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Taharoa Ironsands Limited
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Fast Track Approvals Bill Schedule 2A Application

Taharoa Ironsands Ltd – Central and Southern Blocks Mining Project

1 Adverse effects

Part 2, subpart 2, section 14(3)(e) of the Fast Track Approvals Bill requires that a description of the anticipated and known adverse effects of the project on the environment should be provided in an application to use the fast-track approval process for an eligible project.

A high-level summary of the anticipated and known adverse effects of the project are provided below. This assessment is based on independent expert assessments that have been undertaken for TIL in respect of its existing resource consent application for all necessary resource consents to replace its existing (and expired) resource consents, and continue operations, within the Central and Southern Blocks.

1.1 Ecological effects

1.1.1 Effects on terrestrial ecological (including bats, avifauna, herpetofauna and katipo spiders)

Terrestrial ecology effects have been assessed by an expert ecologist from SLR. Disturbance from mining activities has the potential to have adverse effects on wetland bird species and grassland bird species. The loss of existing grassland due to the mining activity may result in potential injury or death of various threatened native skink present in the grassland. The overall level of effect on terrestrial ecology has been assessed as being low with the provision of an over-arching Environmental Management Plan (EMP), including an Avifauna Management Plan and a Lizard Management Plan, and imposition of appropriate conditions such as a requirement for there to be a 30 m planting buffer around all natural water bodies. Subject to the imposition of conditions, the overall level of effects on terrestrial ecology has been assessed as minor.

1.1.2 Effects on freshwater ecology

1.1.2.1 Effects of damming Wainui Stream

Freshwater ecology effects have been assessed by an expert ecologist from SLR. Authorisation of the retention of the dam in the Wainui Stream will result in a similar water regime to what is currently present. Fish passage will continue to be provided for via the monitoring and maintenance of the existing fish pass which achieves the intended purpose of allowing grey mullet and other targeted species to be able to navigate upstream to Lake Taharoa. As a result, the effects of the dam on upstream fish passage has been assessed as negligible. The downstream migration of juvenile native fish can be adequately addressed through consent conditions (which requires monitoring).

1.1.2.2 Effects of water take on marginal wetlands

The proposed water takes have the potential to have adverse effects on marginal wetlands around the edges of Lake Taharoa. Noting that the wetlands have acclimated to the lake levels that have been experienced since the installation of the dam in the Wainui Stream in the early 1970's, the magnitude of these effects has been assessed by SLR's expert ecologist as low given that the water takes will be operated in a similar manner to what has been historically occurred at the mine (i.e. TIL does not seek to increase the currently consented water take). Importantly, TIL is proposing to retain conditions that require water takes to cease if the lake levels reach a certain minimum point.

1.1.2.3 Effects of wet-mining on the hydraulic condition and ecology of surface water freshwater features

The proposed activities include wet-mining which involves the removal of clay and underlying earth layer to access the underlying sand. At a certain RL the relevant area or pit fills with water naturally occurring in the ground to form a pond. A suction dredge then entrains the sand and water as a slurry and pumps it away for processing.

If mining occurs below the level of the groundwater there may be a hydraulic connection with surface freshwater bodies (i.e. water can be diverted from the freshwater body into the dredge pit) resulting in partial or complete dewatering and saline intrusion. Any adverse effects on the primary freshwater bodies on the site (the Mitiwai Stream and the Wainui Stream) can be avoided and mitigated through consent conditions including for example, requirements to maintain a minimum stream flow.

1.1.3 Effects on marine ecology

1.1.3.1 Effects on benthic fauna

The existing ship loading infrastructure including pipelines on the seabed and the tethering mechanism for the Single Buoy Mooring occupies part of the seabed and impacts on a small amount of available subtidal sandflat habitat. Marine ecology experts from T+T and SLR have assessed the benthic fauna effects and concluded that given the small percentage of the available subtidal sandflat habitat this represents, this is assessed as having a low magnitude of effect on benthic ecology. Under the RMA this infrastructure is not considered to be part of the 'existing environment' however the effects of constructing the pipeline have also been assessed by the experts as being low.

1.1.3.2 Effects on fish and seafood species

The discharge from the ship loading process has the potential to have adverse effects on existinghabitat for fish and seafood species. Given the relatively infrequent and short-term nature of thedischarge and the highly mobile nature of fish, the marine ecology experts have concluded that the adverse effects on fish species are assessed as **negligible**. The presence of green lipped mussels in the area of the discharge indicates that ongoing ship loading discharges do not inhibit mussel colonisation and has a negligible effect on seafood resource species.

1.1.4 Effects on coastal processes

Processed ironsand is transported as a slurry through a ship-loading pipeline to a ship-loading mooring buoy in the coastal marine area (CMA). The ship-loading process involves a stage of de-watering which releases turbid water into the CMA. TIL seeks to retain its existing consent conditions which allow the releasing of up to 75,000m^3 of de-watering fluid per day, up to a maximum of 7,500,000m^3 per year. Modelling of the of the sediment plume dispersal has been

undertaken by Met Ocean Solutions, with the potential adverse effects on coastal processes assessed by coastal experts from T+T.

As a result of dilution and dispersion in the Tasman Sea, the effect of plume dispersion on coastal processes has been assessed as being negligible (or less than minor). There will be some sediment deposition in shallow areas of Aotea and Kawhia Harbours but for context this is less than 2 grains of sediment stacked vertically.

1.1.5 Effects on marine mammals

The continued mining operations has the potential to effect marine mammals that frequent the wider region around Port Taharoa such as Māui dolphins, common dolphins, southern right whales and killer whales. Given the low level of risk posed by the ship loading operation and the fact that it has been occurring in the vicinity since the early 1970's, the overall risk of significant adverse effects for marine mammals is assessed as minor to negligible and no mitigation actions are required.

1.2 Effects of discharge to land

TIL discharges mining by-product to land containing remaining clays and sands (tailings) and process wastewater after removal of ironsand and also as part of rehabilitation. This has the potential to have adverse effects on landform, groundwater and nearby waterways. The water and tailings are natural materials and are re-formed as close as practicable to the original landform. The discharge of mining wastewater does not result in contamination of groundwater due to the natural filtering provided by the sandy ground conditions and discharge setbacks ensure that surface waterbodies are not adversely affected. Overall, the adverse effects of discharges to land have been assessed as less than minor.

1.3 Effects of discharge to water

TIL's current consents allow the discharge of up to 2,100m3/day of settled stormwater and washdown water to the Wainui Stream. The effects resulting from stormwater discharge to the Wainui Stream has been assessed as being negligible provided that appropriate treatment, monitoring and response procedures remain in place. The overall effects of the discharge of stormwater to the Wainui Stream are considered to be less than minor.

1.4 Effects of discharges in the CMA

There are currently approximately 20 ship-loading events per year from the mine at the Port of Taharoa and this is projected to increase to up to 35 ship-loading events per year. The potential adverse effects of the sediment discharge from the ship-loading events have been addressed above. The discharge includes some trace levels of contaminants that are naturally occurring in the ironsand that is pumped in slurry form into the ship. The marine ecology experts have assessed that because of the extremely low levels of the contaminants, and the dilution provided by the sea water, the discharge would not result in any measurable toxicity effect on benthic fauna.

TIL is seeking continued consent to discharge excess process water and stormwater to the CMA at a rate of 32,000m^3/day. This discharge occurs sporadically and when there is no suitable area to provide for discharge on land - primarily at times of prolonged heavy rainfall. The marine ecology experts concluded that the potential ecological effects from the process water/stormwater discharge are likely to be even less than those of the ship loading discharge which were assessed to be **low**. Correspondingly, no further actions to avoid, remedy or mitigate potential effects from the process wastewater and stormwater discharges are required.

1.5 Effects on water quantity

Water is extracted from the impounded section of the Wainui Stream for mining and shiploading processes. Separate water take consents are held for the mining and shiploading takes and the consents cannot be exercised at the same time. The Taharoa mine is currently operating within the existing consented limits for water abstraction and no further water quantity is required for the continued operation of the mine. The Wainui Stream catchment is not over-allocated and there are no permits held by any other party to take water from the stream.

1.6 Land disturbance effects

The mining operation is located in a high-risk erosion area and the mining and stockpiling of ironsand has the potential to result in adverse effects on land stability. Given that the site has a good operational history with no erosion issues requiring mitigation, a rehabilitation process and revegetation plan is followed for disturbed areas, the site is isolated and undeveloped, and perennial waterbody mining setbacks are imposed, any adverse effects are assessed as less than minor. An independent assessment of the risk of slope instability by Baseline Geotechnical has also found that the potential for adverse effects resulting form instability can be considered negligible.

1.7 Archaeological effects

The pre-European settlement history of the Taharoa area means that there is elevated potential for accidental discovery of koi iwi and other taonga in the dune environment of the area.

Ngāti Mahuta derived tikanga and protocols apply when discoveries of koiwi and taonga occur in the Taharoa dune environment as a result of mining activity, and that tikanga/protocol is reflected in existing and proposed consent conditions. These are considered appropriate to continue for the new suite of consents and are considered to mitigate the potential adverse effects in relation to archaeology to less than minor levels.

Defined urupā are located within the dune system where accidentally discovered koiwi are interred with appropriate tikanga being observed. The majority of these urupā are located within the Taharoa C Block and a buffer in which no mining occurs is observed around each urupā.

1.8 Cultural effects

In considering cultural effects, it is important to note the significant cultural benefits the ongoing operation of the mine has for Ngati Mahuta as tangata whenua.

These benefits include employment benefits, royalties, and support for the local community. Ngati Mahuta, though the Taharoa C Block Incorporation, own the land on which the mine operates and is paid significant royalties from the mine. The Mine also supports the employment and growth of Ngati Mahuta - of the 178 permanent employees, 141 of these are Ngati Mahuta. The local employment opportunity generated by the mine has allowed the local community to retain members of the community who would have otherwise moved away to seek employment elsewhere and lost their connection to the land.

The continued damming of the Wainui Stream has the potential to have adverse effects on the health of Lake Taharoa and its indigenous fishery, an important matter to Ngāti Mahuta. The maintenance of the effectiveness of the fish pass at the dam in the Wainui Stream is important to ensure the presence of indigenous fish species in the stream and lake upstream of the dam continues.

Rehabilitation of the mine site to a sustainable landform and land cover is also an important matter to Ngati Mahuta. In that regard, TIL has developed and is implementing an overall Site

Rehabilitation Plan and updated Conceptual Site Closure Plan in place to be implemented in the event that the mine closes in the future.

TIL propose to consult with the respective Taharoa marae in the preparation of the various management plans that govern the management of effects at the mine. Such consultation benefit both parties – TIL will gain the benefit of access to the skills and expertise that reside within the marae and hapu whanau, while marae and hapu whanau will have the opportunity to influence the content of management plans that will play an important part in managing the ongoing effects of the mining activity.

1.9 Effects on navigation safety

The continued ship movements to and from the Port of Taharoa and the occupation of the Coastal Marine Area (CMA) with shiploading infrastructure have the potential to have adverse effects on navigational safety of other users of the CMA. The use of this area for recreational watercraft and commercial vessels is infrequent and the movement of ironsand export ships has been established in the area since the early 1970's. Furthermore, the Port of Taharoa is operated in compliance with the New Zealand Port and Harbour Marine Safety Code, the MNZ Harbourmaster has no objection to the continued activity and several improvements have been implemented since the granting of the existing resource consents in 2002. For these reasons, effects on navigation safety have been assessed as less than minor.

1.10 Air Quality Effects

The mine is located in an isolated location subject to extreme westerly winds. In this environment, there is potential for wind blown sand from the mine site to generate adverse effects on adjoining and adjacent sites to the mine, including in Taharoa Village. TIL implement a range of avoidance and mitigation techniques to control such emissions including the erection of fencing to trap sand particles, placing ground cover (for example, coconut matting) on exposed areas, using mobile and automated fixed watering systems on internal site roads, enforcing vehicle speed limits, and progressively rehabilitating mined out areas. These measures mean that the mine site can operate in accordance with the relevant permitted activity rule of the Waikato Regional Plan with regards to air quality. TIL proposes to implement a Dust Management Plan to manage the implementation of these dust prevention mechanisms. Although there remains the potential for off-site discharges of dust due to the coastal environment, these discharges are highly unlikely to result in adverse effects to human health.

1.11 Cumulative Effects

The potential exists for cumulative dust effects to occur from mining on the Central and Southern Blocks, and other consented mining extension areas to the east of the central block. Pattle Delamore Partners Air Quality expert Mr Curtis has undertaken a cumulative dust effect assessment and concludes that the potential for adverse cumulative effects from dust is **low**.

2 National Direction

Part 2, subpart 2, section 14(3)(f) of the Fast Track Approvals Bill requires that a general assessment of the project in relation to national policy statements and national environmental standards (as those terms are defined in the Resource Management Act 1991) should be provided in an application to use the fast-track approval process for an eligible project.

2.1 New Zealand Coastal Policy Statement 2010

The proposed activities are consistent with the relevant provisions (objectives 1, 2, 3 and 6 and

policies 2, 4, 6, 14 and 23) of the New Zealand Coastal Policy Statement 2010 (NZCPS). In reaching this conclusion the assessment undertaken has not been confined to the proposed activities in the CMA and includes the land-based mining activities where relevant to the NZCPS, thus aligning with the broad intent of the NZCPS.

2.2 National Policy Statement for Freshwater Management 2020 (NPS-FM)

The NPS-FM relates to freshwater management, including quality and quality matters as well as provisions relating to tangata whenua involvement, integrated management, the setting of objectives and monitoring.

The ongoing operation of the mine is consistent with the Te Mana o te Wai hierarchy of obligations, and the associated NPS-FM objective and policy provisions. The ongoing operation of the mine is consistent with the provisions of the NPS-FM and its associated regulations as they relate to natural inland wetlands and indigenous freshwater species, specifically clause 3.24 on waterways and clause 3.26 on fish passage.

2.3 National Policy Statement for Indigenous Biodiversity

The focus of the NPS-IB is on establishing a consistent process for identifying and managing Significant Natural Areas through plans and through partnership with tangata whenua. The proposed activities are consistent with the relevant provisions of the National Policy Statement for Indigenous Biodiversity (NPS-IB) for the following reasons.

(a) Adverse effects on identified SNA's will be avoided.
(b) TIL does not seek to destroy or disturb any of the natural wetlands identified on the site and will contribute to their maintenance and enhancement through maintaining a 30m setback and the fencing and/or riparian planting proposed around their margins as part of an overall Wetland Management Plan for the site.
(c) Bats were detected around the pine plantation and the Mitiwai Stream gully, neither of which are affected by the application.
(d) Taharoa C Block is also defined in the NPS-IB as "specified Māori land" meaning clause 3.18(c) and clause 3.18(g) of the NPS-IB are relevant, which set out that biodiversity outcomes on such land may be outweighed by maori economic development opportunities on the land.

2.4 National Environmental Standards for Freshwater Management 2020 (NES-F)

The dam on the Wainui Stream and its associated weir, culverts and other structures all existed on 02 September 2020 and are thus exempt from subpart 3 of the NES-F relating to fish passage.

Earthworks or land disturbance, and the taking, use, damming, diversion, or discharge of water outside a 10m setback from, but within a 100m setback from a natural wetland that results, or is likely to result, in the complete or partial drainage of all or part of that wetland is a discretionary activity under Regulation 45D of the NES-F.

Sand extraction activity will be undertaken within 100m of the edge of identified natural inland wetlands on the site. The necessary hydrological investigations to determine whether or not partial or complete drainage of a wetland will be triggered by mining activity within 100m of a wetland will be undertaken on a case by case basis as part of future mine planning. If the investigations show such a hydrological linkage, mining will be undertaken to avoid adverse effects on the wetlands.

3 Local and Regional Planning Documents

Part 2, subpart 2, section 17(3)(j) of the Fast Track Approvals Bill requires that an assessment is provided with an application to use the fast-track approval process for an eligible project on whether the project is consistent with local or regional planning documents, including spatial strategies. A high-level assessment has been provided of each of these documents below. It is noted that there is no relevant spatial strategy for the region.

3.1 Waikato Regional Policy Statement

The WRPS objectives and policies are concerned with managing effects, but also with supporting and enabling regionally significant infrastructure to operate efficiently to support the population of the Waikato Region. The regional issues of significance to this proposal include the state of resources (I1.1), managing the built environment (I1.4), and the relationship of tangata whenua with the environment (I1.5). The proposal has been assessed against the associated objective and policies and are not inconsistent with the WRPS.

3.2 Waikato Regional Plan

The Waikato Regional Plan (WRP) contains policies and methods to manage the natural and physical resources of the Waikato region to give effect to the WRPS. The proposal will involve activities that require resource consents under the WRP. These are likely to include consents for the following:

- Land Disturbance
- Mine Overburden Disposal to land
- Discharge of process water to ground
- Discharge of stormwater to surface water
- Damming and diversion of water
- The diversion and discharge of water
- Surface water take and diversion

The activities involved with mining in the Central and Southern Blocks can be carried out in a manner that is consistent with the relevant objectives and policies of WRP through the implementation of effective fish pass and wetland monitoring programmes, a Freshwater Ecological Management and Monitoring Plan, the implementation of an Accidental Discovery Protocol, a Site Rehabilitation Plan and a Conceptual Site Closure Plan. Furthermore, the works will result in positive social and economic effects through enabling the continuation of mining activities in the Central and Southern Blocks.

3.3 Operative Waikato Regional Coastal Plan

The Operative Waikato Regional Coastal Plan (WRCP) applies to the CMA of the Waikato Region, from the line of mean high-water springs (MHWS) out to 12 nautical miles and includes the pipelines for the shiploading system, the mooring buoy and associated tethering structures, and the discharges to the CMA during shiploading. The proposal will involve activities that require resource consents under the WRCP. These are likely to include consents for the following:

- Discharge of stormwater and process wastewater to the CMA
- Discharge or ironsand slurry water into the CMA
- Operate, maintain and replace existing mooring in the CMA
- Operate, maintain and replace existing pipelines in the CMA

Overall, with the imposition of recommended consent conditions, the proposal is assessed as consistent with the relevant provisions of the WRCP.

Most relevantly, there are no proposed changes to structures erected in the CMA as part of the existing operation of the Taharoa Mine and, although TIL seeks to increase the number of ship-loading events that occur every year, the proposed discharge does not contain contaminants occurring in higher than background concentrations. Mining of ironsand is also not proposed within 100m of mean high-water springs (MHWS).

3.4 Proposed Waikato Regional Coastal Plan

The Proposed Waikato Regional Coastal Plan (PWRCP) was notified on 18 August 2023 and given the early stage of the PWRCP through the statutory process, greater weight should be given to the WRCP. That said, the proposed activities for which consent is sought are consistent with the PWRCP provisions as notified. Some of the PWRCP rules have immediate legal effect and the activities for which consent is sought in the CMA are covered by those rules, meaning no additional applications are required.

3.5 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

The proposal includes the abstraction of water for mining operations and ship loading processes. The current consent allows for this water take, however, the Water Take Regulations must be considered as the water permit is for a take greater than 5 litres/second. As the water will be used on site, and not all of the water will be returned to the same waterbody, the take cannot be classified as a non-consumptive take. As such, the Measurement and Reporting of Water Takes Regulations are applicable to this application. Records of the continuous measurement of the water taken will continue to be kept by TIL in accordance with Section 6 of these regulations. These records will continue to be provided to WRC once per year in accordance with Section 8 of the regulations.

3.6 Waikato-Tainui Environmental Plan

As the mine at Taharoa is within the rohe of Waikato-Tainui, it is appropriate to consider the relationship of the proposal to continue mining on the Central and Southern Blocks to the Waikato-Tainui Environmental Plan (WTEP). The proposed mining works are considered to be consistent with the relevant sections of the WTEP for the following reasons:

i. Mitigation measures will be in place throughout the duration of the mining works including the ESCP and the accidental discovery protocol (Section 8.2 of the WTEP).
ii. The proposed mining activities will not limit access to surrounding water bodies including the coast and does not inhibit customary activities to be undertaken by mana whenua (Section 14.7 of the WTEP).
iii. The current accidental discovery protocol for the mine will continue to be applied during mining of the Central and Southern Blocks. The protocol reflects the tikanga of Ngāti Mahuta (Section 16 of the WTEP).

3.7 Maniapoto Environmental Management Plan

A relevant statutory acknowledgement in Schedule 11 of the RMA has been made in favour of Ngāti Maniapoto[1] arising from the Maniapoto Claims Settlement Act 2022. The statutory

[1] The post-settlement governance entity on behalf of Maniapoto is called Te Nehenehenui

acknowledgement area is large and includes the Mitiwai Stream and adjacent land and the land contained with the Northern Block.

An assessment of the proposed continuation of mining activity on the Central and Southern Blocks against the provisions of the Maniapoto Iwi Environmental Management ("MIEM") has identified no inconsistencies with the relevant provisions in that plan because:

i. The access to Te Koraha Marae will not be adversely affected by the proposed mining works (MIEM Part 9.3)
ii. The current accidental discovery protocol employed at the mine will be applied to the mining activity (MIEM Part 10)
iii. The proposed mining will not result in any adverse effects on the mauri of freshwater systems on the site (MIEM Part 14)
iv. The areas that are mined will be appropriately remediated upon completion of the works to ensure the landscape is rehabilitated (MIEM Part 19.3)

4 Applicability

This report has been prepared for the exclusive use of our client Taharoa Ironsands Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that Taharoa Ironsands Ltd will submit this report as part of an application for this project to be listed in the Fast Track Approvals Bill and the regulatory authority will use this report for the purpose of assessing that application.

Authorised for Tonkin & Taylor Ltd by:

Grant Eccles

Project Director

Technical Director - Planning