

Agenda Item	5.5
Report No	PLS/030/18

HIGHLAND COUNCIL

Committee: South Planning Applications Committee
Date: 24 April 2018
Report Title: 17/05155/FUL : Yeoman Glensanda.
Glensanda Quarry, Glensanda, Morvern.
Report By: Area Planning Manager – South/Major Developments

Purpose/Executive Summary

Description: Formation and operation of up to three finger lagoons and ancillary pipe work by the extraction of rock for the management of silt and installation of 500kw hydro-electric power plant and associated infrastructure.

Ward: 21 - Fort William and Ardnamurchan

Development category: Major Development

Reason referred to Committee: Major application

All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

Recommendation

Members are asked to agree the recommendation to **Grant** set out in section 11 of the report.

1. PROPOSED DEVELOPMENT

- 1.1 The proposal is for the development and operation of three finger lagoons and ancillary pipe work for the management (disposal) of silt and the installation of a 500kw hydro-electric power plant and associated infrastructure at Glensanda quarry. The proposed development would comprise the following principal components: -
- creation of three settlement lagoons (also referred to as 'finger lagoons' by virtue of their shape) for the disposal of silt by extraction of approximately 12 million tonnes of rock;
 - construction of new haul road linking the lagoons to the primary crusher;
 - installation of associated pipework (pumping silt water);
 - installation of a regulating weir and associated penstock;
 - installation of a hydro power generating station ('power house');
 - ancillary works, including widening of the existing access road.
- 1.2 The quarry complex covers 635ha. It comprises a quarry void (from which granite is extracted), primary and secondary processing areas, a silt management area and other infrastructure. The quarry operates using a 'glory hole' located within the quarry void whereby extracted (crushed) rock is conveyed from the primary processing area down a shaft to the secondary processing area where the rock is washed and graded for export by sea.
- 1.3 The application proposes silty water from the quarry washing plant being pumped via a 150mm surface pipeline to the finger lagoons. Each lagoon would be quarried to about 165m x 400m in size. The lagoons would be designed so that water is retained for a sufficient period for the silt to settle out under gravity, and dry out naturally over time. The excavated rock from the lagoons, constructed sequentially, would be exported via the existing quarry. This requires a haul road leading into the quarry area. Each lagoon is expected to have a year long construction period and a 10 year operational lifespan, with final restoration then being implemented upon decommissioning of each lagoon.
- 1.4 Clean water discharged from the lagoons would be directed via an east-west oriented channel excavated in the rock at the downstream (southern) end of the lagoons. The channel would connect each lagoon to a regulating weir that would be designed to control the discharge and ensure sufficient residence time in the lagoons such that only clean water is allowed to exit the system.
- 1.5 Water passing through the regulating weir would flow into the Allt Feith Mhic Artair watercourse. The Allt Feith Mhic Artair would continue to be impounded by the Wash Plant Dam, as at present, and the small reservoir impounded by the Dam (the Wash Plant Reservoir) would continue to supply the wash plant.
- 1.6 Given the elevation of the lagoons there is potential for some of the outflow water to produce hydro-electric power (HEP). This would involve water from the regulating weir passing via an intake chamber to a largely buried 400mm - 500mm diameter water pipe ('penstock') that would conduct the water a distance of approximately 2.9 - 3.0km down to the HEP powerhouse building. The penstock

sections would vary on account of the topography between being within a trench (buried) or sited on cradles above ground. The tailrace from the powerhouse would discharge to the existing settlement pond.

- 1.7 The maximum power output of the system is likely to be in the order of 500kw. The potential energy generation from the proposed scheme indicate that power generation would amount to around 2,520,000 kilowatt hours (kWh) per year to the benefit of the quarry / potentially the grid.
- 1.8 It is anticipated that the new silt management scheme and the hydro-scheme would have a life span to the end of the current planning permission for the working of the quarry. Future applications may seek an extended period of operation beyond 2043.
- 1.9 Supporting Information: The application has been accompanied by an Environmental Impact Assessment Report and reports including: -
- Planning Statement;
 - Mineral Extraction Questionnaire;
 - Waste Management Plan;
 - Restoration Plan.

1.5 Variations: None.

2. SITE DESCRIPTION

- 2.1 The application site is located in the western part of the Glensanda quarry complex. It covers an area of approximately 120ha and includes an area for the new finger lagoons immediately west of the main quarry void and a downstream area connecting the silt lagoons to the Secondary Processing Area. 70% of the application site falls within the area of the existing consented quarry complex. The site has two distinct areas where development is proposed: -
- Within the northern (upper) part of the site are the proposed finger lagoons, peat storage areas and haul road linking the lagoons and primary processing area within the quarry void; this development would occupy an area of around 39ha and currently comprises moorland within an upper shallow hanging valley that collects the headwaters of the watercourse Allt Feith Mhic Artair.
 - The southern / downstream section of the site follows the Allt Feith Mhic Artair valley that will accommodate the proposed connecting pipelines, pump house, hydro-electric power house and other infrastructure. The moorland slopes in this area descend to the coast.
- 2.2 At its highest point, the application site extends up to nearly 500m Above Ordnance Datum (AOD), although most of the finger lagoon construction would take place on a relatively flat area within a hanging valley feature at around 310m AOD. Downslope of the finger lagoon area the land falls towards the coast. The lowest part of the application site is the existing washing plant at approximately 50m AOD.
- 2.3 Glensanda Quarry is a large coastal 'super-quarry' with no road access. Access to the complex is by boat via the applicant's port facility at Rhugh Garbh depot at Barcaldine, Argyll. It has been operating since the 1980's and has planning permission until 2043 to work reserves which extend to about 814 million tonnes. Output is set at a maximum of 15mta, but presently equates to 7-8mta.

- 2.4 The area surrounding the application site is rural and remote in nature, comprising hills and moorland close to the coastline. The predominant land uses in the area are stalking, fishing, agriculture and forestry. There are holiday lets and residential accommodation at Kingairloch. There are a number of areas of woodland within 5km of the site. The nearest residential properties are some 4km to the north-east at Kingairloch and on Lismore across Loch Linnhe.
- 2.5 There are no designations within the planning application site nor with the exception of a scheduled monument (Glensanda Castle) within the wider Glensanda Quarry complex. Part of the application site is identified on the Scottish Natural Heritage (SNH) Carbon Map as priority 1 peatland habitat.
- 2.6 The application site is located approximately 4.8km to the west of the Lynn of Lorn National Scenic Area (NSA). The site is also located approximately 3km to the south-west of Ardgour Special Landscape Area (SLA) and approximately 2.8km to the north of the Inninmore Bay and Garbh Shlios SLA as identified by the Council's Special Landscape Area policy.

3. PLANNING HISTORY

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|-----|--------------|---|--------------|
| 3.1 | 5 March 2018 | Extension to the existing filter cake disposal site for the continued disposal of filter cake (17/05559/FUL). | Granted. |
| | 08.09.2017 | Construction and operation of a silt storage site and freshwater lagoon including the creation of up to four "finger lagoons" through the extraction of rock, and the installation of water pipes and electricity generation plant (17/03710/SCOP). | EIA Scoping. |
| | 30.05.2017 | Silt storage site and freshwater lagoon including creation of 4no finger lagoons by extraction of 4million tonnes or rock, water pipes, electricity generation and ancillary works (17/03576/PAN). | PAN |
| | 01.07.2017 | Continue the disposal of filtercake without complying with Condition 1 of Planning Permission 07/00229/FULLO – (17/02847/S42). | Granted. |
| | 12.07.2007 | Continuation of filtercake disposal without compliance with condition 12 of permission LO/1997/41 (07/00229/FULLO). | Granted. |
| | 28.09.2007 | Extension to Quarry (05/00334/FULLO). | Granted. |
| | 08.01.2003 | Removal of time limits governing winning and working of quarry stone and all ancillary activities at Quarry. (02/00189/FULLO) | Granted. |
| | 11.12.2000 | Construction of barge loading facility and provision of armourstone storage area (and variation of terms of planning permission) | Granted. |

(00/00297/FULLO).

29.04.1997	Installation of aggregate washing plant at quarry (LO/1997/41). This included filter cake disposal.	Granted.
21.03.1990	Revised quarry processing, crushing, screening and storage building and plant together with associated access roads, drainage, earthmoving and ancillary works. (LO/1989/723).	Granted.
01.12.2089	Revised quarry masterplan that included relocating the extraction area to higher up the mountain (LO/1989/167).	Granted.
01.12.1984	Quarrying for 25 years (i.e. until May 2007) and included an output limit of 7.5 million tonnes per annum (LO/1983/494).	Granted.
1982	Quarrying including the 'glory hole' principle (LO/1982/40).	Granted

4. PUBLIC PARTICIPATION

4.1 Advertised: EIA / Schedule 3 Advert

Date Advertised: 07.12.2017

Representation deadline: 06.01.2018.

Timeous representations: 1 representation – 1 objection.

Late representations: 0

4.2 Material considerations raised are summarised as follows:

- a) Information lacking on minimising impact on peat.
- b) Conflict with carbon storage / climate change priorities.

4.3 The letter of representation is available for inspection via the Council's eplanning portal which can be accessed through the internet www.wam.highland.gov.uk/wam.

5. CONSULTATIONS

5.1 **Morvern Community Council** has not responded to the application.

5.2 **Ardgour Community Council** has not responded to the application.

5.3 **Argyll and Bute Council** has not responded to the application.

5.4 **Historic Environment Team** has no objection to the application. Request for conditions should the application be supported given the potential for encountering buried features.

5.5 **Environmental Health (EH)** has no objection to the application. Request for

conditions to be attached to the consent to address noise issues.

- 5.6 **Scottish Natural Heritage (SNH)** has no objection to the application. It highlights concerns over the adequacy of the EIA Report addressing peat, limiting its response.
- 5.7 **Scottish Environmental Protection Agency (SEPA)** has not objected to the application. Request for conditions should the application be supported.
- 5.8 **Health and Safety Executive (HSE)** has no objection to the application.

6. DEVELOPMENT PLAN POLICY

The following policies are relevant to the assessment of the application

6.1 Highland Wide Local Development Plan 2012

28 - Sustainable Design
29 - Design Quality & Place-making
30 - Physical Constraints
31 - Developer Contributions
53 - Minerals
54 - Mineral Wastes
55 - Peat and Soils
57 - Natural, Built & Cultural Heritage
58 - Protected Species
59 - Other important Species
60 - Other Importance Habitats
61 - Landscape
62 - Geodiversity
63 - Water Environment
64 - Flood Risk
65 - Waste Water Treatment
66 - Surface Water Drainage
67 - Renewable Energy Developments
72 - Pollution
73 - Air Quality

6.2 West Highlands and Islands Local Plan 2012 (as continued in force)

None.

6.3 West Highland and Islands Local Development Plan (proposed West Plan).

None.

7. OTHER MATERIAL CONSIDERATIONS

7.1 Highland Council Supplementary Planning Policy Guidance

Flood Risk & Drainage Impact Assessment (Jan 2013)
Highland Historic Environment Strategy (Jan 2013)

Highland's Statutorily Protected Species (March 2013)
Highland Renewable Energy Strategy & Planning Guidelines (May 2006)
Standards for Archaeological Work (March 2012)

7.2 **Scottish Government Planning Policy and Guidance**

Scottish Planning Policy (The Scottish Government, June 2014)

8. PLANNING APPRAISAL

- 8.1 Section 25 of the Town and Country Planning (Scotland) Act 1997 requires planning applications to be determined in accordance with the development plan unless material considerations indicate otherwise.

Determining Issues

- 8.2 This means that the application requires to be assessed against all policies of the Development Plan relevant to the application, all national and local policy guidance and all other material considerations relevant to the application.

Planning Considerations

- 8.3 The key considerations in this case are:
- a) Development plan and other planning policy.
 - b) Scottish planning policy.
 - c) Planning history.
 - d) Layout and design, including landscape.
 - e) Peat.
 - f) Hydrology / Surface Water Hydrology.
 - g) Waste.
 - h) Access and traffic impact.
 - i) Renewable energy.
 - j) Archaeology.
 - k) Ecology.
 - l) Construction impacts.

Development plan / other planning policy

- 8.4 There are no site specific policies / allocation(s) within the West Highlands and Islands Local Development Plan. General policies as set down within the Highland-wide Local Development Plan (HwLDP) as listed above are relevant.
- 8.5 The principal works presented within this application are entirely related to the quarry operations. A secondary element is the proposed renewable energy (hydro) scheme. It is for this reason that the assessment of this application will primarily focus upon the provision of Policy 53 of the HwLDP. That is not to say that the other policies of the Development Plan are no less important or relevant, but that the assessment will focus upon the mineral related needs behind the application.
- 8.6 Within Policy 53 the Council expect that mineral development will avoid or satisfactorily mitigate any impacts on residential amenity; the natural, built and

cultural heritage; and infrastructural capacities. After uses should result in environmental improvement rather than just restoring a site to its original state. After uses should add to the cultural, recreational or environmental assets of an area. A financial guarantee may be sought.

- 8.7 Provided there are no significant adverse impacts to the environment, natural or cultural heritage, the application can be supported.
- 8.8 The Development Plan is supported by adopted Supplementary Guidance (SG) which expands on the Council's expectation on key topics. The guidance does not provide additional policy tests for any application, but it provides guidance over the approach that the Council will use in its assessment of application. Key topics of interests pertain with this application are as listed earlier in this report.

Scottish Planning Policy 2014

- 8.9 SPP Paragraph's 234 – 248 are noteworthy. In particular paragraph 235 of Scottish Planning Policy, in relation to the extraction of minerals, states "The planning system should –
- safeguard workable resources and ensure that an adequate and steady supply is available to meet the needs of the construction, energy and other sectors;
 - minimise the impacts of extraction on local communities, the environment and the built and natural heritage; and
 - secure the sustainable restoration of sites to beneficial afteruse after working has ceased.
- 8.10 The proposal will provide a replacement of the existing consented filter cake area, which will enable the continued extraction of granite reserves whilst using the existing quarry infrastructure. There are therefore clear benefits from the current application in keeping with the current consents for extraction and in alignment with national policy.
- 8.11 National policy also addresses a range of other important consideration which requires to be taken into account in any assessment. This includes the Scottish Government's supportive policy towards sustainability, renewable energy, climate change and the low carbon economy and priority peatlands. The key is to assist the right development in the right places, whilst protecting and enhancing the use of natural resources. Applications are expected to provide sufficient information to enable a full assessment to be made of the likely effects of development together with appropriate control, mitigation and monitoring measures.

Planning History

- 8.12 This significant quarry has a long planning history in support of development of Scotland's largest rock quarry. The resource is expected to last for many decades, although planning approval currently extends only to 2043. The most recent principal planning permission was / is supported by an Environmental Statement (including Addendum) as part of application - 05/00334/FULLO. Silt management is an integral part of the product production process, with recent planning permissions extending the existing silt management arrangements through to 2025. The permissions require the current filter cake (silt) areas to be closed and restored

as required set by condition.

- 8.13 Evaluation of the alternatives for the long term management of silt within the Glensanda Quarry complex has been an evolving process over many years. The applicant has advised that it has sought to identify the most sustainable option for silt management, including options for recovery and recycling. Following detailed assessment it has rejected alternate options for reasons of cost, technical specification, and / or operational conflict. Rejection of these alternate options is accepted.
- 8.14 The history and significance of this quarry resource to supply stone to the Scottish, UK and wider international markets is of considerable importance, which needs to be given weight in the final determination of the application, including the local economic impacts arising from employment opportunities and servicing. That said it is important to ensure the project maintains high standards on pollution prevention, restoration and mitigation. Such elements are addressed throughout this assessment. It also recognises in full the consented elements associated with earlier applications including supporting environmental statements, mitigation measures, waste management plans, inspection and monitoring.

Layout and design, including landscape.

- 8.15 In layout terms the application is heavily influenced by the existing 'glory hole' quarry, current processing areas, existing infrastructure and the local topography. The secondary processing area lies on a narrow strip of coastline and currently deploys a washing area, wash water reservoir / dam and filter cake areas to the west side of the quarry within Glen Sanda and utilises the Allt Feith Mhic Artair watercourse. The location of the proposed finger lagoons with the shallow upper valley allows the works to be largely screened from the open views to the south (sea – opposite shoreline), but also retain proximity to current activities. It is an area that is easily accessible from the existing access track that serves the primary quarry.
- 8.16 Given the topography there are few alternative locations that offers connectivity to the existing operations. A real benefit of the proposals for the current operations will be the closure of the existing filter cake area and implementation of the restoration plans in full. This area, lower than the proposed finger lagoons, is highly visible from the south.
- 8.17 The siting of the lagoons high on the hill also provides the opportunity for a renewable energy project, which is a bonus outcome from this project but which has been a long held ambition for the operators who have been keen to enhance its electricity supply, given its remote location at the far end of the grid and distribution networks. The proposed penstock and power house will sit comfortably with the existing quarry infrastructure.
- 8.18 In design terms the visual impacts of the finger lagoons will be limited given that it largely involves ground excavations (quarrying) to create a void, with the rock won being added to the current extraction outputs. The additional haul roads are relatively limited in size and sit in close proximity to the existing tracks elements of which will be improved. The potential is there for additional landscape works to

soften the edges of the works and existing infrastructure with the surface turfs / peat resource which will be cleared from the lagoon areas in advance of excavations.

- 8.19 The application does not significantly enlarge the existing quarry. Indeed one key consequence of the application will be the closure of the existing filter cake disposal, which will be decommissioned and restored as previously set out in earlier planning permissions. In landscape terms therefore the layout and design of the current application is not seen as adverse. In relation to the key landscape designations to the south and west of the site, these will not be significantly affected by the proposed development.

Peat

- 8.20 The site of the current application falls within land recognised as peatland, some of which forms priority peatlands as introduced in 2014 by Scottish Government / SPP. The development of the finger lagoons and the haul road will require the removal of the initial layer of peat, prior to the excavation of rock 45-50m deep. The submission highlights the results of a number of exercises including peat probing and boreholes to depths of 50m. Depths of peat across the site were recorded generally thinning to the north and south at higher elevations, but extending to 2.1m in parts.
- 8.21 The applicant proposes to utilise this peat won from construction for restoration work. Where peat cannot be accommodated immediately for restoration it will be stored in a manner to assist its later use. Peat storage would be built up behind a rock fill retaining bund in an area to the east of the finger lagoons. The bund would also act as a drainage blanket, with the outflow of water from the drainage blanket connecting to the existing watercourses. Final restoration of the finger lagoons is anticipated to allow a range of habitat principally of wet heath and peat / moorland.
- 8.22 SNH has advised that the application will result in the loss of 32ha of blanket bog, a nationally important habitat now recognised within SPP. This loss is considered significant at the national scale. It has also highlighted that the Environmental Impact Assessment Report provides conflicting information and is missing supporting information. It particularly notes the need for: -
- Clear descriptions of the proposals for peat extraction and reuse, or of the decision-making process that will be employed. This will influence the expected impact of the proposal and the likely success of any restoration measures.
 - Projected timescales - details of measures proposed to ensure priority peat habitats are fully restored.
 - Details of mitigation, advising that there is scope for management interventions to restore areas of loss and improve the condition of degraded areas.
- 8.23 Peat is an awkward material to work. Whilst its use in restoration is certainly achievable, it is best if handling is limited. It is also important that the very foundation on which peat is being stored for restoration provides a wet / damp environment to prevent the stored peat from drying out. In this regard it is also important to have regard for the timing of works and there are uncertainties within

the current application; for example the gap between the site preparation of one lagoon versus the timing on the restoration of initial and second lagoon. It is felt that the issues raised by SNH can be managed through conditions, given that there are a number of unknown factors such as time it will take for each lagoon to fill.

- 8.24 A public representation to this application highlights the excavation and reuse of 163,500m³ of peat, but notes that the emissions and climate change consequences of doing so have not been addressed fully. SNH has highlighted that it would support the development of a detailed storage and handling plan to be prepared prior to development commencing as a part of the Construction and Environmental Management (CEMP) set by condition.
- 8.25 SEPA has highlighted and accepted that the proposed finger lagoons and filter cake area extension are integral to the overall management of Glensanda Quarry. In addition the management of silt, peat overburden and waterbodies are quarry wide issues and should be addressed in an integral and holistic manner. SEPA highlights that it is common practice for these issues to be addressed within an Environmental Management Plan (EMP) which covers the day to day operations of the quarry and any phased restoration.
- 8.26 The applicant has confirmed that there is an existing EMP applied at the quarry. This sits along side the current proposals and EIA Report within this application. SEPA therefore has requested that should this application be supported, a condition needs to be attached requiring the submission of an updated Environmental Management Plan (EMP), for later approval, which includes all the operations within the existing consent boundary and new application boundary. This would include updated plans / supporting information on the storage of peat and the restoration and aftercare of peatland and wetlands.

Hydrology / Surface Water Management

- 8.27 The proposals will impact on two catchments including the Allt Feith Mhic Artair catchment across the eastern area of the finger lagoons and all of the hydro development; and the Allt a' Bhodaich in the western part of the finger lagoons. The Allt Feith Mhic Artair is highly modified by quarrying activity to date, with much of its headwaters receiving run-off directly from the quarry. Three rock-fill dams have also been constructed along the Allt Feith Mhic Artair watercourse which provide settlement and attenuation of flows and impoundment of water for supply to the existing quarry processing operations.
- 8.28 The proposed finger lagoons would directly impact upon one minor tributary of the headwaters of the Allt Feith Mhic Artair, while extensions to existing watercourse crossings of several minor watercourses within the headwaters would be required for the proposed haul road which would link the finger lagoons and the existing haul road. Crossings of the Allt Feith Mhic Artair, Allt na h-easaichne and a minor unnamed watercourse to the north-west of the processing area, would also be required for the HEP, though it is noted there are existing crossings at these points already associated with the quarry access track. The hydro scheme and silt water pipeline would be constructed solely within the Allt Feith Mhic Artair surface water catchment.

- 8.29 The applicant has outlined its proposals to continue the implementation of good construction and operational practices to safeguard water quality within existing water courses, using buffers (development set back), SUDs management principles; interceptor drainage; silt traps; water quality management; pollution risk management; and inspection and monitoring.
- 8.30 SEPA has highlighted in its response its concern over the scale of the proposals and requests for example how pollution prevention will be implemented at each phase of construction. It has highlighted that additional settlement ponds, cut off ditches and silt management devices will be required. It will be important to ensure that these matters are managed effectively through the discharge of planning conditions in full collaboration with the operators and the consent authorities.

Waste

- 8.31 The production of silt is not uncommon at quarries. It is an inert material. It is generally accepted that the silt is a waste product (a mineral or mining waste) from the washing process and is usually disposed of within the quarry site, typically in lagoons, but where space does not permit the creation of lagoons, mechanical dewatering techniques are employed. It is not common practice to export silt for any beneficial use. The proposed development is intended to meet the requirements of the Glensanda Quarry complex for the remainder of its consented life, i.e. to 2043. The proposed scale of the lagoons is estimated to be sufficient for this period at current levels of output.
- 8.32 The silt arising from the washing of the quarry stone has no value and thereby has to be seen as a waste product. Should the application be supported it would be necessary to update the Extractive Waste Management Plan (EWMP) and thereby comply with the requirements of the Management of Extractive Waste (Scotland) Regulations 2010.
- 8.33 The operator submitted its initial EWMP for the quarry in June 2011 covering the existing filter cake disposal area. A second EWMP was submitted in November 2011 which covered the extractive wastes within the main quarry area. That submission also sought to secure agreement that certain materials qualified as "non-waste products" and that soils excavated as part of the approved development were appropriately covered by existing arrangements such that further requirements under the Regulations could be waived. This same approach is anticipated for the soil / peat deposits overlying the development footprint within this application. No significant adverse effects would arise from the removal and placement of these unpolluted soils / peat under the tests of the above noted 2010 Regulations.
- 8.34 The applicant has advised that the silt is part of the original deposit; it is wholly inert and included on the de -facto inter waste list within the regulatory guidance. Although the silt is not being used to restore the main quarry 'glory hole' workings (as it is not practical to do so as it would sterilise reserves) it is still being used to restore a quarry void. As explained in the 2017 EIA Report, rock extracted from the finger lagoons will be processed using the existing processing plant and so will produce aggregate in parallel with rock extracted from the main quarry.

- 8.35 SEPA has advised that “provided the current and future best practice is utilised in terms of waterbody and peat management as discussed with the applicant, then it considers the proposed extraction of granite reserves adjacent to the existing quarry infrastructure, and utilising the quarry fines and surplus peat for restoration, accords with Scottish Planning Policy. It also considers the restoration of the site with the quarry fines accords with the principles of the Mining Waste Directive.” That said SEPA has also highlighted “It is standard practice for these issues to be addressed within an environmental management plan which covers the day to day operations of the quarry and any phased restoration. Report and Addendum that there is an existing Environmental Management Plan (EMP). Therefore, it requests that a condition is attached to the consent requiring the submission of an EMP which includes all the operations within the existing consent boundary and new application boundary.”

Access and Traffic Impact

- 8.36 Given the isolated location of the development and site servicing by sea, the application gives rise to no particular issues pertaining to access and traffic impact. That said in recent time’s bulk delivery of new equipment has caused significant traffic impact on the road network in Lochaber and Argyll. Should the application be supported then it would be appropriate to ensure an informative is provided within any decision to remind the operators of the quarry over the obligations to discharge effective traffic management particularly on any abnormal load road deliveries to site.

Renewable energy

- 8.37 The application contains proposals for a renewable energy project, which is incidental to the key land use currently being conducted on this site. Nevertheless it is noteworthy that application is advancing a hydro-scheme within the watercourse management of the Allt Feith Mhic Artair. The development plan (Policy 67) and Scottish Government policy are both supportive of such initiatives provided they are located, sited and designed such that they will not be significantly detrimental overall, either individually or cumulatively with other developments.
- 8.38 This element of the application has raised no concerns save from the observations of the EHO, who is keen to have recognised that the power-house is located near to the existing work force accommodation block and that consideration needs to be given to the issue of noise. It is important that the design of the powerhouse, directs vents away from the elevations facing the accommodation and an assessment is needed to confirm the capacity for noise immissions that take into account background noise levels and noise levels that may arise from the power house. This matter can be addressed using planning conditions.

Archaeology

- 8.39 The assessment in support of the application highlights the potential for buried features or finds to be impacted by this development. The Council’s archaeologist has advised that “while the risk of encountering buried deposits is not such as to warrant a full excavation, it is important that the nature and extent of any features is identified and recorded before destruction. Site clearance work should be done

under archaeological supervision so that if necessary any recording can be done without causing undue delay or inconvenience for the development.” This can be managed by planning condition.

Ecology

- 8.40 There is an existing requirement by condition upon the quarry operator to undertake a monitoring and auditing scheme highlighting the effects of the development on the environment within and surrounding the quarry and its associated infrastructure. This is managed through a Biodiversity Action Plan (BAP) based on protecting and supporting priority species (legal or protected status) for Glensanda Estate. To date 14 species of the 218 different species recorded on the estate have legal protection.
- 8.41 There is a focus upon clean running water in estate watercourses, increased woodland, improvement to lochans, blanket bog, heaths fens and flushes; mammals; breeding birds, butterflies, moths, bats and plants. The application by way of mitigation seeks to continue good practice construction and operation mitigation of these interests. However the proposed mitigation does not seem to recognise the key significant negative effect of the proposal upon wet heath and bog habitat. Whilst the offer of peat storage and reuse goes some of the way, it is suggested that a more measurable and specific ecological mitigation package, consistent with the existing BAP needs to be delivered as a set programme should the application be supported.

Construction impacts

- 8.42 There is no predicted intensification of use at the quarry, and so it is not anticipated that there will be any increased impacts of noise, dust, blasting and lighting compared to the present situation.
- 8.43 Environmental Health has highlighted the proximity of the existing accommodation block for quarry workers and its proximity to the powerhouse of the proposed hydro scheme. The noise levels from the powerhouse need to consider a threshold which does not exceed 5dB above background levels, but there is a need to establish what the present background noise levels are in this location and what if any mitigation by design is needed to ensure compliance with acceptable noise levels at the accommodation block, the nearest noise sensitive property. This can be addressed by condition.

Other material considerations

8. 44 There are no other material considerations.

Matters to be secured by Section 75 Agreement

8. 45 It is noteworthy that the quarry operates under a requirement for decommissioning and site restoration, with an appropriate bond posted to cover the cost of such works in the event of non compliance for whatever reason. The bond requires for regular review and this is currently in need of attention. Should this application be supported it is recommended that by condition the restoration bond be reviewed

incorporating the works arising from this application and other approvals since the grant of planning permission (Ref 05/00334/FULLO).

9. CONCLUSION

- 9.1 The application continues the phased development and expansion of Glensanda quarry, a major provider of stone material to the Scottish, UK and wider international markets. The expansion of the quarry to the west, allows for the creation of finger lagoons, to allow for the disposal of silt waste from the secondary processing area using excavated lagoons and a small but valuable renewable energy / hydro project. It has not attracted significant objection from local community council's or the public, no doubt as a consequence of the limited impact that the proposals will generate in relation to the existing workings.
- 9.2 A key concern, attracting the single public representation to the application, and less than supportive initial comments from Scottish Natural Heritage and the Scottish Environment Protection Agency relates to the impact of the proposal (finger lagoons) on 32ha of peatland. This is a nationally important habitat, where impacts need to be minimised by careful planning and design, with consideration being given to the role that the natural environment is providing and maximising the potential for enhancement. SPP also advises that where peatland is to be drained or otherwise disturbed there is liable to be a release of carbon dioxide emissions, thereby development should aim to minimise this release. This can be managed by condition through a peat management plan
- 9.3 The application will maximise the principle activity (quarrying) taking place at Glensanda. 12mt of additional rock will be extracted as a consequence of the proposals. The silt waste product is a consequence of the quarry process, where alternative uses / disposal are both limited and uneconomic to the option of returning of such inert waste to quarry voids as advised within mining waste regulation guidance. Whilst the proposal presents an attractive practical option in relation to existing quarry activities, and in landscape terms, the conflict is its potential impact on 32ha of peat. .
- 9.4 There is clear intent by the applicant to ensure that this peat resource is re-used in site restoration works, both in early works, but also through effective stored for later restoration use. In this regard the fact that the lagoons will be excavated on a sequential needs basis does allow for peat removal and storage / reuse in restoration in phases. It is clear also that the response from SEPA in particular is looking for conditions to reignite effort into the existing Environmental Management Plan(EMP) and Extractive Waste Management Plan(EWMP) across the whole quarry area, enhanced to take into account of the proposals as presented within this application and within the decommissioning and restoration of the recently approved / existing filter cake disposal area.
- 9.5 In reaching a decision on the application the clear adverse impact on priority peatland is one consideration, however this has to be balanced against the economic benefits of the continued working of this large coastal quarry (consented), proposals which are consistent with mineral extraction policy within SPP and the Council's Mineral Policy 53 as set out in the HwLDP. It also presents a renewable energy project, which is supported within Scottish Government Policy

and Policy 67 of the HwLDP.

- 9.6 All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

10. IMPLICATIONS

- 10.1 Resource: Not applicable
- 10.2 Legal: Not applicable
- 10.3 Community (Equality, Poverty and Rural): Not applicable
- 10.4 Climate Change/Carbon Clever: Not applicable
- 10.5 Risk: Not applicable
- 10.6 Gaelic: Not applicable

11. RECOMMENDATION

Action required before decision issued

Notification to Scottish Ministers	N
Conclusion of Section 75 Obligation	N
Revocation of previous permission	N

Subject to the above, it is recommended that planning permission be **Granted**, subject to the following conditions:

- 1 For the avoidance of doubt, this permission is for a limited period, expiring on 8th January 2043, on which date it shall cease to have effect and the land shall have been fully restored in accordance with all of the relevant terms and conditions of this notice.

Reason: - In order to clarify the terms and implications of the planning permission hereby being granted under this consent.

- 2 Except as otherwise provided for and amended by the terms of this approval, the operator shall carry out the development in accordance with the provisions of the application, its Environmental Impact assessment Report, supporting Information and the submitted plans as approved.

Reason: - : In order to clarify the terms of the consent being granted as related to the submitted plans and supporting documents prepared by the applicant and the commitments given by the applicant to adhere to specific mitigation measures including advance surveys, methods of working, monitoring, decommissioning, restoration and reinstatement.

- 3 Prior to the commencement of development the operator must submit an updated Environmental Management Plan (EMP) for the whole quarry* (see informative) including the new areas granted planning permission, for the approval of the Planning Authority in consultation with SEPA. All workings must then proceed on the basis of the approved plan which must include the following information: -
- a) A map showing the location, size, depths and dimensions of all the extraction areas.
 - b) A map showing all stocks of rock, overburden, soils and temporary and permanent infrastructure including tracks, buildings, oil storage, pipes and drainage, overlain with all existing lochs and watercourses to a distance of 250 metres and maps of each subsequent phase denoting how waterbodies will be diverted and managed during the phases of the works. These maps must be supported by a geomorphic assessment of the proposed works and its impacts on the morphology of the watercourses; other water users and flood risk and demonstrate how adverse impacts upon the Allt Buidhe Mòr and the Allt Feith Mhic Artair will be avoided. The geomorphic assessment should take into account the potential environmental impacts listed in Appendix 1 as attached with the SEPA consultation response dated 27 February 2018.
 - c) A map showing existing seasonally highest water table including sections showing the maximum area, depth and profile of working in relation to the water table and how dewatering will be managed.
 - d) A site map showing cut-off drains, silt management devices and settlement lagoons to manage surface water and dewatering discharge. Cut-off drains must be installed to maximise diversion of water from entering quarry works.
 - e) A site map showing proposed water abstractions with details of the volumes and timings of abstractions.
 - f) A site map showing the location of pollution prevention measures such as spill kits, oil interceptors, drainage associated with welfare facilities, recycling and bin storage and vehicle washing areas. The drawing notes should include a commitment to check these daily.
 - g) A site map showing where soils, peat and overburden will be stored including details of the heights and dimensions of each store, how long the material will be stored for and how soils will be kept fit for restoration purposes.
 - h) Sections and plans detailing how restoration and aftercare will be progressed including the phasing, profiles, depths and types of material to be used. This should include the restoration and aftercare of watercourses, peatlands and wetlands.

Reason: - : to clarify and confirm within an updated environmental management plan the commitments given by the applicant to adhere to specific mitigation measures on the across the whole quarry site.

- 4 Prior to the commencement of development and in combination with the requirements of Condition 3 above a Peat Management Scheme shall be submitted for the written approval of the Planning Authority in consultation with the Scottish Environment Protection Agency and Scottish Natural Heritage. This shall make provision for monitoring, reviewing and updating at regular annual intervals. The Scheme and subsequent updates shall include details of peat handling methods to minimise the release of carbon dioxide, storage and movement of peat to minimise water pollution, storage and re-spreading of peat to minimise the risk of peat slide,

landscaping of stored and re-spread peat, and the anticipated quantities of peat to be stripped, stored and re-spread for restoration over the forthcoming annual period. Thereafter the scheme as approved shall be implemented.

Reason: - In the interest of safeguarding existing peat deposits and peat resources for future beneficial use.

- 5 Within three years of the grant of this permission, and at five yearly intervals thereafter until the expiry of this permission, a restoration and reinstatement plan for the lagoon extraction area shall be submitted for the written approval of the Planning Authority in consultation with Scottish Natural Heritage and the Scottish Environment Protection Agency. Such plans shall include monitoring and review of restoration and reinstatement already carried out, and to include an assessment of the specific contribution to the Estate Biodiversity Action Plan by agreement to mitigate impact of the finger lagoon development. Thereafter each rolling plan shall be implemented as approved.

Reason: - In order to ensure effective restoration works progress in tandem with the continued working of the finger lagoons and the delivery of specific mitigation measures including compensation for the loss of 32ha of priority peatlands in a manner that is consistent with the existing / current Glensanda Estate Biodiversity Action Plan.

- 6 No development or work (including site clearance) shall commence until proposals for an archaeological watching brief to be carried out during site clearance and excavation works, in accordance with a Project Design that will be submitted to, and approved in writing by, the Planning Authority. Thereafter, the watching brief shall be implemented as approved.

Reason: - In order to protect the archaeological and historic interest of the site.

- 7 No development of the hydro scheme shall start on site until a finalised Construction Environmental Management Document (CEMD) is submitted to and agreed in writing by the Planning Authority in consultation with SEPA. Works shall on proceed on the basis of the approved CEMD, unless otherwise agreed in writing with the planning authority. The CEMD shall include: -

- a) Finalised design drawings, for approval, of the proposed intake weir, penstock, powerhouse and tail race.
- b) An updated Schedule of Mitigation (SM) related to the hydro-scheme works including all mitigation proposed in support of the planning application and otherwise set out in the conditions attached to this planning permission.
- c) Processes to control / action changes from the agreed Schedule of Mitigation.
- d) The following specific Construction and Environmental Management Plans (CEMP):
 - Pre commencement protected species survey plans for mammals and Schedule 1 bird species.
 - A phased construction process for the development of the penstock.
 - Measures to avoid Groundwater Dependant Terrestrial Ecosystems.
 - Construction Method Statement.
 - Laydown Areas and Construction Compound Locations.
 - Penstock and Construction Access Track Restoration Plan.

- Landscaping Plan adjacent to the powerhouse
 - Surface Water Management Plan.
 - Pollution Prevention Plan.
- e) Role and duties of the Principal Contractor; Civil Structural Engineer and Environmental Clerk of Works.

Reason: - To ensure that construction will not have any significant detrimental effect on the local environment, watercourses and valued habitats. To ensure that the hydro-scheme is suitable in terms of visual, landscape, noise and other environmental impact considerations.

- 8 No development of the hydro-electric scheme shall commence until a report has been submitted and accepted by the Planning Authority highlighting current background noise levels at the existing quarry accommodation block.

Reason: - to ensure the current understanding of background noise levels on site.

- 9 All plant, machinery and equipment associated with the power house shall be so installed, maintained and operated such that either of the following standards are met: -

- any associated operating noise must not exceed NR 20 when measured or calculated within the bedroom of any noise-sensitive premises with windows open for ventilation purposes.

OR

- the operating noise Rating level must not exceed the Background noise level by more than 5dB(A) including any characteristics penalty. Terms and measurements to be in accordance with BS 4142: 2014 Methods for Rating Industrial & Commercial Sound.

Reason: To ensure the operation of the powerhouse does not impact adversely on the existing quarry accommodation block.

- 10 The operator of quarry shall submit an annual statement and, where appropriate, illustrative drawings to the Planning Authority by 28 February each year following the commencement of extraction of the finger lagoon area. The annual statement will present an audit of the workings undertaken in the preceding calendar year, illustrating: -

- a) The rates of extraction against the finalised design as approved,
- b) The levels, if any, of silt storage and site restoration delivered,
- c) The results of any monitoring required in compliance with the conditions on this planning permission.

Reason: - In order to ensure the planning authority can monitor the workings undertaken and retain effective control over the proposed operations.

REASON FOR DECISION

It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

TIME LIMIT FOR THE IMPLEMENTATION OF THIS PLANNING PERMISSION

In accordance with Section 58 of the Town and Country Planning (Scotland) Act 1997 (as amended), the development to which this planning permission relates must commence within THREE YEARS of the date of this decision notice. If development has not commenced within this period, then this planning permission shall lapse.

FOOTNOTE TO APPLICANT

Initiation and Completion Notices

The Town and Country Planning (Scotland) Act 1997 (as amended) requires all developers to submit notices to the Planning Authority prior to, and upon completion of, development. These are in addition to any other similar requirements (such as Building Warrant completion notices) and failure to comply represents a breach of planning control and may result in formal enforcement action.

1. The developer must submit a Notice of Initiation of Development in accordance with Section 27A of the Act to the Planning Authority prior to work commencing on site.
2. On completion of the development, the developer must submit a Notice of Completion in accordance with Section 27B of the Act to the Planning Authority.

Copies of the notices referred to are attached to this decision notice for your convenience.

Accordance with Approved Plans & Conditions

You are advised that development must progress in accordance with the plans approved under, and any conditions attached to, this permission. You must not deviate from this permission without consent from the Planning Authority (irrespective of any changes that may separately be requested at the Building Warrant stage or by any other Statutory Authority). Any pre-conditions (those requiring certain works, submissions etc. prior to commencement of development) must be fulfilled prior to work starting on site. Failure to adhere to this permission and meet the requirements of all conditions may invalidate your permission or result in formal enforcement action

*** Environmental Management Plan**

For the avoidance of any doubt the EMP shall address the full terms of planning permission references -

- 17/05559/FUL dated 5 MARCH 2017;
- 17/02847/S42 dated 08 August 2017;
- 05/00334/FULLO dated 28 Sept 2007;
- 02/00189/FULLO dated 8th January 2003;

- LO/1989/723 dated 21st March 1990; and
- LO/1986/167 dated 7th December 1989 (as amended as a non-material variation by letter of 13th March 1990 from the former Highland Regional Council).

shall hereby also apply to this planning permission from the date of this notice, subject to periodic review as required by Section 74 and Schedule 10 of the Town and Country Planning (Scotland) Act 1997.

Roads Authority Consent

In addition to planning permission, you may require one or more separate consents from public road authorities. These consents may require additional work and / or introduce additional specifications and you are therefore advised to contact your local Area Roads office for further guidance at the earliest opportunity. Failure to comply with access requirements may endanger road users, affect the safety and free-flow of traffic and is likely to result in enforcement action being taken against you under both the Town and Country Planning (Scotland) Act 1997 and the Roads (Scotland) Act 1984.

Construction Hours and Noise-Generating Activities: You are advised that construction work associated with the approved development (incl. the loading/unloading of delivery vehicles, plant or other machinery), for which noise is audible at the boundary of the application site, should not normally take place outwith the hours of 08:00 and 19:00 Monday to Friday, 08:00 and 13:00 on Saturdays or at any time on a Sunday or Bank Holiday in Scotland, as prescribed in Schedule 1 of the Banking and Financial Dealings Act 1971 (as amended).

Work falling outwith these hours which gives rise to amenity concerns, or noise at any time which exceeds acceptable levels, may result in the service of a notice under Section 60 of the Control of Pollution Act 1974 (as amended). Breaching a Section 60 notice constitutes an offence and is likely to result in court action.

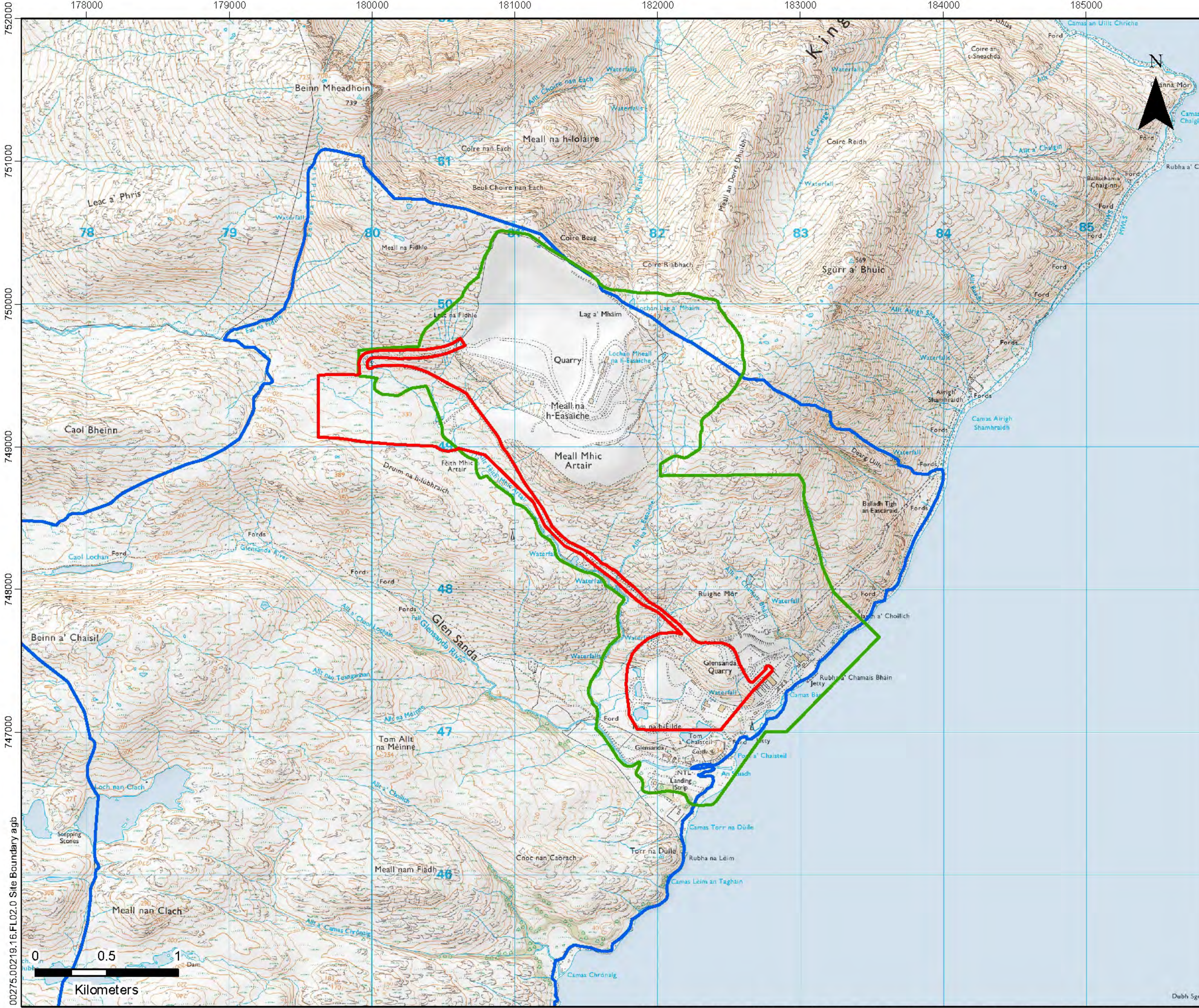
If you wish formal consent to work at specific times or on specific days, you may apply to the Council's Environmental Health Officer under Section 61 of the 1974 Act. Any such application should be submitted after you have obtained your Building Warrant, if required, and will be considered on its merits. Any decision taken will reflect the nature of the development, the site's location and the proximity of noise sensitive premises. Please contact env.health@highland.gov.uk for more information.

Protected Species – Halting of Work

You are advised that work on site must stop immediately, and Scottish Natural Heritage must be contacted, if evidence of any protected species or nesting/breeding sites, not previously detected during the course of the application and provided for in this permission, are found on site. For the avoidance of doubt, it is an offence to deliberately or recklessly kill, injure or disturb protected species or to damage or destroy the breeding site of a protected species. These sites are protected even if the animal is not there at the time of discovery. Further information regarding protected species and developer responsibilities is available from SNH: www.snh.gov.uk/protecting-scotlands-nature/protected-species

Signature: Nicola Drummond
Designation: Area Planning Manager – South/Major Developments
Author: Ken McCorquodale, Principal Planning Officer
Background Papers: Documents referred to in report and in case file.
Relevant Plans:

Drawing FL01- Site Location (1:50,000)
Drawing FL02 - Planning Application Boundary (1:15,000)
Drawing FL03 - Red Line Boundary (1:12,500)
Drawing FL07 - Proposed Site Layout
Drawing FL08A-G - Phases
Drawing FC09 - Restoration Plan and Cross Section



LEGEND

- APPLICATION SITE BOUNDARY
- LAND IN THE OWNERSHIP OF YEOMAN GLENSANDA
- EXISTING CONSENT BOUNDARY



**YEOMAN
GLENSANDA**

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**GLENSANDA QUARRY
PROPOSED SILT MANAGEMENT
PLANNING APPLICATION AND EIA
SITE BOUNDARY**

FL02

Scale 1:25,000 @ A3 Date OCTOBER 2017

00275.00219.16.FL02.0 Site Boundary agb



180000

181000

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183000

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748000

00275.00219.16.FL04.0 Aerial Photograph agb

LEGEND

 APPLICATION SITE BOUNDARY



Magazine Corner

Primary Processing Area

Existing Quarry Access

Allt Feith Mhic Artair

Wash Plant Reservoir

Wash Plant Dam

Secondary Processing Area

Filter Cake Disposal Site

Glensanda River

Washing Plant

Glensanda Castle



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Calmapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



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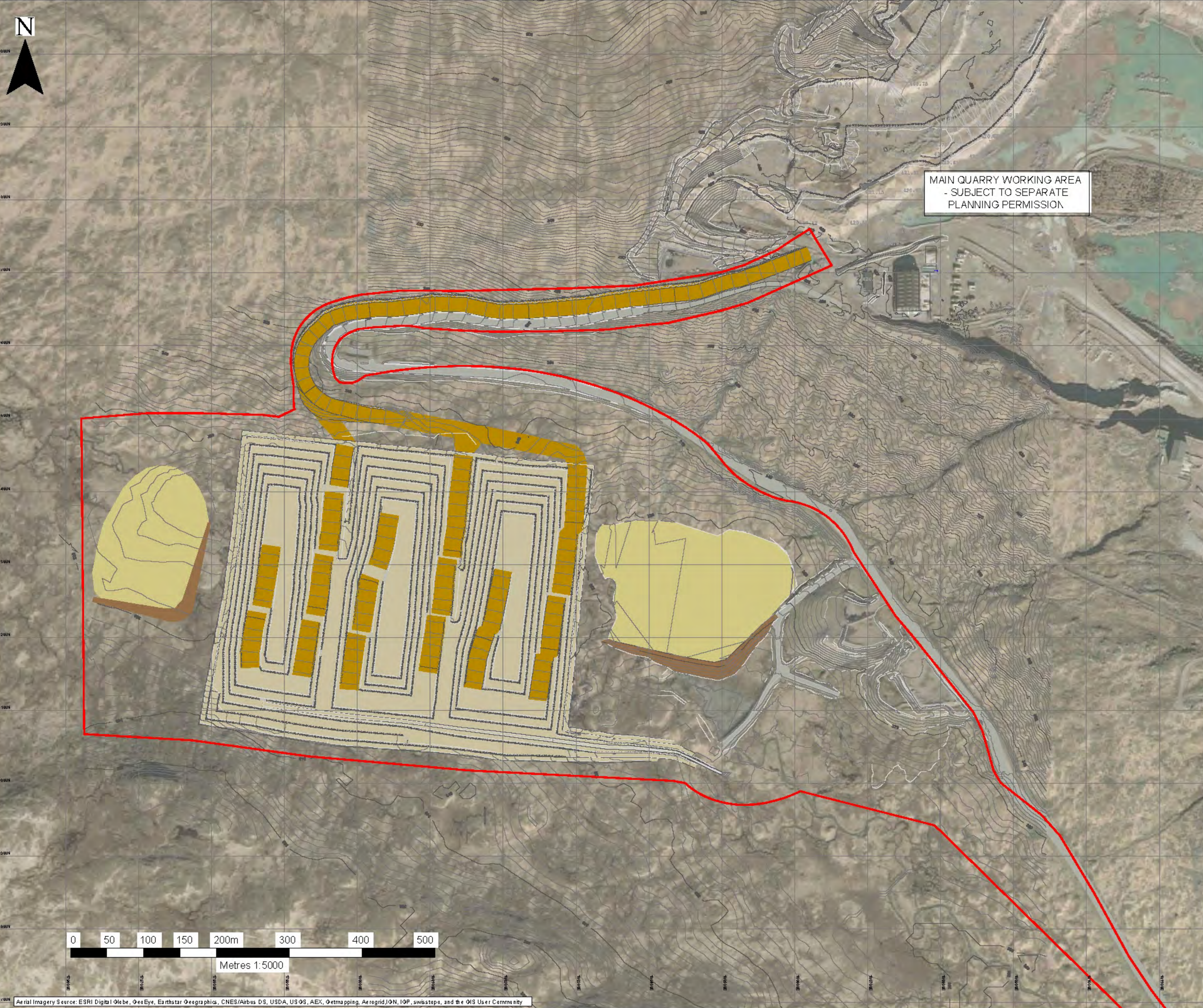





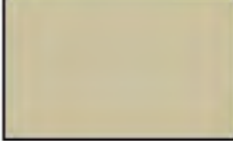
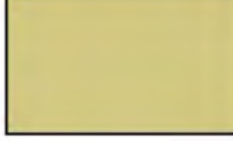
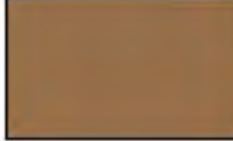
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**GLENSANDA QUARRY
PROPOSED SILT MANAGEMENT
PLANNING APPLICATION AND EIA
AERIAL PHOTOGRAPH**

FL04

Scale 1:12,500 @ A3 Date OCTOBER 2017



-  APPLICATION SITE BOUNDARY
-  EXISTING ACCESS ROUTE
-  PROPOSED HAUL ROUTE
-  PROPOSED EXTRACTION
-  PEAT PLACEMENT
-  ROCK FILL RETAINING BUND

MAIN QUARRY WORKING AREA
- SUBJECT TO SEPARATE
PLANNING PERMISSION



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GLENSANDA QUARRY
PROPOSED SILT MANAGEMENT
PHASE 7 (L3 269)

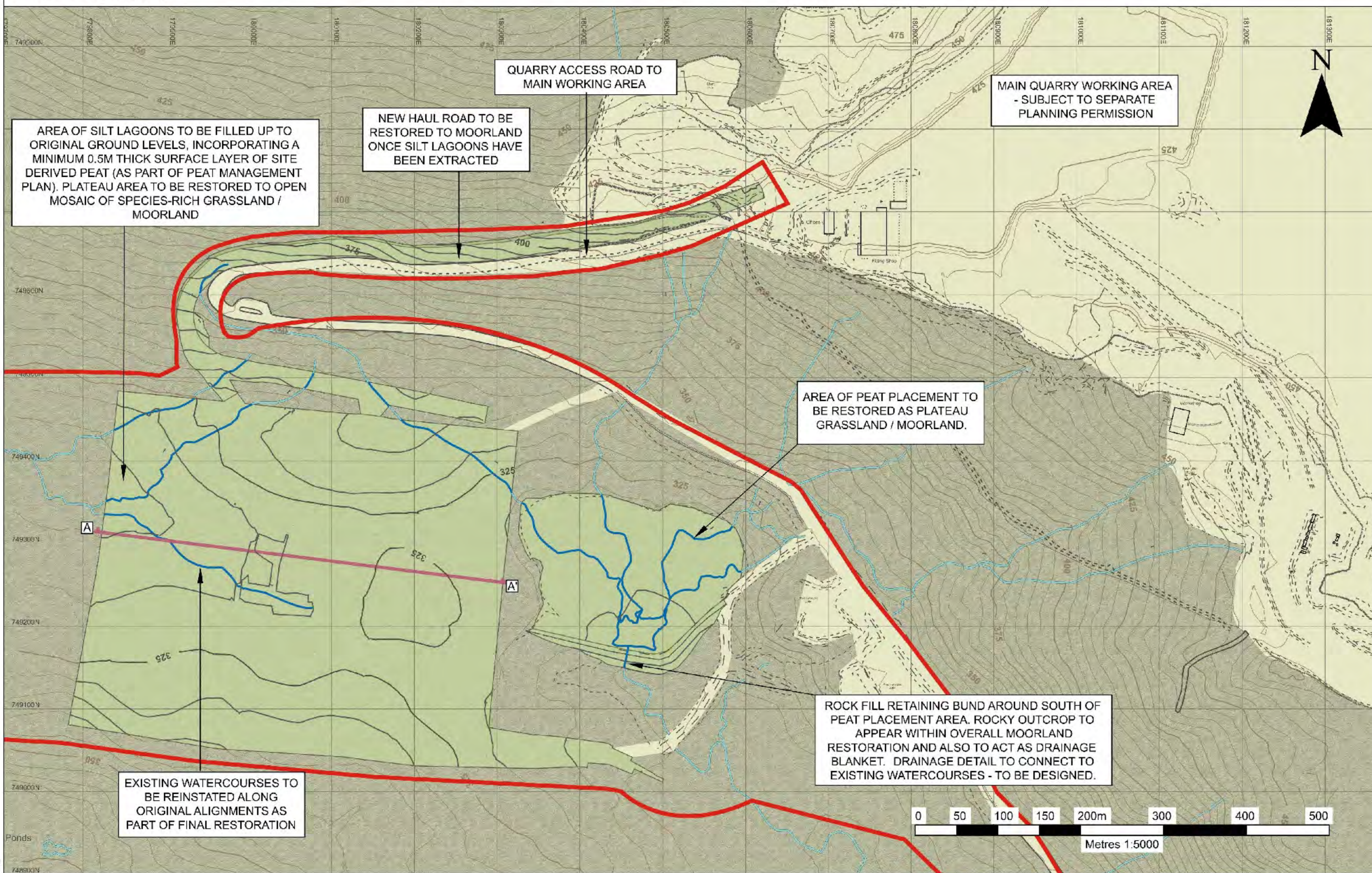
FL08 G


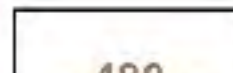



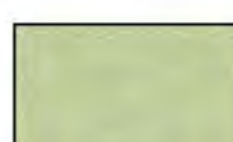






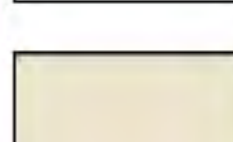
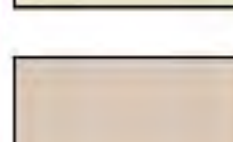
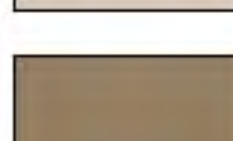
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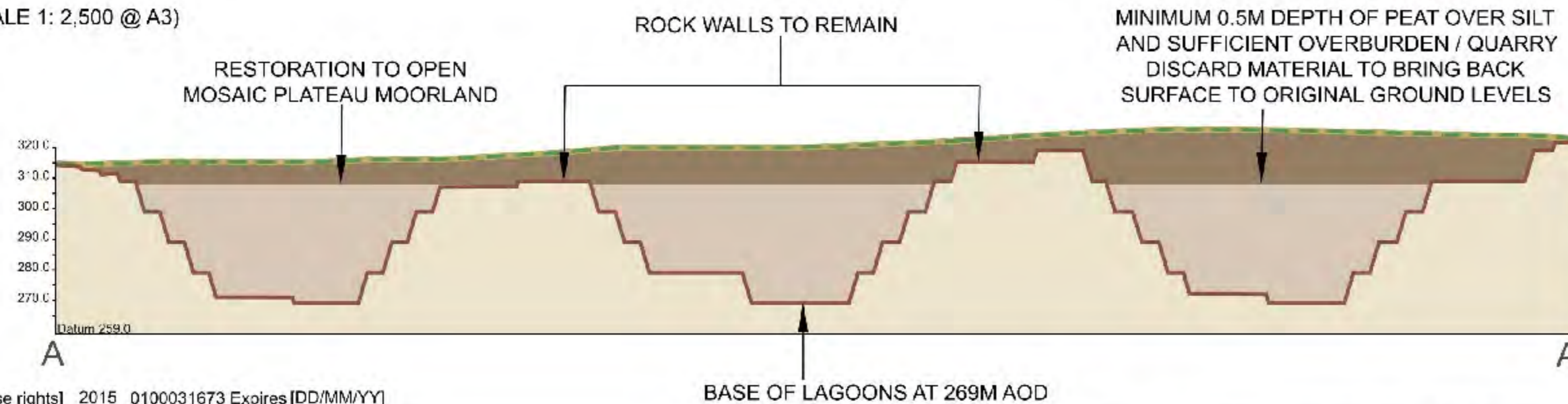
Aerial Imagery Source: ESRI Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geotmapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

PLAN (SCALE 1: 5,000 @ A3)



-  APPLICATION SITE BOUNDARY
-  480 EXISTING CONTOURS (5m intervals)
-  480 PROPOSED RESTORATION OF EXISTING CONTOURS (5m intervals)
-  OPERATIONAL QUARRY/ ACCESS ROAD /DISTURBANCE
-  EXISTING MOORLAND VEGETATION
-  AREA RESTORED TO PLATEAU GRASSLAND / MOORLAND
-  EXISTING WATERCOURSE
-  RE-INSTATED WATERCOURSE
- CROSS SECTION**
-  CROSS SECTION LOCATION
-  EXISTING LANDFORM
-  PROPOSED LAGOON EXTRACTION
-  AREA RESTORED TO EXISTING LEVELS
-  IN-SITU GROUND
-  VOLUME OF SILT DISPOSAL
-  VOLUME OF OVERBURDEN / QUARRY DISCARD MATERIAL


CROSS SECTION A-A' (SCALE 1: 2,500 @ A3)





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**GLENSANDA QUARRY
PROPOSED SILT MANAGEMENT
PLANNING APPLICATION AND EIA
RESTORATION PLAN AND
CROSS SECTION**

FL09

Scale AS SHOWN

Date OCTOBER 2017

00275.00219.FL_09_Rest_North_Lagoons.D1.dwg

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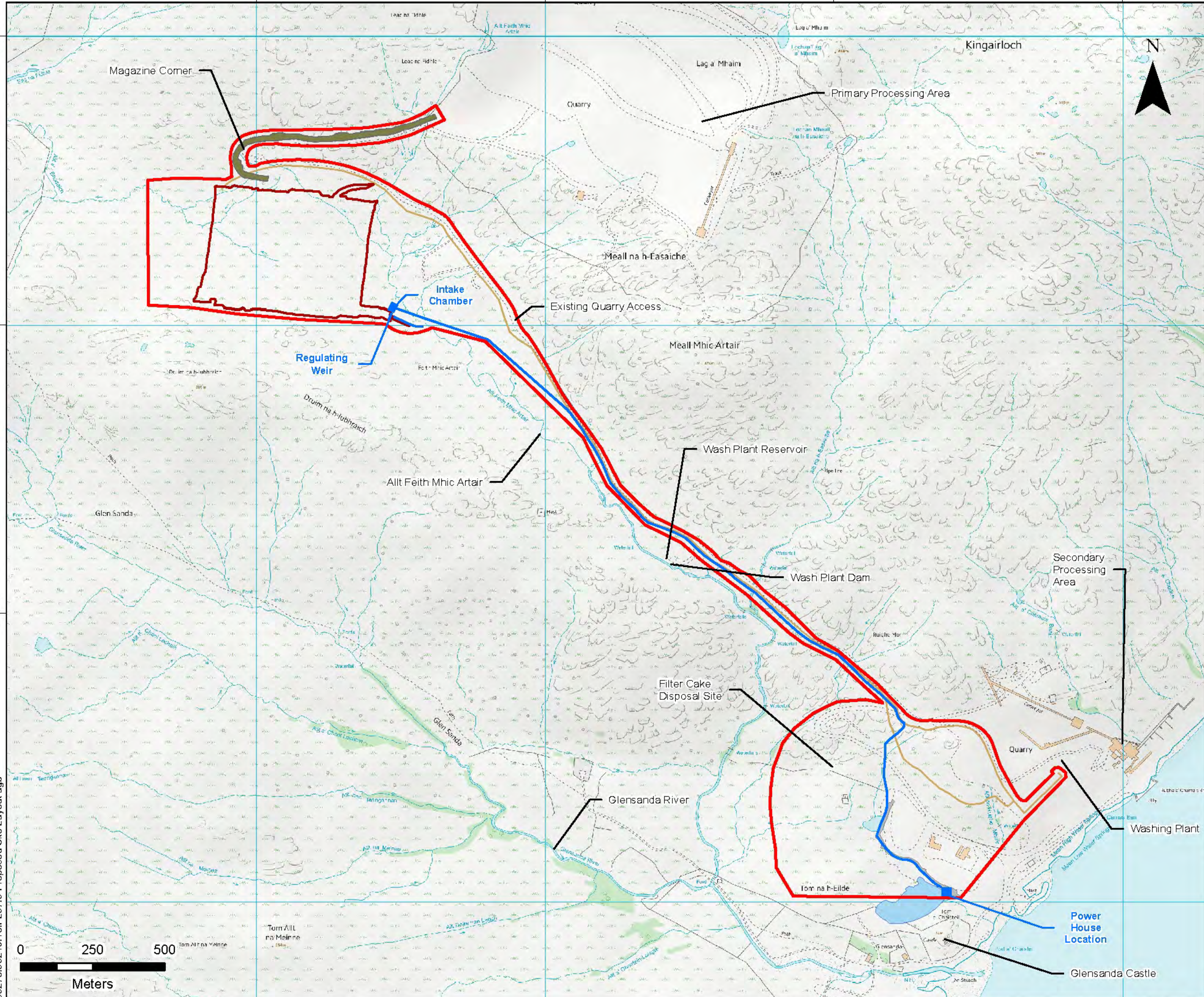
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00275.00219.16.FL07.0 Proposed Site Layout agb



LEGEND

-  APPLICATION SITE BOUNDARY
-  EXISTING TRACK
-  EXISTING POND
-  FINGER LAGOONS
-  PROPOSED HAUL ROAD
-  SILT PIPE
-  HYDROELECTRIC SCHEME
-  STRUCTURES
-  PIPE



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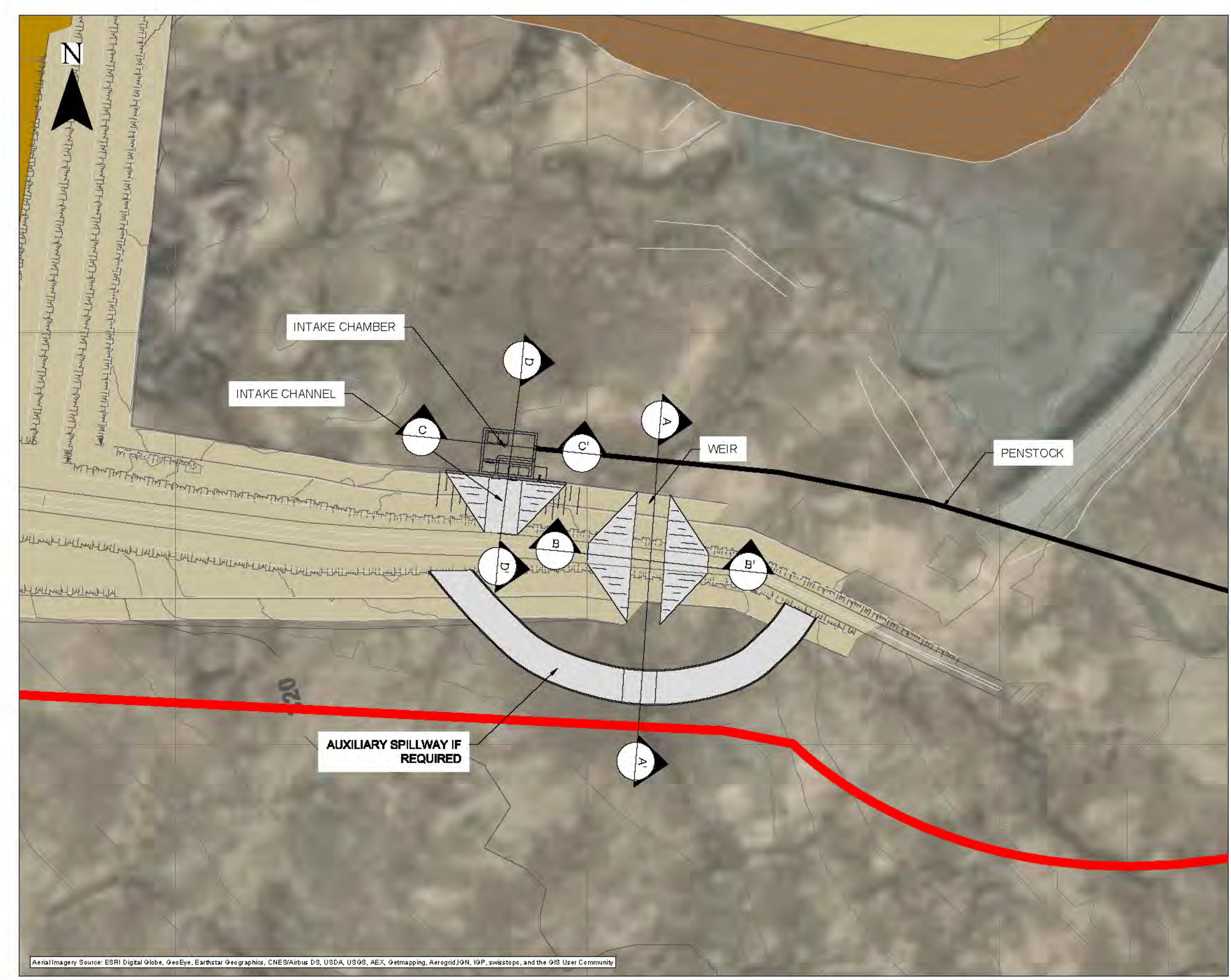
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**GLEN SANDA QUARRY
PROPOSED SILT MANAGEMENT
PLANNING APPLICATION AND EIA
PROPOSED SITE LAYOUT**

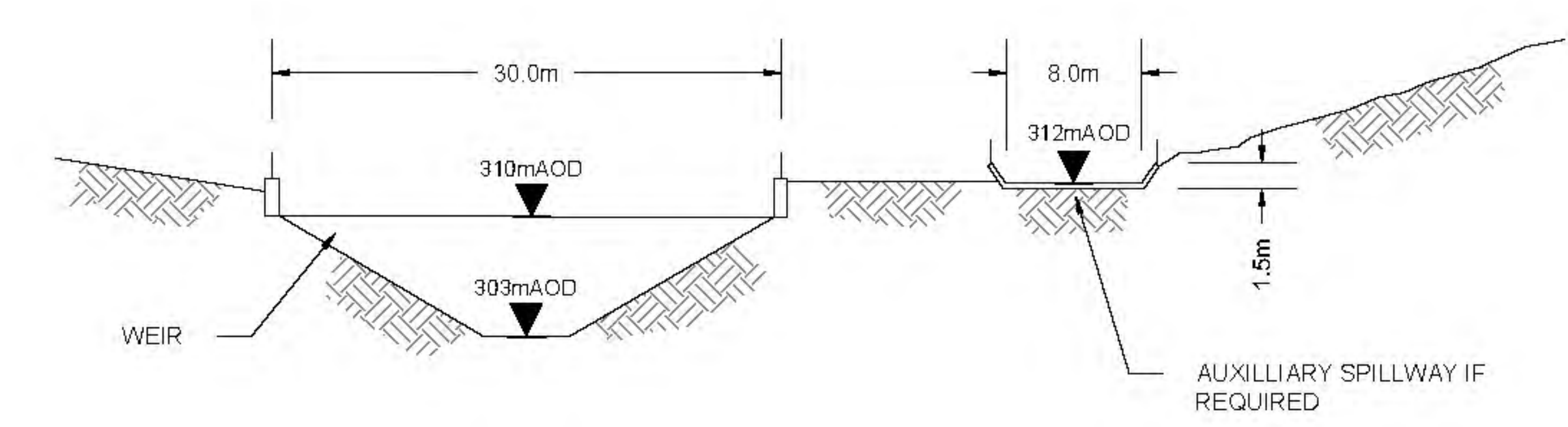
FL07

Scale 1:12,500 @ A3 Date OCTOBER 2017

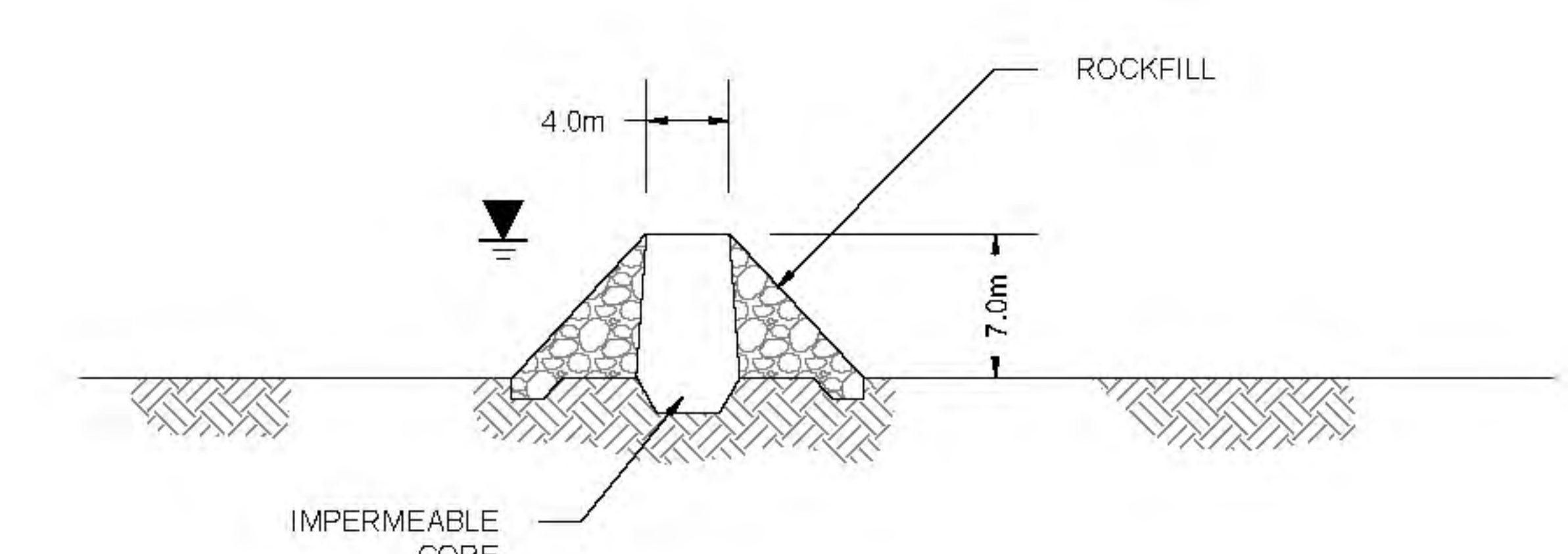
NOTES
 1. PRELIMINARY INTAKE ARRANGEMENTS, SUBJECT TO MODIFICATION OF LOCATION, TYPE AND FORM.



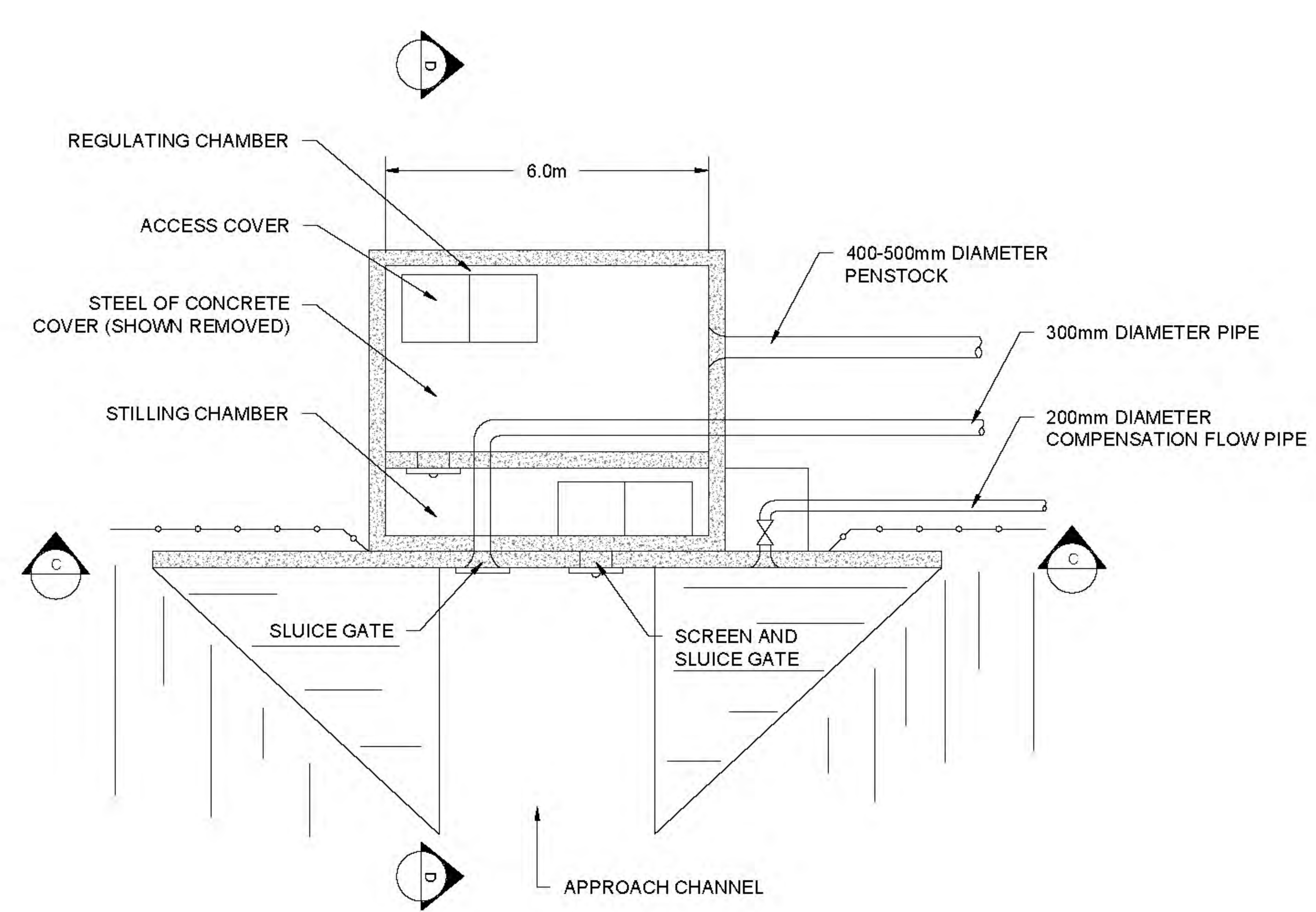
HEP INTAKE GENERAL ARRANGEMENT
 SCALE 1:1000



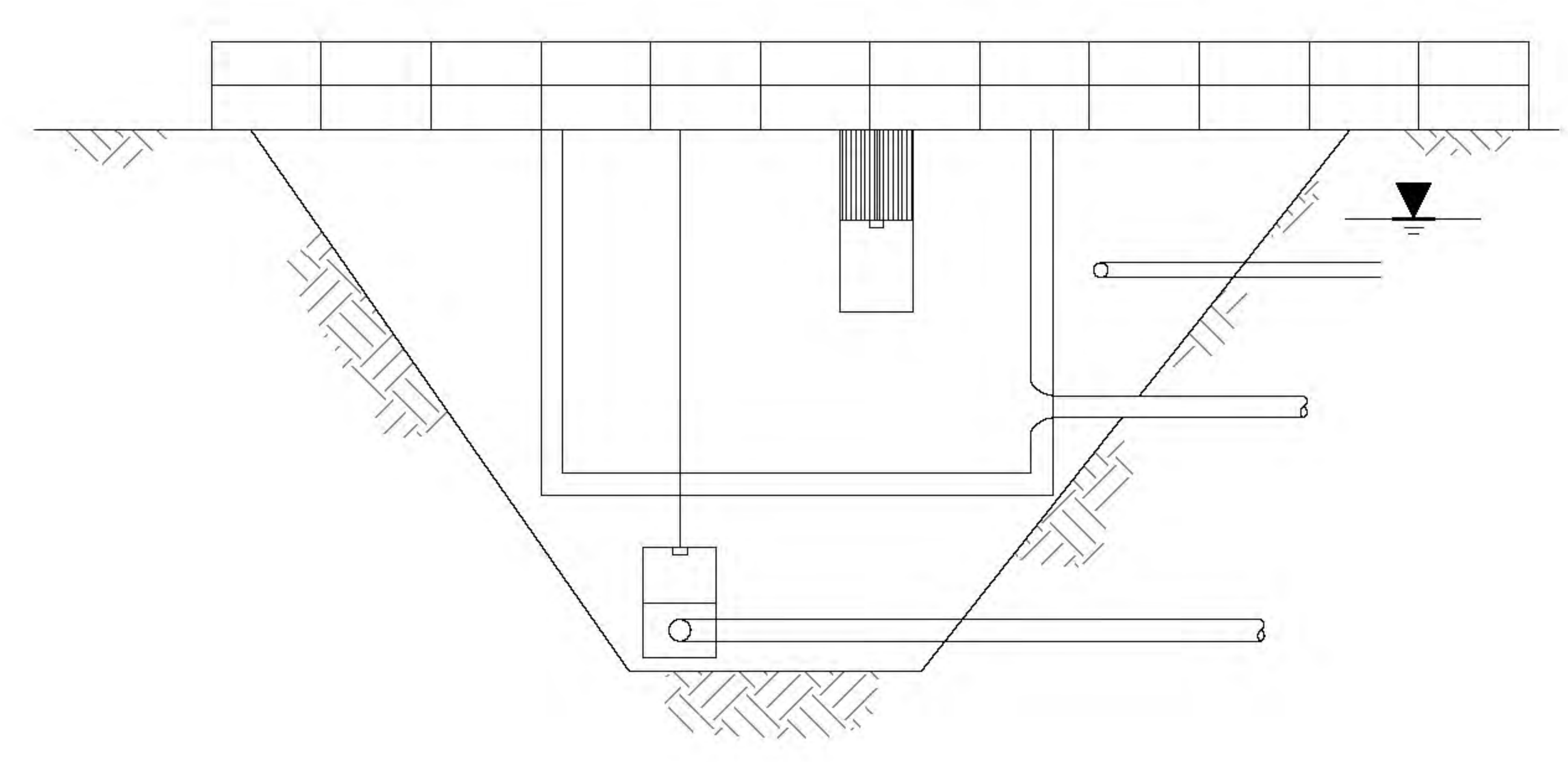
SECTION A-A'
 SCALE 1:500



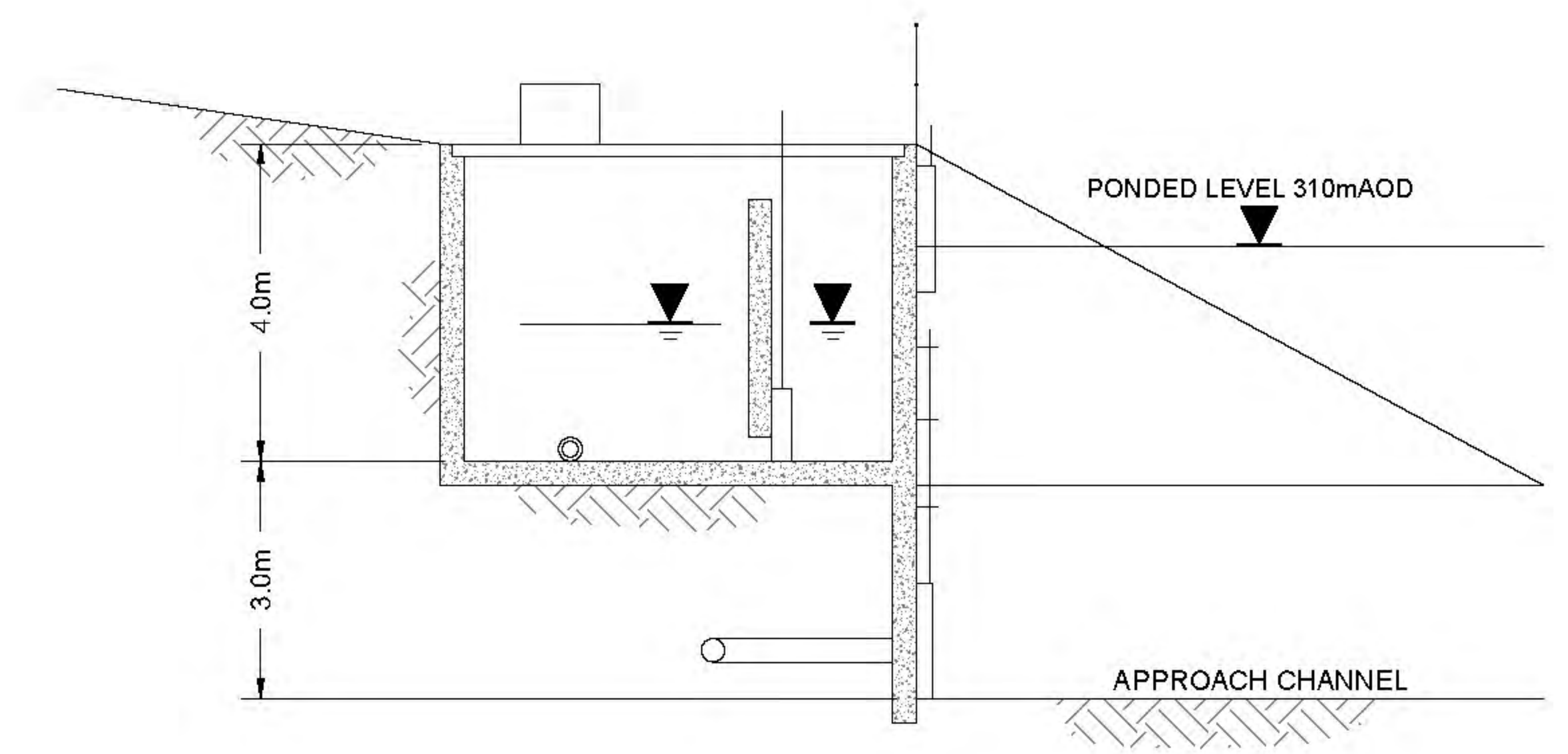
SECTION B-B'
 SCALE 1:500



PLAN ON INTAKE
 SCALE 1:100



SECTION C-C'
 SCALE 1:100



SECTION D-D'
 SCALE 1:100

YEOMAN
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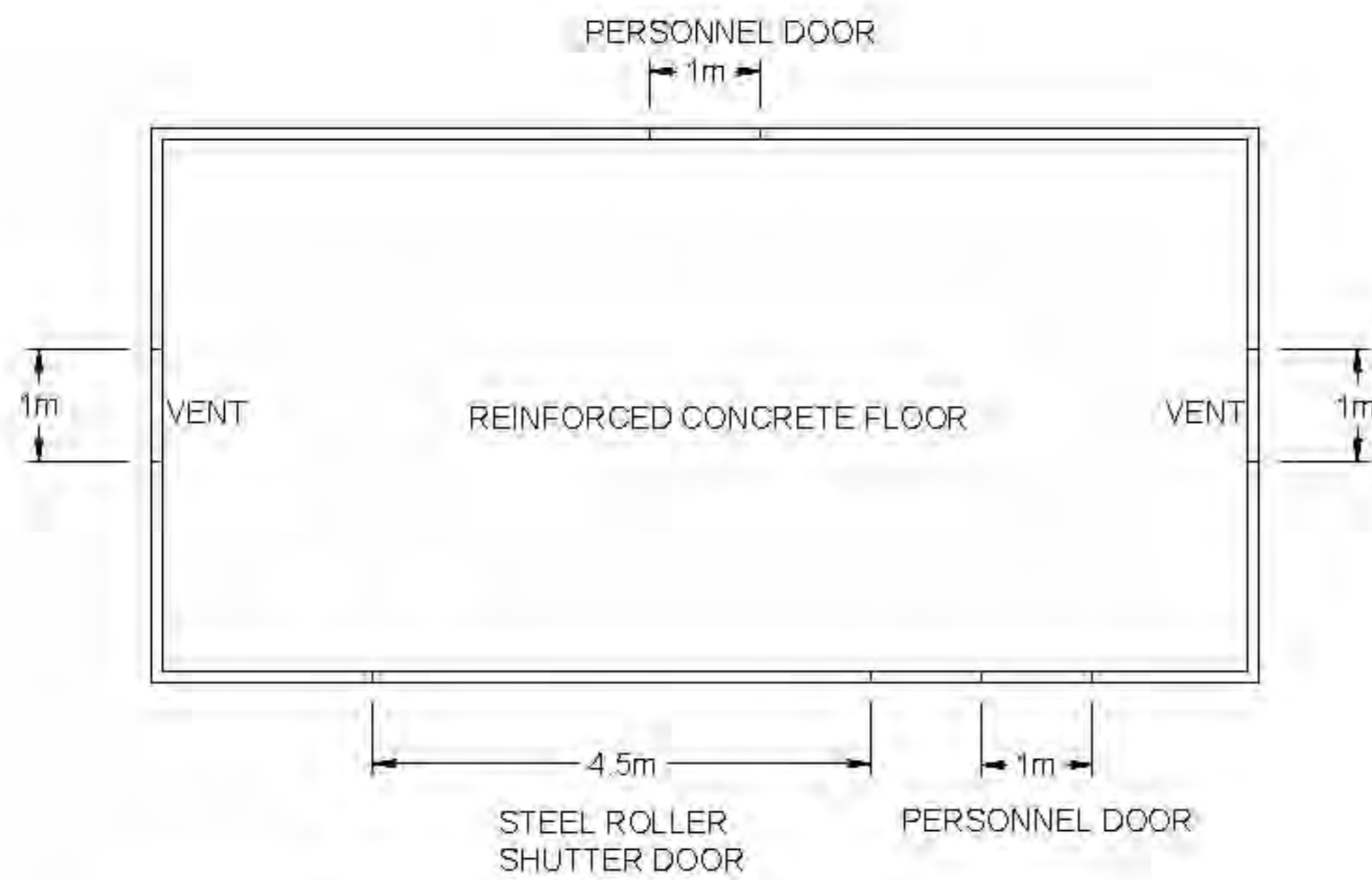
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GLENSANDA QUARRY
 PROPOSED SILT MANAGEMENT
 HEP INTAKE
 GENERAL ARRANGEMENT

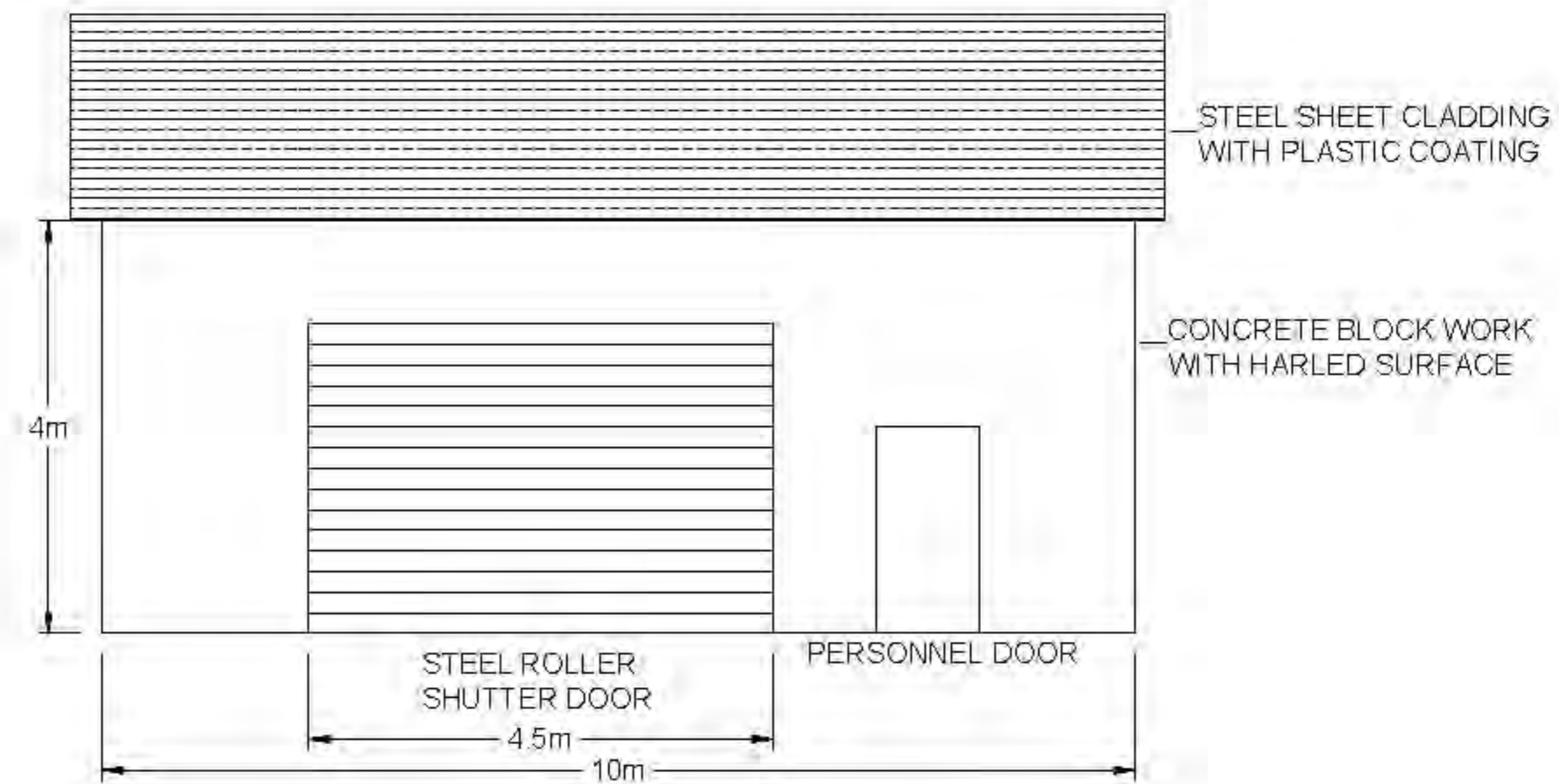
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 Date NOVEMBER 2017

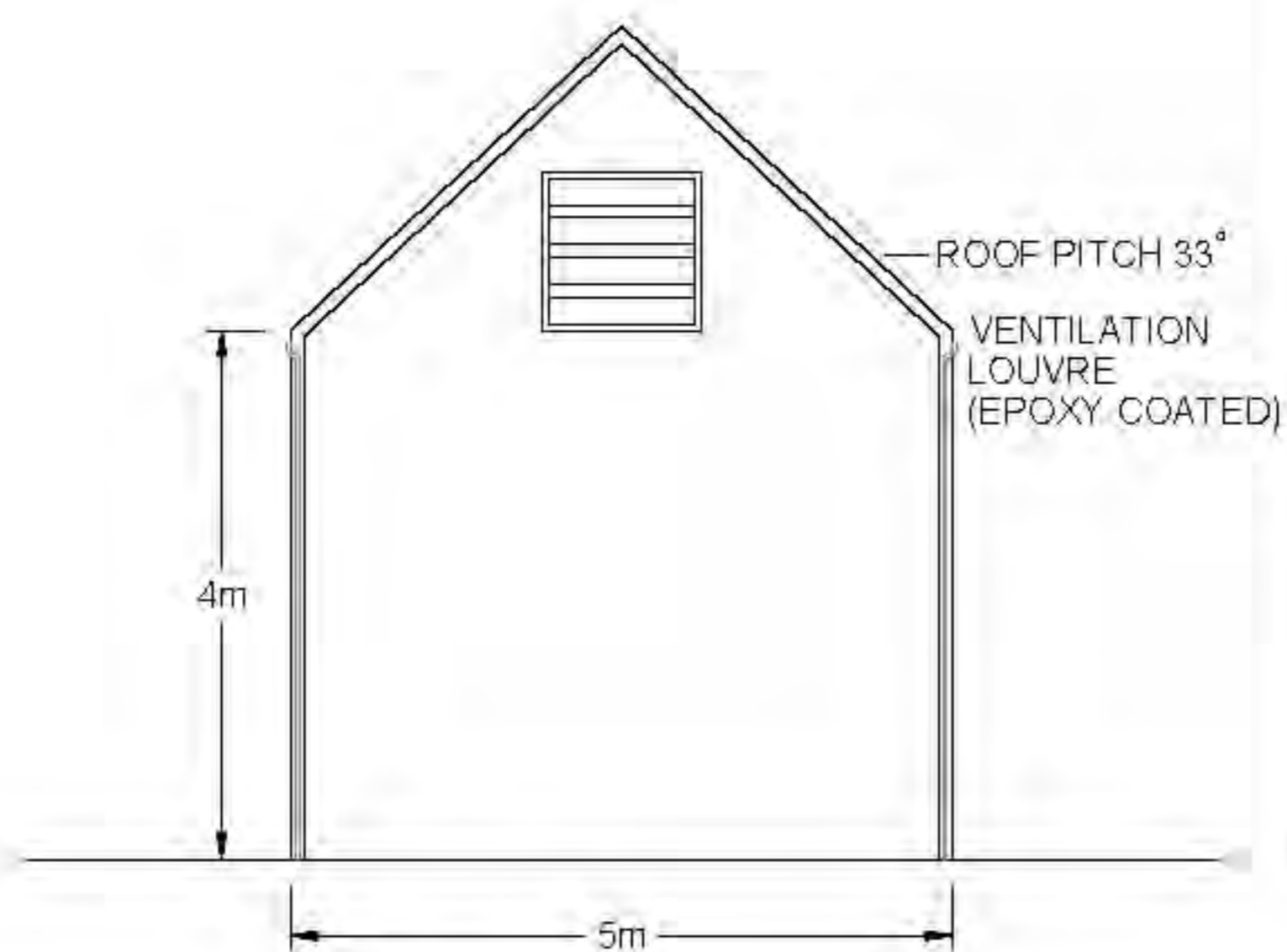
INTAKE DETAILS.dwg



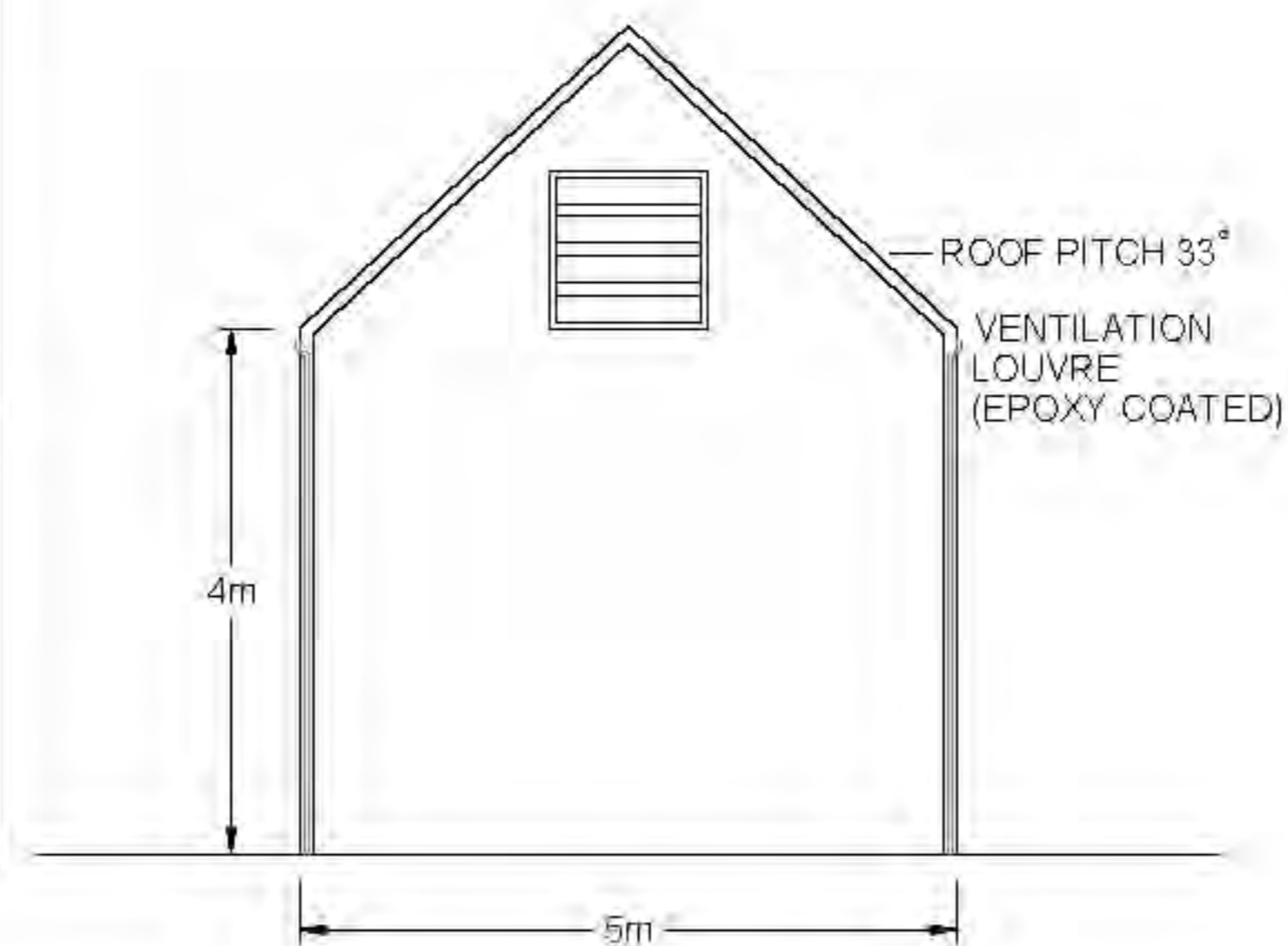
OUTLINE DESIGN OF POWER HOUSE FOR HYDRO ELECTRIC SCHEME
SCALE 1:100



POWER HOUSE ELEVATION (FRONT FACADE)
SCALE 1:100



POWER HOUSE END ELEVATION
SCALE 1:100



NOTES



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**GLENSANDA QUARRY, PROPOSED
SILT MANAGEMENT
ENVIROMENTAL IMPACT ASSESSMENT
PROPOSED POWER HOUSE FOR HEP
SCHEME**

FL 10

Scale 1:2500 @ A3

Date NOVEMBER 2017