1.9, Policies D.5.23 and D.5.24, and Rules C.1.5.11 and C.1.5.12, which recognise and provide for dredging and dumping for beach replenishment and restoration purposes.

215. Mr Littlejohn also noted the relevance of the operative Whangārei District Plan (**WDP**) and set out Policy 19.4.3 to ensure existing natural processes and features, such as beaches and sand dunes, which provide a buffer against natural hazards, are recognised, protected and enhanced to maintain their function and integrity.

216. In making my assessment, I have had regard to all of the relevant objectives and policies of the NZCPS, the RPS, the RCP, the PRP and the RWSP. I have focused my assessment on key matters in contention in relation to each statutory document, and my assessment of potential and actual environmental effects.

217. I find the RPS and PRP give effect to the relevant objectives and policies of the NZCPS by recognising and providing for the protection and restoration of the natural defence system of the upper beach and sand dunes. I agree with the Applicant and the Reporting Officer that the most directly relevant provisions encourage the use of 'soft engineering' options such as sand replenishment and sand dune restoration to reduce the risk of coastal erosion and to enable time for managed retreat from identified coastal hazard zones.

218. I particularly highlight NZCPS Policy 26 which specifically provides for the protection, restoration or enhancement of natural defences that protect land uses from coastal hazards; and recognises that natural defences include beaches, intertidal areas, coastal vegetation and dunes. I find this proposal is entirely consistent with the outcomes sought by Policy 26.

219. I also highlight NZCPS Policy 27, which states:

> *(1) In areas of significant existing development likely to be affected by coastal hazards, the range of options for reducing coastal hazard risk that should be assessed includes:*
>
> *a. promoting and identifying long-term sustainable risk reduction approaches including the relocation or removal of existing development or structures at risk;*
> *b. identifying the consequences of potential strategic options relative to the option of "do-nothing";*
> *c. recognising that hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance, to sustain the potential of built physical resources to meet the reasonably foreseeable needs of future generations;*
> *d. recognising and considering the environmental and social costs of permitting hard protection structures to protect private property; and*
> *e. identifying and planning for transition mechanisms and timeframes for moving to more sustainable approaches.*
>
> *(2) In evaluating options under (1):*
>
> *a. focus on approaches to risk management that reduce the need for hard protection structures and similar engineering interventions;*
> *b. take into account the nature of the coastal hazard risk and how it might change over at least a 100-year timeframe, including the expected effects of climate change; and*
> *c. evaluate the likely costs and benefits of any proposed coastal hazard risk reduction options.*
>
> *(3) Where hard protection structures are considered to be necessary, ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment.*
>
> *(4) Hard protection structures, where considered necessary to protect private assets, should not be located on public land if there is no significant public or environmental benefit in doing so.*

220. I note NZCPS Policy 27 specifically addresses significant existing development and sets out strategies for protecting these areas from coastal hazard risk. It sets out a range of options for reducing coastal hazard risk in subclauses (1)(a)-(e). The focus of this policy on 'reducing risk' in identified areas that are subject to coastal hazard risk which is ongoing and will increase in the face of climate change and SLR. It promotes the identification of long-term sustainable risk reduction approaches including the relocation or removal of existing development.

221. I accept this application will provide time for the community to plan for long-term (100+ years) sustainable solutions to risk reduction and that in this regard are transitional measures. I acknowledge the Applicant has focused on soft engineering approaches which will reduce the need for hard protection structures and has evaluated the costs and benefits of the proposed works. I find the application is consistent with NZCPS Policy 27.

222. I find the proposed beach replenishment is consistent the outcomes sought by the NZCPS and the RCP by improving public access to and along the CMA; and through the enhancement of the amenity of the upper beach, and accept this will provide significant public benefit.

223. I find that the proposed sand management works are consistent with the relevant provisions which require the avoidance of significant adverse effects on ecological values, natural character and coastal processes, and the mitigation of adverse environmental effects.

224. I find the application is consistent with the relevant provisions of the RWSP and the WDP by recognising and protecting the function and integrity of the natural dune system and coastal riparian vegetation.

225. Overall, I find the application is consistent with the outcomes sought by the NZCPS, RPS, RPR, RWSP and WDP.

SECTION 104(1)(C) – OTHER RELEVANT MATTERS

226. Section 104(1)(c) requires me to have regard to any other matters that are relevant and reasonably necessary to determine the application.

227. I have had regard to the outcomes of the previous sand management works in 2005 and 2007. I accept the works have increased the resilience of the natural dune system. I am satisfied that the monitoring undertaken demonstrates sand management works can be undertaken without causing significant adverse environmental effects. I note that some of the lessons learned have modified the proposed works.

228. I have had regard to the outcomes sought by the Ngātiwai Trust Board Environmental Policy Document (2007). This has contributed to determining to remove the low tide channels from the extraction areas.

PART 2

229. It was agreed the provisions of the NZCPS, RPS and PRP have been prepared having regard to Part 2 and provide a coherent set of objectives and policies to achieve the environmental outcomes sought.

230. All the considerations I have described are subject to Part 2 of the Act. In accordance with Part 2, I consider that the proposed activities are likely to achieve the purpose of the Act and are consistent with the principles of the sustainable management of natural and physical resources, as defined in section 5.

231. I am satisfied that the relevant section 6, 7 and 8 matters have been given effect to by the statutory documents and through the imposition of consent conditions.

CONCLUSION AND OVERALL DETERMINATION

232. I have focused my assessment of the application on the actual and potential adverse effects of the proposed activities and the outcomes sought by the statutory planning framework. Overall, I am satisfied that the proposed activities can be carried out without resulting in any significant adverse environmental effects on ecological values, cultural values and relationships, and coastal processes.

233. I accept that the proposed works will have positive effects on the amenity of values of Matapōuri beach and will enhance the resilience of the upper beach and sand dune system to coastal erosion. I am satisfied that public access to and long the foreshore will be improved and recreational values of the beach will be enhanced. I consider that the proposed works will increase the protection and resilience of natural defences against coastal hazards and will reduce the risk to posed public and private land and structures from coastal hazards.

234. I consider that the proposal is consistent with the clear guidance of the NZCPS to encourage the use of soft engineering solutions to reduce risk and allow time for the implementation of long-term sustainable solutions.

235. On the basis of the evidence, I conclude that the proposed works will achieve the purpose of the Act, while avoiding, mitigating and remedying adverse effects on the environment.

CONDITIONS

236. The recommended consent conditions appended to the Staff Report were the subject of discussions between the parties during the hearing.

237. In particular, Mrs Spencer requested a number of changes to the proposed conditions in relation to monitoring, pre-work survey, final beach slope and the need to monitor effects on the surf break.

238. Mr Shaw questioned the purpose of ongoing monitoring and the merit and effectiveness of many of the conditions. He noted a number of ongoing inaccuracies and errors in the Applicant's plans and diagrams. He suggested these should be rectified and the plans simplified if they were to be relied on in granting the consents sought.

239. On the basis of the evidence presented during the hearing, Mr Maxwell outlined a number of recommended changes to conditions and suggested simplification of the plans. He requested the opportunity to provide further written comment and recommendations on a revised set of proposed conditions.

240. Following the hearing adjournment, the Applicant made a number of changes to conditions to reflect discussions at the hearing and to incorporate suggestions from the parties. These revised documents were circulated to the parties on 30 August 2019, with a Minute setting out a timeframe for providing further written comment.

241. Further comments on the revised conditions were provided by Mr Roy and Ms Gregson, DoC, Mr Shaw, Mrs Jones, Mrs Spencer, and Ms Hawken on behalf of Te Rangiwhakaahu Hapu Trust.

242. On 13 September 2019, Mr Maxwell provided further comment on the revised conditions and provided a tracked change version of his final set of recommended conditions. He noted he had taken into account the further written comments of submitters in making his final recommendations and outlined a number of changes to address matters raised. Overall, he considered the changes to the revised conditions enhanced clarity and certainty, and provided appropriate limits.

243. The Applicant provided a final set of proposed conditions with the written right of reply.

244. I have considered all of the evidence provided, including further comments from submitters, in determining appropriate conditions of consent, as set out in Appendix 1 of this decision.

245. I have deleted the requirement in Condition 2(c) to undertake a pre-work survey of shellfish beds within the estuary on the basis that sand extraction from the sensitive low tide channels within the estuary (adjacent to Areas A and B) is prohibited; and the evidence of Dr Spyksma that Area C does not contain diverse or sensitive ecology given the mobile nature of the sediments.

246. I consider the changes to Condition 27 address the concerns of Mr Roy and Ms Gregson in relation to the need to protect the roots of the identified mature mangroves in Area B. I note their request to be advised when sand extraction works are to take place, to have prior access to the Sand Replenishment Project Plan (**SRPP**) and to have access to any monitoring data. I do not consider there is a need to give prior notification of the works to the owners of 868 Matapouri Road given the timing of the works (April-July), the limits on hours of operation and the short duration. However, I consider it is reasonable to have access to the certified SRPP and I have added a requirement for the SRPP to be available on request or on the WDC's website (Condition 3). I am satisfied any monitoring data provided by the consent holder to the NRC will be accessible to the public by request.

247. DoC noted that the words 'where practicable' should be removed from Condition 29 and that if shellfish beds cannot be relocated, they should be avoided. The Applicant deleted recommended Condition 29 on the basis that translocation was unnecessary. I have addressed concerns regarding the disturbance of shellfish beds by prohibiting sand extraction from the low tide channels. I therefore accept the deletion of recommended Condition 29.

248. I have considered the comments of Mr Shaw that sampling should be required within the extraction and deposition areas to monitor the effects on shellfish. I do not consider this is warranted on the basis of the evidence of Dr Spyskma. I note the deposition area is primarily the upper beach and sand dunes, which is relatively depauperate compared to the beach intertidal zone.

249. Mr Shaw also requested six monthly monitoring of shellfish and seagrass after the works to assist with understanding seasonal variation. I do not consider this is necessary given the conditions to survey, delineate and avoid the seagrass beds. I note the risk to seagrass is further reduced by avoiding works in low water channels which may impact water quality. I am satisfied that the conditions require the post-work survey to be carried out at the same time of year, which will allow comparisons over time. I am satisfied that the conditions require the Applicant to identify seagrass patches prior to the works and to avoid any disturbance of these areas by temporarily marking their location and extent.

250. I consider the concerns raised by Mr Shaw regarding batter slopes are largely addressed by removing the low tide channels from the extraction areas. I consider that the pre-work and post-work topological survey requirement will enable the NRC to monitor compliance with extraction depths and deposition heights. I am satisfied that the representative locations of these along the beach, spit and estuary can be selected by the WDC, and with final locations and number of control points set in consultation with the NRC. I do not agree that the community should have input into the location of these survey lines. I have considered the timing of the pre-work survey and acknowledge there is a small risk that sand may have moved between the time of the pre- work survey (February - March) and the time of the actual works (April – July). However, the WDC are ultimately limited to maximum extraction depths within each extraction area and will need to ensure the pre-work survey accurately informs this, as well as checking levels during extraction works.

251. I note Mrs Jones' concern that the proposed maximum 3.5m sand dune height at the spit was still too high and that a maximum height of 1.5m would be safer. I note that the maximum height proposed is based on the existing height of the spit. I accept that it is not desirable to disturb the existing remnant vegetation to lower the sand dune. I am satisfied that the conditions only allow for limited deposition at the spit to enable remediation of the erosion scarp and revegetation of the sand dune.

252. I note the inclusion of a condition requiring sediment sampling pre-extraction from Extraction Area B to test for microbial pathogens.

253. I note that Extraction Area B, as shown on the final plans, shows a sufficient buffer between the extraction area and Mr Roy and Ms Gregson's property (868 Matapōuri Road). In my view, this provides adequate certainty that the excavations will not occur up to the existing informal rock protection works.

254. Mr Shaw raised the issue of imposing meaningless 'Claytons' conditions', which are a waste of time and effort. I have taken the time to ensure the conditions imposed are reasonable, practicable and enforceable; and that they directly relate to potential adverse effects and the risk posed to the environment. I am satisfied that the conditions imposed meet these basic standards.

255. I acknowledge (as did the Applicant during the hearing) there is a risk of granting a 'Claytons' consent', in that if there is no sand available within the extraction areas above the maximum excavation depths, at the time of the pre-works survey, the consent cannot be exercised. However, the Applicant has shown there was sand available in these areas in 2017 and that material is likely to have continued to accrete within the estuary. The Applicant accepts that any volume extracted will ultimately be controlled by the sand available above MSL within the extraction areas.

DURATION

256. I have considered the requests of some submitters for a 'one off' consent or for a shorter duration of 10 years.

257. I acknowledge the Applicant is seeking a 30 year duration to avoid the costs involved with seeking consent.

258. Mr Maxwell was comfortable with a 30 year duration on the basis of the assessment of effects.

259. I consider long consent durations of 30-35 years generally are appropriate for activities that require high capital investment to implement and a certain level of certainty to protect that investment. I do not consider these works require significant capital investment or certainty that the activities can continue for 30 years.

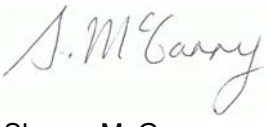
260. While I acknowledge consent processes such as this, may be a costly undertaking, I do not consider this in itself warrants a 30 year duration.

261. On the basis of the evidence presented, I consider the appropriate consent duration is 20 years. In making this determination, I have taken into account the uncertainty around climate change and SLR, the 10 year statutory planning cycle, and the need for further community input in the future long-term solutions. I consider a 20 year duration, which allows for up to four extraction events from the estuary, provides sufficient certainty and cost efficiency for the Applicant, while balancing the need to review the results of monitoring and ensure significant adverse environmental effects continue to be avoided over the term of the consent.

DECISION

262. For the above reasons, it is my decision on behalf of the **NORTHLAND REGIONAL COUNCIL**, pursuant to sections 104 and 104B, and subject to Part 2 of the Resource Management Act 1991, to **GRANT** resource consent application APP.040490.01.01 by the Whangārei District Council for a term of 20 years, subject to conditions set out in Appendix 1 of this decision.

Dated this 14th day of October 2019



Sharon McGarry
Hearing Commissioner

APPENDIX 1. – Resource Consent Conditions

WHANGAREI DISTRICT COUNCIL, C/- PARKS DIVISION, PRIVATE BAG 9023, WHANGĀREI MAIL CENTRE, WHANGĀREI 0140

To undertake the following activities at Matapōuri, between and about location co-ordinates 1736560E 6063530N and 1736958E 6062643N.

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

AUT.040490.01.01	**Capital dredging (as sand excavation) within the coastal marine area of the Matapōuri Estuary for the purposes of beach replenishment and ongoing maintenance of the replenished beach.**
AUT.040490.02.01	**Sand deposition within the coastal marine area along Matapōuri Beach for the purposes of beach replenishment and ongoing maintenance of the replenished beach.**
AUT.040490.03.01	**Maintenance dredging (as sand excavation) within the coastal marine area of the Matapōuri Estuary for the purposes of beach replenishment and ongoing maintenance of the replenished beach.**
AUT.040490.04.01	**Earthworks in a riparian management zone/coastal hazard management area to deposit sand for beach replenishment and ongoing maintenance of the replenished beach.**
AUT.040490.05.01	**Disturb the foreshore in the coastal marine area of Matapōuri Beach and Matapōuri Estuary during activities associated with beach replenishment work and ongoing maintenance of the replenished beach.**

Subject to the following conditions:

Note: Capital and maintenance dredging activities are hereafter referred to as Sand Excavation.

General Conditions:

1 The works authorised by these consents shall be undertaken in general accordance with the **attached** RS ENG Ltd. drawings entitled:

- "*Beach Replenishment Engineering Drawings"*, Overall Plan, Sheet 1, Rev E dated 22/08/19 – referenced as Northland Regional Council Plan Number **4888/1**.
- "*Beach Replenishment Engineering Drawings"*, Planting & Access Plan, Sheet 2, Rev E, dated 22/08/19 – referenced as Northland Regional Council Plan Number **4888/2**.
- "*Beach Replenishment Engineering Drawings"*, Sheet 3, Rev E, dated 22/08/19 – referenced as Northland Regional Council Plan Number **4888/3**.

If there are any differences or apparent conflict between these plans and any conditions of these consents, then the conditions of consent shall prevail.

2 Prior to the exercise of these consents (on each occasion), the Consent Holder shall undertake pre-works baseline monitoring that shall include:

(a) A survey of the sand levels within Extraction Areas A, B and C, the Beach Replenishment Area and along Matapouri Beach and sandspit; and

(b) A survey of the extent, percentage cover, health and vigour of all seagrass beds within the estuary east of Te Wairoa Stream and Parangaraahu Stream road bridges downstream of the road bridges.

The monitoring shall be undertaken in late summer (February/March), in accordance with the methods identified in the **attached** Schedule 1, in the year that the works are to be undertaken. No sand replenishment works shall take place until the results of this baseline monitoring required by this condition have been provided to the Northland Regional Council's assigned monitoring officer.

3 Prior to the exercise of these consents the Consent Holder shall, on each occasion, prepare a Sand Replenishment Project Plan (SRPP) detailing the excavation and deposition methodology for the works, the sand excavation and deposition locations and volumes, the transport routes, machinery, personnel, supervision, public safety, controls and performance measures to be employed during the sand excavation and deposition works associated with the exercise of these consents. The SRPP shall be submitted to the Northland Regional Council's Compliance Manager at least one month prior to the planned commencement of any works for certification. No works shall commence until certification of the SRPP has been provided in writing by the Northland Regional Council. The Consent Holder shall promptly provide a copy of the certified SRPP to any person who requests it or provide a copy of the document on the Whangārei District Council's website.

4 The Consent Holder shall notify the Northland Regional Council's assigned monitoring officer in writing at least two weeks prior to undertaking any activities authorised by these consents and included in the certified SRPP. This notification shall include the proposed timeline of the proposed works and contact details for the Consent Holder's principal contractor and the works supervisor required by Condition 7. The Consent Holder shall arrange for a site meeting between the Consent Holder's principal contractor and the Northland Regional Council's assigned monitoring officer, which shall be held on site prior to any sand excavation or deposition activities commencing.

Advice Note: *Notification of the commencement of works may be made by email to info@nrc.govt.nz.*

5 As part of the written notification required by Condition 4, the Consent Holder shall also provide to the Northland Regional Council's assigned monitoring officer written certification from a suitably qualified and experienced person that all plant and equipment entering the coastal marine area associated with the exercise of these consents are free from unwanted or risk marine species.

6 A copy of these consents shall be provided to any person who is to carry out the works authorised by these consents, prior to any work commencing. A copy of the consents shall be held on site, and be available for inspection by the public, during the works.

7 All sand excavation and deposition works shall be under the control of and supervised by a suitably qualified person, experienced in beach nourishment work.

Advice Note: *This is an essential key role. The person needs to be present on the site for as long as is sufficient for him or her to properly supervise and control the works. The role is more than just an observation role, but does not necessarily mean that the person is required to be on site at all times.*

8 Sand excavation and deposition works shall only be carried out:

(a) In the period 1 April to 31 July in any year; and

(b) Between 7.00 a.m. and sunset or 6.00 p.m., whichever occurs earlier, and only on days other than Sundays and public holidays.

9 The Consent Holder shall keep the coastal marine area free of debris resulting from the Consent Holder's activities.

10 No refuelling of vehicles or equipment associated with the exercise of these consents shall take place within the coastal marine area or in any other location at or near the site where fuel or oil could enter the coastal marine area, or in such a way that soil or water near the site is contaminated. Where an accidental spillage to land occurs, all contaminated soil shall be collected and removed to a disposal site that is authorised to take such material.

11 All vehicles or equipment entering the coastal marine area associated with the exercise of these consents shall be in a good state of repair and free of any leaks e.g. oil, diesel etc.

12 An oil spill kit, appropriate to the plant and equipment being used, is to be provided and maintained on site during the works.

13 All plant and equipment working on Matapōuri Beach and within the Matapouri Estuary in the exercise of these consents shall be located landward of the sea level at all times (this excludes the portion of the hydraulic excavator bucket and arm working within channel areas).

14 The Consent Holder's operations shall not give rise to any odour at any residential property boundary or 50 metres landward of the line of Mean High Water Springs, which is deemed by a suitably trained and experienced enforcement officer of the Northland Regional Council to be noxious, toxic, dangerous, offensive or objectionable. If compliance with this condition is not able to be achieved, all sand stockpiles in the vicinity of the affected properties shall immediately be removed.

15 The Consent Holder shall undertake monitoring of these consents in accordance with the **attached** Schedule 1.

16 The Consent Holder shall notify the Northland Regional Council's assigned monitoring officer in writing, as soon as each of the following activities are completed:

(a) Placement of replenishment sand on Matapōuri Beach;

(b) Planting/replanting of vegetation; and

(c) Removal of the temporary truck access ramp.

17 The Consent Holder shall, on becoming aware of any discharge associated with the Consent Holder's operations that is not authorised by these consents:

(a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain the discharge; and

(b) Immediately notify the council by telephone of the discharge; and

(c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the discharge; and

(d) Report to the council's Compliance Manager in writing within one week on the cause of the discharge and the steps taken, or being taken, to effectively control or prevent the discharge.

For telephone notification during the council's 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 opening hours, then the Environmental Hotline shall be contacted.

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

18 In the event of archaeological sites or kōiwi being uncovered, activities in the vicinity of the discovery shall cease and the Consent Holder shall contact Heritage New Zealand Pouhere Taonga and the Te Rangiwhakaahu Hapu Trust. Work shall not recommence in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga approval has been obtained.

Advice Note: *The Heritage New Zealand Pouhere Taonga Act 2014 makes it unlawful for any person to destroy, damage or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga.*

19 The Northland Regional 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 of these consents annually during the month of June to deal with any adverse effects on the environment that may have arisen from the exercise of the consents and which it is appropriate to deal with at a later stage.

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

20 These consents shall not lapse until their expiry.

AUT.040490.01 and AUT.040490.03 – Sand Excavation

21 Prior to the excavation of any sand, the extent of the Extraction Areas to be used shall be set out by a Licenced Cadastral Surveyor and sufficient marks shall be placed to delineate the areas for sand excavation for contractors and to control/measure the vertical/depths of the sand excavation. These marks shall be maintained throughout the duration of the works within each Extraction Area. A plan of the completed set-out showing the locations of the delineation and control marks shall be provided to the Northland Regional Council's assigned monitoring officer at least three working days before commencement of works within each Extraction Area.

22 Sand excavation shall be confined to Extraction Areas A, B and C identified on Northland Regional Council Plan Number **4888/1**.

23 Sand excavation shall occur first in Extraction Areas A and B. Sand excavation in Extraction Area C shall only occur if insufficient sand is available for replenishment from Extraction Areas A and B. Batter slopes of one metre vertical to five metre horizontal (1V:5H) shall be provided at the landward edges of the Extraction Areas and on the channel edge of Area C (should sand excavation occur within this area).

24 The depth of sand excavation from Extraction Areas A, B and C shall not exceed the depths identified on Northland Regional Council Plan Number **4888/1**.

25 The maximum volume of sand that may be excavated shall be 15,000 cubic metres per activity period.

26 Sand excavation works within the estuary shall only be undertaken once in any five year period.

27 The two mature mangrove trees in Extraction Area B shown on Northland Regional Council Plan Number 4888/1 shall not be removed or damaged as a result of the exercise of these consents. As a minimum, the Consent Holder shall maintain a minimum four metre buffer between the vegetation and/or pneumatophores (roots) of these trees and sand excavation activities. This area shall be marked out to delineate the areas excluded from sand extraction.

Advice Note: *Particular care should be taken to avoid damage to the root structures of these trees.*

28 There shall be no disturbance to any seagrass beds identified pursuant to the pre-work baseline survey required by Condition 2(b), as a result of the exercise of these consents. Identified areas of seagrass beds shall be marked out to delineate the areas excluded from sand extraction together with any buffer recommended by a suitably qualified and experienced ecologist.

29 Prior to sand extraction within Extraction Area B, representative sediment samples from within the extraction area, and from a control site, shall be collected and analysed for microbiological contamination. The Consent Holder shall provide results of the sampling to the Northland District Health Board Public Health Unit (NDHB) to establish level of risk to public health and information and signage required to be implemented should contaminated sand be excavated and used for beach replenishment purposes. Evidence of the results of the microbiological sampling and advice from the NDHB shall be provided to the council's assigned monitoring officer prior to any extraction from within Extraction Area B.

30 Plant and equipment used to excavate sand shall only operate within the Extraction Areas A, B and C on Northland Regional Council Plan Number **4888/1**, except where such plant and equipment is required to gain access to these Extraction Areas as part of sand excavation activities.

31 Plant and equipment used to excavate and transport sand to the Beach Replenishment Area shall follow the Transport Corridors and Traffic Routes identified on Northland Regional Council Plan Number **4888/1**.

32 Any sand to be temporarily stockpiled prior to transport to the Beach Replenishment Area shall be located within the Extraction Areas.

33 Sand excavation activities shall be carried out such that, when excavation has been completed, no residual depressions exist in the excavated foreshore area that are deeper than 150 millimetres.

34 The exercise of these consents shall not cause any of the following effects on the quality of the receiving waters, as measured at or beyond a 100 metre radius from the sand excavation equipment:

(a) The Total Suspended Solids shall not exceed 40 grams per cubic metre above the background measurement; and

(b) The production of any conspicuous oil or grease film, scums or foams, or floatable or suspended materials, or emissions of objectionable odour; and

(c) The destruction of natural aquatic life by reason of a concentration of toxic substances.

35 Any concentrated deposits of material that are unsuitable for beach replenishment (for example organic matter, silts, gravels or rock) should be avoided. If any unsuitable materials are encountered during sand excavation it shall be disposed of to an approved disposal site outside the coastal marine area authorised to receive such material.

36 The low tide channels of both Te Wairoa and Parangaraahu Streams, as observed during the pre-work baseline survey required by Condition 2(a) shall not be repositioned by sand excavation activities.

Advice Note: *The intent of this condition is that the low tide channel positions of these streams are left to natural processes.*

37 Machinery shall not be operated within any works area that is inundated by tidal waters or by standing water. No machinery shall be left within the intertidal zone during high tide periods, or in a position where it could come into contact with coastal water. No machinery shall enter, or be operated within, low tide channels.

AUT.040490.02, AUT.040490.04 and AUT.040490.05 (Deposition in CMA, Earthworks in RMZ and Disturbance of CMA)

38 Sand deposition and disturbance of the beach and dunes associated with the earthworks shall be confined to the Beach Replenishment Area shown on Northland Regional Council Plan Number **4888/1**.

39 Except within the Beach Replenishment Area identified in orange on Northland Regional Council Plan Number **4888/1**, the maximum height to which sand shall be deposited adjacent to the existing dune shall be 3.5m RL.

40 The maximum gradient of beach replenishment areas upon completion of sand deposition works shall be 1V:6H.

41 Prior to the placement of sand within the Beach Replenishment Area, a stabilised entrance on to the beach shall be established from Te Wairoa Street and the boundaries of the deposition area shall be marked out. The placement of marks shall be sufficient to delineate to contractors the areas authorised for deposition, and to control/measure vertical/depth limits of deposition. The Consent Holder shall ensure that set out marks are maintained in place during the duration of the sand excavation works. The Consent Holder shall confirm that set out has been completed, along with provision of a plan showing the completed set out that complies with plans approved by these consents, at least three working days prior to sand excavation commencing.

42 All materials used to construct the stabilised access ramp on to Matapōuri Beach shall be free of contaminants. On completion of the sand deposition activities, all materials used in the construction of the access ramp shall be removed from the coastal marine area and the riparian management zone and the area shall be restored and replanted with suitable dune species.

43 The route used to transport beach replenishment material between Extraction Area A and Extraction Area B to the deposition areas on Matapōuri Beach shall be via the existing public roading network and the stabilised access ramp on to the beach from Te Wairoa Street.

Advice Note: *For the avoidance of doubt, a transport route directly across Te Wairoa Stream, either at the spit location or elsewhere, shall not be used.*

44 Truck haul routes on Matapōuri Beach between the Te Wairoa access ramp and the work site shall be located within a marked corridor that is no wider than 10 metres. Manoeuvring areas at the deposition sites shall be no more than is necessary to effectively and efficiently carry out this part of the operation.

45 Following beach replenishment works, vegetation planting of the restored dune shall be undertaken in accordance with Northland Regional Council Plan Number **4888/2**. All Spinifex (*Spinifex sericeus*) and Pingao (*Ficinia spiralis*) used in the planting shall be locally sourced where possible.

46 All vegetation planting shall be carried out within one month of sand deposition, but not later than 31 October immediately following the completion of the sand deposition works. All planting shall be supervised by a person experienced in the establishment of dune vegetation, and plants shall be protected (e.g. by fencing and signage) from foot traffic.

47 All protection (e.g. fencing and signage) shall be retained for a period of not less than 24 months following the completion of planting, but may be removed on a trial basis once an 80% vegetative cover has been established.

48 All vegetation planting shall be maintained throughout the term of these consents to not less than the plant densities in Planting Areas A, B and C identified on Northland Regional Council Plan Number 4888/2. The Planting Areas shall be kept free of weeds and animal pests as far as practicable. All 'blowouts' of sand shall be replanted within six months of any such event, except where the area of the blowout is to be replenished with new sand within the next 24 months. Ongoing monitoring will be undertaken to ensure that tracking and vegetation damage do not occur. Protection measures (e.g. fencing and signage) shall be reinstated if this proves necessary to protect the integrity of the dune vegetation.

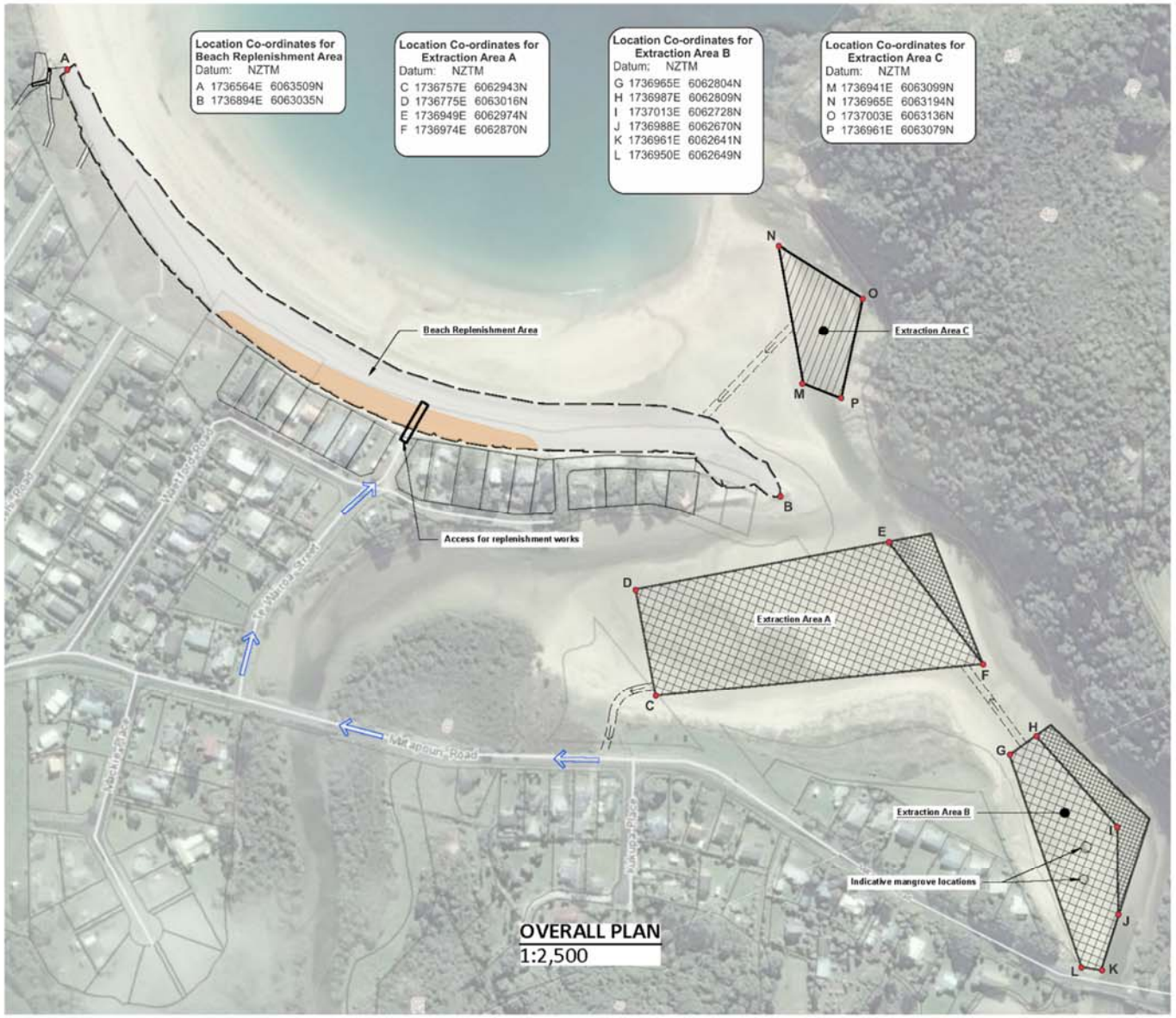
49 All new beach access structures (excluding those shown as indicative only) shown on Northland Regional Council Plan Number **4888/2** shall be installed by the Consent Holder within 24 months of completion of the first sand deposition works undertaken pursuant to these consents.

EXPIRY DATE: 30 SEPTEMBER 2039

Advice Notes:

1 *It is recommended that machine operators and contractors are appropriately trained in the Ngatiwai Trust Board Resource Management Unit (NTB RMU) Archaeological Protocol and have been briefed on recognising new sites.*

2 It is recommended that any rahui imposed by Whanau a Te Rangiwhakaahu upon a site of relevance to the works site during works associated with these consents is complied with by the Whangarei District Council and its agents.



NOTATION

- Beach Replenishment Area
- Beach Replenishment to match dune height
- Sand excavation down to 0.0m
- Low Tide Channel - Sand Extraction Prohibited
- Sand excavation down to -1.0m
- Transport Corridor (5m wide)
- Traffic Route

NOTE: All levels are in terms of LINZ vertical datum

NORTHLAND REGIONAL COUNCIL
REF : 40490
Plan Number 4888/1

RS Eng Ltd
09 438 3273
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2 Seaview Road, Whangarei 0110

Title
BEACH REPLENISHMENT
ENGINEERING DRAWINGS

Client
WHANGAREI DISTRICT COUNCIL

Location
MATAPOURI BEACH
MATAPOURI

Date	Rev	Notes
22/08/19	E	Updated for Resource Consent
05/08/19	D	Amended Notes
19/05/17	A	Concept Issue

Scale	Original	Rev
1:2,500	A3	E

Drawn by	Approved by	File	Sheet
NW	Max	15059	1

KEY

	AREA	PLANTS
PLANTING AREA A	400m²	1/PINGAO plant/m² (400) + 1/SPINIFEX plant/m² (400)
PLANTING AREA B	500m²	1/PINGAO plant/m² (500) + 1/SPINIFEX plant/m² (500)
PLANTING AREA C	2400m²	1/PINGAO plant/m² (2900) + 1/SPINIFEX plant/m² (2400)
TOTAL:	3800/Pingao	3800/Spinifex

Marker Post Locations

NORTHLAND REGIONAL COUNCIL
REF : 40490
Plan Number 4888/2

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Title
BEACH REPLENISHMENT
ENGINEERING DRAWINGS

Client
WHANGAREI DISTRICT COUNCIL

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MATAPOURI

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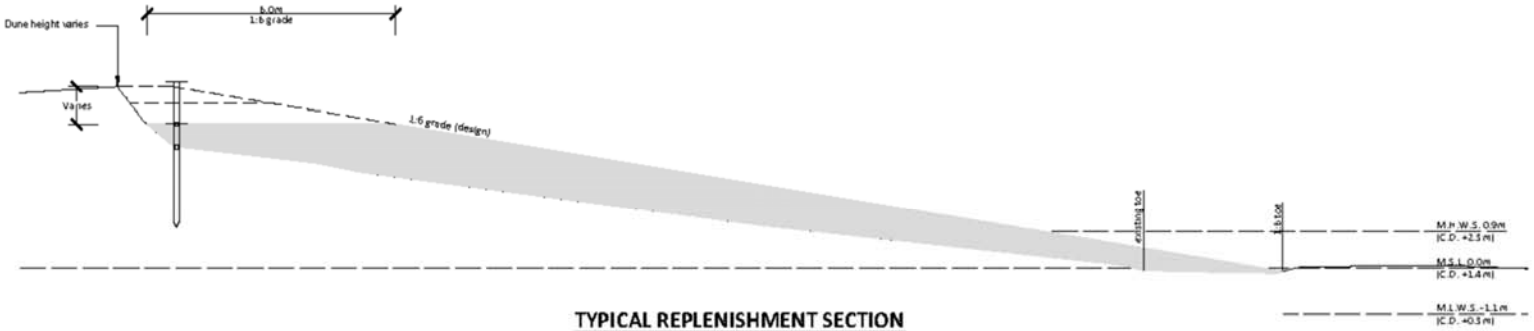
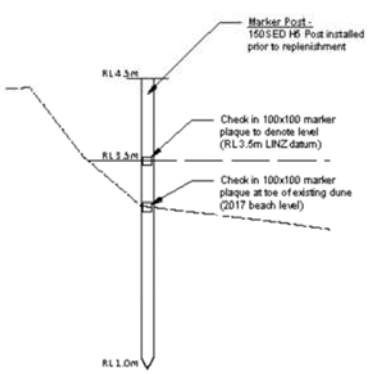
19/05/17	A	Concept Issue

Scale 1:2,500 | Original A3 | Rev E | Sheet 2
Drawn by NW | Approved by Max | File 15059

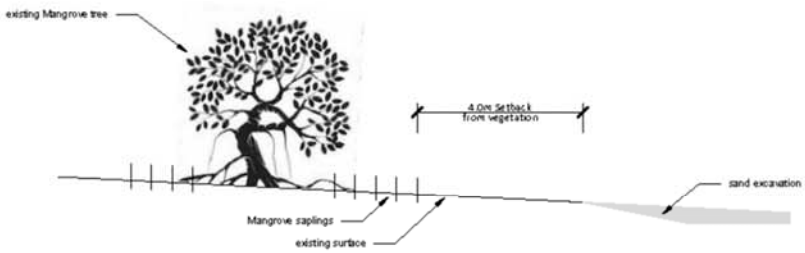


TYPICAL REPLENISHMENT SECTION
1:100



MARKER POST DETAIL
1:50

MARKER PLAQUE
NTS



VEGETATION ADJACENT TO WORKS - SKETCH SHOWING SETBACK
1:100

NORTHLAND REGIONAL COUNCIL
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Plan Number 4888/3

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Title
BEACH REPLENISHMENT
ENGINEERING DRAWINGS

Client
WHANGAREI DISTRICT COUNCIL

Location
MATAPOURI BEACH
MATAPOURI

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Scale	Original	Rev	Sheet
1:100	A3	E	3

Drawn by	Approved by	File
NW	Max	15059

SCHEDULE 1 – MONITORING

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

1. ECOLOGY

Surveys of the seagrass beds identified in the pre-works baseline monitoring pursuant to Condition 2(b) shall be repeated annually for the first three years after completion of sand excavation works. The outer margins of the seagrass bed on each transect are to be established using GPS (error +/- 1 metre). The surveys shall be conducted in late summer.

2. REVEGETATION OF BEACH AND SPIT

The revegetated dune toe (beach) and spit will be inspected at two monthly intervals until the required coverage pursuant to Condition 47 has been achieved. Photographs from a repeatable location will be taken as part of each inspection.

3. PHYSICAL MONITORING

The baseline monitoring required by Condition 2(a) shall comprise a repeatable topographical survey of Matapōuri Beach, spit and estuary. In regard to Matapōuri Beach, the survey will extend from the spit to the northern end of the beach.

Further topographical surveys of all of these areas will be undertaken at the following intervals:

- Not more than two weeks after completion of the works; and
- Thereafter, annually for a period of three years.

Surveys may be undertaken using drone photogrammetry or other similar technology.

Sufficient permanent ground control points shall be installed within Whangarei District Council reserve areas or the coastal marine area to allow for repeatable surveys. The final locations and number of the ground control points is to be determined in consultation with the Northland Regional Council's assigned monitoring officer. Each of the ground control points shall be fixed by a Licenced Cadastral Surveyor and details of the ground control locations shall be provided to the Northland Regional Council's assigned monitoring officer. Surveys shall be to +/- 3 centimetre accuracy. All levels will be in terms of Mean Sea Level, One Tree Point Datum.

Within two months of completion of the annual topographic survey, the Consent Holder shall provide the Northland Regional Council's assigned monitoring officer with a written report detailing changes in topography/bathymetry from the previous survey and associated rates of sediment deposition or erosion. Comparisons of levels and volumes between different surveys will, as a minimum requirement, provide relative changes in volume and contours.

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