



March 2017

SCREENING AND SCOPING REPORT

Padeswood Cement Works - Mill 5

Submitted to:
North Wales Minerals and Waste Planning Service
Flintshire County Council
County Hall
Mold
CH7 6NF

REPORT



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1.0 INTRODUCTION

1.1 Background

This Screening and Scoping Report has been prepared by Golder Associates (UK) Ltd (Golder) on behalf of Hanson Cement in respect of proposals to construct and operate a new vertical rolling mill (VRM) and improved rail loading facilities on land at Padeswood Cement Works, Padeswood, Mold, Flintshire, CH7 4HB.

The purpose of this document is to provide Flintshire County Council, as the Minerals Planning Authority (MPA), with sufficient detail regarding the proposed development, to issue a Screening Opinion in relation to the need for EIA, in accordance with Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2016 (the 'EIA Regulations') and, to define an appropriate level of study for certain environmental topics to support a planning application. In relation to the latter this request is also intended as a formal request for Scoping Opinion under Regulation 13 of the EIA Regulations, in the event that it is determined that the proposal is 'EIA development' or otherwise to informally agree the scope of the supporting studies, in the event that it is not.

Golder is providing project management, planning and environmental assessment support to Hanson Cement, working with selected other consultants, to provide a robust and thorough planning application with supporting statements.

This Report provides the following:

- Plan of sufficient detail to identify the Padeswood site and where the development is proposed to be located;
- Brief description of the nature and purpose of the development;
- Screening assessment on the need for EIA; and
- Proposed scope for supporting statements to accompany the planning application should FCC agree with the screening assessment.

Hanson Cement would welcome the formal opinion of the FCC on the appropriateness of both the screening assessment and level of detailed assessment contained in this Report.

1.2 Project Description

The demolition of existing cement storage and loading facilities; the erection of a new VRM and rail loading facility; and modification to, and extension of, an existing railway line; together with ancillary development (including three steel cement storage silos, conveyors, air slides and mechanical bucket elevators).

1.3 Application Area

The proposed new VRM is centred on OS grid reference NGR SJ 29230 62300. The application area lies wholly within the existing Padeswood Cement Works and extends to approximately 2.34 ha, including the temporary construction contractor's compound, laydown area and railway track improvements.

The application area, in the north-eastern part of the works, currently comprises hardstanding and disturbed ground and is used for vehicle or rail access and general open storage. A regional location plan is provided on Drawing P103-47 and the application area is illustrated on Drawing P103-48 (Appendix A).

1.4 Setting

The application area is bounded to the north by a belt of mature woodland and agricultural land, with residential properties on Padeswood Drive lying approximately 200 m further beyond. To the east lies mature woodland and agricultural land bisected by the Liverpool to Wrexham railway line, which runs in a north-south direction. The Padeswood Cement Works lie to the west (Silo 6 and the cement packing bay and building) and south (the raw materials storage hall).



The application area lies within the industrial setting of the Padeswood Cement Works, which itself lies within open countryside, to the west of the villages of Penyffordd and Penymydd and south of the A5118.

2.0 DEVELOPMENT PROPOSALS

2.1 Rationale

Growth in the UK cement market has resulted in a position whereby Padeswood Cement Works is utilising all of its current milling capacity, with excess clinker being transported by road to Hanson Cement's Ketton Works near Stamford (postcode PE9 3SX; a haulage distance of c. 225 km) for grinding and onward sale. In 2014, the volume of clinker transported by road reached 184,000 tonnes.

In response to increasing demand nationally, Hanson Cement has reviewed its UK wide supply strategy with the aim of ensuring that the business remains a strong and sustainable competitor in the UK market. The outcome of the review has identified a number of key investment opportunities at Padeswood Cement Works that will make a significant contribution towards these aims.

As a short term measure (in order to keep pace with market demand) Mills 1 and 2 were refurbished and restarted in February 2016. However, Mills 1 and 2 use relatively old and inefficient technologies and can only be used for the manufacture of packed cement. Therefore, in the medium to long term, significant investment is needed at Padeswood in order to:

- Re-balance clinker/cement production; and
- Enable transportation of cement by rail, initially to Hanson Cement's Ketton Works but, in the long term, to the company's cement terminals at Avonmouth and King's Cross.

2.2 Development Description

In summary, the development proposals will comprise:

- Site profiling to achieve required ground levels;
- Civil foundations, services and access roadways for Mill 5;
- Demolition of silos 11 and 12, the existing rail loading facility (including silos 7, 8, 9 and 10) and a small railway cabin;
- Construction of a new VRM together with ancillary development (comprising mainly conveyors, air slides and mechanical bucket elevators) required to feed clinker and other raw materials to the mill and feed the resulting cement to existing and proposed cement storage silos and rail loading facility;
- Erection of three new steel cement storage silos, each with a storage capacity of 1,000 tonnes, fitted with rail and road loading facilities; and
- Laying of new or realigned railway track (permitted development) to service the proposed rail loading facility.

Drawing P103-46 (Appendix A) illustrates the layout of the proposed development, elements of which may be subject to small change as a matter of detailed design (see below).

The proposed maximum heights of the key elements will be approximately:

- Vertical Rolling Mill (Mill 5): 33.5 m above ground level;
- Stack adjoining the VRM: 47 m above ground level; and
- Rail loading facility: 44.5 m above ground level.



Ground Preparation and Civils Works

The area of proposed development for the new VRM will require the mechanical clearance and levelling of previously disturbed ground to facilitate the construction phase. It is envisaged that no material will need to be exported from the site during the ground preparation work. A temporary contractor's compound and laydown area will be established to the east of the new VRM for the duration of the construction phase.

Demolition of Redundant Plant and Buildings

To allow the installation of the new VRM and rail loading silos some existing plant must be removed. The main items to be demolished include:

- Four steel silos (Silos 7, 8, 9 and 10); and
- Silos 11 and 12.

Initially these silos were considered during feasibility studies but were found to be unsuitable and uneconomic for modification into the new rail loading facility.

In addition to the above, a small railway cabin situated adjacent to the existing railway track will be demolished to allow the railway line to be realigned.

The removal of these elements allows the new rail facility to be installed in the optimum location, providing access to existing facilities as well as providing good segregation of works traffic and staff.

Built Development – Vertical Rolling Mill and Ancillary Infrastructure

In order to re-balance clinker/cement production a new VRM ('Mill 5') will be erected, with the capacity to produce 95 tonnes of cement per hour or 665,000 tonnes per annum.

VRMs have a number of advantages over other grinding technologies, including:

- 30-50% less energy use than ball mill systems (currently used at Padeswood);
- Reduced vibration, less wear;
- Reduced water injection, less pre-hydration;
- Improved particle size distribution, better concrete workability;
- Higher powder fineness, faster strength development;
- Higher powder flowability of the finished cement, good de-loading of silos and trucks;
- Higher productivity with stable, reliable operation;
- Longer lifetime;
- Simple, compact layout; and
- Proven technology.

Once Mill 5 is operational, Mills 1, 2 and 4 will be mothballed, but Mill 3 will remain in use. Being the most modern and efficient of the existing four mills, Mill 3 will provide back up (in the event of a break down or planned shut down for maintenance of Mill 5) and/or spare capacity in the event of future upturns in market demand.

A new material feed system will be installed in order to transport materials (comprising mainly of gypsum, clinker and limestone) from storage to Mill 5 for grinding. This will be facilitated through the modification of the existing Mill 4 storage hoppers. New weigh feeders will be fitted to the existing clinker and gypsum hoppers and the existing limestone weigh feeder will be upgraded.



PADESWOOD MILL 5 - SCREENING / SCOPING

The existing raw material storage hall is located between the Mill 4 feed hoppers and the proposed location of Mill 5. To overcome this obstacle an over-ground tunnel, containing a conveyor belt for carrying mill feed from the Mill 4 hoppers, will be installed through the existing raw material storage hall.

From the point of leaving the new tunnel on the north side of the raw materials storage hall the mill feed will be elevated and transferred to Mill 5 by means of fully enclosed mechanical conveyors.

There are currently two transfer options being considered for the conveying of the feedstock into Mill 5. These options are as follows:

- From the point of leaving the north side of the raw materials storage hall, the feed will be elevated and transferred to the new Mill 5 by means of fully enclosed mechanical conveyors (conveyor locations are depicted in P103-46; Appendix A); or
- An enclosed 'Sicon' tube style conveyor belt which has capabilities to incline and turn without the requirement of transfer points. This option would be in approximately the same location as the proposed layout.

The Mill 5 vertical roller mill is the type of grinder used to grind materials into extremely fine powder. It will use two pairs of rollers on hinged arms, which are pulled down using hydraulic pressure on to a rotating table driven using an electric motor. The clinker, gypsum, limestone and other raw materials used to make cement will be fed into the mill and crushed between the rollers and the table. The mill fan draws air into the mill which lifts the crushed material off the table into the mill body, the heavier and larger particles fall back onto the table for further grinding. Above the mill, a dynamic classifier will be used to separate the particles that meet the size requirements of the finished cement. Oversize material is returned to the mill for further grinding.

Once ground, the resulting cement will then be collected in a bag filter and transported to cement storage and distribution facilities, as follows:

- Via an enclosed gantry air-slide and a mechanical bucket elevator to silo 6.

Silo 6 is an existing concrete silo with a capacity of 4,400 tonnes. The silo has three loading spouts and weighbridge facility. This silo will be the main location for storing cement from Mill 5 and therefore the mill has been positioned in close proximity to it.

The mechanical bucket elevator will be attached to Silo 6 to reduce the need for additional structures.

Access for maintenance to the top of the silo and mechanical bucket elevator will be via a personnel lift.

- Via an airslide and bucket elevator to the three new silos to be erected as part of the new rail loading facility.

Each cement silo will be constructed from steel and will have a storage capacity of 1,000 tonnes.

- Via an airslide from the bucket elevator that feeds the rail loading silo to existing silos 1 and 2.

Silos 1 and 2 are concrete silos with a capacity of 2,200 tonnes each. The silos are used for storage of packed products and are connected to the sites plastic and paper bag packing facilities.

- An alternative solution for transporting cement to silos 1 and 2 under investigation is via a pneumatic transport system (comprising of a pre-hopper, screw pump and steel pipework).

The transfer of cement from the vertical roller mill to the silos will be by a pneumatic transport system consisting of a pre-hopper and a screw pump installed adjacent to the mill. The blower required for the transport will be incorporated into the design of the mills existing compressor house. Connection from the screw pump to the silos will be by means of steel pipework with ceramic lined radii. The pipework will be installed within an existing enclosed conveyor structure.

In consideration of site traffic movements in the area, all overhead conveyors will be installed at a minimum height of 5 metres from the road level. The belt conveyor will be installed in fully enclosed structure, and elevator bottoms and top sections will be enclosed.



Built Development – New Rail Loading Facility

The Cement Works has an existing operational private rail connection and sidings, which are currently used for importing coal. However, the existing cement rail loading facility is obsolete and therefore it is proposed to demolish the existing facility (including Silos 7, 8, 9, and 10) and erect a new rail loading facility, replacing the existing cement silos with three new 1,000 tonne silos.

The new rail loading facility will accommodate maximum train lengths of 350 m and will enable between 4,000 and 5,000 tonnes of cement to be transported from site by rail each week. The rail loading facility will have the ability to load up to a maximum of 1,700 tonnes and it is expected that two to four trains will be loaded per week, with each train taking up to eight hours to load. The facility will be designed to load and weigh both the two and four axle types of rail tanker, as well as road tankers.

The rail loading facility will provide the following benefits:

- Employ the Best Available Techniques to prevent/minimise the potential for dust emissions;
- Be energy efficient;
- Provide safe access for operators; and
- Provide the ability to load road tankers utilising the rail loading spouts and weighbridge.

Built Development – Modification and Extension of Existing Private Railway Line

In order to optimise the site layout and accommodate trains, it will also be necessary to realign sections of the existing private railway line and to extend the railway track further into the works.

This rearrangement work of a private railway will be undertaken as 'permitted development' as defined in the Town and Country Planning (General Permitted Development) Order 1995 (as amended) (S.I. No. 418) (the 'GPDO'). Schedule 2, Part 8 (Industrial and Warehouse Development) of the GPDO Guidance Note¹ states:

"Class B

Permitted development

B. Development carried out on industrial land for the purposes of an industrial process consisting of -

(a) the installation of additional or replacement plant or machinery,

(b) the provision, rearrangement or replacement of a sewer, main, pipe, cable or other apparatus, or

(c) the provision, rearrangement or replacement of a private way, private railway, siding or conveyor."

The permitted development works required to the private railway line will involve approximately 445 m of new rail track, which will either renew, realign or extend the existing railway line and will include a curve through the proposed location for the new rail loading facility and proceed towards the main site road. The application area includes the length of railway line that will be new or realigned to service the proposed rail loading facility.

The railway line will cut the existing site into two halves and form a natural division between finished product and raw material processing. Access through both halves of the site has been considered and incorporated into the civil design and the proposed site's future traffic management plans. The project has been designed to minimise the impact on road traffic within the Cement Works whilst trains are being loaded and dispatched.

¹ Guidance Note: Permitted Development Rights: Industrial and Warehouse Development, Schools, Colleges, Universities and Hospitals, Office Buildings, Shops, Financial and Professional Services Number: WG21041, Welsh Government. Date of Issues: April 2014



The Liverpool to Wrexham railway line runs adjacent to the Padeswood Cement Works and includes a set of signals and rail points. The private rail line within the Cement Works is currently used for importing coal in conjunction with DB Schenker. This operation will continue and therefore, once the rail loading facility and track modifications are complete, the Cement Works will be able to both receive deliveries of coal and export cement.

The development will be incorporated into the existing Cement Works automation system for use by the existing Central Control Room Operators. Close integration of the rail tanker loading equipment with the static weighbridge facility will be required.

3.0 PLANNING HISTORY AND ENVIRONMENTAL PERMIT

The proposed activities fully complement the existing cement production activities at the Padeswood Cement Works. Table 1 below identifies the relevant recent planning history of the Padeswood Works.

Table 1: Relevant Planning History

Planning Application Reference	Nature of Proposal	Decision	Date of Decision
A-PP117-07-020	Permitted the erection of Kiln No. 4 and associated plant, limestone store, fuel storage buildings, re-profiling of former licenced waste site and ancillary works.	Granted	5 March 2002
APP/A6835/A/05/1194951	Permitted the development of a cement kiln dust management facility. Subsequently, no material has been deposited in the facility and the decision was taken to close it, such that it is now going through the formal closure process with Natural Resources Wales. A revised restoration scheme was approved on the 31 July 2014 (drawing P103/26 "Restoration Masterplan Biodiversity Area") for the creation of a Biodiversity Park.	Granted	7 December 2006
044703	Permitted an extension to the coal store building.	Granted	16 June 2009
052205	Permitted an extension to the packing plant building.	Granted	31 July 2014
052927	Permitted the erection of an SRF Reception Facility.	Granted	7 January 2015
055420	Permitted the erection of a new building, the formation of an area of hardstanding and the widening of internal roads in relation to the storage, loading and transportation of packed cement products.	Granted	12 July 2016



The installation and activities associated with the Padeswood Cement Works are subject to the requirements of the Environmental Permitting Regulations (England and Wales) 2016. The current Environmental Permit (reference EPRIBL10961B), granted by Natural Resources Wales on 6 September 2013, authorises the production of cement at Kiln No. 4, together with cement handling, storage, packing and dispatch. The permit includes conditions controlling the use of materials, general management, operating techniques, emission limits, monitoring and reporting requirements.

On the basis planning permission is granted, a new Environmental Permit to encompass the new manufacturing operations will be prepared and submitted for approval to Natural Resources Wales.

4.0 LEGISLATIVE FRAMEWORK AND EIA SCREENING ASSESSMENT

4.1 General

The requirements for Environmental Impact Assessment are transposed into UK legislation via The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2016, hereafter referred to as "the EIA Regulations".

Schedule 1 of the EIA Regulations sets out those forms of development for which Environmental Impact Assessment (EIA) is mandatory. The proposed development does not fall within the definitions set out in Schedule 1.

Schedule 2 of the EIA Regulations sets out other forms of developments that may require EIA subject to certain thresholds and criteria.

Cement manufacture is dealt with in Section 5(b) of Schedule 2, which states:

5. Mineral Industry	Threshold
(b) Installations for the manufacture of cement.	The area of new floorspace exceeds 1,000 square metres.

Schedule 3 of the EIA Regulations assists planning authorities in determining whether a development should be screened in if it meets the threshold or criteria set out in Schedule 2, giving due consideration to: (i) the characteristics of the development; (ii) the location of the development; and (iii) the characteristics of the potential impact.

4.2 Characteristics of the Development

The area of new floor space after construction is 2,753 m² (Schedule 2). Consideration of the characteristics of the proposed development have been assessed in accordance with the EIA Regulations (Schedule 3).

The proposed development at Padeswood will involve the installation of a new, more energy efficient, cement mill to replace older, less sustainable, mills together with the improvement of an existing rail loading facility to permit substantial export of cement product by rail rather than by road (as is currently the case).

- The area of new floor space includes new components: VRM (1,242 m²), concrete road (1,129 m²) and rail loading facility (382 m²). The total length of new elevated conveyors is 190 m. The proposed length of new/realigned private railway line improvements is 445 m. The proposed development will also involve the removal of redundant plant from the site (e.g. steel silos) totalling 412 m².
- There are no other major consented planning applications within 1 km of the Padeswood site for which the proposed scheme would have a cumulative effect;
- The proposed development will not require any additional natural resources to that which is currently permitted for the existing Padeswood cement works;



- d) There will be no process waste from the proposed development. The only wastes will be those arising from maintenance work such as waste oils, worn out mill components, etc. which require replacing on an infrequent basis;
- e) The adoption of the proposed rail export route will result in a net reduction in the number of containerised vehicle movements using the Padeswood site, helping to reduce traffic noise and emissions on the surrounding road network and nuisance effects on adjoining properties; and
- f) The proposed technology to be adopted is proven. The control of dust and emissions will be managed through the permitting and monitoring regulations, as is the case currently.

4.3 Location of the Development

Consideration of the environmental sensitivity of geographical areas that may be affected by the development has been assessed in accordance with the EIA Regulations (Schedule 3).

- a) The proposed development is located within the existing cement works site on areas of previously disturbed ground and/or areas of existing hardstanding, currently used for vehicles, rail access and general open storage;
- b) The Padeswood Cement Works occupies an existing industrial setting and the proposed development will occur wholly within the ownership boundary of the applicant with no demands on natural resources from the local area; and
- c) The proposed development site is not located within or in proximity to any defined wetland area, coastal zone, mountain or forest area, National Nature Reserve or National Park. The nearest designated site for habitat protection comprise the Deeside and Buckley Newt Sites/Buckley Claypits and Commons (Special Area of Conservation / Site of Special Scientific Interest), located 1.45 km to the north. The area around the Padeswood site is not densely populated and sits in an open countryside location. The villages of Penyffordd and Penymynydd lie to the east of the site, and the larger settlement of Buckley to the north-west. The nearest designated heritage site is a section of the Scheduled Monument of Wat's Dyke located 0.67 km to the south.

4.4 Characteristics of the Potential Impact

Consideration of the potential significant effects of the proposed development have been assessed in accordance with the EIA Regulations (Schedule 3). The principal potential impacts to be assessed will include emissions to air, dust and noise, during construction and operation.

- a) The extent of such impacts (geographical area and size of the affected population), if impacts were predicted to occur, is considered to be at the local level only, noting that the land around the site contains a small population;
- b) No trans-frontier impacts are predicted to occur;
- c) If negative impacts were predicted to occur, the expected magnitude is considered to be low, and not to be complex in nature. The removal of significant numbers of haulage vehicles from the road network and transference by rail, and the running of a more energy efficient operation should result in positive benefits for the local environment and for residents and businesses in proximity to the site;
- d) The probability of moderate or major impacts to occur is considered to be low; and
- e) The duration of any minor impacts is expected to be largely limited to the construction phase, to occur during the working day and to cease once the construction phase has finished.

Following this screening assessment of the EIA Regulations and the proposed development's characteristics, location and potential impact, it is concluded that the proposed development will not have significant effects on the environment and therefore an EIA is not required.



On the basis that FCC is in agreement with this screening assessment (i.e. an EIA is not required), the applicant recognises that the Planning Authority will need sufficiently detailed supporting statements to accompany the planning application. These statements will aim to assess the potential for environmental impacts to occur as a consequence of the proposed development. Should any potential effects be predicted we will aim to agree on the scale and approach of suitable mitigation and management techniques with the Planning Authority to reduce these to negligible residual effects.

4.5 Flood Risk

If a proposed development site is located within Flood Zones C1 or C2 a Flood Consequence Assessment is required. If the site falls within Flood Zone B, a level of Flood Consequence Assessment may be required depending upon location and potential of extreme flooding events.

In the case of the proposed Padeswood development, the application site (and the whole of the Padeswood Cement Works) falls within Flood Zone A, categorised by TAN15 as "considered to be at little or no risk of fluvial or coastal/tidal flooding" and "no need to consider flood risk further" (*Technical Advice Note 15 (TAN15): Development and Flood Risk, Planning Policy Wales, Welsh Assembly Government, 2004*).

Flood risk will not be further assessed.

Sources:

<http://data.wales.gov.uk/apps/floodmapping/>; and

<http://gov.wales/docs/desh/publications/040701tan15en.pdf>

5.0 SCOPE OF SUPPORTING STATEMENTS

5.1 Introduction

Hanson Cement proposes to commission the following studies to identify potential effects that will be of importance to FCC, statutory consultees and local residents. This approach aligns with the discussions that have already taken place between Hanson Cement and FCC.

The results of assessing these topics will comprise stand-alone supporting statements to accompany the planning application, as follows:

- Air Quality (including Dust);
- Noise (including Vibration);
- Landscape and Visual;
- Ecology;
- Transport;
- Contaminated Land; and
- Human Health.

The following sections describe the current context with respect to these topics and the proposed scope and methodology of assessment.

Each resulting statement will consider and assess construction and operation impacts and potential cumulative impacts with other relevant consented or operational developments. It will detail suitable mitigation and management measures and procedures in discussion and through agreement with FCC.



5.2 Air Quality

An air quality assessment will be undertaken by Gair Consulting Ltd, which has had a continuous involvement in monitoring and assessing emissions on the Padeswood site for several years. An air quality assessment was previously undertaken in 2007 for the then proposed mill. Therefore, the air quality dispersion model exists, although it will be updated to take account of changes the new cement mill proposals will have on air quality and changes to other emission sources at the cement works.

It is proposed that dispersion modelling takes account of all particle emission sources based on the dispersion modelling presented by Gair Consulting Ltd in September 2007. The assessment will include fine particles only and as a worst-case it will be assumed that all emissions of particles are as PM₁₀ or PM_{2.5} unless additional information is available on the size distribution for each type of source. An assessment of construction dust will also be undertaken.

The proposed scope of work for the assessment is as follows:

- A review of air quality standards and guidelines of relevance to the cement works to include existing as well as future air quality standards and objectives;
- A review of the existing air quality in the area. This will include a summary of the monitoring data obtained by Hanson Cement at Penyffordd and other monitoring data where such data are available;
- A review of the emission sources and an update of the emissions inventory for the works. This will require input from Hanson Cement to provide information on redundant sources and any new particle emission sources;
- Dispersion modelling of particle emissions from the cement works based on the methodology used by previously. Modelling will be undertaken for five years of meteorological data using the AERMOD dispersion model. More recent and available meteorological data will be used (Hawarden weather station). Dispersion modelling will be undertaken based on guidance produced in accordance with relevant guidance. The averaging period for the dispersion model results will be selected to enable comparison with relevant UK air quality standards and will include hourly, daily and annual mean concentrations;
- A comparison of predicted ground level concentrations with existing air quality and relevant air quality standards and guidelines; and
- Preparation of a report presenting the results of the assessment, including an assessment of construction dust, with contour plots of predicted PM₁₀ and PM_{2.5} concentration for the various scenarios considered.

As the new mill will be an additional source at the site, it is proposed to model the following scenarios:

- Cement Mill 5 alone to demonstrate the incremental impact of the new mill on particle concentrations;
- The current operation of the cement works (i.e. without the new Cement Mill 5);
- The current operation of the cement works plus Cement Mill 5; and
- The current operation of the cement works plus Cement Mill 5 but minus any emissions sources that will become redundant with the introduction of the new mill, where appropriate.

5.3 Noise

The noise assessment will be undertaken by specialists at NWG Environmental Solutions, a trading division of Northumbrian Water Ltd, who were involved with the previous assessment work in 2007 as well as ongoing noise monitoring on the Padeswood site for a number of years.

The proposed scope of work for the assessment will include:

- An assessment of the current background noise levels during the day and the night at the existing 10 noise measurement positions which comprise the nearest noise sensitive receivers. These



measurements will follow the measurement procedure in the revised standard BS4141:2014 and be long enough to be representative of the current background level with the works in operation;

- Summarise the existing monthly historical measurement data from the background measurements between 2007 and 2013 and compare it with measurements taken in 2015 to identify whether any significant change has occurred in background noise levels. Tonal assessments will also be taken. Measurements on the existing cement mill plant will also be taken;
- Noise levels from the proposed operations at nearby dwellings will be predicted using noise prediction program CadnaA, which is based on the International Standard ISO 9613. CadnaA is a widely used and recognised prediction program that has been used for part of the government's noise mapping work as well as for many planning applications and environmental assessments. Sound power and design data for the proposed plant will be used;
- The assessment will include the noise from delivery vehicles on local roads;
- The predicted noise levels will be assessed against the existing noise and against absolute noise limits issued in government and regulatory guidance; and
- If the assessment showed that noise mitigation was required, advice will be provided on available options in the supporting statement.

5.4 Landscape and Visual

The landscape and visual assessment will be conducted by DRaW (UK) Ltd, a specialist in landscape studies for the minerals, waste, renewable energy and manufacturing industries. The Countryside Council for Wales' interactive maps (LANDMAP) categorises the visual and sensory value for all areas of Wales. Using LANDMAP, the Site falls within 'Mosaic Rolling Lowland' and is evaluated as 'Moderate Sensitivity'.

The proposed scope of work for the assessment will include:

- A Zone of Theoretical Visibility (ZTV) model would be produced to assist in identifying potential viewpoint locations, in addition to mapping other landscape constraints and designations. Any previous applications for the Site would also be reviewed to ensure consistency with historic assessments;
- A description of the study area would be prepared following the review of previous assessments, including the landscape characteristics, key landscape designations, protected features and the landscape planning policies relevant to the development; and
- Details of Tree Preservation Orders, Conservation Areas, Listed Structures, Scheduled Monuments and Registered Parks and Gardens would be obtained from FCC and/or LANDMAP.

A site visit would be undertaken to:

- Assess the general setting of the Works and the surrounding landscape;
- Identify the location and sensitivity of key receptors within the agreed study area of the Site; and
- Make a photographic record/assessment from the viewpoints.

The findings of the site visit and the desk study would be assessed in relation to the current guidance, namely: the 'Guidelines for Landscape and Visual Impact Assessment, 3rd edition' published jointly by the Landscape Institute and the Institute of Environmental Management and Assessment (April 2013).

A qualitative assessment of the potential landscape and visual effects on designated/protected features, landscape character and public/residential views would be undertaken, along with quantitative assessment (in tabular form) of the 'sensitivity', 'magnitude' and 'significance' of effects.

The following illustrations would be included within the supporting statement:

- Landscape context and planning designations with 3 km;



- A visual analysis plan showing the Zone of Theoretical Visibility (ZTV), visual barriers, receptor locations, key views and photographic location points;
- Topographical analysis plan;
- Cumulative sites plan; and
- Annotated viewpoint photographs.

Photomontages

A site visit will be conducted to undertake viewpoint photography. The production of two photomontages is considered appropriate to select vantage points where the public will be afforded open views of the Site.

A 3D model of the proposed Cement Mill 5 plant and associated infrastructure will be prepared using 3DStudioMax, incorporating the surrounding 3D digital terrain data. Other existing key reference features will be added to the model including: parts of the cement plant, nearby transmission towers and other buildings to aid locating and scaling of the proposals. The application of photo real textures to the proposed Mill 5 structure, and appropriate sunlight calculations, will be undertaken.

Setting up of camera views and scaling of proposals to match the photography and rendering of views will be completed in 3DStudioMax. Final image processing using Photoshop CC 2017 will integrate the rendered model with the photograph and remove specified existing features from the image, applying the proposed colour and finish of the new buildings to the images.

5.5 Ecology

The ecology assessment will be conducted by AECOM and by the ecologist who has been engaged on the Padeswood site for many years and is familiar with the biodiversity and habitats.

A Phase 1 survey of the proposed development site was undertaken in June 2015 to determine its suitability for development from a biodiversity perspective. Subsequent to the Phase 1, bat activity surveys were completed on two occasions at the end July 2015 and in mid-August 2015; an inspection of a couple of trees with bat roost potential (no evidence) and an emergence survey of the small building next to the railway (no evidence) were completed. AECOM has also undertaken surveys for great crested newts, firstly in 2014 when samples for analysis for great crested newt DNA were taken. In spring 2016, North Wales Wildlife Trust undertook full standard survey of all the ponds. As part of a great crested newt licence scheme (which seeks to clear great crested newts from operational areas of the cement works to allow current permitted work to take place and a temporary fence erected to prevent great crested newts from re-entering until at least such time as works to the area are complete), AECOM undertook a Phase 1 survey of all the landholding in 2015 and a draft management plan has been produced for all the land around the cement works, mainly for great crested newts. Whilst not directly relevant to the proposed scheme, a Biodiversity Park is being developed at the south west end of the Padeswood site, distant from the proposed development footprint.

The ecological assessment for the proposed new cement mill will include all the baseline information gathered to date and the assessment of the potential impacts of the proposed scheme on ecological receptors within 2 km radius for statutory sites and 1 km for non-statutory sites and protected/notable species identified by desk study and past field surveys. The assessment will follow the most recent published guidelines for ecological assessment (Institute of Ecology & Environmental Assessment, 2016).

5.6 Transport

The transport assessment will be undertaken by Systra, formerly JMP, who are nationally recognised traffic consultants. The proposed development will involve a change in the way the existing site operates and once operational will actually result in a reduction in traffic flows (as a consequence of the improved rail export route), which is seen as a positive benefit for the environment (reducing emissions and vehicle noise) and for local residents by reducing the overall number of cement haulage trucks on the local road network. The short-term construction traffic associated with the development will need to be considered in terms of proposed traffic numbers, routes used and the types of vehicle to be used.



It is noted that the site access forms a junction with the A5118, providing a direct access on to the principal road network. The assessment will characterise the current and predicted traffic flows (e.g. information on staff numbers and current/proposed shift patterns). It will consider existing HGV movements to and from the site together with how these may vary once the new cement mill and rail loading facility are operational.

The proposed scope of work for the assessment will include:

- **Background** - A desktop study would be undertaken to detail the characteristics of both the existing Padeswood site and the surrounding transport network. This would include details on the existing staff numbers, existing traffic movements, existing parking arrangements, operating hours etc. A review of the site's accessibility by both road and alternative transport modes would also be undertaken;
- **Construction Phase** – Construction period traffic flows and access arrangements for the construction period and details of programme will be required. Consideration would be given to the level of traffic generated by the construction stage with details provided of daily and weekly traffic flows and the type of vehicles anticipated. The haul routes would also be identified;
- **Operational Stage** - The reduction in HGV movements will be calculated and the benefits of the new development quantified; and
- **Internal Operation** - Description of how the development will operate internally including vehicle circulation, parking and access arrangements.

A Transport Technical Note will be prepared for inclusion with the planning application. Junction modelling of operational or construction traffic or new traffic surveys is not considered necessary.

5.7 Contaminated Land

A Phase I Contaminated Land Assessment will be prepared in support of the planning application for the construction of the cement mill at the Site. It has been specified that the cement mill will require piling as part of the construction design.

The objectives of this work are as follows:

- Summarise the on and off-site historical sources of potential contamination;
- Summarise the presence and sensitivity of on and off-site environmental receptors;
- Summarise and describe the pathways that exist to connect the identified sources and receptors;
- Summarise any potential pollutant linkages exist; and
- Determine the need for further investigation or recommendations for mitigation.

In October 2014, Golder prepared a Baseline Summary Report, which will serve as the basis for the desk-based review.

The proposed scope of work for the assessment will include:

- An examination and review of information collected and presented in a Landmark EnviroCheck report (including historic maps) to ascertain the likelihood and potential significance of historical contamination;
- A review of readily available relevant geological, hydrological and hydrogeological information for the Site and its immediate surrounds to ascertain the implications with regard to contaminated ground, groundwater or surface water that may be present;
- A review and summary of potentially sensitive receptors (e.g. aquifers, watercourses, humans, etc.);
- A risk analysis using the identified source-pathway-receptor model to assess the severity of any potential contamination of ground, groundwater or surface water;
- A site visit to 'ground-truth' the findings of the desk-based review;



Report Signature Page

GOLDER ASSOCIATES (UK) LTD

Paul Wheelhouse
Associate

Chris McDonald
Principal

Date: 6 March 2017

PW/CMcD/cr

Company Registered in England No 1125149.

At Attenborough House, Browns Lane Business Park, Stanton-on-the-Wolds, Nottinghamshire NG12 5BL

VAT No 209 0084 92

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- Identify the need for any further work (e.g. Phase II Site Investigation) and advise on any mitigation and/or remediation measures required; and
- Preparation of a report, summarising the above work.

5.8 Human Health

At the request of the Flintshire County Council at the pre-application meeting held on Monday 23 January, it was agreed that a summary of the potential impacts to human health should be compiled as a Technical Note to accompany the planning application.

A human health assessment will be undertaken to comprise a review and summary of the Public Health Wales (PHW) and Health and Safety Executive (HSE) investigations in 2011 and 2013. It will characterise the concerns and the outcomes of the investigations and relate these to the new proposed cement mill and associated infrastructure, drawing upon conclusions of the air quality and noise assessments. It will also describe how measures will be implemented through environmental permitting to minimise environmental releases (e.g. to air).

The source of this will include the websites and links at the PHW webpage associated with the Padeswood human health investigation: <http://www.wales.nhs.uk/sitesplus/888/page/49601/>.



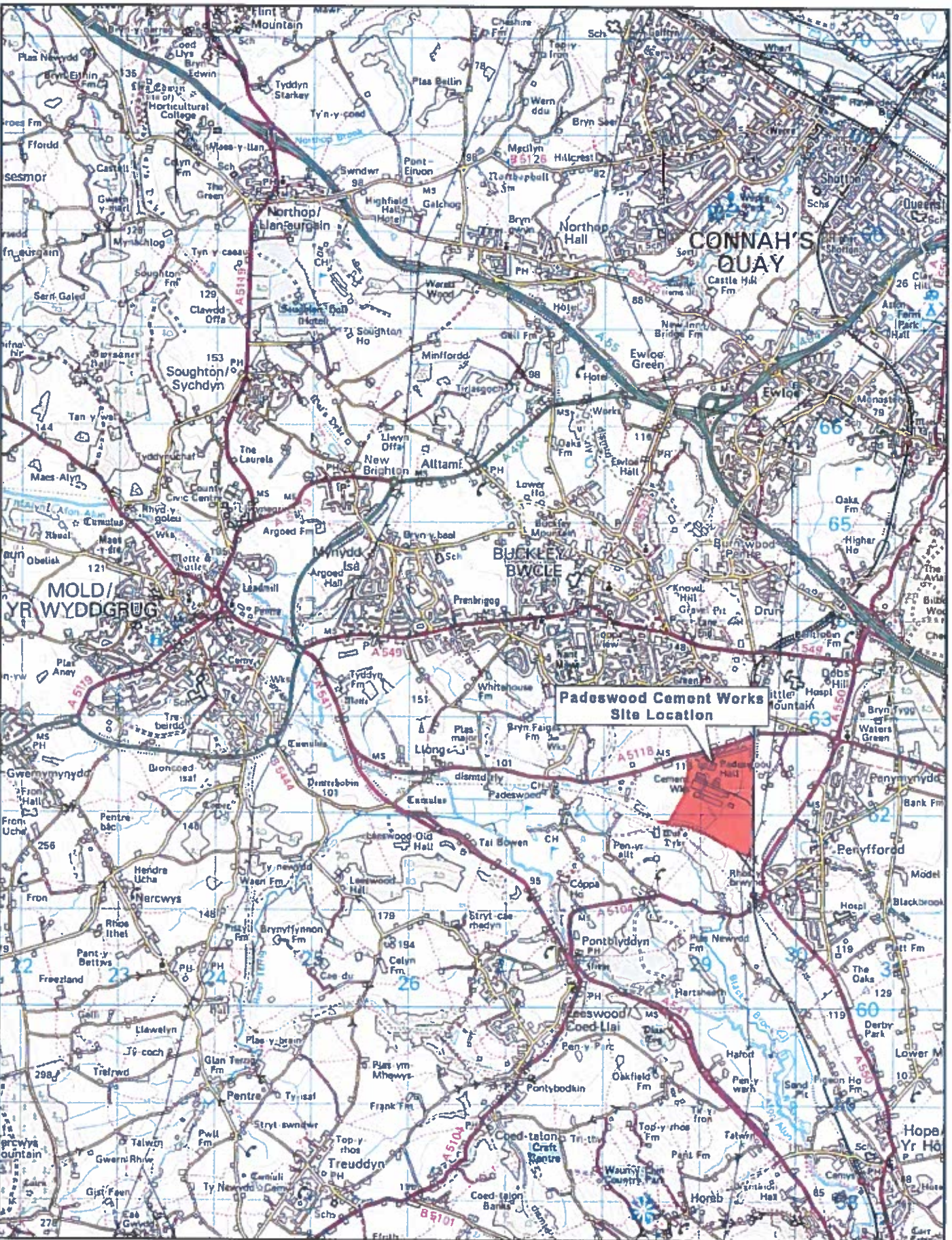
DRAWINGS

Drawing P103-47 – Location Plan

Drawing P103-48 – Site Context Plan

Drawing P103-46 – Mill 5 and Railway Loading Facility Option B

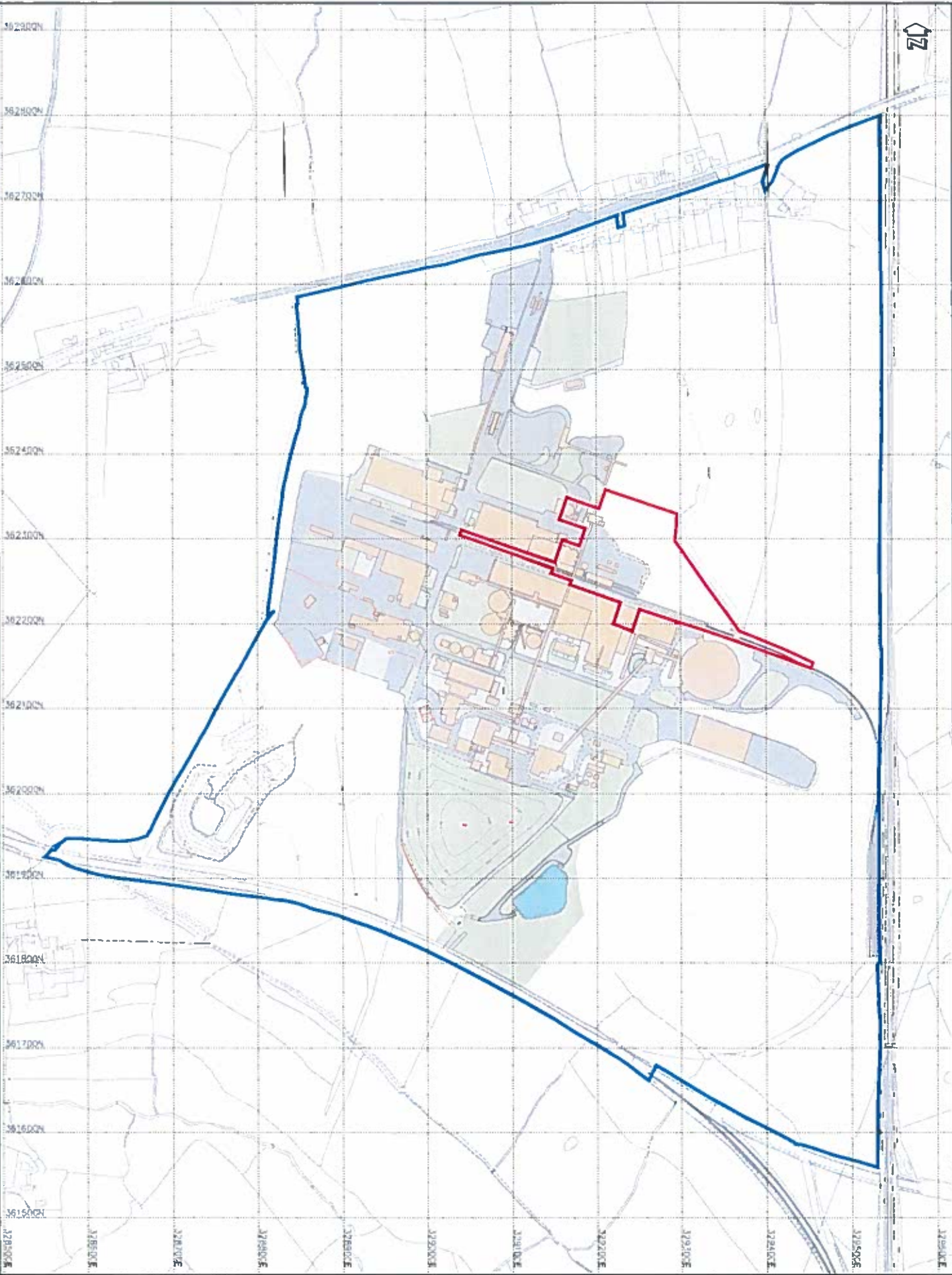
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Site	PADESWOOD				
Title	Location Plan				
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Date	MARCH 2017	Check by	AB	Drawing No	P103/47
				Revision	

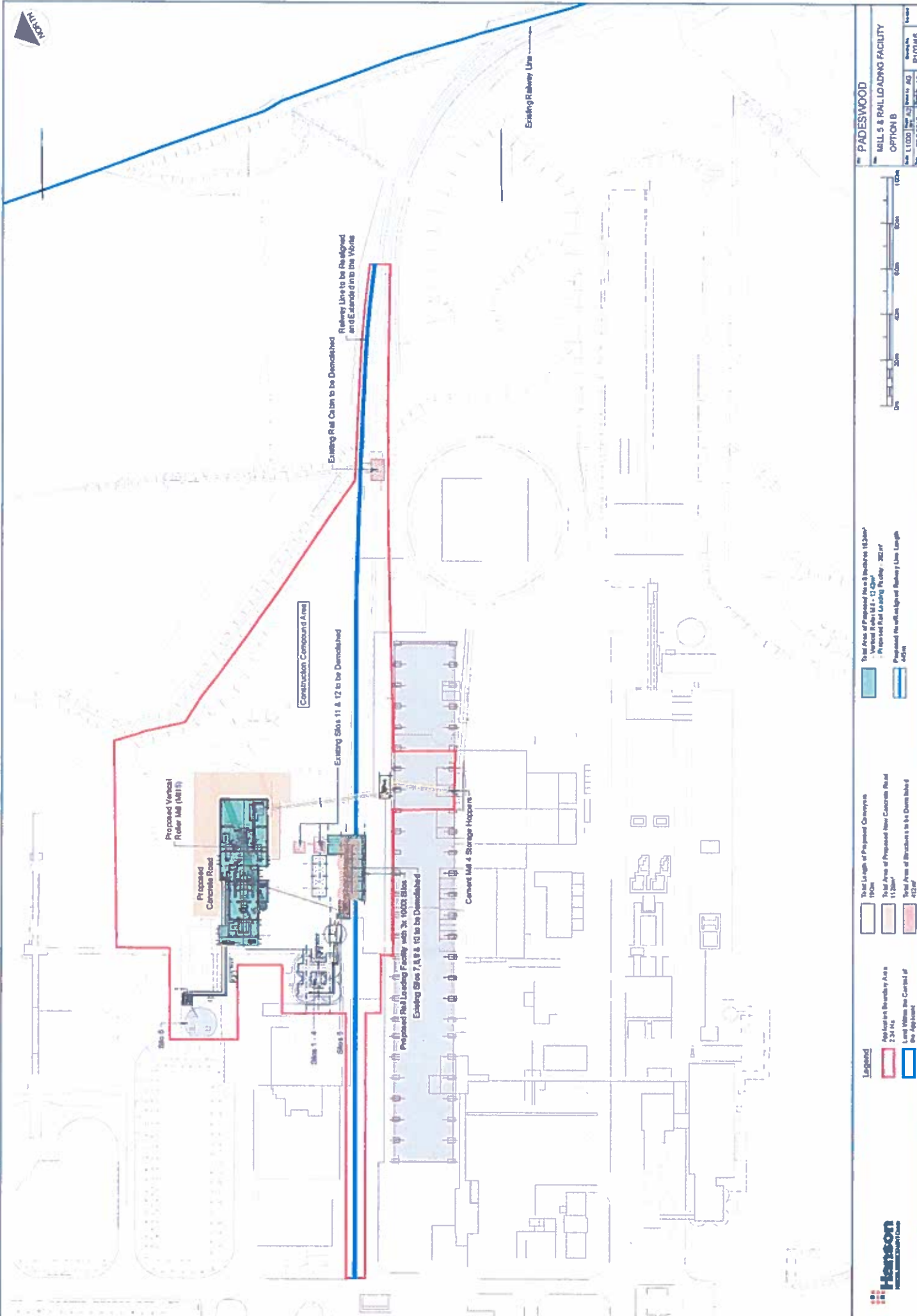


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- Legend**
- Land under the control of the applicant
 - Application boundary

PADESWOOD			
SITE CONTEXT PLAN			
Scale: 1:4000	Sheet: A3	Drawn by: AG	Drawing No.:
Date: MARCH 2017	Check by: AB	P103/48	



PADESWOOD
 MILL 5 & RAIL LOADING FACILITY
 OPTION B
 Rev: L (02) Rev: 03 Date: 10/01/16
 Rev: PRS (07) Rev: 10 Date: 10/01/16

Total Area of Proposed New Structure 1132m²
 Vertical Roller Mill - 130m²
 Proposed Rail Loading Facility 282m²
 Proposed to be Relocated Railway Line Length 450m

Total Length of Proposed Concrete 100m
 Total Area of Proposed New Concrete Road 1132m²
 Total Area of Structure to be Demolished 412m²

Legend
 Applied to Boundary Area 2.34 M² per App Area
 Land Within the Control of the Applicant



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For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates (UK) Ltd
Golder House
Tadcaster Enterprise Park
Station Road
Tadcaster
North Yorkshire
LS24 9JF
UK
T: [+44] (0) 1937 837800



