Section 7

Justification of the Project

PREAMBLE

This section concludes the assessment of the Copi Mineral Sands Project and presents a justification of the Project with regards to:

- *the Project design and consideration of alternatives;*
- *consistency with the strategic and statutory context;*
- *consistency with community views;*
- *the scale and nature of the environmental, economic, social and impacts of the project, including consistency with the principles of ecologically sustainable development;*
- *ongoing monitoring and reporting of compliance; and*
- *remaining uncertainties associated with the Project.*

The section concludes with a review of the consequences of not proceeding with the Project and a justification of why the Project is, on balance, in the public interest.

7.1 Action Taken to Avoid / Minimise Impacts

Mineral exploration within and surrounding the Mine Site has been undertaken since 1991, with feasibility assessments and numerous environmental and technical studies undertaken since 2017. An initial application for development consent for a dry mining operation was prepared in 2019 and 2020. That application was placed on hold as additional information in relation to the resource and the feasibility of alternative wet or dredge mining operations became available.

A second application for development consent for a dredge mining operation commencing in the western section of the Mine Site was prepared during 2022 and the early months of 2023. That application was placed on hold following the discovery of additional high-grade ore and strandlines in the eastern section of the Mine Site. That discovery resulted in a redesign of the Project and preparation of the current application for development consent.

The design of the Project has therefore evolved in an iterative manner over an extended period, taking into consideration the findings of the technical and environmental studies undertaken, feedback from the local and wider community and other stakeholders. In addition, the experience of the Applicant's management team in successfully developing, operating, closing and rehabilitating mineral sands mines in NSW, Queensland, Victoria and elsewhere has been drawn upon to inform Project design.

Section 1.6 describes the key strategies that have and would be implemented to avoid and/or minimise Project-related impacts whilst Section 2.5 presents the key alternatives considered and reject by the Applicant during the design phase of the Project. In addition, Section 6 presents, the range of design and management and mitigation measures that would be implemented to avoid or minimise Project-related impacts.

The following presents a brief overview of the principal actions that have been or would be taken to avoid or minimise impacts of the Project.

- Detailed investigations have been undertaken to build a comprehensive understanding of the existing environment surrounding the Mine Site, thereby ensuring that areas of high environmental value or other sensitivity are identified, avoided or protected. Where such impacts are unavoidable, this detailed understanding provides for an evaluation of outcomes with a high level of certainty. Examples include avoidance of Aboriginal site OS-01 and the detailed studies undertaken to understand the distribution of *Austrostipa nullanulla.*
- Significant emphasis has been placed on replacing overburden, interburden and tailings in pit and on path, to construct a final landform that would not include a final void. This approach would limit the area of Project-related disturbance, ensuring that the final landform would generally reflect the pre-mining landform and substantially reduce the post-mining effects on the local groundwater and biodiversity setting. A final void would have presented a range of geotechnical and ongoing environmental issues that have been avoided. The final landform has also been designed with slopes that are considerably shallower than slopes successfully used at nearby mineral sands operations, thereby ensuring a stable final landform.

- A detailed groundwater assessment has been undertaken to ensure a detailed understanding of the local groundwater setting and mining operations have been designed to remove the requirement to reinject extracted water into the aquifer, with the potential that the reinjected water may have a different chemistry to that removed from the aquifer.
- All required biodiversity offset credits would be retired in accordance with the requirements of the *Biodiversity Conservation Act 2016*. The Applicant has assessed multiple options to establish Stewardship Sites within the Mine Site. Positive discussions have also been held with surrounding landholders in relation to establishing Stewardship Sites on surrounding properties. It is the Applicant's preference that all credits be retired using one of these methods. As a least preferred option, the Applicant would pay into the Biodiversity Conservation Trust.
- The Applicant has committed to a research project with Federation University to determine optimal growing conditions for *A. nullanulla* as well as undertake additional off-site investigations to further define the local distribution of the species and assist surrounding landholders to protect and enhance this species.
- The Applicant has undertaken very significant studies to ensure that the soils of the Mine Site are well understood and, as a result, identified risks can be appropriately managed to maximise the likelihood of success of rehabilitation operations. In addition, considerable effort has been made to schedule rehabilitation activities so that sufficient soil resources are available as rehabilitation is being undertaken, thereby minimising the need to stockpile and rehandle soil materials.
- The Applicant has agreed to a request of the local Aboriginal community to preserve an open scatter site with a potentially culturally scarred tree, an uncommon occurrence in the surrounding area. The Applicant has also agreed to undertake dating on a number of hearths identified within the disturbance area to further build on the scientific knowledge of past uses of the land by Aboriginal peoples.
- Detailed consultation with the directly affected and wider community has been undertaken and feedback has been taken into consideration. In particular,
  - locating the Site Access Road adjacent to existing fence lines and property boundaries to minimise impacts for ongoing agricultural operations;
  - would be substantially upgrading Anabranch Mail Road to permit improved, all weather access for the community as well as the Project;
  - concerns in relation to driver fatigue and road safety influenced the Applicant's decision to establish a Mine Camp; and
  - concentrate transportation within the Broken Hill LGA would be limited to 7:00am to 10:00pm, thereby minimising road traffic noise during the night-time period.

- Detailed assessment of the Transportation Route in Broken Hill determined that the layout of the existing approved heavy vehicle route is not in accordance with the Austroad Guidelines requirements for the class of vehicles approved to use the route, namely Type 1 Road Trains. The Applicant has committed to upgrade those intersections to accommodate both Type 1 and Type 2 Road Trains.
- The Applicant has negotiated or has attempted to negotiate commercial agreements with all directly affected landholders. Suitable commercial agreements with all directly affected landholder would be negotiated prior to the commencement of ground disturbing activities on the relevant land.
- The Applicant is currently finalising Good Neighbour Agreements with all of its fence line neighbours and to address potential issues of concern and ensure that the Project's benefits are distributed to those most likely to be impacted by the Project.
- The Applicant has committed to ensuring that a minimum of 30% of the Project's power needs will be sourced from renewable sources, with a commitment to increase that percentage where practicable over time.

In addition, detailed studies have been undertaken to understand the nature of the mineral sands deposits and to optimise the extraction of the resource. The following have been implemented to maximise the recovery of the State-owned resource and the benefits that would flow from the Project.

- Early proposals to extract the resource utilising dry mining techniques were initially pursued but later rejected when it became apparent that the volume of groundwater required to be removed and subsequently reinjected into the Upper Aquifer would be likely to be unacceptable and that dry mining operations would result in underutilisation of the mineral resource.
- Mine scheduling has been optimised to ensure extraction of the highest grade material early to ensure a Project that is financially robust and unlikely to be the subject of unplanning interruptions or closure.
- Emphasis has been placed on maximising employment of local residents and engagement of local businesses.

7.2 Consistency with Strategic Context

Section 2.1 presents an overview of the key Government Strategies, Policies and Plans relevant to the Project. In summary, the Project would be consistent with each of the documents reviewed for the following reasons.

- The Project would increase the value of the NSW minerals industry by utilising a State-owned, high-value resource to support the secure, domestic supply of critical minerals over an extended period, thus reducing supply chain constraints for advanced manufacturing and renewable technologies that would support the transition to net zero by 2050.

- The Project would increase employment and boost skills base within the local and regional economies, including the Wentworth, Balranald and Broken Hill LGA's as well as within the Mildura Rural City LGA in Victoria. The Project would also promote economic activity and job creation for suppliers and service providers, thereby supporting the objectives of a wide range of NSW Government strategic plans and those of Wentworth Shire Council.
- The Applicant would support school-based apprenticeships and traineeships, directly engage trainees and apprentices as well as seeking to provide training, employment and business opportunities for Aboriginal people.
- The Project would result in direct and indirect economic contributions for an extended period. This would support local business and would promote economic activity and provide diversification for the local and regional economy.
- The Project would provide resilience for the local and regional economy, as well as maintain its existing skills base, by providing alternative employment for employees at existing mineral sands operations as these developments transition to closure within this decade.
- The Project would result in improved transport linkages between the Mine Site and Broken Hill, thus helping to protect and maintain local industries.

7.3 Compliance with Statutory Requirements

7.3.1 Introduction

Section 4 provides an overview of the Project's compliance with relevant statutory requirements with **Tables 4.1** and **4.2** identifying where these various requirements have been addressed. The following subsections address the relevant statutory requirements that have not been considered elsewhere in the document.

7.3.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal legislation regulating development in NSW. Development consent for the Project is being sought under Part 4, Division 4.7 of the EP&A Act as a State Significant Development (SSD). Section 4.15(1) of the EP&A Act provides the mandatory matters that a consent authority must consider when determining a development application, with **Table 4.2** identifying where each of these matters has been addressed.

Section 1.3 of the EP&A Act presents the objects of the Act with **Table 7.1** presenting these objects and identifying how the Project is consistent with each.

Table 7.1
Objects of the EP&A Act

Object	Consistency with the Project
a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources	The Project would promote the social and economic welfare of the community and a better environment through the orderly and professional development and operation of the Project. At all stages of the Project's design and planning, the social and economic outcomes that would be experienced by the community have been considered. In addition, the Project has been designed to avoid environmental impacts to the greatest extent practicable. Where residual impacts are identified, the Project has demonstrated they can be mitigated or managed to an acceptable level. Multiple technical assessments over an extended period have resulted in the Project's refinement to minimise environmental and other impacts and to maximise the overall benefits provided by the Project. It is therefore considered that the Project achieves this objective.
b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment	Section 7.5.2 discusses how the Project is consistent with the principles of ecologically sustainable development. The Project has been subject to thorough technical assessments to understand the existing setting, predict potential impacts and identify those matters requiring additional measures to manage the risk of impact. It is considered that the Project would be developed in an efficient manner that takes into account the value of environmental and social resources to the local and regional community both now and in the future.
c) to promote the orderly and economic use and development of land,	Detailed technical assessment has been undertaken to understand the existing setting including through comprehensive exploration programs and assessment of geotechnical characteristics. This has permitted the Applicant to design a Project that not only maximises the economic use of the land but also provides for the appropriate planning and staging of progressive rehabilitation, staffing and supplies and which also considers the economic stimulus the Project would provide to the local and regional communities. In this regard, the detailed planning and design undertaken by the Applicant would ensure that the Project is developed to promote the orderly and economic use and development of the Mine Site.
d) to promote the delivery and maintenance of affordable housing,	Whilst not directly relevant to the Project, it is not expected that the supply and availability of housing in the region would significantly change due to the anticipated employment benefits of the Project. A Mine Camp would be established that would allow for accommodation availability that does not put excessive strain on local housing stock.
e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats	Consideration of residual impacts to biodiversity values has been undertaken in accordance with the *Biodiversity Conservation Act 2016* (BC Act). Direct disturbance of native vegetation and potential native fauna habitat has been minimised to the greatest extent practicable to reduce the need for impact to biodiversity values. This has been achieved through a redesign of the Mine Site layout in order to avoid 17.01ha of known *Austrostipa nullanulla* habitat. An offsetting strategy would ensure that residual biodiversity impacts are offset in accordance with the requirements of the BC Act.

Table 7.1
Objects of the EP&A Act

Object	Consistency with the Project
f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The Project would require the salvage of Aboriginal artefacts from approximately 66 sites. Three of these sites would be excavated to obtain hearth samples for dating to further the understanding of the chronology of Aboriginal occupation. A further 77 sites would be avoided and protected from inadvertent disturbance over the Project life. The Aboriginal sites to be disturbed would be managed in accordance with an approved *Aboriginal Heritage Management Plan* prepared in consultation with the local Aboriginal community. One site (Copi OS-1) would be fenced and preserved in the landscape due to the significance of a culturally modified tree. The Project would conserve the three historic heritage sites that are within the Mine Site. It is not anticipated that the Project would significantly constrain the sustainable management of built and cultural heritage.
g) to promote good design and amenity of the built environment,	The upgraded roads and intersections would be designed and constructed in accordance with requirements of the Austroads *Guide to Road Design* in consultation with Wentworth Shire and Broken Hill City Councils and Transport for NSW. The Project would result in construction of the Site Access Road and substantial upgrading of a section of Anabranch Mail Road, which would improve access to the Silver City Highway for a limited number of local residents.
h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	Project-related buildings and other structures would be constructed in accordance with the relevant Australian Building Code and all required construction and occupation certificates would be obtained. These buildings would be carefully located to permit their necessary function while providing reasonable access and facilities to maintain the health and safety of occupants.
i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The assessment requirements addressed in this EIS include feedback from Broken Hill City Council, Wentworth Shire Council and relevant State government agencies.
j) to provide increased opportunity for community participation in environmental planning and assessment.	Sections 5 documents the extensive community consultation and engagement activities that have been undertaken during the design and planning for the Project. Furthermore, the Applicant has committed to ongoing community consultation and stakeholder engagement post-approval and over the Project life.

7.3.3 Wentworth Local Environmental Plan 2011

The principal local planning instrument for the Project is the *Wentworth Local Environmental Plan (LEP) 2011* with the Mine Site being situated on land zoned as RU1 – Primary Production. The proposed upgraded intersection of Anabranch Mail Road and the Silver City Highway is located on land Zoned SP2 – Infrastructure. Section 4.2.2 addresses matters relating to the permissibility of the Project with **Table 4.1** identifying where matters related to the applicable Clauses within the Wentworth LEP are addressed in this document. **Table 7.2** presents an assessment of the Project against the objects of each of the RU1 – Primary Production zone.

Table 7.2
Wentworth LEP Zone Objectives

Objective	Consistency with the Project
Zone RU1 – Primary Production	
To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.	The Project would temporarily remove 3,782 ha of Class 6, low capability land from agricultural production. This land is estimated to have a stock carrying capacity of 0.31 dry sheep stocking equivalent (DSE) per hectare. SSM (2024) estimate the existing Class 6 land as having an annual gross margin of $50,414. During mining operations, the gross margin of the Project would be substantially greater than $50,414pa. Following rehabilitation of the Mine Site, Class 6 land should retain a carrying capacity of 0.31DSE/ha. The Project would result in a 413ha increase in the area of Class 6 land and 455 ha and a commensurate reduction in land of a lower class. As a result, the post-mining agricultural annual gross margin of that land would increase as a result of rehabilitation.
To encourage diversity in primary industry enterprises and systems appropriate for the area.	The Project represent a diversification of primary production activities within the RU1 zone. In addition, the Project would implement best-practice rehabilitation techniques to restore agricultural productivity post-mining. The Project would also provide opportunities for the Applicant and others to diversify agricultural practices within and surrounding the Mine Site.
To minimise the fragmentation and alienation of resource lands.	The Applicant, through consultation with existing landholders, has ensured that the Project would not fragment agricultural land. In addition, as mining would be undertaken progressively, the Project would not alienate agricultural land nor prevent stock and equipment from accessing areas to the north or south of if the mine path.
To minimise conflict between land uses within this zone and land uses within adjoining zones.	The Project, has to the extent practicable, been designed to avoid land use conflicts within this zone. In particular, the Applicant has consulted with surrounding landholders in relation to amenity-related impacts and has and would implement a range of measures to minimise potential land use conflicts. There would be no conflict with adjoining zones (see below)
To encourage and promote the growth and diversification of economic and employment opportunities in agriculture, horticulture and tourism.	The Project would provide valuable off farm income source for local residents and others, thereby supporting and diversifying surrounding agricultural operations.
To enable the development of restaurants and cafes and kiosks as part of agritourism development.	This objective is not relevant to the Project.
SP2 – Infrastructure	
To provide for infrastructure and related uses	The proposed intersection upgrades would be consistent with this objective.
To prevent development that is not compatible with or that may detract from the provision of infrastructure.	The proposed intersection upgrades would enhance the provision of road infrastructure and improve access for surrounding landholders to the local area.

7.3.4 Broken Hill Local Environmental Plan 2013

The Rail Facility is located within the Broken Hill LGA and is located within land zoned SP1 – Special Activities (Mining) and SP2 – Infrastructure. The transportation route and proposed intersection upgrades at Patton and Comstock and Comstock and Eyre Streets would be undertaken on land Zoned R1 -General Residential and M1 – Mixed Use. Section 4.2.2 addresses matters related to permissibility of the Project and **Table 4.1** addressing matters related Clause 2.3(2) (Zoning) within the Broken Hill LEP.

Table 7.3 presents an assessment of the Project against the objects of each of the above Zones.

Table 7.3
Broken Hill LEP Zone Objectives

Zone SP1 – Special Activities (Mining)	
To provide for special land uses that are not provided for in other zones.	This objective is not relevant to the Project.
To provide for sites with special natural characteristics that are not provided for in other zones.	This objective is not relevant to the Project.
To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.	The Project would be in keeping with the site's characteristics as it involves the transport of mining-related materials via an existing rail facility. This would minimise impacts on surrounding land by making use of infrastructure that is already in place.
Zone SP2 – Infrastructure	
To provide for infrastructure and related uses.	The Project is compatible with this object as the purpose of this zoning is for railway infrastructure with the Project utilizing the existing Rail Facility.
To prevent development that is not compatible with or that may detract from the provision of infrastructure.	The Project has been designed to minimise mining-related impacts to the transport route, including roads and intersections within Broken Hill. The existing unsealed entrance to the Rail Facility would be upgraded to a standard suitable for Type 2 road trains.
Zone R1 – General Residential	
To provide for the housing needs of the community.	This object is not relevant to the Project.
To provide for a variety of housing types and densities.	This object is not relevant to the Project.
To enable other land uses that provide facilities or services to meet the day to day needs of residents.	The proposed intersection upgrades would provide improved services to the meet the day to day needs of residents by upgrading existing infrastructure that is not designed for the current use to a standard that would be consistent with both the approved use for Type 1 road trains and the proposed use for Type 2 road trains.
Zone MU1 – Mixed Use	
To encourage a diversity of business, retail, office and light industrial land uses that generate employment opportunities.	The proposed road transport upgrades in the Broken Hill LGA would ensure safer and efficient appropriate transportation within Broken Hill and would therefore support this objective

Table 7.3 (Cont'd)
Broken Hill LEP Zone Objectives

Zone MU1 – Mixed Use (Cont'd)	
To ensure that new development provides diverse and active street frontages to attract pedestrian traffic and to contribute to vibrant, diverse and functional streets and public spaces.	This object is not relevant to the Project.
To minimise conflict between land uses within this zone and land uses within adjoining zones.	The proposed intersection upgrades would ensure that both existing Type 1 and proposed Type 2 road trains are able to utilise the existing road network without conflicting with other road users, thereby supporting surrounding land uses and zones, including residential and retail uses.
To encourage business, retail, community and other non-residential land uses on the ground floor of buildings.	This object is not relevant to the Project.

7.4 Consistency with Community Views

Sections 5.1 and 5.2 present an overview of the engagement carried out for the Project and the views of the community surrounding the Mine Site. The community's views may be summarised as follows.

- Landholders within and adjacent to the Mine Site are well aware of the Project and the Applicant has consulted over an extended period with each of them. In some cases, commercial agreements have been signed, agreed upon or are in the progress of being negotiated. In the majority of cases, the landholders are generally satisfied with the manner in which the Applicant has undertaken its activities and acknowledges the benefits that development of the resource would bring. However, issues about adverse impacts to their way of life, road infrastructure, agricultural operations and potential groundwater-related impacts have been raised.
- The owner of Huntingfield/Sunshine Station is currently in dispute with the Applicant, with arbitration in progress. That landholder has raised a range of concerns, including but not limited to adverse impacts to their agricultural operations, land valuation and an absence of trust between the parties. That landholder has expressed a preference that the Project not proceed. An offer to be briefed by the author of the EIS on the Project and the results of the environmental assessments was not accepted.
- Those living further from the Mine Site are mostly positive about the Project, citing potential employment, economic activity and diversification of the local economy as likely positive impacts.
- The Wentworth community is well aware of the Applicant's existing operations within the Mine Site and the Project more broadly. The community is invariably supportive of the Project, with most interactions with community members related to when the Project will commence and employment or business opportunities.

- Residents living along the Transportation Route in Broken Hill are largely uninterested in the Project, with no community members attending the either of the community drop in sessions in Broken Hill.
- The matters of particular concern raised by the community are summarised in Section 5.2 with **Table 5.5** identifying where each of these matters has been addressed in this document.

Overall, the Applicant contends that with one exception, the Project has a high degree of community support and the views of the community have been sought and appropriately addressed.

7.5 Scale and Nature of Anticipated Impacts

7.5.1 Introduction

The Project has been the subject of detailed review, refinement and assessment during design, planning and the preparation of this EIS. The following subsections provide a discussion of how the Project is consistent with the principles of ecologically sustainable development and a summary of the anticipated biophysical, social and economic impacts of the Project, assuming the implementation of the proposed mitigation and management measures.

7.5.2 Ecologically Sustainable Development

7.5.2.1 Introduction

The concept of ecologically sustainable development (ESD) highlights the requirement for development that meets the needs of the Australian society today to occur in a manner that does not compromise the ecosystems on which life depends, so that future generations are also able to meet their own needs. ESD involves integrating economic and social development with environmental protection in decision making and for balancing the interests of current and future generations. The importance of ecologically sustainable development (ESD) has been acknowledged across all levels of government in Australia. In particular, Clause 192(1f) of the *Environmental Planning and Assessment Regulation 2021* identifies that the Project's development application must provide justifying reasons which include consideration of the ESD principles set out in Clause 193(1) of the Regulation .

The following subsections evaluate the Project in terms of its consistency with ESD and, in particular, the above principles.

7.5.2.2 The Precautionary Principle

With regard to the precautionary principle, Clauses 193(2) and 193(3) of the *Environmental Planning and Assessment Regulation 2021* respectively state that:

> 193(2) - The precautionary principle is that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
>
> 193(3) - In the application of the precautionary principle, public and private decisions should be guided by—
>
> *a)* careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
>
> *b)* an assessment of the risk-weighted consequences of various options.

These clauses identify that application of the precautionary principle requires the consideration of two key aspects for environmental assessment, namely:

- is there is a risk of serious and irreversible environmental damage to the environment; and
- that precautions to prevent any such risks should only be dismissed provided there is full scientific certainty regarding the likely outcome(s).

The precautionary principle has been applied during all stages of the Project's design and assessment. This approach has involved the following activities that are consistent with a preventative approach to environmental impact.

- A detailed analysis of the risk associated with potential environmental outcomes.

  The risk analysis was used to frame the emphasis placed upon the specialist consultant studies undertaken for the Project, with the most resources focused on those environmental outcomes with the highest perceived risk.

- Collection of comprehensive baseline environmental data.

  This level of baseline data allowed the specialist consultant team to undertake their assessments based on a robust understanding of the environment within and surrounding the Mine Site. In particular, the biodiversity assessment was informed by approximately 10 years of data.

- Comprehensive consultation with Government agencies, businesses and the surrounding community to gauge local knowledge and to understand concerns.

- Robust technical assessment by the specialist consultant team of worst-case scenarios, including maximum disturbance areas, minimum offset distances or maximum intensity of operations, as opposed to less impactful scenarios, so that the following were developed:

  – a suite of preventative management and mitigation measures that account for worst-case outcomes during operations, rather than requiring future reactive measures.

  - a suite of robust management and mitigation measures to reduce residual impacts to levels that would either be negligible or less than the relevant criteria or reasonable community expectations.

    All recommended management and mitigation measures were accepted by the Applicant.

- Provision of training and induction for all workforce personnel to ensure that they understand their obligations to prevent or minimise environmental impacts.
- Avoidance of long-term adverse impacts on the local environment through the design and rehabilitation of disturbed areas to create a landform and land use that is equivalent or improved to that of the pre-mining environment.
- The Applicant has drawn upon the experience of other mining operations in the Far West Region of NSW, as well as other areas in Australia and elsewhere, when designing the final landform and rehabilitation techniques to maximise the potential for successful rehabilitation. These measures include:
  - slopes of less than 1:10 (V:H) and slope lengths of less than 100m;
  - flat areas that are internally draining and designed to maximise infiltration;
  - developing a robust soil stripping, storage and respreading regime; and
  - using seed of local provenance during revegetation.

  This would ensure that the final landform has the maximum potential for achieving a land capability equivalent or better than that of the pre-mining environment.
- Avoidance of long-term adverse impacts on the local groundwater environment through the rehabilitation of disturbed areas to create a landform with similar hydrogeological characteristics to the pre-mining setting.

As a result, the assessments of the key environmental aspects determined that:

- there would be no substantial, long-term impact on the groundwater setting that would rapidly recover following mining;
- biodiversity impacts are well understood and residual impacts can be accounted for by using offsetting mechanisms;
- the soils from most areas could be stripped and reused, and the final landform could be constructed in a manner that would not adversely impact the long-term land capability of the Mine Site;
- whilst some items and sites of Aboriginal cultural heritage would require removal, impacts would not be on an unacceptable scale; and
- all other environmental impacts would be temporary and of a scale that would be acceptable.

On the basis of what is known with regards to environmental risks, the Applicant has committed to preventative measures to reduce potential impacts to the extent practicable. Environmental monitoring and reporting would be implemented to track trends in environmental outcomes /

performance against predicted impacts to guide adaptive management practices. In this regard, the Applicant has acknowledged where scientific uncertainty exists and has committed to proactive management of residual environmental risks.

7.5.2.3 Social Equity

The principle of social equity encompasses concepts of justice and fairness:

- within generations (intra-generational equity), that includes the fair distribution of costs and benefits between all sectors of society; and
- between generations (inter-generational equity) that embraces the concept that it is beholden on the current generation to ensure the non-material well-being or "quality of life" of future generations during and beyond the life of the Project.

With specific regard to inter-generational equity, Clause 193(4) of the *Environmental Planning and Assessment Regulation 2021* states that:

> *The principle of inter-generational equity is that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.*

Therefore, social equity in the context of ESD relates to the maintenance or enhancement of the natural environment and resources in order to provide benefits for current and future generations.

The Project would be consistent with the principle of intra-generational equity as the economic benefits would not only be experienced by individuals directly employed at the Mine Site, but within the local community, including Wentworth LGA and surrounds as well as the State of NSW and throughout Australia. The Applicant has proposed measures, such as preferential local employment and procurement that would benefit the Community of Wentworth and surrounding areas and may assist to minimise or potentially reverse the demographic and associated economic decline of the area. Other measures include the ongoing payment of mining-related rates, royalties and other taxes to maximise the local, State and national distribution of benefits. Furthermore, the Project would increase the on-shore production of critical minerals and thus assist in resolving supply-chain issues for advanced manufacturing and the production of renewable energy technologies that would provide benefits for current and future generations.

The predicted residual impacts of the Project would be limited and are not predicted to be prolonged to an extent where they represent an unacceptable cost to future generations. The Project is predicted to have a temporary impact on groundwater, biodiversity and land capability, with each of these environmental assets predicted to be restored post-mining.

Through direct investment, the provision of opportunities for gaining off-farm income and by providing funding for community programs, the Project would continue to encourage a more diverse business base in the Wentworth LGA and the surrounding area that would benefit future generations. In addition, the Applicant is continuing to invest in exploration that could potentially see the benefits of employment and training extending beyond the current generation.

The natural environment would be enhanced through the in-perpetuity conservation of land proportionate to the offsetting obligations of the Project. This approach, which is consistent with NSW government legislation and policies, ensures that native vegetation clearing for the Project development, is offset through conservation that would be available for future generations.

Finally, the significant economic benefits to the Wentworth LGA, Far West Region, NSW and nationally through the payment of taxes, royalties and wages would provide funding for the development of local infrastructure that would be a direct benefit to future generations. This is dependent on the funding priorities of government at all levels but may include enhancement of schools, medical facilities and the funding of road and other infrastructure. The direct economic benefits associated with the Project are from wages paid to resident employees and fees paid to local service and material providers would substantially enhance the economic and social viability of Wentworth and surrounding areas.

7.5.2.4 Conservation of Biological Diversity and Ecological Integrity

This principle establishes the need to consider the conservation of biological diversity and ecological integrity in decision making with Clause 193(5) of the *Environmental Planning and Assessment Regulation 2021* identifying:

> *The principle of the conservation of biological diversity and ecological integrity is that the conservation of biological diversity and ecological integrity should be a fundamental consideration.*

Simply put, it is critically important that developments do not threaten the integrity of the ecological system as a whole or the conservation of threatened species in the short or long term.

As noted in Section 7.1, the Project has been the subject of comprehensive assessment as well as a series of design and planning iterations that have included changes to the Project's disturbance area as well as the method of mining. As the area of disturbance of the Project has been modified, impacts on native vegetation and fauna habitat have been reduced. In addition, the Applicant would implement measures to conserve the integrity of soil resources for use in progressive rehabilitation activities, which would in part aim to re-establish native ecosystems within the Mine Site.

In addition, the biodiversity offsetting obligations of the Project have been assessed in accordance with the *Biodiversity Conservation Act 2016* and the NSW Biodiversity Offset Scheme. This process maintains the integrity of native vegetation and habitat, assessed to be consistent with that removed for the Project.

7.5.2.5 Improved Valuation and Pricing of Environmental Resources

The issues that form the basis of this principle relate to the acceptance that only by appropriately valuing environmental resources can they be balanced with economic imperatives for development. Clause 193(6) of the *Environmental Planning and Assessment Regulation 2021* identifies three fundamentals to this principle, which are:

> *The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services, such as—*
>
> *a) Polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement, and*
>
> *b) the users of goods and services should pay prices based on the full life cycle of the costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste, and*

> c) *established environmental goals should be pursued in the most cost effective way by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

Therefore, the key elements of this principle include:

- the concept that the "polluter pays", that is, those that generate pollution and waste should pay the costs for abatement or containment; and
- environmental costs should be valued appropriately and considered over the entire life cycle, including end use and waste management.

The Applicant has made a range of commitments relating to the implementation of safeguards to avoid or minimise environmental impacts, manage the by-products of development (principally overburden, interburden and tailings) and manage wastes on site over the longer term. While this may present a short-term cost to the Project, it is acknowledged that the long-term benefit of management is of high value to the Applicant and to the local environment. Importantly, this includes the Applicant's commitments made on the basis of detailed planning, design and assessment to ensure that the rehabilitated final landform would remain safe, stable, secure and non-polluting.

The planning process in NSW requires that Applicants adequately consider, assess and value the potential environmental outcomes of development. Through multi-agency input to the assessment requirements, the priorities of all levels of government are considered and included in assessment of the Project. By taking this approach the relevant agency(ies) can determine the value that should be placed on the environmental resources within NSW. The Applicant has addressed the assessment requirements of all government agencies that had input to the assessment requirements for the Project.

7.5.2.6 Conclusion

The aim of ecologically sustainable development is to recognise the environmental and social outcomes of development that must be considered if the economic benefits are to be realised in the short and long term. The focus is not on the sustainability of a single action but the sustainability of society between and across generations and the preservation of the ecosystem processes on which life depends. In this regard, the non-renewable aspects of mining have been recognised with objectives for mining development that seek the efficient removal and beneficiation of natural resources for economic benefit alongside detailed consideration of the environmental and social outcomes of these processes.

The Applicant has undertaken thorough scientific assessment of the potential impacts of the Project and assumed worst case scenario settings for the development of preventative measures that would limit the potential for adverse environmental impacts. This includes the conservation of biological diversity through offsetting of residual impacts to biodiversity values. Social equity would be achieved for the Project through the broad distribution of benefits including directly within the local community and across generations. The environmental impacts would not expand over the long term or result in a direct cost to future generations. Finally, through the commitment to a range of Project components designed to limit local impacts and manage the outcomes of development, the Applicant is placing appropriate value on the environmental resources within and surrounding the Mine Site including the need to manage the by-products of development.

7.5.3 Biophysical Considerations

7.5.3.1 Introduction

Section 6 provides an assessment of Project-related impacts on key biophysical considerations within and surrounding the Project Site. The following subsections provide an overview of those assessments and residual biophysical impacts associated with the Project.

7.5.3.2 Groundwater Resources

The Project's Groundwater Assessment was completed by GEO-ENG (2024) in accordance with the requirements of the *Aquifer Interference Policy* (AIP). This assessment utilised a calibrated numerical groundwater model that is consistent with the *Minimum Groundwater Modelling Requirements for SSD / SSI Projects* for a Class 1 to Class 2 model in accordance with the *Australian Groundwater Modelling Guidelines*. This model has been subjected to a detailed peer review which deemed the model as being "fit for purpose".

Three aquifers exist within the Mine Site, an Upper, Middle and Lower Aquifer. The Project would disturb only the Upper Aquifer. The aquifer is hosted by the Loxton-Parilla Sands, an unconsolidated porous sand unit. Groundwater levels within the aquifer are remarkably uniform, between 24.2m AHD and 24.8m AHD. Groundwater within the Upper Aquifer has a total dissolved solids concentration of approximately 61,000mg/L, or just under twice that of sea water.

Based on the modelling outcomes, it is predicted that, over the Project-life, the average annual groundwater take from the Upper Aquifer would be approximately 4.5GL/year with a maximum of 9.6GL/year predicted in Year 1 of mining operations. This groundwater take would arise from evaporative losses from the Extraction Area and water abstracted from production bores. The maximum predicted groundwater drawdown is predicted during the initial construction period when water levels within the starter pond will be required to be managed to permit construction of the dredges and Wet Concentration Plant. During this period, and until the dredge pond is sufficiently large enough to permit placement of reject and interburden back into the dredge pond elevated groundwater levels are expected under the Off Path Storage Facility associated with the placement of wet reject and interburden into that facility.

During "routine" mining operations, groundwater drawdown would be limited to areas around the active dredge pond and the production bores, with the groundwater mound under the Off Path Storage Facility dissipating quickly once the facility is decommissioned.

The Applicant would account for the maximum groundwater take through the acquisition of water access licenses from the Western Murray Porous Rock Groundwater Source. This groundwater source has sufficient unallocated resources to account for the Project's requirements.

There are no registered groundwater users accessing the Upper Aquifer in the vicinity of the Mine Site and therefore the Project presents no implications for other registered groundwater users.

A NSW government monitoring bore would be decommissioned and removed during mining operations. The bore would be reconstructed in an alternative location if required. An additional Project-related bore would also be decommissioned and removed during mining operations. Three other bores are located within 3.2km of the Extraction Area and would not be disturbed.

The *Water Sharing Plan for the NSW Murray Darling Basin (MDB) Porous Rock Groundwater Sources Order 2020* identifies high priority groundwater dependent ecosystems (GDE) within the Project's zone of direct and indirect impact. However, the salinity of groundwater within the Upper Aquifer is higher than the upper limits for all except the most salt-tolerant species. As a result, any GDE that may be present are not significantly dependent upon groundwater in the Upper Aquifer. Therefore, areas of high priority GDE are not expected to be affected by Project-related groundwater drawdown.

As the Upper Aquifer at the Mine Site is hypersaline, no potential impacts to groundwater quality are anticipated.

It is considered therefore that groundwater system and potential groundwater-related impacts are well understood and would not be significant.

7.5.3.3 Biodiversity

The biodiversity assessment was completed by EnviroKey (2024) in accordance with the *Biodiversity Assessment Methodology* (BAM) 2020. That assessment identified the following within an area comprising the proposed Limit of Disturbance plus a 1,500m buffer (the Biodiversity Assessment Area).

- One threatened flora species, namely *Austrostipa nullanulla*, a perennial grass, was observed, with the Cobar Greenhood Orchid assumed to be present pending further surveys.
- A total of eleven Plant Community Types (PCTs) with one, namely PCT28 classified as an endangered ecological community under the NSW *Biodiversity Conservation Act 2016* and a second, PCT171 associated with the Eastern Mallee Bird Community listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*
- No threatened or migratory fauna species were recorded within the Biodiversity Assessment Area.

The Project would result in the disturbance of the following.

- Approximately 5,771.75ha of native vegetation.
- Approximately 201.99ha of non-native vegetation.
- Approximately 30.14ha of *Austrostipa nullanulla* habitat.
- Approximately 409.88 ha of Cobar Greenhood Orchid habitat, with the presence of the species to be confirmed with further surveys.

The Project would result in the requirement to retire 105,473 Ecosystem Credits and 11,751 Species Credits. The Applicant would retire the required credits through a combination of mechanisms, including establishment of one or more Stewardship Sites, purchase of credits held by third parties and, for any residual credit requirements, by paying into the Biodiversity Conservation Trust.

7.5.3.4 Soils and Land Capability

The soils within the Mine Site were mapped by SSM (2024) who identified six soil associations within as follows.

- Dunefields and Sand Plains – primarily occupying areas of higher elevation, with well drained, high carbonate soils comprising dunes and swales.
- Blanchetown Clay – primarily occupying low lying areas in the western portion of the Soil Survey Area and on the western slope of the Eastern Salt Pan, as well as depressions elsewhere.
- Lunettes – primarily comprising wind-blown material to the east of the Salt Pans.
- Lunettes with Copi – primarily occupying areas near or downwind of the Salt Pans.
- Lake Floor East - primarily occupying the Eastern Salt Pan. The soil is clayey and sufficiently saline to be toxic to plants.
- Lake Floor West – primarily occupying the Western Salt Pan. The soil is sandy and saline but typically not toxic to plants.

It was determined that the greatest risk to soils within the Mine Site is wind erosion, with measures to manage this risk to be implemented by the Applicant.

Recommended topsoil stripping depths vary between 0.2m and 0.4m of topsoil and 0.3m and 0.8m of subsoil. Recommended soil placement depths are 0.23m for topsoil and 0.2m for subsoil. Soil resources within the Eastern Salt Pan were not recommended to be stripped or placed as the existing soils are toxic to plant growth.

Based on the above recommendations, it was determined that adequate soil resources exist within the Mine Site for rehabilitation operations.

It was determined that there is a low risk of acid sulphate soils being present within the Soil Study Area.

Finally, it was determined that the existing Soil Study Area included a mixture of land with a Land and Soil Capability Classification of Class 6 (low capability land), Class 7 (very low capability land) and Class 8 (extremely low capability land). Following rehabilitation of the Mine Site and the end of its life, the Project would result in an addition of 413ha of Class 6 land, with a 42ha increase in the area of Class 7 land, and a 455ha reduction of Class 8 land.

7.5.3.5 Aboriginal Heritage

The Aboriginal Cultural Heritage Assessment was undertaken by OzArk (2024a) in consultation with the local Aboriginal community. In summary, the assessment identified 143 sites with Aboriginal objects, including:

- 84 isolated finds;
- 52 artefact scatters with low density subsurface deposits;
- Six artefact scatters with hearth/s; and
- One artefact scatter and a scarred tree.

Of the 143 Aboriginal sites identified:

- 62 sites would be totally impacted;
- 3 sites would be partially impacted; and
- 78 sites would be preserved.

One site, Copi OS-01, included an open scatter with a scarred tree, a rare occurrence in this environment. At the request of the Aboriginal community, the Applicant agreed to fence and preserve this site. A further two sites containing three hearths would be subject to excavation for dating in order to further develop understandings of the regional chronology of Aboriginal occupation.

A draft of the *Aboriginal Heritage Assessment* report was provided to the Registered Aboriginal Parties, with no comments received.

7.5.3.6 Traffic and Transportation

The traffic impact assessment undertaken by Tonkin (2024) determined that the following upgrades to the public road network would be required.

- Upgrades to intersections between Anabranch Mail Road and the Silver City Highway, Patton and Comstock Streets, Comstock and Eyre Streets and Holten Drive and the Rail Facility Site Access Road.
- Construction of the Site Access Road, and realignment of Anabranch Mail Road.

The Applicant would complete the required works in accordance with the Austroads Guide to Road Design and in consultation with Transport for NSW, Wentworth Shire and Broken Hill City Councils.

The traffic impact assessment determined that additional Project-related traffic movements would not result in significant adverse impacts on the public road network.

7.5.3.7 Surface Water Resources

Surface water drainage within and in the vicinity of the Mine Site is characterised by a series of internally draining surface depressions with indistinct, ephemeral watercourses that only flow immediately following rainfall. Surface water flows would be very unlikely to overtop these depressions even under a maximum probable rainfall event.

The Applicant would exclude clean water runoff from undisturbed land whilst retaining all runoff from disturbed areas for mining-related purposes. These measures would maintain the existing hydrologic regime of undisturbed catchments to the extent practicable whilst ensuring negligible water quality impacts arising from sediment-laden runoff or Mine Water being discharged to the receiving environment. The Mine Site is not situated in a flood planning area and, due to the topography, would not experience flooding impacts.

The capture and use of all runoff in disturbance areas would not impact external water users and is permissible under the *Water Management Act (2000)*.

7.5.3.8 Noise

The noise impact assessment undertaken by MAC (2024) determined that the Project construction and operational noise levels within the Mine Site and the proposed transport routes would comply with the relevant construction, operational and road traffic noise criteria.

The noise levels associated with intersection upgrade works at Patton and Comstock and Comstock and Eyre Streets are anticipated to exceed construction noise criteria at the nearest residential receiver. As these impacts would be limited to a few days only and would provide substantial benefits to the surrounding residents, these impacts would be managed through communication with potentially affected residents.

7.5.3.9 Air Quality and Greenhouse Gas

The Air Quality and Greenhouse Gas Assessment undertaken by Northstar (2024) determined that the Project would not result in additional exceedances of the relevant air quality assessment criteria at any non-Project related residence. In addition, the Project would contribute approximately 0.036% of total greenhouse gas emissions generated in NSW and approximately 0.01% of total greenhouse gas emissions generated in Australia. In recognition of the importance of managing greenhouse gas emissions, the Applicant would ensure that a minimum of 30% of the Project's power during mining is sourced from renewable sources, with a commitment to increase that percentage where practicable during the life of the Project.

7.5.3.10 Agricultural Resources

The agricultural impact assessment was undertaken by SSM (2024). The assessment determined that the chief Project-related impact on agricultural productivity would be the temporary exclusion of agricultural land uses from operational areas for the life of the Project. The 3,782ha of Class 6 land to be disturbed has an estimated pre-mining gross margin of approximately $50,414pa. Only a small proportion of that area would be disturbed at any one time during the life of the Project.

Following the completion of rehabilitation activities, there is anticipated to be a 413ha increase in area of Class 6 land, with a gross margin of $62,421.

7.5.3.11 Hazards and Public Safety

The Rare Earth Concentrate Plant would produce up to 7,500tpa of Monazite Product which is classified as Class 7 (Radioactive Material) under the Dangerous Good Code. The material would be stored in 205L drums or bulka bags inside sealed shipping containers. The sealed shipping containers would be stored within a secure storage area within this Mine Site prior to transportation to the Rail Facility using licenced drivers and vehicles. Within the Rail Facility, the sealed containers would be similarly stored within a secure storage area prior to onward transportation. Given the proposed controls, radiation-related risks associated with the Project would be acceptable.

In addition, the hazards and public safety assessment determined that the proposed management and mitigation measures are expected to adequately address risks from unauthorised access, radiation and bushfire. A screening analysis for diesel and liquified natural gas determined that the Project would be classified as non-hazardous.

7.5.3.12 Historic Heritage

Three historic heritage sites were identified by OzArk (2024b) within the Mine Site as follows.

- Huntingfield-HS01 and Huntingfield-HS02 comprise a hut and ironstone marker associated with the internment the ashes of a previous landholder's wife. The sites were assessed as having no historic heritage significance, however both sites are of personal significance to the former landowner.
- Warwick-HS01 comprises the ruins of an agricultural shed and small stock yard constructed from local pine materials. This site was also assessed as having no heritage significance.

These sites would be conserved in the landscape and would not be disturbed.

The Project would not disturb or impact upon the Wentworth LEP-listed historic heritage sites.

7.5.3.13 Visibility

Based on the relative isolation of the Mine Site both from surrounding residential locations and public vantage points, combined with the fact that the local landforms comprise low rolling hills with scattered vegetation that do not provide a suitable elevated vantage point but serve to obscure distant views, it is assessed that the Project would not impact significantly on the visual amenity surrounding the Mine Site.

7.5.4 Social and Economic Considerations

A comprehensive program of community engagement was undertaken and a range of feedback has been received. In particular, the community in close proximity to the Mine Site were generally supportive of the Project, but were concerned about adverse impacts to their way of life, road infrastructure, agricultural operations and potential groundwater-related impacts. Particular individuals were more concerned than others, and the Applicant has attempted to address all reasonable concerns

By contrast, those living further from the Mine Site were invariably enthusiastic about the Project, citing potential employment, economic activity and diversification of the local economy as likely positive impacts.

A range of community engagement and enhancement strategies are proposed to maximise the social benefit of the Project and minimise adverse social impacts. These include the following.

- Negotiation of commercial agreements with all directly impacted landholders prior to commencement of ground disturbing activities on individual properties.

- Negotiation of Good Neighbour Agreements with all fenceline neighbours and landholders in vicinity of the Site Access Road, Anabranch Mail Road and Nulla Road.
- Negotiation of Planning Agreements with Wentworth Shire and Broken Hill City Councils.
- A commitment to train and employ local residents and source goods and services from local businesses.

The Social Impact Assessment concluded that with the exception of those whose land would be directly impacted by the Project, social impacts would largely be positive. The Proponent is currently negotiating with those landholders likely to be directly impacted by the Project to ensure equitable access arrangements to offset potential social impacts.

The economic assessment determined that the Project would contribute the following economic benefits to Wentworth and surrounding areas.

- Up to 480 direct full-time equivalent employment positions during construction and 240 positions during operations.
- Up to $1.23 billion in capital expenditure during construction and up to $89.24 million per year during operations.
- Up to approximately $769 million in taxes and royalties to local, State and National governments.
- That the Project's economic costs, including short-term lost agricultural productivity and increased competition for resources, would be negligible.

Furthermore, the Applicant has committed to ensuring that the economic benefits of the Project are retained, to the extent practicable, within the Wentworth LGA and surrounding areas to the through the fact that the Project's workforce would preferentially reside locally and that the Applicant would preference local residents in employment and local businesses for the supply of goods and services.

As a result, the Proponent contends that the economic benefits to the local, State and National economies substantially exceed potential costs.

7.6 Compliance Monitoring and Communication

The Applicant would continue to monitor and report on the environmental performance of its operations and compliance with the relevant conditional requirements of all approvals, licences and consents in accordance with current procedures, amended as required, to reflect commitments and requirements. In summary, the Applicant would implement the following.

- Undertake environmental monitoring in accordance with the commitments presented in Section 6 of this document and the approved Management Plans for the Project. These Management Plans would document all monitoring requirements embodied in approvals, licences and consents held for the Project.

- Ensure that the results of all monitoring are reviewed upon receipt for trends and compliance with relevant criteria and implement appropriate measures, where required, to manage identified non-compliances.
- Ensure that all monitoring results are saved to a suitable database to enable future retrieval and analysis.
- Ensure that any non-compliances are reported to the relevant Government authority in accordance with the conditions of the relevant approval, licence or consent.
- Ensure that all monitoring results are collated into monthly and annual reports and that those reports are published on the Project's website.
- Ensure that Independent Environmental Audits are undertaken regularly and the results of those audits published on the Applicant's website.
- Ensure that open and honest communication is maintained with the surrounding community.

7.7 Remaining Uncertainties

As identified in Section 7.5.2.2, the Applicant has employed a range of measures to identify potential Project-related risks, with substantial and detailed technical and environmental studies then undertaken to inform the design of the Project in a manner that reduces these risks to an acceptable level. In addition, the Applicant has consulted widely with Government agencies and the surrounding community. As a result, the Applicant contends that it has adequately identified and addressed all substantive Project-related risks and environmental issues.

Throughout the assessment, the Applicant has consistently assessed the worst-case scenario for each of the identified risks and environmental issues. As a result, the Applicant contends that there is limited potential for unanticipated Project-related impacts greater than those assessed. Notwithstanding this, **Table 7.4** presents remaining Project-related uncertainties that may result in impacts greater than those assessed, and the mitigation measures proposed to manage each.

Table 7.4
Remaining Uncertainties and Proposed Mitigation Measures

Remaining Uncertainty	Proposed Mitigation Measure(s)
Additional ore may be discovered, requiring additional time, rate of processing, modified mining methods or disturbance areas.	Apply for a modification or new development consent.
Rehabilitation operations may not achieve the proposed completion criteria identified in this document or any subsequent Rehabilitation Management Plan.	Obtain the advice of suitably qualified expert(s) and implement the resulting recommendations to achieve the proposed criteria.

Table 7.4 (Cont'd)
Remaining Uncertainties and Proposed Mitigation Measures

Remaining Uncertainty	Proposed Mitigation Measure(s)
The extent of groundwater extraction or impacts to surrounding groundwater users may be greater than that predicted and assessed.	Install and maintain meters at all points of groundwater extraction and return and undertake monthly reconciliations of all metered volumes, Monitor evaporation and rainfall within the Mine Site and use that data to estimate evaporative losses and ensure that those losses, together with water pumped from the production bores are appropriately licenced. Monitor standing water levels in surrounding monitoring bores. Regularly review standing water level monitoring results against the groundwater modelling predictions and, if required, revise the modelling using collected data. Obtain suitable water access licence allocations to account for any additional groundwater take identified from the modelling or metering.
Noise or air quality emissions maybe greater than those assessed and impacts at surrounding residences may be greater than anticipated.	Monitor air quality emissions and commission noise monitoring in response to any noise-related complaints or reasonable enquiries. Modify Project-related activities to ensure compliance with relevant criteria.
Surface water flows, including incident rainfall, may be greater than those assessed, resulting in failure of surface water management infrastructure and/or discharge of sediment-laden runoff or Mine Water to the receiving environment.	Inspect and maintain all surface water management infrastructure monthly and following rainfall events >25mm in 24-hours or in accordance with an approved *Water Management Plan*.
Unanticipated Aboriginal or historic heritage objects may be identified.	Implement the proposed Unanticipated Finds Protocol for both Aboriginal and historic heritage objects.

7.8 Consequences of not Proceeding

The consequences of not proceeding with the Project relate principally to the lost opportunity to mine the identified mineral sands resources and any further resources that may be identified throughout the life of the Project. The Applicant is confident that it has presented a Project that not only seeks the efficient development of the known deposits but has taken into consideration the likely impact of the Project on the local community and the predicted short-, medium- and long-term environmental outcomes. It is concluded that the Project, as presented, provides an acceptable balance of environmental and social outcomes in achieving the economic benefits arising from a substantial mining operation in an area with few other industries.

The Applicant, through its existing exploration operations has been a source of local and regional employment and economic benefits since at least 2018. In the event that the Project were not to proceed, the exploration activities, as well as activities associated with other similar projects in more populated and environmentally sensitive area would likely cease.

Furthermore, the absence of employment opportunities within the Wentworth LGA and surrounds are a source of concern for local and State governments and many members of the community. This is closely associated with concerns regarding the viability of some of the smaller

towns and villages in regional NSW. The Project would provide a stable and significant source of employment and economic activity for an extended period. Should the Project not proceed and the existing Snapper and Ginkgo Mineral Sands Mines close as currently expected in 2026 and 2025 respectively, there would be a substantial loss of well-paid employment opportunities in Wentworth LGA and surrounds, with the associated social impacts that would result.

It is anticipated that the Project would improve outcomes for local people seeking employment in the mining industry. The community anticipation of this benefit has been reflected in the outcomes of community engagement with the almost universal question from those consulted being about applying for jobs or seeking business opportunities in relation to the Project. Therefore, should the Project not proceed, these anticipated employment benefits would not eventuate resulting in both economic and potentially social and mental health impacts.

The Project would result economic benefits withing the Wentworth LGA, including;

- up to 480 positions during construction and 240 positions during operations;
- an additional approximately $7.92 million per year in wages during the construction and $0.41 million per year during the operations.
- contribution of between $13.84 million and $84.61 million per year within the Wentworth LGA during construction and between $29.64 million and $97.63 million per year during operations.
- This would be a significant boost to activity levels in all industrial sectors of the Wentworth LGA providing the Project's required goods and services.

Should the Project not proceed, not only would the anticipated broader economic benefits associated with local employment and procurement of services and consumables not be achieved, but the local enhancement projects and other community benefits resulting from the Project would be foregone.

Throughout the planning and design of the Project and development of the EIS, the Applicant has continued its exploration activities within and surrounding Project Site. Should the Project not proceed, it is likely that there would be an impact on future exploration by the Applicant and others in the region and subsequently on the attractiveness of mineral development in the region.

It is also accepted that should the Project not proceed; a range of residual environmental and social impacts (summarised in Section 7.5.2 to 7.5.4) would be avoided.

7.9 The Public Interest

In accordance with Section 4.15(1)(e) of the EP&A Act, evaluation of a development application by a consent authority must consider the public interest. The public interest is generally difficult to define as it depends on contextual factors and intangible and variable matters such as public opinion and public need. It therefore requires a balancing of public expectations of impacts and benefits, as well as support and opposition, but may also be considered in terms of the principles of ecologically sustainable development and the aims or 'objects' of the guiding legislation for the application (in this case, the EP&A Act). Consultation and engagement throughout the development of the EIS (summarised in Sections 5.1, 5.2, 5.3 and 6.14) has identified a range of

supportive feedback as well as limited concerns in relation to the Project, particularly from those who will be directly impacted. Furthermore, Section 7.5.2 reviews the Project against the principles of ecologically sustainable development and Sections 4, 7.2 and 7.3 consider the planning considerations that need to be satisfied for the Project. In addition, Section 7.5.3 summarises the outcomes of the assessment of potential environmental impacts focusing on predicted residual impacts including biophysical outcomes and the social and economic impacts and benefits. It is therefore considered that the EIS has been thorough in its consideration of matters relating to the public interest.

There is clear, supporting evidence for the employment and other economic opportunities that the Project would provide, with limited evidence of perceived adverse impacts associated with the Project, principally from those whose land would be directly impacted by the Project.

As noted in Section 7.5.2 regarding the principles of ecologically sustainable development, it is important to consider the sustainability of society between and across generations and the preservation of the ecosystem processes on which life depends. This reflects the need for balance in the outcomes of the Project to ensure that it would remain in the overall interest of the entire public (society and the environment) and not just for the benefit of the Applicant. The Applicant has designed the Project to ensure the efficient development of the Mine and currently employs more than 15 people in Wenworth on a full-time equivalent basis. Furthermore, the Applicant's site office, storage shed and yards, situated in Wentworth have been occupied since 2017, along with a permanent presence at the local motel accommodation. The Applicant anticipates that, by establishing an operation with a local workforce and supply base, as well as the potential for long-term extension and expansion of sand mining operations within its tenements, the Project will contribute significantly to the short-term and long-term needs of the Far West Region, Wentworth and surrounding areas.

The objects of the EP&A Act present the many aspects of planning and development that must be managed in ensuring that development in NSW remains in the public interest. **Table 7.1** demonstrates how each of these aspects would be managed for the Project to ensure that these objectives are achieved, where feasible. Some members of the NSW community may not agree with each of the objects or whether the Project would satisfy them, however, this only reflects the inherent nature of the public interest. That is, that interests differ amongst individuals, but individual interests should not be prioritised in place of the interests of the broader public, when considering the public interest. In this manner the lives of all people in NSW (and arguably Australia) would be better served by the Project through its consistency with the planning and development preferences of the NSW Government.

It is finally noted that the feedback from the community in the form of public submissions would provide some indication of the public interest. All submissions on the application received by DPE at the end of the public exhibition process will be considered by the Applicant and a response will be provided to the issues raised.

7.10 Conclusion

This EIS has described the identified mineral resources and explained the procedures necessary to develop the Project in a suitable manner. Each component of the assessment has been accompanied by a description of the environmental management commitments that are proposed in order that:

- predicted residual environmental impacts remain acceptable; and
- ongoing management, monitoring and reporting ensures that compliance is maintained.

The assessment of impacts for the Project has determined that all other aspects have been mitigated to the maximum extent practicable and the Applicant contends that these would not result in unacceptable or unreasonable impacts.

Planning and design of the Project has been an iterative process that has involved refinements in response to the outcomes of assessment and the feedback technical experts. The Applicant considers that the scale of the Project would be sufficient to provide a boost to the local economy but not cause substantial adverse environmental or social impacts. The Project, as presented, provides an acceptable balance of environmental and social outcomes in achieving its economic benefits. In addition, the legacy of the Project has been considered with regards to the progressive rehabilitation and final land use options that would return the Mine Site to its pre-existing setting without leaving any long-term, residual risks for future generations.