An Bord Pleanála

Inspector's Report

ABP-315173-22

Development	Construction of a rockfill and earthen reinforcement buttress to sections of the extant embankment wall of the Tailings Storage Facility. An Environmental Report and a Natura Impact Statement (NIS) were received with this application.
Location	Randalstown, Simonstown and Sillogue, Navan, Co. Meath
Planning Authority	Meath County Council
Planning Authority Reg. Ref.	22331
Applicant(s)	Boliden Tara Mines DAC.
Type of Application	Permission.
Planning Authority Decision	Grant
Type of Appeal	Third Party
Appellant(s)	John Callaghan 'Sustainability 2050'
Observer(s)	N/A.

Date of Site Inspection	22.06.2023.
Inspector	Mary MacMahon

Contents

1.0 Introduction

1.1. This is a Third Party appeal against the grant of planning permission for the construction of a rockfill and earthen reinforcement buttress to sections of the embankment wall of the Tailings Storage Facility (TSF) for Boliden Tara Mines DAC. Tara Mines is the largest zinc and lead mine in Europe. It operates under an Industrial Emission licence from the EPA (IEL P0516-04 (Ref 1)). The mine complex is located circa 2.5km to the south-west, is a Tier 1 Comah Site, monitored by the HSA.

1.2. The TSF stores the slurry produced when the ore is separated into lead and subsequently zinc and consists of the residual mineral fines extracted by chemical treatment in an aqueous slime. This slime has been pumped underground from the mine. Some 1.1 million tonnes of aqueous slime is received per year at the TSF. The TSF is circa 200 hectares (roughly 1.35 km north to south and 1.5 km east to west), surrounded by earthen embankment walls 22 metres in height. It operates as a large sedimentation/aeration pond where solids settle over time and clear water at the surface is recycled back to the processing plant at Knockumber. Excess water is treated and discharged under licence to the River Boyne at periods of high volumes of flow.

1.3. The application is accompanied by a Natura Impact Statement. Planning permission was granted by Meath County Council following a Further Information request. The Further Information submitted was deemed significant and was re-advertised on 01.10.2023.

1.4. The appeal from Sustainability 2050 argued that an EIA was required for the proposed development. Following a screening assessment (see Appendix 1 and memo on file, dated 14.07.2023), on 25.04.2024, the Board determined that EIA was necessary. The submission of the EIAR was advertised on 10.02.2024.

1.5. No observations were received on the RIAR, save for from the Third Party, who considers the EIAR inadequate.

2.0 Site Location and Description

2.1. The site is located circa 5km northwest of Navan Town, in a rural area. It is accessed from the R163 onto a county road, the L-74141. The site is not readily visible from the road due to landscaping on the site and on the embankments. There are a number of one off dwellings and farmyards in the vicinity. There is an ESB substation on the R163 to the northwest of the site. The River Blackwater is some 500 metres to the west. The Yellow River skirts the western embankment before joining the River Blackwater. The River Blackwater is a source of potable water supply for Navan. The water is abstracted at Liscarton, some 1.5km south of the site. The Yellow River has a tributary to the north – Blake's Stream (but in 2019, Blake's Stream was diverted to the Simonstown Stream). There is Recorded Monument, a Church and Graveyard (ME025-002), which is located between the TSF and the Yellow River. Another Recorded Monument, a Holy Well (M025-045) is southwest of the Windtown Road. To the east of the site is a greenway, the former railway line from Navan to Kingscourt. The Simonstown Stream and Doug's Stream are to the southeast

2.2. Immediately north of the TSF is the attenuation pond. To the northeast an area with staff facilities, weighbridges and parking.

2.3. The TSF is described as having a ring-dike configuration, or a perimeter embankment, consisting of two and three benches, that have been progressively built in stages moving inwards, rising to a height of 22 metres. The benches, while used for vehicular movement, are unmetalled. Stages 1, 2 and 3 are the lower stages which were constructed simultaneously, with Stage 4 above these stages and Stage 5 above Stage 4. Stage 6 is the extension area of the TSF, permitted under **PL17.247707**. Only this Stage has an artificial liner. The remainder of the TSF is clay lined. There is an interceptor channel by the toe of the embankments, to collect any surface water or water that may seep through the walls. Some of this interceptor channel has been filled in or is in the process of being as it is no longer necessary for operational reasons.

2.4. Stage 6 is currently receiving the slurry from the mines. Stages 1, 4A, 5A and 2, 4B and 5B are capped off.

2.5. The site area is stated as 285 ha.

3.0 **Proposed Development**

3.1. The proposed development consists of the construction of a buttress, of rockfill and earth around the TSF, on sections of the extant embankment walls. The buttress will be located on the downstream slope (where the exterior wall of the dam meets the ground surface) at the crest (top of) of Stage 1, 2 and 3 starter embankments (the embankments constructed first), to provide additional stability to the extant upstream raises (the inside of the later built embankments where the liquid is impounded) (Stages 4 and 5). The additional stability to be provided is referred to as a 'Factor of Safety', which demonstrates how much stronger a structure needs to be for its intended load. The older stages were built to a long term slope stability of 1.3. The proposed development will increase the Factor of Safety to 1.5, based on peak, undrained shear strength of the fine tailings. It will increase the residual strength of the undrained scenario to 1.1.

3.2. The project arose as Boliden Tara Mines becoming a member of the International Council for Mining and Metals and is adopting the Global Industry Standard on Tailings Management, to address the risk of tailings embankment failure.

3.3. The proposed development involves the stated importation of 1,234,944 tonnes of construction material and depending on the duration of construction, is stated to generate a maximum of 270 trips per day or 142 trips per day.

3.4. Phase 1 will be to the level of the toe of the Stage 4 raise against the embankment wall of Stage 4. The works will vary in height from 3 to 7 metres, depending in the residual strength required. The base at Stage 4 will be 12 metres wide. Phase 2 will be at ground level against the embankment wall of Stages 1, 2 and 3 and will be 4 metres wide.

3.5. The topsoil will require removal and will be stockpiled for re-use. The formation level will require works to trim, grade and compact it prior to placement of the buttress. When the works are complete, the area will be landscaped.

3.6. All surface water will be collected into the extant interceptor drain and pumped into the TSF.

4.0 Prescribed Bodies

4.1.1. The **Department of Housing, Local Government and Heritage** made a submission in relation to archaeology. The site is adjacent to Recorded Monuments No.s ME025-002 and ME025-045, a church and graveyard and a holy well. A condition is requested to provide for archaeological monitoring of groundworks associated with the proposed development.

4.1.2. The **Geological Survey Ireland** notes that its datasets may be useful in the environmental assessment and planning process. It refers to the groundwater vulnerability in the area which is variable. The aquifers are classed as a Locally Important Productive Aquifer which is Moderately Productive in Local Zones and a Poor Aquifer, which is generally unproductive except for Local Zones. A copy of reports detailing any site investigations carried out is requested.

4.1.3. The **Health and Safety Authority** does not advise against the granting of planning permission for the proposed development.

4.1.4. **An Taisce** notes that the site is bounded by the Simonstown Stream to the east and the Yellow River to the west. They are classed as 'Poor' under the Water Framework Directive. They flow into the River Blackwater, which forms part of the River Boyne and River Blackwater SAC (Site Code: 002299) and SPA (004232). The River Blackwater in the area is also classed as 'Poor'. The Hydrological Report is queried as the status of the River Blackwater is described as 'Moderate' but states this may refer to the WFD Second Cycle, which ended in 2021. The measures to prevent contamination and siltation of the stream are critical to protect water quality.

4.1.5. **Uisce Eireann** recommended conditions.

4.1.6. **Inland Fisheries Ireland** recommended permission subject to no interference with adjoining surface waters or groundwaters.

4.1.7. **EPA** notes that the IE Licence may have to be reviewed or amended to accommodate the changes referred to in the planning application. It states that the activity in its entirety may be of the type which require an EIA, if there are likely to be significant effects on the environment. Reference is made to Schedule 5 Part 2 Project 2(c) relating to mining activity, or Project 11(b) waste disposal greater than 25,000 tonnes.

5.0 Third Party Observations

5.1. Current appellant – please see appeal section of this report.

6.0 Planning Authority Decision

6.1. Decision

6.1.1. Planning permission was granted subject to 8 no. conditions. The conditions include that a Construction Environment Management Plan that remains live during construction, monthly geotechnical report, that the development be carried out over 3 years in accordance with Option C in the TIA, a road condition survey and associated remediation works if necessary, an archaeologist on site and general and special financial contributions. The mitigation measures set out in the NIS are to be implemented.

6.2. Planning Authority Reports

6.2.1. Planning Reports

- The planning authority requested that the EPA make observation as to whether an EIA is required for the proposed development. The EPA considers that the activity may require one under the Part 2, Project 2 (c) Extraction of Minerals within the meaning of the Minerals Development Acts, 1940 to 1999 or Part 2, Project 11(b) installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of the Schedule. Further Information is required. The source of material is to be identified and the issue of waste considered, in relation to EIA. [Please note that the EPA submission is not in the documents provided to An Bord Pleanála nor on the on-line file on the local authority website. The information is obtained from the planner's report].
- A submission was received from the appellant and is summarised, as are the submissions from the prescribed bodies.

- The purpose of the proposed development is to provide a factor of safety to the slopes of the embankments of the TSF, to ensure their stability.
- The proposed development is acceptable in principle.
- An Environmental Report has been received and provides information on the potential impact of the proposed development including traffic, visual impact, hydrological impact and noise impact. A geotechnical report is required to demonstrate that the proposed development, which may be flooded during a critical flood event will not be compromised.
- The recommendation of the Traffic Report on Option C is noted and can be agreed prior to commencement of development.
- A Site Specific Flood Risk Assessment has been submitted, but further information is required, including 'Justification Test'.
- The Landscape and Visual Impact Assessment is considered satisfactory.
- Archaeological monitoring conditions will be applied.
- An Ecological Impact Assessment has been submitted. The potential risk of importation of Alien Invasive Species with the construction material is high. An Alien Invasive Species Control Management Plan should be the subject of a Further Information Report.
- The TSF is an important site for bird species, with 65 present, of which 11 are Red listed and 23 are Amber listed. Some of the species breed at or near ground and could be directly impacted by the works (Yellowhammer, Meadow Pipit and Skylark). Bats are also present.
- The proposed development could impact on water quality, hydrology, loss of habitat, disturbance to birds and mammals and introduction of Alien Invasive Plants. Mitigation measures are proposed, which would ensure that over time, the negative ecological impacts can be managed. Derogation licences are required for ground nesting birds, Irish hares and bats.
- An EIA screening report has been submitted. It finds that the proposed development is not listed in Annex 1 (EIA Directive) or Schedule 5 (Part 1) of

the Planning and Development Regulations and so a mandatory EIA is not necessary.

- The activity could be considered the disposal of waste. An EIA is required for the disposal of waste where the annual intake of waste exceeds 25,000 tonnes. Further information is required.
- An AA screening and NIS is submitted. There are direct impacts on the Qualifying Interests of the River Boyne and Blackwater SAC/SPA, impacts on water quality, disturbance and risk of introduction of Alien Invasive Plant Species. Mitigation measures include a Hydrology Surface and Groundwater Report but a hydrogeological report may be needed. A Habitat and Biodiversity Management and Conservation Plan should be prepared. Further Information is required.

Further Information Response

- The Further Information was deemed significant and advertised on 04.10.2022.
- A 'Justification Test' has been provided and a report from a Chartered Geotechnical Engineer, concludes that the proposed structure will not be compromised during a critical flood event. The response is considered acceptable.
- The materials to be used in construction do not constitute waste, but are a by-product under Article 27 of the Waste Directive Regulations 2011. This shall be confirmed with the EPA. The Environment Department has recommended conditions. The response is considered acceptable.
- An Alien Invasive Plant Species Management and Control Plan has been submitted. The response is considered acceptable.
- The NIS has been updated to include the hydrological assessment. The response is considered acceptable.
- A CEMP will be provided as a pre-commencement condition.
- A response to the Third Party is included, which was forwarded to the Third Party for comment. The Third Party considers that the proposed development is subject to EIA as it relates to a dam structure which impounds water in excess

of 40 ha. Tailing dams are subject to failure and there is an internal erosion risk. EU law should be examined.

- It is accepted that the construction material does not include waste and therefore does not come within the scope of an EIA for waste.
- In relation to subthreshold development, the planning authority considers that the proposed development is significantly below the threshold and so a subthreshold EIA is not required.
- The updated NIS includes a Habitat and Biodiversity Management Plan and Hydrological Assessment. The response is considered acceptable. The planning authority concluded that the proposed development would not be likely to have a significant effect on European sites.
- A grant of permission is recommended.

6.2.2. Other Technical Reports

6.2.3. Environmental Department

- The site is located in Flood Zone A and Flood Zone B. A Justification Test is required to assess the appropriateness of the proposed development and none has been received.
- The Site Specific Flood Risk Assessment has a number of points that require clarification. A report from a Charted Geotechnical Engineer is required to demonstrate that the structure of the proposed development would not be compromised during critical flood events.
- Further Information recommended on the above points.
- On receipt of Further Information, the proposed construction materials do not constitute a waste and so does not fall within mandatory EIA requirements. Conditions are recommended.

6.2.4. Transportation

- Phase 1 works would take approximately 30 weeks to complete. Phase 2 would take approximately 80 weeks to complete.
- Sightlines are acceptable subject to cutting back hedgerow / grass growth.

- Two source locations would supply the materials, Tara Mines and Carrickdexter, east of the site on the R163.
- Three scenarios have been considered in relation to construction, over a number of years (1.5 years, 2 years and 3 years).
- The shortest duration would generate 270 daily trips, 206 and 142 daily trips respectively.
- Junction Capacity Analysis has been undertaken on 4 no. junctions in the vicinity of the site and between the site and the source of materials and the M3 Motorway. All will remain in capacity.
- There is a staggered junction with the R162 and R163, where construction traffic is likely to split 50:50 north (to the N52) or south (the N51 and M3).
- As the construction traffic exceed 5% of the background traffic on the road a full capacity assessment is required for three junctions. Junction 4, (N51/R162 does not require one.
- The full capacity analysis found that the increase in vehicle queues and delays were minimal.
- The report recommends that Option C is implemented, i.e. 411,648 tonnes per annum over a three year period.

6.2.5. Surface Water

- No objection.

6.2.6. Flooding

- The area, including access road is located in Flood Zone A and B. The proposed development is categorised as ‘Less Vulnerable Development’. A Justification Test is required and none has been submitted.
- The Site Specific Flood Risk Assessment has a number of contradictions which need to be clarified, regarding the Flood Zone status of the site. A report from a Chartered Geotechnical Engineer is necessary to demonstrate the structure of the proposed buttress will not be compromised during critical flood events.

- On receipt of Further Information, the Justification Test is considered acceptable and no risk of the proposed structure being compromised through flooding.

7.0 Planning History

7.1. **PL17.247707 (NA160408)** Split decision on 21.07.2017 to grant planning permission for a lateral extension to the TSF (circa 58 ha) and refuse permission for the construction an Integrated Constructed Wetland (ICW) (circa 12 ha) to treat effluent from the TSF post closure. The ICW was refused planning permission as the Board was not satisfied that the discharge from the ICW would not adversely affect the environmental quality of the receiving waters of the River Blackwater, a designated European Site. The application was accompanied by an EIS and NIS and would require a revision to the existing Industrial Emissions Licence on the site.

7.2. Please note that permission has been granted for a solar farm of 34 ha at the mine complex site (**2360131**) at Knockcumber. Due to the distance involved, some 2.5 km between the sites, I do not consider that cumulative impacts arise.

7.3. There is currently a Third Party appeal by the same third party for a waste water treatment plant with the mine complex (**ABP-317390-24**). The application was accompanied by an NIS.

7.4. There is a CPO (**ABP-318134-23 MCC 2360198)** currently in the Board for the replacement of a rising main from Liscarton Wastewater Treatment Plant to Proudstown Resevior).

8.0 Policy Context

8.1. Development Plan

8.1.1. The *Meath County Development Plan 2021-2027* applies. In relation to Extractive Industries, **RD POL 21** requires that projects are screened for Appropriate Assessment. **RD POL 22** recognises that developments over proven deposits do not

unduly impinge on the visual amenity or environmental quality of the area**. RD POL 23** requires that detailed rehabilitation proposals be provided. **RD POL 25** requires that a financial contribution for road improvements during operation and closure are provided by the extractive industry. **RD POL 26** requires that appropriate uses and biodiversity be considered in rehabilitation / restoration plans. Where landfilling is proposed, inert material is preferred and would be dealt with, where relevant with the regional Waste Management Plan.

8.1.2. **RD POL 27** requires that the development for aggregates / mineral extraction does not significantly impact on existing or proposed European sites, Natural Heritage Areas, other areas of importance for the conservation of flora and fauna, areas of significant archaeological potential, in the vicinity of a recorded monument, sensitive landscapes and World Heritage Sites.

8.1.3. Bolidan Tara Mines DAC facility at Knockumber Road is listed in the plan as a SEVESO site. It is an upper tier site with a consultation distance of 1,000 metres. The TSF is **not** a SEVESO site (although the application was sent to the HSA for comment).

8.1.4. Planning application will be assessed in accordance with *The Planning Systems and Flood Risk Management Guidelines for Planning Authorities*. Permission may be refused where flood issues have not been are cannot be successfully addressed and there remains an unacceptable residual flood risk to the development and adjoining property remains.

8.1.5. The application is located in Flood Zones A and B.

8.1.6. The site is located in an area of moderate landscape sensitivity and moderate landscape character value, the North Navan Lowlands.

8.2. **Section 28 Guidelines**

8.2.1. The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009

8.2.2. The guidelines include the general principle that inappropriate development should be avoided in areas of flood risk; that new development should not increase flood risk elsewhere, including arising from surface water runoff and that there is effective management of residual risk in development permitted in floodplains.

8.2.3. A Justification Test (Box 5.1) is required at planning application stage where proposals for new development in areas at a high or moderate risk of flooding and must be submitted by the applicant. The decision on the acceptability of residual risk should be made, considering the type of use and the local development context. Conditions following a grant of planning permission may include the maintenance of local or secondary flood defences such as earth bunds or SUDS features.

9.0 Natural Heritage Designations

9.1. There are two Natura 2000 sites in proximity to the site, the River Boyne and Blackwater SAC (Site Code 002299) and River Boyne and Blackwater SPA (Site Code 004232). There is a direct hydrological link from the site to the Natura 2000 sites via the Yellow River.

10.0 EIA Screening

10.1. The proposed development relates to a dam, which holds wastewater for a mine. The proposed development is considered a project for the purposes of EIA.

10.2. The thrust of the Third Party appeal is that an EIA is required for the proposed development. The EPA, who were consulted by the planning authority, concurred that that the proposed development may require EIA under 2 (c) of Part 2, Schedule 5 of the *Planning and Development Regulations 2001,* as amended, or 11(b) of the same schedule. Project 2 (c) is all extraction of minerals within the meaning of the Minerals Development Acts, 1940 to 1999. The EPA submission refers to considering the activity in its entirety [emphasis by EPA]. Project 11 (b) is installations for the storage of waste within an annual intake greater than 25,000 not included in Part 1 of the Schedule.

10.3. The proposed development could come within the scope of Project 2 (c) is all extraction of minerals within the meaning of the Minerals Development Acts, 1940 to 1999, notwithstanding that no extraction is occurring on site. The TSF is a depository for mine waste, but also plays a vital role in the recycling of water necessary for the

separation of ore from rock, the process of which occurs in the mine. It is an integral part of the mining activity.

10.4. The proposed buttress will also be in part formed from rockfill from mine waste. At this point the rockfill changes from being a waste to a byproduct which has a beneficial effect use and so is a recovery activity. Therefore, I do not consider that the proposed development comes within the scope of Project 11 (b) is installations for the storage of waste within an annual intake greater than 25,000 tonnes not included in Part 1 of the Schedule. In addition, the waste relates to mine waste, which comes under a separate directive – 2006/21/EC on the Management of Waste from Extractive Industry, than the Waste Framework Directive (2008/98/EC).

10.5. Returning to Schedule 5 of the *Planning and Development Regulations*, 2001 and as amended, another project class is 10 (g) - Dams and other installations not included in Part 1 of this Schedule, which are designed to hold water or store it on a long-term basis, where the new or extended area of water impounded would be 30 hectares or more. The TSF is a dam which involves the holding and storing of water. Dams are projects that come within the scope of EIA. The proposed development will not result in an increase in area. Therefore, no mandatory EIA arises. Project 13 considers changes, extensions, development and testing. The triggers relate to size in terms of the units of measure of the appropriate threshold or extent of demolition.

10.6. I am satisfied that the proposed development comes within a class of project that is subject to EIA – under 2 (c) mining or 10 (g) dams. Please note that a memo was submitted to the Board on 14.07.2023. On the 24.07.2023, the Board considered that an EIAR was required and issued a direction for one to be submitted.

10.7. As there is no thresholds set in 2 (c) a mandatory EIA is necessary. Should there be any doubt in relation to 2 (c) then a screening for subthreshold EIA for 10 (g) has been undertaken, in Appendix 1.

10.8. Following completion of the screening, a memo was sent to the Bord, which concurred that an EIA is required and that the applicant was to prepare an EIAR.

10.9. On submission of the EIAR, the screening report by Fers Ltd. confirmed that a mandatory EIAR is required under Class 2(c) of Part 2 of Schedule 5 of the Planning and Development Regulations 2001 (as amended) that mandatory EIA is required for

"…*All extraction of minerals within the meaning of the Minerals Development Acts, 1940 to 1999…*"

11.0 **The Appeal**

11.1. The appeal has been submitted by John Callaghan on behalf of Sustainability 2050, which is described as an Environmental NGO, with standing under the Aarhus Convention. The appeal contains a number of appendices, which have been read. Where relevant, the details will be brought into the assessment section of this report.

11.2. **Grounds of Appeal**

11.2.1. Tailing dams have failed in the past and a new standard of safety has been adopted – *Global Industry Standard on Tailings Management*, 2020.

11.2.2. The TSF is a very large structure. The area has been subject to flooding in the past, as demonstrated by the layer of alluvium which underlays the site. Extreme flood events could saturate the dam wall and induce sliding failure.

11.2.3. The history of the operation of Tara Mines is set out.

11.2.4. Eurocodes set the basis for design of Tailings Dams. A series of appendices are included that detail how dams have failed in the past, the relevant standards to upgrade their safety and the need for oversight of mines by competent authorities, under *EU 2020/248 Best Available Techniques for Mining*. Mine rehabilitation funding after closure is also included.

11.2.5. The documentation submitted with the application is inadequate to inform AA and EIA Assessment, and the appellant has the competency to stand over this assertion. The particular concerns are:

- Only Extension 6 has a 2mm thick liner to prevent migration through the floor and dam walls.
- Percolation through the floor of the ponds is occurring, as confirmed in the EPA licence information.

- The application does not detail what residual chemicals remain in the tailings pond.
- There is no information on the lead or zinc content of the tailings. Carbonic acid from the atmosphere, due to rising CO^2 levels, displaces sulphur from lead ore.
- There is no known safe lead concentration for humans.
- There is no information of the lead levels in the local population.
- The Board's Inspector on the previous application did not know where water is stored when the River Boyne is flowing below the 50th percentile of flow.
- The walls of the dam should be checked for both drained and undrained conditions.
- An EIA is required on a mandatory basis, as it comes within Schedule 5, Part 1, of the *Planning and Development Regulations*, 2001 as amended under the following projects:

  15. Dams and other installations for the holding back or permanent storage of water, where a new or additional amount of water held back or stored exceeds 10 million cubic metres (the volume of water and soil is of the order of 44 million cubic metres).

  19. Quarries and open cast mining where the surface of the site would be greater than 25 hectares.

  Schedule 5, Part 2, of the *Planning and Development Regulations*, 2001

  2 (b). Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares.

  2 (c). All extraction of minerals within the meaning of the Minerals Development Acts, 1940 to 1999.

  10(dd). All private roads which would exceed 2000 metres in length.

  10(g). Dams and other installations not included in Part 1 of this Schedule, which are designed to hold water or store it on a long-term basis, where the new or extended area of water impounded would be 30 hectares or more.

10 (l) Groundwater abstraction and artificial groundwater recharge schemes not included in Part 1 of the Schedule, the average annual volume of water abstracted or stored would exceed 2 million cubic metres.

- The nature of the project, which is aimed at securing the stability of the impounded sludge adjacent to a town of 30,000 inhabitants would warrant subthreshold EIA.
- A Subthreshold EIA would be triggered given the criteria for Subthreshold EIA, which include the characteristics of the proposed development, its location, and the characteristics of the potential impacts as set out below.
- In this case, the characteristics of the proposed development include the production of waste, pollution and nuisances. The location of the proposed development having regard to the abundance, quality and regenerative capacity of natural resources in the area. The characteristic of the potential impacts due to the geographical area and size of the affected population, the magnitude and complexity of the impact, the probability of the impact and the duration, frequency and reversibility of the impact.
- A cumulative EIA is necessary bringing together the separate mining operations. This includes new Air Shafts, which will distribute dust from lead ore and this dust will come into contact with carbonic acid from CO^2 mixing with rain clouds or water vapour.
- It is difficult to see how an AA Screening could be carried out without Ground Investigations to understand the range of soil parameters and conditions to allow the strength of soil to be estimated. Cone Penetration Tests are required. No results are provided.
- The industry standard which mining infrastructure is designed to is not the 1 in 1,000 year flood, but the 1 in 10,000 year flood. The ESB in 2009 applied this standard to Ardnacrusha, following a slippage. Since the mid 1980's, the ESB has commissioned flood control and dam safety checks on their network of dams and have undertaken upgrading works to ensure compliance with current international standards. The relevant regulations are SI No. 122 of 2010 *European Communities (Assessment and Management of Flood Risks).*

- A major 48 hour rainfall event with high winds would cause water to be washed over the side of the dam and induce surface erosion.
- The statistics on salmon populations in the River Boyne is inaccurate in the Appropriate Assessment. Salmon stocks are stated to be at 78% the conservation limit. Instead, according to the 2022 Report of the Technical Expert Group on Salmon for Inland Fisheries find salmon to be at 24% of the conservation limit.
- Legal cases have established the criteria for the scientific approach to AA Assessment.
- The drawings are inadequate as the sections do not show bedrock, subsoil and where the deposited material starts. This is contrary to the Balscadden case where it was found that structures have to be shown.
- Section drawings are required to be at a maximum scale of 1:200 in the Planning and Development Regulations, 2001, as amended. The section drawings submitted are 1:250. The overall height of the dam walls are not shown on the sections.
- The applicant has not demonstrated compliance with the *Commission Implementing Decision* 2020/248, which relates to the technical guidelines for inspections of waste facilities.
- There is no evidence that the planning authority inspected the site notices, as required under Section 34 of the Planning and Development Act, 2000 as amended.

11.3. Applicant Response

11.3.1. The applicant considers that the appellant does not fully understand the nature of the proposed development, given the number of irrelevant classes of projects cited that require EIA.

11.3.2. The height and storage capacity of the dam is not changing.

11.3.3. The proposed development is the construction of a rockfill and earthen reinforcement buttress to sections of the existing embankment walls of the TSF. It is the addition of rock to the existing embankment of the TSF to provide for greater stability.

11.3.4. The buttressing of a dam is not a class listed in the Part 1 or Part 2 of Schedule 5 of the Planning and Development Regulations, 2001 as amended.

11.3.5. The proposed development is not a change to or extension of the existing dam, within the meaning of Class 22, Part 1 or Class 13, Part 2 of Schedule 5. It does not result in an increase in size greater than 25% of the dam or which results in a size greater than an amount equal to 50% of the appropriate threshold.

11.3.6. The vast majority of the materials (95%) are by-product materials and would constitute 8.65% of the total material used to build the embankments of the dam to date.

11.3.7. The proposed development is not a quarry. It does not involve the extraction of minerals within the meaning of Class 2 (c), Part 2, Schedule 5. There are no private roads that would exceed 2000 metres being constructed. There is no groundwater abstraction as part of this development and no artificial groundwater recharge scheme.

11.3.8. An Environmental Impact Report in relation to subthreshold EIA is enclosed that concludes that the proposed development is unlikely to have significant effects on the environment [*Inspector - please note that the report was not enclosed and a Section 132 notice issued to request it. However, the report was not submitted in response to the notice*].

11.3.9. The proposed development is in keeping with the concern of the appellant to address potential failure of the TSF and this is a key objective of the Global Industry Standard on Tailings Management, which Tara Mines is adopting.

11.3.10. The appellant is attempting to bring in wider issues about the Tara Mines operation which is not relevant to this proposed development.

11.4. **Planning Authority Response**

11.4.1. The planning authority is satisfied that all matters are dealt with in its assessment and requests that the Board uphold its decision.

11.5. Observations/Submissions Following Public Consultation of EIAR

11.5.1. Following receipt of the EIAR the EIAR was advertised on 13.02.2024. No submissions were received. The Board requested submissions under Section 131. The planning authority has no further comment. Sustainability 2050 made a submission. The contents are summarised below.

11.5.2. Reference is made to a separate appeal (**ABP-317390-23**), for a water treatment plant and ancillary infrastructure. The Third Party states that this is to deal with a treating a 400% increase in mine water discharge that has arisen from a flooding event.

11.5.3. The appellant considers that a special hazard arises because the TSF holds water back at times of low flow in the River Boyne, rather than allowing it drain continuously.

11.5.4. It is argued that the type of structure (an upstream dam) is the least stable type of dam structure. These cannot be classed as the Best Available Technique for dealing with mine waste, in accordance with Directive 2006/21/EC. These should not be employed if there is the slightest risk of liquefaction after seismic events. The Seismic Risk for an embankment structure is significant over an 80 year period. Insufficient information in terms of calculations and test data has been put before the interested public and the Board. The return period should be 10,000 years. A compliance statement should be provided for various Eurocodes. A Factor of Safety of 1.3 is required for extreme conditions and a Factor of Safety of 1.5 is required in the short and long term.

11.5.5. The flood risk assessment should be for a 1 in 10,000 event. The dam is categorised as a Class A Risk. The 1 in 1,000 year flood assessment is grossly inadequate. The flood risk should be based on the potential number of persons who could die.

11.5.6. The TSF potentially exposes the local population to silica dust, which can cause lung damage (silicosis), which is irreversible.

11.5.7. The EIAR has not accounted for recent events in the mine when closed. This gave rise to flooding, reduced water tables and increased output of mine water. Any major change in the water table can lead to internal erosion.

11.5.8. The EIAR has not considered all reasonable alternatives, as per C-461/17. A liner should have been included which offers stability advantages. The reasonable alternatives should have included to build a new dam outside the existing dam, which would have included a new liner. Another alternative would have been to pipe mine

water to the Irish Sea following treatment. A third would be return 50% of the mine water mixed with cement, to reduce tailings waste.

11.5.9. The EIAR failed to consider potential flow paths from a breach in the Tailings Dam similar in scale to breaches in 1998 and 2000.

11.5.10. The NIS is inadequate as it does not consider the use of the tailings pond for mine water storage during low flows in the Boyne. It does not consider modes of failure. The Cone Penetration Test information is not provided. A Factor of Safety of 1.1 is low, if based on these results. The Board needs to see the calculations and the public to make a determination. There are no detail of an Emergency Response Plan in the event of a breach of the TSF. Meath County Council has refused to confirm that it has an Emergency Response Plan in place for the TSF and refused to release a copy of it. A letter from the council is enclosed.

12.0 **Assessment**

12.1. The main issues in this planning appeal, in my opinion, are as follows:

- The nature and principle of the proposed development;
- The necessity for EIA;
- The adequacy of the EIAR submitted subsequent to screening;
- The adequacy of the NIS;
- Compliance with the Technical Guidelines for Inspections under the Directive on the Management of Waste from the Extractive Industry;
- The validity of the application.

12.1.1. The necessity for an EIA has been considered under Section 10 of this report and an EIAR was found to be mandatory.

12.1.2. The EIAR and NIS will be assessed under the relevant sections.

12.1.3. The other points will be dealt with below.

12.2. **The nature and principle of the proposed development**

12.2.1. The purpose of the proposed development is to enhance the structural stability of sections of the existing embankment walls of the TSF, by adding rockfill to the lower slopes. It involves the addition of rockfill on the downstream slope and crest of Stage 1, 2 and 3 starter embankments, which increase the stability of the upstream raises, Stage 4 and 5. The embankment will be landscaped. It is a two phase process, with the higher element constructed first. The proposed development will increase the Factor of Safety to greater than or equal to 1.5.

12.2.2. It involves the importation of circa 1.235 million tonnes of rockfill to the site, which can be done on a 1 year, 2 year or 3 year basis. The planning authority has conditioned that this be done on a 3 year basis, so as the truck movements have less of an impact on the local road network.

12.2.3. The nature of the proposed development, in planning terms, is that it is an improvement of an existing structure, in this case, the TSF dam. It is not an extension to the dam as no increase in size occurs or increase in the height of the embankment walls or increase in the volume of water stored in the dam.

12.2.4. Having regard to the extant, authorised TSF on site, I consider that the proposed development is acceptable in principle. Its purpose is to enhance the stability of the TSF and thereby reduce the risk of a major accident. I note that there is an Environmental Liability Risk Assessment for the dam held by the EPA as part of the licence process, dated 2020 and available to the public, which deal with the risk of a breach, the potential impacts and worst case scenario. It notes that an external emergency plan is place with Meath County Council, An Garda Siochana and the Health Service Executive. A worst case scenario anticipates that 1,278,000m^3 of dam contents would be released, affecting 570 ha. This would include the Blackwater and Boyne Rivers, (from 1000m upstream of the Yellow River and 1,500 m downstream). I note this information, although publicly available and referred to in the EIAR (10.5.16), is not provided in the EIAR.

12.3. Compliance with Inspection of Waste Facilities for the Extractive Industry

12.3.1. This relates to inspections of waste facilities for the mining industry, including Part E for the inspection of dams containing tailings. I am satisfied that this is not a planning issue and is a matter for the EPA and HSA, where relevant.

12.4. Validity of the application

12.4.1. The appellant has challenged the validity of the application on a number of grounds. These relate to the drawing scales used, the absence of detail in relation to the structures and whether the planning authority had inspected the site notice.

12.4.2. The *Planning and Development Regulations* 2001, as amended require that sections be drawn to a scale of not less than 1:200, or any other scale as agreed by the planning authority, under Article 23 (1) (d). The planning authority validated the application. The size of the site is very large in relation to most projects, so it is understandable that a non-standard scale is used. Therefore, I am satisfied that the drawings with this scale are valid.

12.4.3. The appellant considered that as the subterranean structural elements need to be shown on the submitted drawings, which was found to be required in the Balscadden case ([2020] IEHC 586). In the Balscadden case, this was for a proposed development, where new structures (15 metres in height) were going to be created, close to the boundary with existing houses. I do not consider that the same circumstances apply here, as the structures are existing and are going to be extended upwards, as shown on the drawings. There are no changes to the structures below the surface of the existing stages. There is no change in their location that could impact on Third Parties. Therefore, I am satisfied that the drawings provide the necessary information to enable a decision to be made.

12.4.4. I have no reason to doubt that the site notice was inspected by the planning authority, as this is standard practice within 5 weeks of the submission of the application.

12.4.5. The planning authority considered that the application was valid and I concur with this finding.

13.0 EIAR Assessment

13.1. An EIAR was received by the Board and was advertised on 10.02.2024 date. No observations were received by the Board in response to the public notice. A

submission was made by the Third Party, which has been summarised. The contents are considered in my evaluation of the EIAR.

13.2. **Article 94 Compliance**

13.2.1. An EIAR must be consistent with Article 94 of the Planning and Development Regulations, 2001, as amended. The table below sets out my comments on this.

13.2.2. **Table 1: Article 94 Compliance**

1. The information specified in Paragraph 1 of Schedule 6		
	Description of proposed development: Site, design, size and other relevant features	See Chapter 3. This includes details on the site, design, size and relevant features. The description is adequately detailed to allow assessment of the likely effects on the environment.
	Likely significant effects on the environment	See Chapters 4-14. Each of these chapters describes the significant effects on the environment of the proposed development
	Design and mitigation measures to avoid, prevent and reduce significant adverse effects	See Chapters 4-14 and associated appendices and summarised in Chapter 15. I am satisfied that the mitigation measures are sufficient to minimise the

		environmental effects, subject to compliance with conditions
	Reasonable alternatives and main reasons for the option chosen, taking into account effects on the environment	See Chapter 3. This is terse and lacking in detail. However, the alternatives listed could be more invasive and so have a higher safety risk
Any additional information specified in Paragroph 2 of Schedule 6 relevant to the specific characteristics of the development concerned and the environmental features likely to be affected and methods of assessment		
(a) Description	Description of location	See Chapter 3
	Physical characteristics including where relevant demolition and land use requirements during construction and operation	See Chapter 3. Please note that there is no demolition involved.
	Main characteristics of the operational phase	There will be no change to the current operation of the TSF. The purpose of the proposed development is to provide stability for the dam
	Estimate of expected residues, emissions and waste (type and	See Chapter 3. There are no impacts on operation

	quantity) in construction and operation	
(b) Reasonable Alternatives		See Chapter 3. The two alternatives considered – densification or desaturation of the tailings, which pose a greater risk to foundations. These alternatives are more interventionist, so could result in a greater risk of consequences for the environment.
(c) Baseline scenario and 'Do Nothing'		The baseline context is provided. The 'Do-Nothing' scenario is not considered satisfactory, due to the need to improve the stability of the TSF
(d) Factors likely to be significantly affected	Population and human health	See Chapter 10
	Biodiversity	See Chapter 6
	Land	See Chapter 12
	Soil	See Chapter 12
	Water	See Chapter 7
	Air	See Chapter 8

	Climate		See Chapter 11
	Material Assets		See Chapter 5
	Noise and Vibration		See Chapter 9
	Cultural Heritage		See Chapter 13.
	Landscape		See Chapter 4.
(e) Significant effects			See Chapters 4-14
(i) Description of: (i)	(I)	Construction and existence of proposed development and demolition	See Chapter 3, Appendix 1A
	(II)	Use of natural resources	See Chapter 3
	(III)	Emissions	See Chapter 8
	(IV)	Risk to from accidents or disasters	See Chapter 3 and 10. It is noted that potential for risk of breach during construction is not identified. However there is reference to an ELRA, which details the likely effects to arise
	(V)	Cumulative effects with existing or	Considered under main chapter headings

	approved developments	
	(VI) Impact on Climate and vulnerability to Climate Change	See Chapters 7, 8 and 12
	(VII) Technology and Substances used	See Chapter 3
(ii) Likely Significant Effects	Direct	Considered under main chapter headings
	Indirect / Secondary	Considered under interactions
	Cumulative	Considered under main chapter headings
	Transboundary	Not relevant
	Short term	Most effects are temporary or short term
	Medium Term	Not generally relevant
	Long Term	Considered under visual impact
	Permanent	Permanent structure
	Temporary	Most effects are temporary or short term

	Positive	Ensures structural stability of dam, reduces risk of a major accident or disaster, may improve the diversity of grassland habitats
	Negative	Most effects are temporary or short term.
(f) Forecasting methods, evidence, difficulties encounters and main uncertainties		Yes, however some results are not provided from Cone Penetration Tests
(g) Measures to avoid, prevent, reduce or offset adverse effects, monitoring during construction and operation		Yes
(h) Significant adverse effects arising from vulnerability to risks of major accidents and/or disasters, mitigation measures and preparedness and response to emergencies arising from such events		Purpose of application to avoid this, risks during construction considered and mitigated for. Chapter 10 considers Health and Safety and describes how the IEL licence provides for dealing with ELRA and CRAMP. Chapter 7 considers flood risk
Non-Technical Summary		Yes – the Non Technical Summary

	accurately reflects the chapters in the main volume
Reference list of sources	This is provided for each chapter
List of experts and their competence	This is provided for each chapter

13.2.3. I conclude that the EIAR generally complies with Article 94 of the Planning and Development Regulations, 2001, as amended.

13.3. Non Technical Summary

13.3.1. I consider the document an accurate reflection of the chapters in the main volumes.

13.4. Assessment of Likely Significant Effects

13.4.1. This section considers the likely significant effects of the proposed development. Each individual table will consider, under the chapter headings, what the main issues raised by observers and prescribed bodies, an examination, analysis and evaluation of the assessment of likely significant effects, the existing baseline, summary of the potential effects (direct, indirect, etc.), mitigation measures, residual effects and evaluation. Following the various tables, a reasoned conclusion will be presented.

13.4.2. The EIAR includes an introduction and scoping report, with a summary of public consultation held in relation to the proposed development.

13.5. Chapter 3 – Description of the Proposed Development

13.5.1. The chapter provides information on the site, the existing Tailings Storage Facility (TSF) the purpose of the application, its size, design, access and method of construction. It explains that the proposed development is required to improve the stability of the dam, to increase the factor of safety. The context is set out and is similar to the site description above. Additional material relates to geology, seismicity, climate and environmental monitoring procedures.

13.5.2. The chapter considers the risk of seismic activity. It notes a low number of events in the vicinity. It estimates that the maximum credible earthquake, on the basis of geological and seismological evidence would have a design Peak Ground Acceleration (PGA) of 0.06g. It states that the TSF is not currently at risk of instability because of operational practices and static slope stability. However, since 2020, best international practice requires that this risk is managed by design.

13.5.3. As the purpose of the proposed development is to increase stability, two alternative approaches are considered. These are densification of the tailings or desaturation of the tailings. Densification of tailings involve the placing of waste rock or sand into the TSF. The EIAR states that this decreases the moisture content of liquefied tailings, but does not reduce the likelihood of dam failure, post a seismic event. Desaturation of tailings involves reducing the moisture content, potentially by electrolysis. This would have a high energy demand. These are considered to pose too high a risk to the stability of the dam and so were excluded. The 'Do-nothing' Scenario is not considered preferable having regard to the need to reduce the environmental risk of failure.

13.5.4. Alternative construction periods were considered, of 1.5 to 3 years. Different construction hours from summer to winter are proposed, with delivery times reduced during school drop off and pick up times.

13.5.5. The sequence of construction works is set out. Some 3,858.8 linear metres are required to be added to the existing embankment walls to the older parts of the dam. This will require the importation of rock fill (265,700m^3) and topsoil (295,650m^3), site clearance works in terms of removal of vegetation, topsoil and existing drainage channels from the side slopes. Phase 1 Buttress at the toe of the higher dam and will take 30 weeks. Phase 2 Buttress will proceed from ground level up and will take 80 weeks. Crest access roads will be provided and reseeding and vegetation of the side slopes will take place.

13.5.6. The rockfill is reused mine waste (under Article 27, a by-product), which will be tested for its suitability. No ore processing waste will be used. If there is any shortage, supply will be filled from nearby quarries. The soil will be also sourced under Article 27. The recovery and disposal of waste streams will be appropriately managed.

13.5.7. Sub-surface water drainage shall be collected in the interceptor drain and returned to the TSF. A new drainage layer will be installed.

13.5.8. Current monitoring methods are described, including river and stream sampling locations. The EPA also have two river monitoring stations at the Yellow River and two on the Blackwater. Surface water monitoring results are compared with the regulation Environmental Quality Standards.

13.5.9. *Issues Raised by Third Parties*

13.5.10. The Third Party is concerned that the waste could give rise to pollution and that the construction approach should be informed by testing in a drained and undrained situation. The TSF, as constructed, is not the Best Available Technique. The reasonable alternatives could have included for the insertion of a liner; surrounding of the dam with a new dam that includes a liner; the piping of mine water to the Irish Sea following treatment and the mixing of mine water with cement to reduce tailings waste. The Seismic Risk Assessment should be provided.

13.5.11. Inspector's Conclusion

13.5.12. The chapter sets out the purpose of the proposed development, the 'Do-nothing Scenario' and alternatives. There is very little detail on the alternatives or information in comparison as to how well the proposed development option performs in relation to environment. That said, I am satisfied that the proposed development, which interferes least with the contents of the dam and provides a productive reuse of material that may otherwise sent for disposal, would be the least intrusive, environmentally. The Third Party considers that more alternatives should have been considered. I do not agree that there is a requirement in the Directive to consider a large range of alternatives. The alternatives suggested by the Third Party appear on the face of them, to be more intrusive on the dam structure, potentially increased risk of dam failure and risk of pollution, requiring excessive space, particularly where the TSF is close to water courses, would be unreasonable expensive, would require access through third party lands or would increase greenhouse gas emissions.

13.5.13. The construction of the TSF began in 1977. The proposed development is improving a long existing structure and bringing it's safety standards up to current levels. The scale of the project is large - the surface area of the embankment will be increased from 16.98ha to 24.7ha (7.72ha increase, approximately 45% increase in area). I am satisfied that the proposed development is an appropriate environmental response to the potential risk of stability of the dam. I note that the Third Party

considers that the Factor of Safety should be 1.5 and this is consistent with the Factor of Safety that would be achieved. This level of Factor of Safety would be resilient, should a seismic event occur.

13.5.14. I am satisfied that that the chapter adequately describes the project.

13.6. Chapter 4 - Landscape and Visual Impact Assessment

13.6.1. Context

13.6.2. The landscape designation for the area in the current county development plan is set out in Section 4.4.1. It is located in a lowland landscape, LCA 3, with a moderate landscape value and sensitivity. It is described as Regional Importance, but in a 'degraded condition'. West and south of the site is the Blackwater Valley LCA, which has a high sensitivity.

13.6.3. Baseline

13.6.4. The TSF is between 20-28m above the surrounding area, which is generally farmland. The fields have mature boundaries. Nine Viewshed Reference Points (VRPs) are presented. The R162 at Proudstown Cross is a protected view of local value. The site is not visible from here. VRP7 and VRP8 are located in the vicinity and include views from the race course.

13.6.5. The TSF dominates the surrounding area. It is considered that there are no particularly unique or remarkable landscape features within the study area. The Boyne Valley to Lakelands Greenway is the main recreational feature, which runs parallel to the TSF.

13.6.6. Issues raised by Third Parties

13.6.7. None.

13.6.8. Potential Effects

13.6.9. The potential effects are considered long term and permanent. However, they are described as a minor form of land disturbance in an area with a long established landscape character where the main element is the TSF. It is considered a limited increase, clearly related to the industrial active.

13.6.10. Direct Effects

13.6.11. The change will be negative and permanent, but not incongruous. It will be reintegrated into the environment with appropriate seeding and grasses. The overall magnitude is described as Low-negligible, within 1km of the site and imperceptible with increasing distance. In relation to the individual VRPs, the impacts are described as imperceptible, negative and permanent.

13.6.12. Indirect Effects

13.6.13. None stated.

13.6.14. Mitigation Measures

13.6.15. Mitigation by avoidance in design.

13.6.16. Residual Effects

13.6.17. As design is embedded, there are no residual effects.

13.6.18. Cumulative Effects

13.6.19. No cumulative effects were found, due to distance.

13.6.20. Interactions arising

13.6.21. There is some interaction with ecology.

13.6.22. Inspector's Conclusion

13.6.23. I concur that there are no significant visual effects or impacts on landscape character arising.

13.7. Chapter 5: Material Assets

13.7.1. Context

13.7.2. The chapter considers Electricity, Roads and Traffic, Built Services and Water Management.

13.7.3. Baseline

13.7.4. The existing access to the TSF will be utilised on the L74141. Traffic enters from the R163 junction and exits to it. There is an existing wheelwash. A Traffic Impact Assessment was carried out. Traffic counts were carried out on 09.07.2021.

13.7.5. Power to the site is provided via an existing substation. No additional electrical infrastructure is required.

13.7.6. The storm water system catches and returns run-off to the TSF. Foul water is treated on site. There is a potable water supply in place.

13.7.7. The current road network already caters for the development.

13.7.8. Issues raised by Third Parties

13.7.9. Concerns about pollution.

13.7.10. Potential Effects

13.7.11. During construction, there will be an increase in the power required to the site. During operation this will revert to its current baseline. The same applies to the foul network system and potable water.

13.7.12. Direct Effects

13.7.13. The most significant direct effect is in relation to traffic. Depending on the length of construction time chosen there will be between 142 to 65 loads per day. A Traffic Impact Assessment was carried out. It found that the local and two regional roads will continue to operate within capacity for all construction phase options. The N51 is already overcapacity. With the additional traffic, the impact on the N51 is circa 0.79% for Option A (1.5 years), 0.60% for Option B (2 years) and 0.43% (3 years) for Option C. The impact is temporary. All the junctions will continue operate within capacity, save for the R162 arm of the roundabout with the N51, which is already at overcapacity. The increase in queues is circa between 0.5 and 1 vehicle, with a 2 to 6 second delay. This effect is temporary.

13.7.14. Construction related waste that requires to be removed from site is likely to be low. There will be no increase during operational stage.

13.7.15. The importation of 265,690 m^3 of mine rock and 295,650m^3 of soil to the site will be governed by Article 27, as determined by the EPA. This will give rise to dust.

13.7.16. Drainage stone will be sources from Slane Quarry or O'Reilly Concrete in Kingscourt.

13.7.17. Indirect Effects

13.7.18. These relate to air pollution and noise, which will be considered under these chapters.

13.7.19. Mitigation Measures

13.7.20. The importation of materials will be checked for composition (this is governed in the existing IE Licence) and invasive species spread. There will be a Construction Environmental Management Plan, including a Traffic Management Plan, Resource and Waste Management Plan and Invasive Species Management Plan.

13.7.21. Residual Effects

13.7.22. The residual effects will be imperceptible on the local road network.

13.7.23. Cumulative Effects

13.7.24. There is existing importation of materials from the rehabilitation works on-going on site. However, these are not considered to contribute to a significant cumulative effect. Other large operators in the locality are Kilsaran Quarry and Bord na Mona Recycling.

13.7.25. Interactions Arising

13.7.26. Traffic interacts with air quality and noise.

13.7.27. Human Health / Risk of Accidents

13.7.28. An Emergency Response Plan will be in place.

13.7.29. Inspector's Conclusion

13.7.30. I am satisfied that there are adequate checks proposed in relation to the importation of materials to site, to minimise the potential for pollution. The traffic count survey is dated, undertaken nearly three years ago and carried out during the Covid 19 pandemic, when private car usage was reduced. I therefore consider that the EIAR has underestimated the impact of the proposed development on the road network. However, the impacts during construction are of a temporary nature and the planning authority has conditioned a time frame of three years. I consider that approach appropriate to mitigate the impacts of traffic on the road network. The provision of an emergency response plan is a key mitigation measure.

13.8. Chapter 6 Biodiversity

13.8.1. Context

13.8.2. Consultation was undertaken with Inland Fisheries Ireland (IFI), An Taisce, Birdwatch Ireland and NPWS. As well as desktop research, the company has been surveying the site since 2006. A Biodiversity Audit was undertaken in 2021 and a survey in December 2023 found that no substantial changes in habitat arose over the interim. Mammal surveys were carried out in June. These included trail cameras. Otter and kingfisher surveys were carried out on the Simonstown stream. Bat and bird surveys were carried out in 2021. Wintering bird surveys were conducted between October 2021 and March 2022. The timing of the EIAR in winter of 2024 was outside the period of activity for most flora and fauna.

13.8.3. Baseline

13.8.4. The site is located in an environmentally sensitive location and the zone of influence is considered to extend to 5km. The area is generally improving grasslands, with some Mixed Broadleaved Woodland. The Yellow River and Simonstown Stream are proximate. There are a high number of orchids on the south facing slopes of the dam. A wide diversity of mammals are recorded in the general TSF area, including Irish Hare. An otter has used the Simonstown Stream. Bat surveys found that there quite a significant use of the woodland areas of the site by bats, both in numbers and species. Bird surveys showed that the site is used by up to 43 species of birds. The number of protected raptor species present demonstrated the health of the bird population on site. Up to 300 Whooper swans are known to roost at the TSF but the maximum observed in 2021 was 187. This population is of international importance. The Simonstown Stream is a commuting / foraging corridor for kingfisher.

13.8.5. Issues raised by Third Parties

13.8.6. Concerns in relation to risk to surface waters, should the dam fail. The statistics for salmon are incorrect and are said to be at 78% of the conservation limit when they are at 24% of the conservation limit.

13.8.7. Potential Effects

13.8.8. Direct Effects

13.8.9. During construction, the proposed development will remove the grassland habitats on the slopes of the dam walls, which host a diverse habitat. There is potential for sediment to impact on water quality in the Yellow River and Simonstown Stream and in turn the Blackwater and Boyne Rivers. Noise could deter Whopper Swans, Gloden Plover and Lapwing from using the TSF. However, it is considered that they have become habituated to noise arising from rehabilitation works on site (the same is considered for the Kingfisher and Otter). Alien Invasive Species could be imported onto the site, through the importation of soil.

13.8.10. The Meadow Pipit, Skylark and Yellowhammer breed at ground level. There will be short term negative but reversible effects on these birds.

13.8.11. The loss of grassland will give rise to short term disturbance of birds, rabbits, hares and invertebrates, but there is alternative habitat present on site.

13.8.12. No significant impacts are foreseen on bats.

13.8.13. *Indirect Effects*

13.8.14. The removal of the grassland habitats will have an indirect impact on mammals. A reduction in water quality could reduce aquatic life in the watercourses, with consequential impacts on the otter and kingfisher.

13.8.15. *Mitigation Measures*

13.8.16. A series of preventative measures are set out. These include the prevention of sediment impacting on water quality and ensuring that waters take place within the boundary of the inceptor ditch. Disturbance to the watercourses is minimised. Lighting curtailed in the hours of darkness to prevent the disturbance of wintering birds from lighting, by working only in daylight. Alien Invasive Plants will be prevented from arriving on site (Appendix 6.B *Invasive Alien Plant Species Management and Control Plan*) The habitat will be restored when works are completed. There is alternative habitat available. An Ecological Clerk of Works will be appointed. A *Construction Environmental Management Plan* will be prepared. *A Habitat and Conservation Plan* has been submitted (Appendix 6.A). This will involve the removal of grassland in a phased approach (500 metres at a time which would take one month at a time), a seed bank to repopulate the grasslands and no disturbance outside the interceptor ditch.

The sod will be removed intact, where possible and reinstated. Monitoring will inform how reinstatement is proceeding and if other measures are required.

13.8.17. Residual Effects

13.8.18. No residual effects are anticipated. There will be a beneficial effect in relation habitat diversity post construction.

13.8.19. Interactions

13.8.20. Noise, air quality and climate could overlap but are considered negligible. No adverse impacts are expected in relation water and hydrology.

13.8.21. Cumulative Effects

13.8.22. A number of permissions are referred to and a future application for a solar farm of 18MW on the mine complex site.

13.8.23. Inspector's Conclusion

13.8.24. The clearance of the existing vegetation on the TSF is one of the main environmental impacts arising from the proposed development. The methodology chosen, to clear in strips, ensures that there is some opportunity for birds and mammals to move to refuges. The retention of sods will enable the vegetation to reestablish naturally. The limiting of lighting to daylight hours minimises impacts on roosting wintering birds. I am satisfied that while the short term impacts are significant, the habitat of the TSF can be restored and impacts on the biodiversity of the site minimised. I am satisfied, given the works ongoing on the site, that animals and birds are habituated to noise. The issue of water quality will be dealt with in the next chapter. I note that salmon, which is raised by the Third Party, is considered in the NIS rather than the EIAR. The mitigation measures in relation to water quality would apply to salmon and so I am satisfied that the Boyne River, which is a Salmonid Water designated under the EU Freshwater Fish Directive will be sufficient to ensure that the species will not be adversely impacted by the proposed development. I am satisfied that the impacts on biodiversity, are acceptable.

13.9. Chapter 7 Water: Hydrology and Hydrogeology

13.9.1. Context

13.9.2. This chapter covers the above headings as well as hydromorphology, flood risk and water resources and the Water Framework Directive.

13.9.3. Baseline

13.9.4. Stages 1 to 5 of the TSF is constructed from earthen fill. Stage 6 has a composite liner. The walls are constructed using glacial or silt till. The upstream section consists of low permeable glacial till and the down stream is a less clayey material. These are separated by way of a granular chimney drain, which connects to a rock fill drainage blanket. The water is drained to a collection chamber, down to the lower dam walls and into the interceptor channel.

13.9.5. The interceptor channel at the toe of the dam walls consists of a mix of open channels (Chainage 0 to 2180), concrete pipe (900mm diameter) and backfilled with drainage stone (Chainage 2180 to 2625) and from Chainage 2625 to 3850, a 600mm diameter twin-wall HDPE filter pipe, backfilled with drainage stone.

13.9.6. The TSF settles solids and returns clear water for circulation in the mine (reclaim water). The water in the TSF is alkaline, due to its limestone content. The metals within the water drop out of solution and the organic reagents are aerobically degraded, so that B.O.D concentrations in the water are low. The TSF has capacity to store water so that in periods of low flow in the River Boyne, water can be held back. The reclaim water overflows into a clear water pond and a weir structure at the pond outlet measures the discharge to the Boyne, which is continuously monitored. There is a gauge on the River Boynes to measure flow. The minimum dilution rate is 100:1.

13.9.7. The waste mine material to be used in construction has been subject to geochemical assessment. The testing indicated that the material is not expected to generate acidic drainage.

13.9.8. A seepage assessment was undertaken for the buttress and interceptor channel and a stability assessment on the proposed buttress raised slopes.

13.9.9. Monitoring of groundwater has been operating since 1996 and 52 locations are monitored, both by way of piezometers and domestic wells. Surface water is monitored at 17 locations on rivers, streams and the interceptor channel. The conceptual model

is stated to be robust. There is an OPW hydrometric station on the Blackwater River, 2km from the site at Liscartan and the EPA have two monitoring stations on the Yellow River and on the Blackwater River.

13.9.10. The key parameter for monitoring purposes is sulphate. This has been stable upstream and downstream of the TSF, except in 2018-2019, during a construction related event. Other parameters, including heavy metals, remain generally below the Groundwater Threshold Values.

13.9.11. The Yellow River is gauged to assess the relationship between the water level and flow. In 2021, AECOM prepared a Mass Balance report on seepage from the TMF, as part of the IE Licence conditions. This must be prepared once every three years. There are similar reports from 1995 and 2015. The Yellow River flows are higher upstream of the TSF than downstream, indicating that water is lost to groundwater due to water infiltrating through the alluvial superficial deposits.

13.9.12. The EPA's monitoring station on the Yellow River downstream of the TSF (600m) found the Q value to be Poor (3) in 2020. There is no equivalent up to date information for upstream of the TSF. The Blackwater River monitoring station found that upstream of the TSF (2.2km), the Q value was Good (4) and downstream (2.8km) was Moderate (3-4).

13.9.13. The TSF underlying geology is sandstone and shale till on the western section and alluvium on the eastern section. Pockets of limestone sands and gravel are to the south. There are two groundwater bodies under the TSF – the Wilkinstown and Athboy groundwater bodies. The Wilkinstown is considered Poor, At Risk with the main pressure being agriculture, under the Water Framework Directive classifications. Athboy is considered Good and Not At Risk.

13.9.14. Water levels are between 1 to 9m below ground. The dominant flow is to the southwest (Yellow River and Blackwater River). Groundwater levels are monitored at 25 locations around the TSF. Acid Rock Drainage is monitored annually, heavy metals quarterly and sulphate, pH and conductivity monthly.

13.9.15. Results in the last 5 years show that sulphate concentrations are decreasing over time in bedrock boreholes and are stable in the superficial deposit levels. Ph and heavy metals have been generally below the Minimum Detection Levels. Other parameters are within the Groundwater Threshold Values (GTV), save for manganese

(which is occurring naturally), ammoniacal nitrogen and potassium (related to farming activities). At a private well near the site, sulphate concentrations generally remain below GTV.

13.9.16. GSI and DECC have produced Groundwater Flood Probability Maps (2020). The site is not shown to flood. However, the flood maps do not consider climate change, according to the EIAR. Surface flooding occurred at the confluence of the Yellow River with the Blackwater River, 1 km from the site in 2015/2016.

13.9.17. Third Party Issues

13.9.18. Only Stage 6 has an impermeable liner. The rest of the TSF is percolating to groundwater and giving rise to pollution, as is clear from monitoring. Testing of the strength of the walls is required in a drained as well as undrained condition. The industry standard for flooding is not the 1:1000 event, but the 1:10,000 event.

13.9.19. The EIAR does not consider potential flow paths from a breach in the dam.

13.9.20. The Third Party states that there has been recent events in the mine due to its closure, which has given rise to flooding, a reduction in the water table which could in turn lead to erosion in the TSF.

13.9.21. Potential Effects

13.9.22. Direct Effects During Construction

13.9.23. Potential impacts on surface waters quality around the TSF, which flow to the River Blackwater and onto the River Boyne, arising from increased turbidity. The interceptor channel could overtop and impact on water quality. Leaching of sulphate-rich water from surplus mine rock may occur. Damage to the hydromorphology may arise from the close movement machinery from its banks, which come within 10 metres of the works.

13.9.24. Potential for spillage to effect surface water and groundwater.

13.9.25. The interceptor channel is a closed loop system with the TSF and does not effect these surface waters. However, there is an increased risk of seepage to groundwater from the interceptor channel, or damage to the channel because of increased loading.

13.9.26. Potential reduction in flow to surface waters and recharge to groundwater because of removal of vegetation and topsoil.

13.9.27. Potential increased risk of flooding, due to volume and rate of surface water run-off.

13.9.28. The Water Framework Directive Screening Assessment notes that there significant risks posed to the surface water bodies of the Yellow and Blackwater Rivers. The Yellow River could be effected by machinery working close to the channel, giving rise to physical damage.

13.9.29. *Direct Effects at Operation*

13.9.30. There could be an increase in sulphate and manganese through leaching by rainwater and underdrainage from the dam. As noted by the Third Party, the groundwater monitoring data is shows that some seepage to groundwater is occurring. This could move latterly to the Yellow River and downwards into groundwater.

13.9.31. The Water Framework Directive Screening Assessment considers that the close proximity of the embankment to the Yellow River could cause risks and that an open inceptor channel or channel realigned of the Yellow River would mitigate the risks.

13.9.32. *Indirect Effects*

13.9.33. Impacts on aquatic life due to sediment.

13.9.34. *Mitigation Measures*

13.9.35. Measures to prevent leaching are included in the embedded design. The regular testing of mine rock (1: 10,000 tonnes); applying a neutraliser; covering the mine rock with low permeability clay and collection of leachate from the drainage system and interceptor channel, to be treated. On closure, a passive wasteland system will treat this. The drainage system has been designed to accommodate the loading. Regeneration of vegetation on site, to reduce runoff.

13.9.36. *Residual Effects*

13.9.37. There will be a long term increase in the volume and rates of surface water runoff. There is no increase in the risk of flooding, and the proposed will not obstruct flows or exacerbate flooding elsewhere.

13.9.38. *Cumulative Effects*

13.9.39. No likely cumulative effects arise.

13.9.40. *Interactions*

13.9.41. This is considered in relation to land, soils and geology and biodiversity.

13.9.42. *Inspector's Conclusions*

13.9.43. The Flood Risk Assessment has been carried out to an AEP 1:1,000 years. The Third Party has suggested that this should be 1:10,000 years, which is the flood design criteria for the Global Industry Standard on Tailings Management (GISTM). While this may be the case for this international organisation and best practice, the Irish standard is the 1:1,000 year flood, as per the OPW Flood Risk Management Guidelines. Whether the Flood Risk Assessment is acceptable for the GISTM organisation is a matter for the applicant. The Flood Risk Assessment is in accordance with Irish standards.

13.9.44. I do not consider that there is a significant risk of loss of life to the residential population in the area around the TSF, due to the limited numbers of housing in the area and their relative distance from the dam.

13.9.45. I note that the Flood Risk Assessment in the Appendix 7.B categorises the site as being within Flood Zone B, due to the risk of fluvial flooding on the western side of the site, from the Yellow River. This Zone is considered as moderate. I note that the planning authority had requested a Justification Test. It is debatable as to whether this test was required, as the proposed developed does not relate to new development, as set out in 'Box 5.1 of The Justification Test for Development Management' of the relevant flood guidelines.

13.9.46. I would concur that the main significant effects are temporary in nature, related to construction issues.

13.9.47. I consider that the use of clay to overlay the mine rock waste will reduce the volume of leachate and the regeneration of vegetation on site will assist in reducing surface water run-off. I do not consider that the proposed development will significantly increase the level of seepage to groundwater and note that the seepage recorded to date is within the emission limits values of the licence.

13.9.48. I do not consider that the proposed development will prevent the conservation of objectives of protected areas in the vicinity from being achieved.

13.9.49. The Third Party considers that potential flow paths in the event of a breach should be explored in the EIAR. Referring the Emergency Response Plan, the Third Party states that this plan has not been subject to third party scrutiny and that he has been denied access to under Access to Information on the Environment by Meath County Council. In the ELRA, two locations were considered to inform that. During construction, an emergency plan is to be put in place. This should be an update of the current emergency plan. Any CEMP submitted for planning compliance will include information on the emergency response. While this may not be open to Third Party comment, such technical points of detail are routinely submitted to the planning authority and this approach has been upheld in the courts.

13.9.50. Groundwater flow is in a south-westerly direction. The Hydrology Surface and Ground Water Assessment includes Figure 13, a Conceptual Site Model. The figure indicated that the draw down from abstraction from the mine stops short of the TSF.

13.9.51. The planning authority also requested a report from a Geotechnical Engineer, to demonstrate that the buttress structure will not be compromised during critical flood events. The potential for this is one of the concerns of the appellant.

13.9.52. The Further Information submitted concluded that the site is located on Flood Zone B i.e. a medium risk of flooding. The site is not zoned. However, the proposed development can be justified on a number of grounds. This includes that there are no suitable alternative lands for the particular use.

13.9.53. A geotechnical report was prepared by WSP Golder. It notes that the flood risk area is confined to the dam wall adjacent to the Yellow River. No flooding has encroached on the downstream toe since the construction of Stage 3, nearly 40 years ago.

13.9.54. Flooding would occur where Stage 6 is located, but permitted flood relief works have addressed this issue. No buttress works are required in this location.

13.9.55. The design of the buttress has taken account of the risk of flooding. The existing finger drains will be filled with rock to facilitate continued drainage. This allows for rapid drain down of flood waters if built up in this area.

13.9.56. Stability analysis shows that the starter walls are more stable in the event of flooding where the buttress is constructed than the current position. No detrimental impact to the overall factor of safety arises from short term flooding of the downstream toe.

13.9.57. Future erosion risks have been considered in closure planning for the facility. The slopes of the starter dam walls will be regraded to make them more shallow and less susceptible to erosion in the long term. The risk of instability from erosion is considered low.

13.9.58. It is my opinion that the works in the area proximate to flooding can be justified as the purpose of the works is to provide for the long term safety of the TSF, which cannot be done in any other location and that the proposed works will help to safeguard the stability of the TSF, in the event of flooding in the future. I am satisfied that the geotechnical report submitted with the Further Information and the mitigation measures contained in the EIAR provides for this.

13.10. Chapter 8 Air Quality

13.10.1. Context

13.10.2. The legal framework on air quality is set out, including guideline limit values.

13.10.3. Baseline

13.10.4. There are a number of air monitoring stations in and around the vicinity of the site. Seven station monitor for dust deposition, two for PM_{10} and PM_{25} and two for ambient arsenic, lead, cadmium and zinc concentrations. An EPA station in rural Navan (Zone D) is used for comparison. Benzene, nitrogen dioxide, sulphur dioxide and carbon monoxide (from fuel and traffic) was also monitored.

13.10.5. Dust deposition was recorded from 2021 to 2023. These measurements have not exceeded the 350mg/m^2/day, which is the EPA standard.

13.10.6. Third Party Concerns

13.10.7. The Third Party is concerned that the local population is exposed to silica dust and that lead from the TSF would interact with carbon dioxide and rain clouds to form carbonic acid.

13.10.8. *Potential Effects*

13.10.9. *Direct Effects*

13.10.10. Dust is expected to be generated by the proposed development during construction. The majority of dust is expected to fall within 250m to 500m of the point of release. The impact on human health is considered low due to the distance of the site from dwellings (the nearest house being c. 240m from the site boundary). The same consideration applies for PM_{10}. The impacts from construction activity is considered imperceptible.

13.10.11. Sensitive habitats at a distance of less than 25m from the emission source could be impacted and will be subject to mitigation measures.

13.10.12. The site preparation works are described of High sensitivity of temporary dust soiling impacts and an overall risk of temporary human health impacts.

13.10.13. Onsite and offsite transportation impacts will be large due to the level of HGV trips (270 no. HGV trips) on an unpaved road is considered to be of medium risk.

13.10.14. Traffic emissions are considered to be imperceptible.

13.10.15. There are no significant effects at operation stage.

13.10.16. *Indirect Effects*

13.10.17. None referred to.

13.10.18. *Mitigation Measures*

13.10.19. The CEMP will include dust deposition mitigation measures. These relate to site preparation/restoration works, on-site haul routes, stockpiling and off-site transportation. Regular wetting, sweeping of roads, low speed limits, and a wheel wash is in place. Stockpiling of materials will be laid out to reduce exposure to wind.

13.10.20. A risk assessment along the route of buttressing will be create to ensure that specific mitigation measures for sensitive habitats are provided for. An irrigation system will be used during dry or windy periods and stockpiles of sand will be covered. Binding agents will be applied to prevent wind dust blow when necessary.

13.10.21. Vegetation will prevent wind blow in operation.

13.10.22. *Residual Effects*

13.10.23. There are currently dust management and mitigation in place for the facility and these will be continued, post construction. This includes controlling tailings deposition, and maintaining moisture content and controlled dewatering so as a minimum area of beaches, without vegetation, is exposed.

13.10.24. Cumulative Effects

13.10.25. None referred to.

13.10.26. Interactions

13.10.27. Population and human health are referred to. The impacts are described as minor and imperceptible.

13.10.28. Inspector's Conclusions

13.10.29. I consider that dust during construction is one of the most significant impacts of the proposed development. While the impact on human health in this case is limited due to distance, I consider that there is likely to be a significant effect on the Yellow River. Dust mitigation measures are set out. The Third Party has raised the issue of Crystalline Silica Dust on the local population. I am satisfied that the dust mitigation measures, combined with the mitigation measures set out in the NIS that accompanies the application would be sufficient to safeguard impacts to the Yellow River and other watercourses and distance from the local residential population. There is no evidence of acidification in the surface water sampling. I am satisfied that air quality will be adequately protected during construction and there are no impacts during operation.

13.11. Chapter 9 Noise

13.11.1. Context

13.11.2. The relevant legislation and guidance that informs the chapter is set out.

13.11.3. Baseline

13.11.4. Three noise survey locations were selected – H1, H13 and H29. These dwellings are the closest to the site. H1 is to the north of the site, H13 to the south and H29 to the southeast of the site. A noise survey was conducted from 23rd to 29th November, 2021. The day time noise experience was between 43 to 45 Leq dBA, with

lower in the evening and the night. These easily come within the acceptable noise emission limits for an industrial activity.

13.11.5. Third Party Concerns

13.11.6. None stated.

13.11.7. Potential Effects

13.11.8. Direct Impacts

13.11.9. There will be no additional noise impacts during operation. Noise impact will arise during construction. Noise will arise from the operation of machinery on site and construction traffic. At 10 metres from all the machinery operating at once, the dBA level would be circa 87.7dbA. However at H13, the dwelling nearest the works, noise level experienced will be 47dBA.

13.11.10. The increase in traffic noise is calculated over a 1.5 year, with 27 HGV trips per hour. This gives rise to a 2dBA increase in noise levels at the site entrance. This is considered barely perceptible.

13.11.11. Indirect Effects

13.11.12. None referred to.

13.11.13. Mitigation Effects

13.11.14. Noise controls will be included in the CEMP.

13.11.15. Residual Effects

13.11.16. No residual effects arise.

13.11.17. Cumulative Effects

13.11.18. None are stated to arise.

13.11.19. Interactions

13.11.20. None referred to.

13.11.21. Inspector's Conclusions

13.11.22. This chapter has not dealt well with indirect impacts / interactions in relation to biodiversity. However, Chapter 6 on Biodiversity refers to habituation of birds on the site to noise and Chapter 8 on Air Quality refer to fencing near sensitive habitats, which

would deal with my concerns. Therefore I am satisfied that that noise can be successfully mitigated.

13.12. Chapter 10 Population and Human Health

13.12.1. Context

13.12.2. Relevant guidance and policy are cited.

13.12.3. The chapter identifies that the proposed development will effect human health in a number of ways. It will have a positive effect on community safety, as the safety of the TSF is improved. There will be an increase in employment and income during construction works. The physical improvements have taken account of climate change. Potential impacts arise from air quality due to HGV use and dust during construction. There is potential for surface and or groundwater pollution during construction. There will be importation of waste to reinforce the TSF. There will be noise and vibration impacts from construction activities.

13.12.4. Baseline

13.12.5. There is a dispersed pattern of settlement. There are 11 no. dwellings within 250m of the proposed development, 26 more within 500m and 76 within 1km of the site. Navan racecourse comes within the study area. Population statistics are provided. The urban area of Navan has grown by 35.5% between 2011 and 2022.

13.12.6. The Boyne Valley to Lakelands Greenway is a walking and cycling route that passes the site.

13.12.7. The TSF, unlike the mine site, is not a Seveso site. The hazard arising is stated to be physical in nature rather than chemical. The tailings are 99% naturally occurring species derived from limestone and less than 0.5% lead and zinc ore. They are classified as ‘non-hazardous’ tailings, European Waste Catalogue Code 01 03 06.

13.12.8. The Tara Mine Complex is regulated under the EPA (IEL P051604) and has produced an Environmental Liabilities Risk Assessment, which is reviewed every three years. The ELRA considers unplanned events. A Closure Reclamation and Aftercare Management Plan deals with the mine complex after closure.

13.12.9. Third Party Concerns

13.12.10. Concerns are raised about the impact of dust on human health and risk of flooding.

13.12.11. Potential Effects

13.12.12. Direct Effects

13.12.13. Employment will increase by 15 workers during construction. Traffic will increase on the N51 by and the R162 arm of the R162/N51 roundabout, but the level of traffic is described as imperceptible, in a situation where traffic volumes already exceed capacity. There will be short-term disturbance during construction could impact on the enjoyment of the local greenway. There will be no direct effects during operation.

13.12.14. Indirect Effects

13.12.15. The increased employment will have indirect positive effect on the local economy during construction. There will be no direct effects during operation.

13.12.16. Mitigation Measures

13.12.17. The CEMP will include for traffic monitoring, noise and dust and potential spillage situations as well as water quality.

13.12.18. Residual Effects

13.12.19. None are likely to arise.

13.12.20. Cumulative effects

13.12.21. Refers to the need to manage construction traffic in relation to the construction of Liscarton Water Treatment Plant and Proudstown Reservoir (MCC Reg. Ref. **2360198, ABP-318134-23** for a CPO), 500m south of the application. This permission is for Uisce Eireann. An NIS accompanies it.

13.12.22. Interactions

13.12.23. Described in Chapter 14.

13.12.24. Inspector's Conclusions

13.12.25. I consider that the information relating to major accidents and disasters is very limited in the chapter. It refers the Environmental Liabilities Risk Assessment produced by the applicant and which was provided to the EPA in 2020. That document was not

provided by the applicant to the Board but is on the EPA website. It includes for the risk of a breach of the TSF and the environmental consequences that might arise in that context. Remediation measures are detailed. Reference is made to the emergency response plan if it should arise. In my opinion, this information should be in the EIAR, as required by 2(h) of Schedule 6 of the *Planning and Development Regulations*, 2001, as amended, which concerns information to be contained in an EIAR. However, that section also allows that relevant information available and obtained through risk assessments undertaken under other EU legislation, such as SEVESO, can be used for the EIAR Directive. It states that where appropriate, the description should included measures to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to emergencies from such events.

13.12.26. The Board may consider inviting the applicant to submit this information. I note that a recent legal case, the courts found a difficulty with an Inspector using publicly available information in an SHD case, as the applicant had not supplied it. This is an appeal case, rather than a direct application case.

13.12.27. Significant environmental impacts arising from the proposed development are traffic, dust, and the risk of a major accident during construction, all of which effect population and human health. These can be mitigated through conditions, to enable likely significant effects to be ameliorated.

13.12.28. **Chapter 11 – Climate**

13.12.29. Context

13.12.30. The legislation, policy and guidance material are set out. The chapter considers Greenhouse gas assessment and a climate risk assessment. These are discussed separately below.

13.12.31. Baseline

13.12.32. The current area of the embankment is 16.98ha. The proposed embankment area is 24.7ha. The emissions from the surfaced area before construction is 0.51 tCO_2 The loss is reduced to 329tCO_2. The larger grassland from the proposed development

will remove c. 85 tCO_2. Nitrus Oxide emitted is 11.52 tCO_2 and the cultivation loss of the gas is 1.365 tCO_2.The effective runoff is 335mm/year.

13.12.33. *Third Party Concerns*

13.12.34. None stated.

13.12.35. *Climate Potential Effects*

13.12.36. *Direct Effects*

13.12.37. The loss of vegetation (169,385m^2) would lead to the release of 236$tC0_2$. The loss is reduced to 329tCO_2. The larger grassland from the proposed development will remove c. 85 tCO_2. Nitrus Oxide emitted is 11.52 tCO_2 and the cultivation loss of the gas is 1.365 tCO_2.The effective runoff is 335mm/year. The recharge is circa 20-22.5%. This implies that the runoff value is 260-268mm/year. Some 10.56kgC ha per year is expected to be given off. The additional emissions from the larger structure is 0.74 tCO_2.

13.12.38. Construction emissions are based on fuel consumption for deliveries and the assumption is made for a three period. This would give rise to 1,234 tCO_2..

13.12.39. The total GHG emissions is 1,534 tCO_2.

13.12.40. *Indirect Effects*

13.12.41. None referred to.

13.12.42. *Mitigation Measures*

13.12.43. With mitigation, the total GHG is 1,397 tCO_2. This level is considered insignificant. Mitigation measures in the biodiversity chapter will help sequester carbon through the ecosystem process.

13.12.44. The reseeding of the grassland will speed up the regrowth of grass. The use of raw materials is to be minimised and reuse of materials prioritised. Construction vehicles will not be allowed to leave engines idling. A Waste Management Plan will be in place.

13.12.45. *Residual Effects*

13.12.46. The proposed development is a climate adaptation project, designed to reduce the risk of catastrophic failure in an extreme rainfall event.

13.12.47. *Cumulative Effects*

13.12.48. The figure was considered with national greenhouse gas emissions context.

13.12.49. *Interactions*

13.12.50. Hydrology and waste management. However these are not considered slight.

13.12.51. *Vulnerability Potential Effects*

13.12.52. The baseline of climate is changing. More intense storms and rainfall events will increase flooding. Water shortages will arise in the east in summer.

13.12.53. The TSF could be exposed to extreme heat, cold and wind hazard. However, it is more sensitive to landslide and wild fire. Landslide is more likely with increased rainfall events.

13.12.54. *Inspector's Conclusions*

13.12.55. I would concur that the project is necessary to adapt to climate change and the greenhouse gas emissions have been minimised. I note that the third party is concerned that the flood risk should have been calculated to 1:1,000 years, as the purpose of the project is to deal with this risk and prevent a breach of the embankment walls. It is more likely that a landslide would arise from a flooding event than a seismic event, in my opinion. However, the proposed development will decrease the vulnerability of the TSF at present and the circa 45% increase in area of the earthen banks should provide sufficient protection. Therefore I am satisfied that the cghapter has accounted for climate change.

13.13. **Chapter 12 Lands and Soils**

13.13.1. *Context*

13.13.2. The chapter confirms that Meath County Council consider that the materials proposed to be used are not a waste product. The greenfield soil will be subject to an Article 27 determination and the mine rock will require similar approval from the EPA. The condition on the IE licence (8.15) sets out the parameters upon which mine rock can be used in surface construction works. In addition, the developer also tests greenfield soil accepted at the facility. The legislative and policy framework is set out.

13.13.3. *Baseline*

13.13.4. The quantities of rock fill and greenfield soil are restated (265,700m^3 and 295,650m^3 respectively). The sequence of construction will be that the two phases and may run concurrently. These will begin in the east and proceed in a westerly direction. Field surveys were conducted on 05 and 09.12.2023, with ground investigations between 1973 and 2022.

13.13.5. The site is underlain by Made Ground, but the study area is underlain by till, from limestone, with Lower Palaeozoic sandstone and shale, with occurrences of alluvium and glaciofluvial sands and gravels. The TSF is located in an area of major faults. A fault runs east-west and is intersected by another running northeast-southwest through the TSF. Dynamic liquefication is possible in the event in the event of seismic activity. Stattic liquefaction could occur from the strain caused by loss of containment.

13.13.6. Ground Investigation information is held by the applicant from 1987. Earlier reports from 1973 and borehole information from 2013 are also available. Soil chemistry tests found that while heavy metal concentrates in samples are high, they are contained so that short term leachability is not an environmental concern. Soil samples showed that the material was not suitable for inert waste landfill criteria due to mineral oil concentrations or for non-hazardous waste landfills due to antimony.

13.13.7. *Third Party Concerns*

13.13.8. The Seismic Risk Assessment has not been quantified. There is insufficient evidence put forward in terms of calculations and test data, which could be scrutinised. Cone penetration tests are required.

13.13.9. *Potential Effects*

13.13.10. *Direct Effects*

13.13.11. The loading of the proposed buttress on the ground would be increased. This could result in settlement, through consolidation or creep processes, which in turn could impact on the perimeter drainage channel pipework, between Ch2300 and Ch3700. It is not considered significant.

13.13.12. Effects on human health from existing soil contamination could impact on construction workers, through dermal contact, inhalation and infiltration to the water environment (surface and groundwater). These risks are considered low.

13.13.13. Construction impacts are likely to be temporary. On soil structure, these may arise due to excavation, smearing and compaction. Impacts on soil chemistry may arise due to spillages or mobilisation of existing sediment. Exposed soils are vulnerable to erosion during rainfall events and increase sedimentation levels in surface waters.

13.13.14. No impacts are expected during operation.

13.13.15. Indirect Effects

13.13.16. Indirect effects arise with biodiversity, noise and air quality.

13.13.17. Mitigation Measures

13.13.18. These include the use of Personal Protective Equipment and Respiratory Protect Equipment and due to distance, any leaching would be diluted by the time it reached the water supply plant 2.4km south of the site at Liscarton. There is unlikely to be direct contact with groundwater.

13.13.19. Mitigation measures correspond with those set out in earlier chapters. An early warning system will be in place for contamination purposes and the appropriate authorities will be notified of events.

13.13.20. Residual Effects

13.13.21. None are anticipated.

13.13.22. Cumulative Effects

13.13.23. None are anticipated.

13.13.24. Interactions

13.13.25. Interactions with human health have been described.

13.13.26. Inspector's Conclusions

13.13.27. The EIAR has identified that the increased loading from the proposed buttress may lead to settlement, which could impact on the drainage infrastructure within the dam but that the impact of any such settlement is considered low. The risk from seismic activity is considered low, notwithstanding the location of the dam on fault lines. The Third Party considers that additional information was required as to the strength of the embankments in a drained or undrained basis and that the results of

the Cone Penetration Tests should have been provided. The NIS states that the original facility was designed for a long term static slope stability of a Factor of Safety of 1.5 and I note that this has been monitored by piezometers in the dam. The NIS refers to a comprehensive liquefaction assessment using the Cone Penetration Tests for undrained shear strength, which is the current test. The proposed development has been designed on this basis. The EIAR states that no evidence of any instability was observed during walkovers. Notwithstanding that Cone Penetration Test have not been submitted, I consider that the risks arising are acceptable, having regard to the construction process involved, which is relatively straight forward, once appropriate measures are in place. The Board may consider it appropriate to request the results of the Cone Penetration Tests and Seismic Risk Assessment from the applicant.

13.14. **Chapter 13 Cultural Heritage**

13.14.1. *Context*

13.14.2. The chapter sets out the relevant legislation, guidelines. Policies and sources of information.

13.14.3. *Baseline*

13.14.4. I refer the Board to Figures 13.3 to 13.6 in Appendix 13 for the location of the archaeological locations on the site. The Navan to Kingscourt Railway which runs adjacent to the site was constructed in 1872. A station, Gibbstown, was located circa 191m to the northeast of the site.

13.14.5. The site is located with the Randalstown House historic demesne, the ownership of which dates back to the fifteenth century. A castle stood on the site, but may have been destroyed in the Cromwellian wars. The house was built circa 1710, until it was demolished in the 1970s, prior to the construction of the dam. St. Anne's Church (ME025-002001) is located in the southwest corner of the scheme. It is built into a mound, contains a vaulted crypt (ME025-002003) and is associated with Randalstown House (M025-001001). A silver chalice from 1637 is now held in the Tara Mines site. The church, like the castle, appears to have been destroyed during the Cromwellian wars. Roman finds were recovered during excavations of the church. A souterrain is referred to linking the chapel with a field (ME025-001). There is a burial

vault (ME025-002003) and graveyard (ME025-002002), where more Roman finds were made.

13.14.6. A well associated with the church, St. Annes's Well (ME025-045), is circa 75 metres from remains of the church. It is the site of a former spring, with steps leading to it and during the 1970's, rages were noted on a nearby blackthorn bush. The water was believed to used for toothaches and sore eyes, wildfire, ringworm and thrush. It is also consistent with votive deposition at water sources, as per Ramano-British tradition.

13.14.7. Tobacco was farmed at Randalstown House from 1898 to 1938, providing for up to 100 jobs. Everard's Tobacco growing was mentioned in James Joyce's Uylsses.

13.14.8. The Yellow River is considered an Area of Archaeological Potential.

13.14.9. There is a townland boundary between Boolies and Randalstown.

13.14.10. A bridge that crosses the Yellow River northwest of the is shown on the first edition OS map and may have surviving historic features.

13.14.11. *Third Party Concerns*

13.14.12. None stated.

13.14.13. *Potential Effects*

13.14.14. *Direct Effects*

13.14.15. The works will traverse the Zones of Notification for Recorded Monument ME025-001 and ME025-001001 and will take place within the Zones of Notifications for ME025-002, ME025-002001, ME025-002002 and ME025-002003. The souterrain (ME025-001) and house (ME025-001001) have already been excavated.

13.14.16. The church, burial vault and graveyard have not been fully excavated and so there is potential for remains to be preserved in situ under the existing development and at or close to the proposed works. Accidental damage could also arise. The impacts are described as of medium magnitude and of moderate significance.

13.14.17. The impacts on the Yellow River area unknown and the effect is indeterminate and so additional mitigation is recommended.

13.14.18. During operation, any impacts would be visual in nature. No significant effects are expected.

13.14.19. Indirect Effects

13.14.20. The cultural heritage features within a 20km were considered. No significant effects were recorded.

13.14.21. Mitigation Measures

13.14.22. Built Heritage Surveys will be carried out on St. Anne's Church and burial vault. Townland Boundary Survey Reports will be carried out. Protective fencing will be put in place and vibration monitoring for the church and associated features.

13.14.23. Residual Effects

13.14.24. The effects are considered negligible or imperceptible.

13.14.25. Cumulative Effects

13.14.26. No significant effects were found.

13.14.27. Interactions

13.14.28. The chapter considers Landscape and Visual Impact Assessment to consider the potential for visual impact on sites of cultural heritage in the wider environment. Population and human health interactions arise due to the impacts on recreational amenity. This will be negative during construction. Access to St. Anne's Church and holy well should be maintained.

13.14.29. Inspector's Conclusions

13.14.30. I consider that Cultural Heritage has been adequately dealt with in this chapter.

13.15. Chapter 14 Interactions

13.15.1. The main interactions arise from dust and or sediment (which can be transported through air and water), which can effect human health and biodiversity.

13.15.2. Landscape and visual assessment interacts with cultural heritage and population and human health.

13.15.3. Traffic interacts with air and climate, noise, water, biodiversity and population and human health.

13.15.4. Inspector's Conclusions

13.15.5. I am satisfied that the main interactions have been identified and considered in an integrated manner. I am satisfied that the mitigation measures will also work in an integrated fashion. Therefore, the interactions have been adequately considered.

13.16. Chapter 15 Mitigation and Monitoring

13.16.1. Mitigation measures have been embedded in the design of the proposed development. Table 15-1 sets out the schedule of mitigation measures, including monitoring. Significant measures include the CEMP, the Habitat and Biodiversity Management and Conservation Plan, minimisation of working hours over the winter months, measures to curtail surface water run off and dust. An Ecological Clerk of Works will be appointed and monitoring will be carried out over the construction time period. I consider that the mitigation measures to be sufficient and give protection to the designated European Sites and the surrounding area.

13.17. Reasoned Conclusion

13.17.1. Please note the Planning and Development Regulations, 2001, under Article 122 (d) require that the Board is satisfied that the reasoned conclusion on the significant effects on the environment was up to date at the time of taking the decision. While much of the survey work is up to date, data in relation to traffic and noise date back to 2021. Some surveys need to be carried out at a particular time of year, which would not coincide with the timeframe in which the EIAR had to be completed, so I am satisfied that it is acceptable in that case to rely on the earlier information. I do not consider that there has been significant change in noise levels over time, as no new significant new development has occurred in the area. The traffic count information, in my opinion, has underestimated the impact of the proposed development on the road network, due to its baseline the reduced level of traffic on the roads at the time due to Covid 19. However, I do not consider that having regard to the purpose of the proposed development, that the impacts are so great a would give rise to reason to refuse planning permission, on environmental grounds, having regard to the mitigation measures proposed. However, the Board may prefer to seek additional information in relation to this matter.

13.17.2. I have referred to the lack of information in the EIAR in relation to Major Accidents, the preparedness in the event of an emergency and the environmental consequences arising from a breach in the dam. It is frustrating that the applicant has the information in a publicly available, separate document (ELRA), but has not used the information to inform the EIAR. The Board may wish to request that the EIAR be revised to reflect this document. However, it is obvious that the applicant is prepared to deal with such a possibility in the event that it arises and that this has been assessed as part of the ongoing management and monitoring of the EPA licence.

13.17.3. The environmental information contained above in the EIAR submitted by the applicant, is focused on the provision of the buttress, rather than the consequences of not providing it. However, there is a risk of breach of the dam during construction and there is an emergency plan in place, should this arise. Such a response would be included in any CEMP conditioned in the event of a grant of permission. Given the written submissions on file and assessments available under other EU Directives, I consider that the information is sufficient, on balance, to allow the Board to reach a reasoned conclusion on the significant effects on the environment of the construction of the buttress, taking into account current knowledge and methods of assessment.

13.17.4. The proposed development will involve the clearance of the distinctive habitat that has evolved around the TSF, due to its particular management regime. This will have a significant negative effect on biodiversity in the locality in the short term. However, the habitat arose from the creation of the earthen banks and can be replicated over time, through the implementation of the Habitat and Biodiversity Management and Conservation Plan. Construction over the winter months will be minimised to reduce impacts on wintering birds.

13.17.5. During construction, the proposed development could give rise to a serious degradation in surface water, which could have a significantly adverse impact on receiving waters, which could impact on European sites and Annex II protected species, biodiversity and hydromorphology due to poor control of surface water on site, mobilisation of sediments, dispersal of dust and other materials. The mitigation measures proposed during construction will ensure that impacts on these waters can be managed and controlled, so as surface waters and aquatic life will not be effected by the proposed development.

13.17.6. Construction traffic will give rise to some inconvenience on the road network. However, the longer the construction programme is, the less significant the impact.

13.17.7. There will be direct impacts on the archaeological heritage of the site. However, the impacts are considered to be of medium impact and moderate importance and mitigation measures are proposed.

13.17.8. The use of mine rock and greenfield soil as the main sources of materials will have a positive impact in relation to the circular economy and climate change, through the reuse of embedded carbon.

13.17.9. During operation, no significant environmental issues arise.

13.17.10. The proposed development will render the TSF less vulnerable to major accidents and natural disasters, which will enhance resilience to climate change and would avoid significant environmental impacts on the environment and Natura 2000 sites.

13.17.11. In conclusion, having regard to the examination of environmental information in respect of the proposed development, in particular the EIAR and supplementary information provided by the applicant and the submission from the planning authority, prescribed bodies etc. in the course of the application and appeal, it is considered that the main significant direct and indirect effects have been identified and will be mitigated by the measures contained in a Construction Environmental Management Plan and the regeneration of vegetation on the proposed development will mitigate the visual and ecological impacts during operation.

14.0 **Appropriate Assessment**

14.1. The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U and section 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive
- Screening the need for appropriate assessment

- Appropriate Assessment of implications of the proposed development on the integrity each European site

14.2. **Compliance with Article 6(3) of the Habitats Directive**

14.2.1. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent can be given. The proposed development is not directly connected to or necessary to the management of any European site and therefore is subject to the provisions of Article 6(3). The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U of the Planning and Development Act 2000 (as amended) are considered fully in this section.

14.3. *Screening the need for Appropriate Assessment*

14.3.1. The First Party has submitted a report entitled '*Natura Impact Statement in Support of Appropriate Assessment of Proposed Buttressing Works at the Randallstown Tailings Management Facility, Navan, Co. Meath* by Fers, which was updated at Further Information Stage. The report provides a description of the proposed development. It describes the existing conditions on site. The banks of the TSF are semi-natural grassland habitat, with a wide variety of plant species. It is an important breeding site for birds of conservation concern, which includes the Yellowhammer, Meadow Pit and Skylark. Badger, fox, pine marten, Irish Hare and bats utilise the site. Otter and kingfisher utilise the Simonstown Stream. Wintering birds include Whooper Swan, Golden Plover, Lapwings and Gull species. Peregrine Falcon hunt over the facility. The report considers that the presence of these species indicates that the facility has been managed in an ecologically sensitive manner. Some 44 species are listed in Table 1, which identifies species of conservation concern, not including bats.

14.3.2. Three Natura 2000 sites are located within 15 km of the site. There are Girely (Drewstown) Bog SAC (Site Code 002203), the River Boyne and Blackwater SAC (Site Code 002299) and the River Boyne and Blackwater SPA (Site Code 004232).

14.3.3. The relationship with a site outside an Natura site is generally by way of connectivity: i.e. through the source-pathway-receptor connectivity or for *ex-situ* reasons The report identifies that while there are three Natura 2000 site that would come within the 15km radius generally adopted as a filtering limit, only in two where there is a direct connection. There is no direct pathway to the Girely (Drewstown Bog). There is a direct connection via the watercourses, the Yellow River and Simonstown Stream, to the River Boyne and Blackwater SAC and SPA. I undertook a review of the EPA Assessment tool on 05.07.2023 and confirmed that the SACs and SPAs that are identified are:

No.	**Site Code**	**Name**	**Distance (approximate)**
1.	002299	River Boyne and River Blackwater SAC	0.8 km
2.	004232	River Boyne and River Blackwater SPA	0.8 km

14.3.4. The qualifying interests of the Natura 2000 sites are set out below.

European Site ***Site Code***	**List of Qualifying interest/Special conservation Interest**
River Boyne and River Blackwater SAC 002299	Alkaline fens [7230] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355]

River Boyne and River Blackwater SPA 004232	Kingfisher (Alcedo atthis) [A229]

14.3.5. The conservation objectives for the SAC are to maintain the favourable conservation condition of the Alkaline fens and the Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) habitats for which the SAC has been selected and for the species, the River Lamprey, Salmon and Otter, to maintain their population on long term viable basis, with sufficient range and sufficiently large habitat.

14.3.6. The conservation objectives for the SPA are to maintain the favourable conservation condition of the Kingfisher for which the site has been selected, to maintain its population on a long term viable basis, with sufficient range and sufficiently large habitat.

14.3.7. Relevant attributes of the Natura 2000 sites to the proposed development include groundwater levels, surface water flow and water quality, as well as disturbance.

Potential Impacts

14.3.8. Potential impacts include contamination of surface water or groundwater during construction and operation, changes in erosion /sedimentation processes associated with the spread of Alien Invasive Plant Species, disturbance, loss of habitat and impacts on prey items.

14.3.9. Buttressing works will take place upstream of the interceptor channel, so there is no direct pathway to the Yellow River or Simonstown Stream. Indirect impacts may arise such as surface water run-off during the stripping of soil or movement of material in extreme rain events. Some 600,000m^3 of material will be moved, entailing significant machinery and vehicle movements in the vicinity of the watercourses. Otters and Kingfishers use these watercourses. Bats may be negatively affected. Alien Invasive Plants could be imported. Disturbance to birds could arise. Increased sedimentation could lead to a build-up of contamination, which could impact on Lamprey larveal.

14.3.10. As the Alkaline Fens and Allusvial forests are located at distance upstream and downstream, no impacts are expected on these Qualifying Interests.

In-combination Effects

14.3.11. In-combination effects are considered in the submitted screening report. It refers to various plans and projects. Potential in-combination effects with the construction of the extended TSF. I note that the extended TSF is largely complete. I note that there is an appeal on the mine site at Knockcumber in relation to the provision of a water treatment plant (**ABP-317390-23**), which is downstream of the site. The purpose of the proposed development is to improve current water treatment processes. The replacement of a rising main from the River Boyne to Proudstown Resevior (**ABP-318134-23**) is accompanied by an NIS. Given that the proposed developments will be reduce impacts on the River Boyne or provide mitigation, I consider that the in-combination effects with other plans or projects are not significant.

Screening Determination

14.3.12. The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project and having regard to the submitted reports, I have concluded the project individually or in combination with other plans or projects, would be likely to have a significant effect on the River Boyne and River Blackwater SAC and SPA which is hydrologically directly connected with the site, in view of the Site's Conservation Objectives. The determination is based on the following:

- The qualifying interests of the River Boyne and River Blackwater SAC (Site Code 002299), and the River Boyne and River Blackwater SPA (Site Code 004232) the attributes that require protection would be adversely affected by the construction or operation of the proposed development.

This screening determination is not reliant on any specific measures intended to avoid or reduce potentially harmful effects of the project on a European site.

14.4. **Natura Impact Statement (NIS)**

14.4.1. The NIS sets out the conclusions of the Appropriate Assessment Screening Report, describes the potential effects on the relevant European sites project, the receiving environment, assesses potential effects via primary pathway and associated mitigation, analyses in-combination / cumulative effects and provides a concluding statement. It identifies and characterises the possible implications of the development on the European sites, in view of the site's conservation objectives, and provides information to enable the Board to carry out an appropriate assessment of the works undertaken and proposed to be taken. It refers to relevant chapters in the EIAR. I consider the information sufficient to allow the Board to undertake an Appropriate Assessment.

14.4.2. The NIS assesses the potential for direct, indirect effects, alone or in combination with other plans and projects, taking into account the use of mitigation measures to prevent impacts.

14.4.3. Potential Effects on River Boyne and River Blackwater SAC and SPA

14.4.4. Direct impacts on the SAC and SPA could arise from changes in the water quality / hydrology of the Yellow River and/or Simonstown Stream (including the risk of the spread of Alien Invasive Plant Species); disturbance to qualifying interests and disturbance to the habitats. The risks arise from the stripping of material and movement of material, which could result in surface water runoff or the materials could directly enter the watercourses. There is the potential for spillage of hydrocarbons. The Qualifying Interests that could be effected are the River Lamprey, Atlantic Salmon, the otter and Kingfisher from changes in hydrology.

14.4.5. Disturbance to the otter, Kingfisher, Whooper Swan, Golden Plover and bats, could also arise.

14.4.6. Table 27 of the NIS identifies the sensitivities of the Qualifying Interests. These relate to changes in the hydrological regime, water quality, chemical or nutrient status, deposition of silt, impacts on food sources and introduction of alien invasive species.

14.4.7. Indirect impacts could arise from a reduction in prey for otters and the Kingsfisher and the build-up of contaminants by way of bioaccumulation or sediment.

14.4.8. The NPWS Conservation Objectives for the SAC are dated 2021. The Conservation Objectives overall seek to maintain habitats and species in a favourable conservation condition, which will contribute to the overall maintenance of favourable status of the habitats and species at a national level. There are six Qualifying Interests. However, only four could be effected by the proposed development.

14.4.9. Mitigation Measures

14.4.10. During the construction phase, mitigation measures need to avoid, minimise and control contaminated run-off from entering watercourses are set in in Chapter 7 of the EIAR (Hydrology and Hydrogeology).

14.4.11. An Alien Invasive Species Management and Control Plan will be in place.

14.4.12. The mitigation measures proposed relate to impacts on water quality, disturbance and reduction of potential to introduce Alien Invasive Plant Species. A Hydrological Assessment has been prepared, which includes mitigation measures and a CEMP, monitoring and that a baseline hydromorphological assessment for the Yellow River.

14.4.13. In relation to disturbance, otter, kingfisher and bats are of concern and the impact on breeding and overwintering bird species a Habitat and Biodiversity Management and Conservation Plan will be drawn up and inform the CEMP. A detailed Alien Invasive Species Management and Control Plan has been prepared. No significant impacts are anticipated following the implementation of mitigation measures.

14.4.14. In-combination Effects

14.4.15. Following mitigation, the impacts on the qualify interests are not considered significant. These have been considered in terms of relevant planning permissions. These projects have been assessed and mitigation measures have been implemented or are prosed. No in-combination cumulative effects are likely to arise.

14.4.16. Evaluation of Effects

14.4.17. The mitigation measures are clearly described, are reasonable, practical and enforceable. It is reasonable to conclude on the basis of best scientific information, that the proposed development would not be give rise to have an adverse effect on the integrity of the River Boyne and River Blackwater SAC and SPA.

14.4.18. NIS Omissions

14.4.19. No omissions were identified at appeal stage.

14.4.20. The planning authority considered the NIS at application and sought more information, and requested an Alien Invasive Plant Specifies Management and Control and a Habitat and Biodiversity Management & Control Plan.

14.4.21. The appellant is concerned that Appropriate Assessment Screening could be carried out without Ground Investigations to understand the range of soil parameters and to estimate the strength of soil.

14.4.22. In the revised NIS, it states that Cone Penetration Tests (CPT) has been undertaken of the dam. CPT assesses the bearing capacity and shear strengths of soft soils. The potential for liquefaction has been assessed for dynamic (earthquake/seismic risk) and static liquefaction (where the dam fails for other reasons). Stability has been tested using peak undrained shear strengths and residual undrained shear strengths. The analysis showed that a buttress is required to achieve the necessary Factor of Safety of 1.5 for peak strength undrained scenario and 1.1. for the residual strength. A 4 metre wide buttress is required for the starter dam (the lower dam) perimeter wall. While the results of the CPT were not contained in the NIS, I don't consider these results are necessary for the purpose of Appropriate Assessment. Appropriate assessment is to assess the possible nature conservation implications of a plan or project that before a decision is made. The planning authority considered that the information provided was not sufficient and required more information regarding the NIS, ecology, hydrology and an Alien Invasive Plant Plan.

14.4.23. The revised NIS provides for an increased volume of construction material (from 500,000m^3 to 600,000m^3). This does not alter the mitigation measures, in my opinion, but the duration for which they would be in place for would be longer. Direct impacts on the Natura 2000 sites are ruled out as the buttress is upstream of the interceptor channel and the NIS notes that the proposed development reduces the likelihood of dam failure. Indirect impacts are expected and the NIS refers to an extended period of time which may impacts in terms of disturbance and use of habitats by Otter and Kingfisher. Use of the TSF by bats may also be reduced when works are ongoing. Risks arise of the importation of alien invasive plant species. Secondary effects may be that Whopper Swans and Golden Plovers that use the TSF during

winter. A build up of contaminants or sediment may impact on the larval stage of Lamprey. Atlantic Salmon may be affected by changes in hydrology and water quality (Lamprey and Otter would be similarly affected).

14.4.24. In-combination effects with other plans and projects are considered and the key issue is impacts on water quality. 'Do-nothing' Scenario is also considered and that any negative effects would be avoided. However, this is outweighed by the risk of dam failure. The screening concludes that the proposed development would have potential to impact on the Natura 2000 sites in the absence of mitigation measures.

14.4.25. The NIS states that the current population estimate for salmon is 78% of the Favourable Reference population. The appellant refers to the IFI publication in 2022 on the *Status of Irish Salmon Stocks* that found that salmon are only at 24% of their river specific conservation limit (CL). Conservation Limits are set to allow it to be determined which rivers salmon can be harvested from, or operate on a Catch and Release basis, or whether the river should be closed for salmon fishing. Only 22 of 40 rivers that are part of the Natura 2000 network where salmon are a qualifying interest were above their CL. The River Boyne has fish counters but the counts are partial for the 2021 assessment. The CL was indeed 24% and was open for catch and release only. The report states that marine survival values in the past five years are amongst the lowest recorded since 1980. However this is attributed to the loss of salmon in the marine environment. The NIS appears inaccurate in relation to the baseline information provided on salmon.

14.5. Appropriate Assessment Conclusion

14.5.1. The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended.

14.5.2. Having carried out screening for Appropriate Assessment of the proposed development, it was concluded that it would be likely to have a significant effect on

(a) The River Boyne and River Blackwater SAC (Site Code 002299)

(b) The River Boyne and River Blackwater SPA (Site Code 004232).

14.5.3. Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of those sites in light of their conservation objectives.

14.5.4. Following an Appropriate Assessment, it has been determined that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European sites, The River Boyne and River Blackwater SAC (Site Code 002299) and The River Boyne and River Blackwater SPA (Site Code 004232), or any other European site, in view of the sites Conservation Objectives.

14.5.5. Having reviewed the NIS and the supporting documentation I am satisfied that the applicant has provided adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge in assessing those impacts. I am satisfied that the information is sufficient to allow for complete, precise and definitive findings for the appropriate assessment of the development. the development, individually or in combination with other plans and projects would not adversely affect the integrity of the European Sites:

(c) The River Boyne and River Blackwater SAC (Site Code 002299)

(d) The River Boyne and River Blackwater SPA (Site Code 004232).

This conclusion is based on a full and detailed assessment of all aspects of the proposed project, including proposed mitigation measures and ecological monitoring proposed in the NIS, detailed assessment of in-combination effects with other plans and projects, including historical projects, current proposals and future plans. There is no reasonable scientific doubt as to the absence of adverse effects on the integrity of the above named European sites.

15.0 **Recommendation**

15.1. The appeal on this case related to the absence of an EIA for the proposed development. An EIAR has been submitted by the applicant. Generally it is satisfactory. While the impact of construction traffic on the road network may be underestimated, I do not consider that it is an issue to refuse planning permission.

15.2. I am satisfied that at operation stage the proposed development will ensure that there is very limited risk to the dam. However, limited details have been provided in relation to risk of a breach of the dam, which might arise during the construction process. The main mitigation measure is the provision of a Construction Environmental Management Plan (CEMP). The mitigation measures to be contained in the CEMP have been outlined but there no emergency response plan referred to in the event of a significant breach.

15.3. The Board could seek further information to request an outline CEMP that includes for an emergency response plan or the Board could condition that this be provided to Meath County Council.

15.4. Having regard to the nature of the proposed development, which is to increase the factor of safety for the dam walls and the existence of an emergency response plan which has been submitted to the EPA, which the Board is entitled to consider under the Planning and Development Regulations, 2001 as amended and the Natura Impact Statement as submitted by the applicant, I recommend that planning permission be granted.

16.0 **Conditions attached by the Planning Authority**

16.1. I have considered the conditions attached by the Planning Authority in their decision to grant planning permission. I have incorporated a number of these but others have been captured in the mitigation measures set out in the submitted EIAR and NIS.

17.0 **Reasons and Considerations**

The Tailings Storage Facility is an integral part of the Tara Mines operation, and therefore the proposed development come within the scope of a mandatory Environmental Impact Assessment, under 2 (c) of Part 2, Schedule 5 of the *Planning and Development Regulations 2001,* as amended and the project is large in scale. The submission of the Environmental Impact Assessment Report and other information enabled the Board to carry out an Environmental Impact Assessment.

Having regard to the nature of the proposed development, which is to enhance the structural stability of the Tailings Storage Facility and its resilience in relation to climate change and the mitigation measures set out in the accompanying Environmental Impact Assessment Report and Natura Impact Statement, it is considered the proposed development would not give rise to a significant risk of pollution, would not increase the flood risk on site or downstream of the site and would be acceptable in terms of traffic movements. The proposed development is therefore, in accordance with the proper planning and sustainable development of the area.

18.0 **Conditions**

1.	The development shall be carried out in accordance with the plans and particulars submitted with the planning application, as modified by further information submitted on 12.09.2022 and 04.10.2022 and in accordance with the mitigation measures and the timescale for their implementation contained in the submitted Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS), except as may otherwise be required by the following conditions. **Reason**: To clarify the plans and particulars for which permission is granted and to ensure that the mitigation measures contained in the EIAR and NIS are implemented in a timely manner.
2.	A Construction and Environmental Management Plan (CEMP) shall be submitted to and agreed in writing with the planning authority prior to the commencement of development. The CEMP shall include but not be limited to construction phase controls for dust, noise and vibration, waste management, protection of soils, groundwaters, and surface waters, site housekeeping, emergency response planning, site environmental policy, and project roles and responsibilities. This should include for a qualified and

	suitably experienced archaeologist, geotechnical engineer and Ecological Clerk of Works. **Reason**: In the interest of environmental protection
3.	(a) The Construction Environmental Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity. (b) A final report on archaeological monitoring shall be submitted to the planning authority and the National Monuments Service of the Department of Housing, Local Government and Heritage. **Reason:** To ensure the continued preservation of places, caves, sites, features or other objects of archaeology
4.	A geotechnical report shall be submitted monthly to the planning authority for the duration of the construction process concerning the progress of the project. **Reason:** In order to facilitate monitoring and control of the development by the planning authority.
5.	(a) Construction shall be carried out as per Option C, over a three year period (411,648 tonnes per annum). (b) Details of the road network to be used by construction traffic including detailed arrangements for the protection of bridges to be traversed, shall be

	submitted to, and agreed in writing with, the planning authority prior to commencement of development. This should include Visual and Falling Deflectometer surveys prior to and on completion of construction. Pavement damage or deterioration identified shall be repaired by the developer, in consultation with Meath County Council. The developer will meet annually with the council to address progress and issues in relation to traffic and road safety during the construction process. **Reason:** To minimise impacts on the road network and in the interest of traffic safety.
6.	All over ground tanks containing liquids (other than water) shall be contained in a waterproof bunded area, which shall be of sufficient volume to hold 110 per cent of the volume of the tanks within the bund. All water contaminated with hydrocarbons, including stormwater, shall be discharged via a grit trap and three-way oil interceptor with sump to a watercourse. The sump shall be provided with an inspection chamber and shall be installed and operated in accordance with the written requirements of the planning authority. **Reason**: In order to protect surface water and groundwater.
7.	The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable

	indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine the proper application of the terms of the Scheme. **Reason:** It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.
8.	The developer shall pay a financial contribution to the planning authority as a special contribution under Section 48(2)(c) of the Planning and Development Act 2000, as amended, in respect of works to be carried out at the Sillogue Bridge to improve pedestrian and vehicular safety in the vicinity of the bridge which benefits the proposed development. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála for determination. The contribution shall be paid prior to commencement of development or in such phased payments as may be agreed prior to the commencement of the development, and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the terms of payment of this financial contribution shall be agreed in writing between the planning authority and the developer. **Reason**: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority in respect of public services, which are not covered in the Development Contribution Scheme and which will benefit the proposed

	development.
9.	The developer shall pay a financial contribution to the planning authority as a special contribution under Section 48(2)(c) of the Planning and Development Act 2000, as amended, in respect of the costs of works necessary for the overlaying of the Milestown Road (L74141) and Regional Roads, R162, R163 and N51 in the vicinity of Navan Town. (), which benefits the proposed development. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála for determination. The contribution shall be paid prior to commencement of development or in such phased payments as may be agreed prior to the commencement of the development, and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the terms of payment of this financial contribution shall be agreed in writing between the planning authority and the developer. **Reason**: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority in respect of public services, which are not covered in the Development Contribution Scheme or and which will benefit the proposed development.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Mary Mac Mahon
Senior Planning Inspector

04 June 2024

Appendix 1: Schedule 7 Screening for Subthreshold EIA

1. Characteristics of Proposed Development

(a) Size and Design

The proposed development is the buttressing of sections of the existing TSF dam. The dam is over 200 ha or 2 km^2 in area, with embankment walls to a height of 22 metres. The buttressing will require the importation of up to 1.23 million tonnes of rockfill and soil.

(b) cumulation with other existing development and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment,

The importation of soil to the site is underway as part of the restoration works to the site, as part of IE Licence requirements. There are other permitted EIA developments in the Navan area as well as planning applications that involve EIA.

(c) the nature of any associated demolition works,

No demolition works are involved.

(d) the use of natural resources, in particular land, soil, water and biodiversity,

A significant amount of soil is required to be imported (quantities vary between reports) and there will be stripping of the existing landscaping on the dam, which supports a wide range of biodiversity, including protected species of birds and mammals.

(e) *the production of waste*,

No significant production of waste will arise as existing mine waste will be recovered to provide material for the buttress.

(f) *pollution and nuisances*,

There is the potential for dust, sediment and pollution to enter the watercourses in the vicinity of the site.

(g) the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge, and

The aim of the proposed development is to limit the current risk of a major accident, which could arise if there is a dam breach. The site is founded on an area that has been subject to flooding in the past. A watercourse have been since been diverted. A site specific flood risk assessment accompanied the application, which includes the assessment of heavy rain events on the dam during construction.

(h) the risks to human health (for example, due to water contamination or air pollution).

There is a risk to human health should measures to prevent pollution of the watercourses fail, as there is a drinking supply circa 2.4 km downstream in the River Boyne.

2. Location of proposed development

The environmental sensitivity of geographical areas likely to be affected by the proposed development, with particular regard to—

(a) the existing and approved land use,

The existing and approved land use is that of a Tailings Storage Facility, for the storage of mine waste and the physical treatment of water to be returned to the mine. Water discharged to the River Blackwater and River Boyne is subject to a chemical treatment.

(b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground,

The area is an agricultural area. The TSF has a number of watercourses adjoining which are tributaries to the Rivers Blackwater and Boyne, which are Natura 2000 sites (both SAC and SPA). The River Boyne is a salmonid river. The Water Framework Directive status of the Yellow River is ‘At Risk’. The Ecological Status is ‘Poor’ (2016-2021) but the Status Confidence is Medium. The Ecological Status of the River Blackwater is the same in terms of the Water Framework Directive. The Ecological Status of the River Boyne is Moderate but the Status Confidence is Low. Groundwater is classified as a poor aquifer which is moderately productive only in local zoned. The TSF

supports a wide range of biodiversity, including protected species – mammals and birds.

(c) *the absorption capacity of the natural environment, paying particular attention to the following areas:*

(i) wetlands, riparian areas, river mouths;

The site is adjacent to riparian areas.

(ii) *coastal zones and the marine environment*;

Not applicable.

(iii) *mountain and forest areas;*

Not applicable.

(iv) *nature reserves and parks;*

The Navan to Kingscourt Greenway (a former railway line) adjoins to the site to the east.

(v) *areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;*

There are two Natura 2000 sites in the vicinity of the site – the River Boyne and Blackwater SAC (Site Code 002299) and the River Boyne and Blackwater SPA (Site Code 004232). There is a direct connection between the TSF, Yellow River and the River Blackwater. An NIS has been submitted.

(vi) *areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;*

Not applicable.

(vii) *densely populated areas*;

Navan town is downstream of the site (with a population of circa 34,000 persons) and the River Boyne is its source for potable water.

(viii) landscapes and sites of historical, cultural or archaeological significance.

There is Recorded Monument, a Church and Graveyard (ME025-002), which is located between the TSF and the Yellow River. Another Recorded Monument, a Holy Well (M025-045) is southwest of the Windtown Road.

3. Types and characteristics of potential impacts

The likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in section 171A of the Act, taking into account—

(a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected),

The geographical area of the site is relatively confined. The population directly affected is limited in proximity to the site, but traffic will have to travel through Navan to the site. That population (34,000) might also be affected arising from any risk to the water supply.

(b) the nature of the impact,

The impact on the Natura 2000 sites would be significant if there is failure of mitigation measures. If there is failure of the dam, the consequences would be much more severe.

(c) the transboundary nature of the impact,

Not applicable.

(d) the intensity and complexity of the impact,

The intensity and complexity of the impact would be high.

(e) *the probability of the impact*,

The probability of the impact of the failure of the dam, in the absence of works would be low. The probability of impact from construction works in relation to the proposed development would be low due to mitigation measures.

(f) the expected onset, duration, frequency and reversibility of the impact,

The impacts would be likely to be a one-off event of a dam failure, which would significant and adverse, but would be reversable over time. The impacts arising from a failure in the mitigation measures would be less and would be reversable over a shorter period of time.

(g) *the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment, and*

Importation of soil to the site from reclamation purposes is already taking place. The number of traffic movements would significantly increase (the proposed development estimate truck movements between 142 to 270 movements per day),

(h) *the possibility of effectively reducing the impact*.

Mitigation measures can be employed. A number of reports have been submitted with the application indicating how mitigation measures can be implemented.

Conclusion

Having regard to the scale of development, the quantity of traffic movements, the risks arising from construction in relation to the dispersal of dust, sediment and pollution to watercourses, the risk of a major accident, during construction, which could impact on the potable water supply to Navan, Natura 2000 sites and protected species, it is considered that a subthreshold EIA is required under Project 10 (g) of Part 2, Schedule 5 of the *Planning and Development Regulations, 2001* as amended.