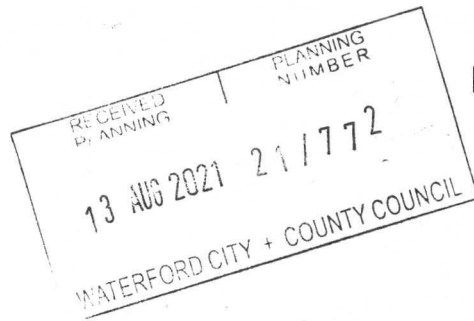


NON-TECHNICAL SUMMARY

Environmental Impact Assessment Report

**Eastern Satellite Quarry and
New Concrete Batching Plant**

**Cappagh Quarry,
Co. Waterford**



Prepared for : Roadstone Ltd.

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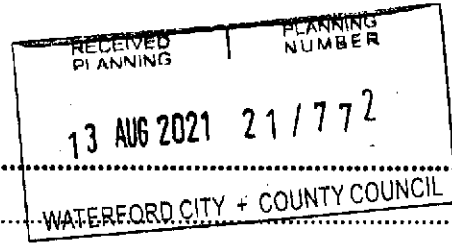
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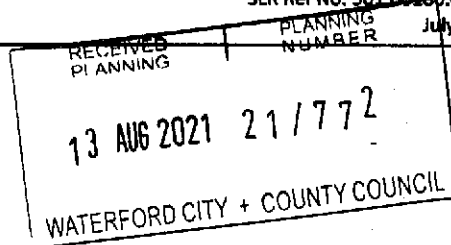
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Waterford City & County Council Planning Department: Viewing Purposes Only



1.0 INTRODUCTION

1.1 Development Overview

This Environmental Impact Assessment Report (EIAR) Non-Technical Summary has been prepared in support of a Planning Application to Waterford and City Council by Roadstone Limited in respect of the proposed new satellite quarry to be developed immediately to the east of Cappagh Quarry, near Dungarvan, Co. Waterford and the construction and operation of a new concrete batching plant on a hardstanding area on the quarry floor at the northern end of the existing quarry.

The proposed satellite quarry will be separated from the existing quarry by an existing local access passageway, which will be retained, and will be linked to the existing quarry at quarry floor level by a tunnel underpass to be constructed and installed beneath the passageway.

The proposed development, within an overall application site area of 18.2 hectares (45.0 acres), comprises the following:

- development of a satellite quarry immediately to the east of Cappagh Quarry (previously permitted under Planning Permission 06/1599 and An Bord Pleanála PL 24.225443) and the local access passageway which delineates its eastern boundary. The satellite quarry will extend to 13.6 hectares (33.6 acres), of which approximately 9.7 hectares (24.0 acres) will be extracted;
- construction of a 40m long sub-surface reinforced concrete tunnel underpass (with internal cross-section measuring 6m wide by 5.5m high) under the existing local access passageway (previously permitted under Planning Permission 920/97) to connect the existing quarry to the proposed satellite quarry at quarry floor level;
- stripping of overburden soils at the satellite quarry for use in construction of environmental bunds and ongoing site restoration works and subsequent excavation of a single quarry bench in limestone bedrock using mechanical excavation and blasting techniques. The proposed quarry faces will vary in height from approximately 8m to 20m and the quarry floor will not extend below 10mOD or into the underlying groundwater body (consistent with Condition 2 of the existing quarry planning permission);
- processing (crushing and screening) of excavated rock to produce aggregates;
- demolition of an existing derelict house in the north-western corner of the proposed satellite quarry, removal of existing internal hedgerows, construction of new perimeter fence and installation of access gates leading from the local access passageway to a perimeter track running above and around the satellite quarry;
- temporary diversion of a section of the existing local access passageway to facilitate construction and installation of the proposed tunnel underpass and re-instatement of the access passageway above it thereafter;
- provision of a temporary access gate and ramp at the existing quarry to facilitate the temporary haulage of materials to and from the satellite quarry and across the existing passageway until the proposed tunnel underpass is in place;
- demolition of concrete supports for former crushing plant;
- construction and operation of a new concrete batching facility (which comprises 4 No. cement silos, batching / mixing unit, aggregate storage bins, an aggregate loading hopper and connecting conveyor systems), all on a concrete paved area on the existing quarry floor, in front of the northern quarry face;
- provision of a batching control office and admixture storage shed;

- construction of a closed loop concrete recycling facility, comprising a concrete truck wash out area, settlement lagoons and 70,000 litre water storage / recycling tank immediately behind (north of) the concrete batching plant;
- construction of an aggregate storage hardstanding area (covering approximately 1 hectare) immediately to the east of the proposed concrete batching plant;
- continued use of established site infrastructure in service of the proposed satellite quarry and new concrete batching plant;
- removal and replanting of the existing boundary hedge, re-alignment of the boundary wall and demolition / removal of an existing structure to the east of the existing quarry access junction in order to provide enhanced sightlines for traffic egressing the quarry;
- implementation of a progressive restoration scheme (in phases) in tandem with extraction activities across the satellite quarry area.

1.2 Development Output and Lifespan

The total volume of limestone bedrock to be extracted by way of the planned satellite quarry development is 1,400,000m³, equivalent to approximately 3,360,000 tonnes (assuming an in-situ rock density of 2.4tonnes/m³).

The proposed satellite quarry and new concrete batching plant at Cappagh Quarry will not, generate any increase in output (from all site-based activities) over and above the current level permitted by Planning Ref. No. 06/1599 and An Bord Pleanála Ref. No. PL24.225443. The level of output proposed corresponds to a maximum of 100 daily HGV return trips (100 HGVs inward and 100 HGVs outward) from all existing and planned future on-site extraction, processing and added value activities combined.

Notwithstanding the projected maximum output levels above, it is assumed for planning purposes that the output of aggregate, stone and related products from the proposed satellite quarry will typically vary between 120,000 tonnes and 150,000 tonnes per annum, while that from the concrete batching plant will average 50,000m³ per annum (consuming approximately 65,000 tonnes of site produced aggregate per annum).

Given an assessed aggregate reserve of 3.36 million tonnes and an average output amounting to between 185,000 and 215,000 tonnes per annum, the projected life of the proposed development will be approximately 16 to 18 years. Allowing additional time for preparatory and establishment works and post quarrying restoration works, it is anticipated that the operational life of the development will therefore be up to 20 years, and application is made for planning permission on that basis.

The location of the application site is indicated on an extract from the 1:50,000 scale Ordnance Survey Discovery series map of the area, reproduced as Figure NTS-1.

1.3 The Applicant

The Applicant, Roadstone Limited is an operating company within CRH plc and is Ireland's leading supplier of aggregates, concrete products and bituminous road surfacing materials to the construction and development industries. The company currently employs several hundred people at 65 locations throughout the country.

1.4 Applicant's Land Interest and Application Site

Roadstone's land ownership at Cappagh Quarry extends to 58.9 hectares (145.5 acres) and is shown edged blue in Figure NTS-2. The application site is located entirely within the Applicant's ownership and extends to an area of 18.2 hectares (45.0 acres). Of this, the overall satellite quarry area extends to 13.6 hectares (33.6acres) and comprises the proposed extraction area of 9.7 hectares (24.0 acres).

The remaining site area will comprise the perimeter access track, the 2m high perimeter vegetated safety / screening berm and other associated landscaping / screening areas. The proposed concrete batching plant will be constructed on a 300mm thick concrete slab extending across an area of approximately 0.9ha on the quarry floor at the northern end of the existing quarry, adjacent to a stockpile area of approximately 1.0ha. The extent of the application site is shown edged red in Figure NTS-2.

1.5 Site Location and Setting

Cappagh Quarry and the application site are located approximately 8km west of Dungarvan, 8km south-east of Cappoquin and 13km east of Lismore in west County Waterford. The quarry and application site straddle the three townlands of Ballykennedy, Kilgreany and Canty, located approximately 1.5km to the south of N72 National Secondary Route which links Dungarvan to both Cappoquin and Lismore.

The quarry is located on the limestone floor of a wide valley which runs broadly west to east, between two parallel sandstone ridges which rise to elevations in excess of 200mOD. There are few streams or watercourses in the vicinity of the quarry. The River Finisk flows from north to south approximately 2km to the west, while the River Brickey flows west to east approximately 0.5km to the south.

1.6 Site Description

Cappagh Quarry has been in operation since 1952 and was acquired by J.A. Wood (now part of Roadstone Ltd.) in 1969. Limestone rock extraction and the production of aggregates and agricultural ground limestone continues at the quarry to the present day. Although existing permitted reserves are limited, the processing of limestone bedrock to produce aggregates and ground limestone is still continuing at the quarry.

The lands surrounding the existing quarry and the proposed satellite quarry lands to the east vary from flat to gently undulating. Ground levels rise above 30mOD at the northern end of the proposed satellite quarry area, and from there, slope away gently in all directions. The ground levels around the southern end of the satellite quarry are approximately 20mOD to 21mOD.

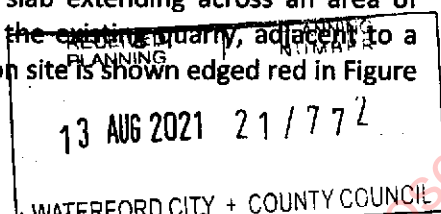
The floor level at the existing quarry lies above 10mOD and is restricted by existing planning permission from progressing any deeper or below the groundwater table. Existing rock faces around the quarry range in height from approximately 20m at the north-eastern corner to approximately 8m in the south-western corner.

The proposed satellite quarry currently comprises a number of agricultural fields, set as grassland and tillage. There is an old derelict property located at the northern end of these lands fronting onto the public road. This is to be demolished to facilitate the proposed satellite quarry development.

The existing local access passageway which runs above and immediately behind the existing eastern quarry face provides a link for local landowners and residents between the Whitechurch Road (L2018 Local Road) and the Canty Road which runs broadly parallel, but 800m to the south. The passageway will be retained and will separate the satellite quarry from the existing quarry development.

As part of the proposed development, a tunnel underpass will be installed beneath the passageway to link the satellite quarry and existing quarry at quarry floor level. A temporary diversion of the existing passageway will be required to facilitate these works.

The site layout in Figure NTS-3 shows the layout of the existing quarry and key elements of the associated site infrastructure.



1.7 Site Access

The existing quarry and application site are located immediately south of the L2018 Local Road linking the R672 Regional Road at Ballynamuck West (on the north-western outskirts of Dungarvan) to the N72 National Secondary Road at Ballynahemery, immediately east of Finisk Bridge.

Traffic exiting the quarry and heading for the N72 initially travels westwards along the L2018 Local Road to Whitechurch Crossroads, immediately west of the existing quarry access. Thereafter, it turns right onto the L2019 Local Road and continues in a northerly direction for 1.5km, up to its junction with the N72. Alternatively, and only in the event of roadworks or obstruction along the L2019, it can continue straight through the crossroads along the L2018 for 1.8km to its junction with the N72 at Ballynahemery.

Traffic travelling to the R671 Regional Road and to the N25 National Secondary Road and Youghal, Co. Cork, turns left onto the L2019 Local Road at Whitechurch Cross-Roads and continues in a south-westerly direction for 2.5km thereafter, up to its junction with the R671 at Knocknascagh Crossroads.

For the purposes of proposed satellite quarry development and the new concrete batching plant, traffic access will continue to be provided via the existing quarry access junction. The existing quarry entrance lies within the 80km/h national speed limit.

While existing visibility splays in both directions comply with design standards which were current at the time the existing planning permission was granted, these have now been superseded and require improvement to meet current design standards. Accordingly, it will be necessary to amend the position of the existing boundary wall and hedge and the demolition / removal of an existing structure to achieve the required sightlines.

1.8 Surrounding Land-Use

The lands surrounding the quarry and application site are rural and predominantly agricultural in nature. Local fields comprise a mix of grassland and tillage and there is relatively little, if any forestry in the area. There are many farm-based enterprises of varying size and scale throughout the area, together with many farm homesteads and dispersed residential housing, much of which is located along the local road network.

There are a number of established businesses and social / community infrastructure located in the rural surrounds of the quarry including:

- Cappagh Fishing Lakes in Ballinamintra Upper, approximately 1.5km north of the quarry, on the northern side of the N72 which provides facilities for leisure anglers at a number of privately owned lakes.
- Woodhouse windfarm is located 3km south west of the quarry. It is operated by the ESB and comprises a total of 8 No. 2.5MW turbines.
- MMG Ireland is a metal fabricator and galvanising business located in Ballinameela, approximately 1.6km west of the quarry.
- Whitechurch National School is located approximately 2km south-west of the quarry, along the L2019 Local Road, close to the Knocknascagh Crossroads and the junction with the R671 Regional Road;
- St. James Church is located approximately 1.3km south west of the quarry along the L2019 Local Road.
- Further along the same road, Ballinameela Community Centre and Ballinameela GAA club are both located adjacent to Whitechurch National School.

Two high voltage electricity transmission lines run broadly NE to SW a short distance beyond the south-eastern corner of the Roadstone property boundary. A 220kV line runs approximately 100m south of the proposed satellite quarry at its closest point while a 100kV line runs approximately 1.3km to the south east.

The closest designated nature site to Cappagh Quarry is located along the banks of the River Finisk which flows approximately 1.2km west of the quarry at its closest point and forms part of the wider Blackwater River (Cork/Waterford) SAC (Site Code: 002170).

The closest protected structure to the quarry is the Whitechurch Church of Ireland parish church located at the crossroads immediately beyond the north-western corner of the application site and the Roadstone landholding. The closest Recorded Monument is a rath / ringfort in Canty townland, located approximately 0.5 km to the south-east of the satellite quarry area.

Existing land use and established land designations within approximately 1km of Cappagh Quarry and the application site are shown on Figure NTS-4

1.9 Alternatives

The limestone bedrock at and around the quarry is of relatively high grade and purity and is valued as a source of high-quality aggregate for the construction industry. Natural resources can only be extracted and worked where they occur and as such, this will limit the scope to locate the proposed quarry development at an alternative site location.

Another potential alternative, to deepen the existing quarry and to undertake extraction below the existing water table has been discounted in view of concerns about potential impacts on the underlying regionally important karsitified aquifer.

The proposed satellite quarry development and the establishment of a new concrete batching plant at Cappagh offers clear environmental and economic advantages relative to other locations and/or greenfield sites. Although they may differ slightly in their nature, scale and duration, the environmental impacts associated with the proposed satellite quarry development and concrete production activities at the application site will essentially be similar to extant / permitted earlier phases of quarry development and ongoing aggregate / ground limestone production activities (specifically in respect of dust and noise emissions, potential impacts on groundwater and traffic related impacts).

With the implementation of best environmental management practices and compliance with appropriate planning controls (i.e., planning conditions and standard emission limit values), the proposed development at this location is considered to be more appropriate, more sustainable and less likely to generate significant impacts than a similar facility at almost any other location.

2.0 DESCRIPTION OF THE DEVELOPMENT

2.1 Existing Development

As previously noted, Cappagh Quarry is located in the townlands of Ballykennedy and Kilgreany, approximately 8km west of Dungarvan Co. Waterford and is generally accessed via the existing N72 National Secondary Road and a local road running south from a road junction in Cappagh townland.

All access to Cappagh Quarry is controlled by a security gate at the site entrance. This gate is closed outside of working hours. Site boundaries are secured by a section of stone wall around the site entrance and by a combination of fencing and planted earth mounds or boundary hedgerows around the remaining perimeter.

The existing site layout at Cappagh Quarry is shown in Figure NTS-3. As can be seen, most of the pre-existing site infrastructure which services the quarry is located around the site entrance in the north-western corner.

All administration and management functions for the quarry are based in the site offices at the front of the quarry, close to the site entrance. All HGV and lorries traffic existing the quarry passes through an existing wheelwash facility, shown in Figure NTS-3, in order to prevent transport of soil and dirt onto the public road network. Thereafter, the outgoing HGV traffic is directed across a weighbridge located alongside the site office in order to track and record materials being dispatched off-site.

Electric power, lighting and heating are all provided to site offices and welfare facilities via a connection to the electricity distribution network. Water is supplied to the offices for toilets and washing facilities from an existing groundwater well on-site. Potable water is delivered in bottled drinking water containers, as required. Wastewater from the site offices is directed to an existing septic tank and treated effluent is discharged to ground via a percolation area.

There is currently provision for employee and visitor car parking on concrete paved areas immediately inside the quarry gate and around site offices. There are several paved and unpaved (hardstanding) areas around the quarry which are used for HGV / lorry parking and for occasional storage of site plant, equipment and/or materials, most notably to the south of the quarry entrance. Fuel for the existing quarry operations is stored in existing fuel storage tanks located to the south of the site office. There is an existing maintenance shed / workshop for routine servicing, maintenance and/or repair of plant, machinery, HGVs and lorries located immediately to the west of the offices, as shown in Figure NTS-3.

All rain which falls across the existing quarry footprint recharges directly to ground and the underlying groundwater table, which currently lies below the quarry floor level of 10mOD. There is no off-site discharge of water from the quarry / application site to any nearby streams or rivers.

The current permitted operational hours for the quarry are 07.00 hours to 20.00 hours Monday to Friday and 07.00 and 14.00 hours on Saturday, with no operations on Sundays or Public Holidays.

2.2 Proposed Development

The proposed development comprises an eastern satellite quarry on lands immediately east of Cappagh Quarry, separated from it by an existing local access passageway, and the construction and operation of a concrete batching plant on the quarry floor at the northern end of the existing quarry.

There is no requirement for any new / additional site infrastructure to service the proposed development. All pre-existing quarry infrastructure, including but not limited to site offices, staff welfare facilities, maintenance workshop, bunded fuel storage facility, weighbridge, wheelwash, car parking area and utilities will continue in service for the duration of the proposed satellite quarry development and for the operational life of the new concrete batching plant.

RECEIVED PLANNING	PLANNING NUMBER	EAIR Non-Technical Summary Ref No: 501.00180.00264 July 2021
13 AUG 2021 21/772		
WATERFORD CITY + COUNTY COUNCIL		

2.2.1 Eastern Satellite Quarry

The proposed eastern satellite quarry will be developed in 5 separate phases (designated Phases 3A to 3E), in tandem with the final progressive phased restoration of the existing quarry. The plan extent and sequencing of the development at the satellite quarry and the associated phasing of the restoration works is shown in Figure NTS-5. The final overall quarry restoration plan (following completion of extraction at the satellite quarry area) is provided in Figure NTS-6.

The total area of the proposed satellite quarry area is 13.6 hectares, of which 9.7 hectares will be extracted. The remaining site area will comprise the perimeter access track, the 2m high perimeter vegetated safety / screening berm and other associated landscaping / screening areas. Cross-sections through the proposed satellite quarry area are provided in Figure NTS-7.

An existing uninhabited, derelict house in north-western corner of the satellite quarry area will be demolished and hedgerows internally within the area will be removed to facilitate the quarry development. The satellite quarry will comprise excavation of a single quarry bench in limestone bedrock, varying in height from approximately 8m to 20m from existing ground level to quarry floor level (similar in height to the existing quarry).

The quarry floor in the satellite quarry area will not extend below 10mOD or into the underlying groundwater body, consistent with Condition 2 of the existing planning permission (Planning Ref. 06/1599 and An Bord Pleanála Ref. PL 24.225443)

2.2.2 Concrete Batching Plant

The proposed new concrete batching facility will be located on the quarry floor at the northern end the existing quarry, immediately east of the established site infrastructure area. In order to provide some increased protection to the underlying groundwater table, ground levels around the batching plant will be levelled up to create a level paved / hardstanding platform area at 12mOD. The location and layout of the proposed concrete batching plant within the overall quarry context is shown in Figure NTS-5. Elevations and cross-sections through the concrete plant are shown in Figure NTS-8.

The proposed concrete batching facility will comprise 4 No. cement silos, each just over 21m high, a batching / mixing unit, aggregate storage bins, an aggregate loading hopper and connecting conveyor systems, all on a concrete paved area in front of the northern quarry face.

Aggregates produced on site for concrete production (by processing blasted rock from the satellite quarry area) will be stored in the stockpile area and then fed into 6 No. aggregate storage bins. Cement will be delivered to site in bulk tankers and stored in 4 No. sealed cement silos. The concrete mixing unit (batching tower) will be provided with noise reducing cladding to eliminate / reduce both fugitive dust and noise. Readymix concrete lorries are required to reverse into a partially enclosed loading bay beneath the concrete mixing plant, so that batched concrete from the plant can be discharged via a chute into the lorry mixer drums.

As part of the development, a batching control office (portacabin) and an admixture storage shed will also be provided beside the batching plant. A 70,000-litre water storage tank will also be provided to the rear of the plant.

Provision is also made for construction of a closed loop concrete recycling facility, comprising a concrete truck wash out area, settlement lagoons, submerged pumps and a pipeline connection to transfer recycled water to the 70,000-litre water storage tank immediately behind (north of) the concrete batching plant. The concrete base of the settlement lagoons will not extend below 10mOD in order to avoid impacting the underlying groundwater table.

All of the above elements will be constructed over 300mm thick concrete slab extending across an area of approximately 0.9ha. Surface water run-off from the paved slab will be directed to the wash out

tanks and the settlement lagoons at the truck wash out area and will ultimately be recycled in concrete production.

Processed aggregates and imported sand from other local quarries will be stockpiled on a dedicated hardstand area to be established immediate east of, and adjacent to, the concrete batching plant, at the location indicated in Figure NTS-5. This aggregate stockpile area will have a plan area of approximately 1 hectare. There will be little, if any surface water run-off across this area and any rainfall is likely to infiltrate diffusely to the underlying groundwater table.

Lighting will principally be fixed around the vehicle loading bay and other operational areas where safety assessments identify a requirement for it. Appropriate low-level signage will be provided within the quarry along the internal road network to direct HGV / truck traffic to and from the batching plant and/or aggregate stockpile area.

2.3 Phasing of Quarry Development

2.3.1 Preparatory Works

At the outset of the proposed development and prior to commencement of extraction at the satellite quarry area, some preparatory site works will be undertaken. These will principally comprise

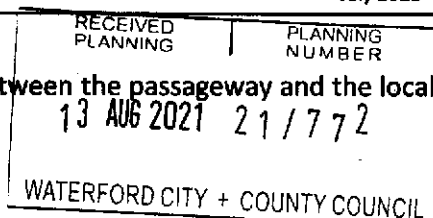
- demolition of the derelict house at its northern end (under the supervision of a bat expert);
- installation of access gates along the passageway;
- construction and planting of perimeter screening berms using stripped soils;
- perimeter fence installation;
- opening of the initial (Phase 3A) quarry excavation in front (east) of the proposed tunnel underpass using conventional mechanical excavation techniques (in overburden soil and weathered rock) and by blasting (in competent rock).

During the construction works period, both prior to, and during, the tunnel underpass installation, soil, rock and aggregate will be transferred by HGVs and trucks across the passageway between the satellite quarry and existing quarry at ground level along a temporary haul road. This haul road will run between access gates on each side of the passageway (at the southern end of each quarry) and down a descent ramp into the existing quarry.

Prior to the tunnel underpass installation, the rock which is initially excavated at the satellite quarry area will be crushed and screened (at existing ground level) to produce aggregate. Some of the crushed rock will be stockpiled pending subsequent use in backfilling of the temporary tunnel excavation or for re-instatement of perimeter berms either side of the passageway. Excess crushed rock / aggregate will be transferred across the passageway to the existing quarry or dispatch / concrete production.

Once the initial Phase 3A excavation has extended down to quarry floor level and opened up sufficiently in front of the tunnel portal location, it will be necessary to temporarily close a section of the existing passageway and to divert any occasional traffic travelling over it around the Phase 3A excavation to facilitate opening of the cut and cover excavation across the passageway and the subsequent installation of precast concrete sections of the tunnel underpass which will link the two quarries at quarry floor level. A chainlink fence will be erected on either side of the diverted road to restrict access to the initial excavation / works area.

After the tunnel underpass has been constructed / installed, the excavation will be backfilled with stockpiled, pre-crushed aggregate up to existing ground level and the local access passageway reinstated to run north-south across it. Chainlink fencing, perimeter screening berms and planting will then be established over the backfilled excavation, on either side of the reinstated passageway, as indicated on the site layout plans in Figure NTS 5.



There will be no requirement to modify the existing junctions between the passageway and the local roads at either end.

2.3.2 Phasing of Extraction Activities

Following completion of the site preparation works and the tunnel installation works, it is proposed to extend the satellite quarry northwards from the initial (Phase 3A) excavation opened up in the south-western corner. The quarry will be developed in a phased manner to provide time for advance stripping and storage of topsoil and overburden soils and facilitate its re-use in any ongoing progressive quarry restoration works.

Following removal of topsoil and overburden cover, the area immediately north of the initial (Phase 3A) excavation will be the next to be quarried. This area is identified as Phase 3B in Figure NTS-5. The initial working of this area will facilitate the 'opening-up' a series of quarry faces (to the north and east) which allow for the blending of rock of variable quality if required after extractive operations commence.

Thereafter, extraction activities will progress further in sequence, northwards through Phase 3C, eastwards through Phase 3D and south-eastwards through Phase 3E, each phase extending up to the proposed extraction limit indicated in Figure NTS-5.

All the while, as topsoil and overburden materials are stripped in advance of extraction, they will be transferred through the sub-surface tunnel for use in the phased restoration of the existing quarry floor on the opposite side of the passageway to grassland, as also indicated in Figure NTS 5. The excavated soils may also be used to create tapered slopes at the toe of residual quarry faces or will be stockpiled across the satellite quarry pending subsequent re-use in restoration works there.

Restoration of the Phase 1 area of the existing quarry, that area north of the existing internal haul road which runs broadly north-west to south-east through the centre of the quarry, will progress as soil is stripped in advance of the Phase 3A and Phase 3B excavations at the satellite quarry. Restoration of the Phase 2 area of the existing quarry, broadly to the south of the internal haul road will progress substantially as the Phase 3C area is worked and will continue (if necessary) as the Phase 3D and 3E areas are worked. Thereafter restoration works will proceed on an ongoing basis wherever practicable within the Phase 3 satellite quarry area.

2.3.3 Final Quarry Restoration

On cessation of extraction activity across the satellite quarry area, restoration works will continue on the quarry floor, in front of the quarried faces at the limit of the extraction area. As elsewhere across the quarry, the lands in this area will be ultimately restored to agricultural grassland at a finished quarry floor level above 10mOD, refer to Figure NTS-6.

2.4 Concrete Production

The construction and installation of the proposed concrete batching plant will entail levelling up the ground in front of the northern quarry face (using site won materials) to provide a level development platform / hardstanding area at 12mOD in advance of constructing and erecting the concrete batching plant and installing the concrete recycling facility / settlement lagoons.

Once commissioned and operational, aggregates required for concrete production at the batching plant will principally be sourced from the adjoining satellite quarry. These aggregates will be produced and stockpiled on site or transferred via the hopper and conveyor system to the aggregate storage bins. Coarser sand will most likely have to be sourced from local sources and imported to site by HGV lorries and stockpiled on the hardstand area adjacent to (and east of) the plant.

Readymix concrete production essentially entails blending and mixing of the following input materials in various design proportions:

- Aggregates – sourced from the planned eastern satellite quarry;
- Sand – sourced from local pits / suppliers;
- Water - sourced from concrete recycling system / topped up from existing supply well;
- Cement and admixtures – imported to site as demand requires.

Admixtures are compounds which are added to concrete in small amounts in order to change the flow and setting properties of the concrete. All admixtures will be kept at the dedicated storage shed be provided as part of the development and will typically be stored over suitable spill / banded pallets.

The readymix concrete production process is briefly described below:

- (i) Aggregates are pre-loaded to the 6 No. aggregate storage bins – they are transferred from adjoining stockpiles to the hopper by a mobile loading shovel and then transferred to the storage bins by a rising conveyor system;
- (ii) The required amounts of aggregate are transferred via a conveyor belt to a weigh batcher that measures the proper amounts of each material in a concrete design mix. Cement is transferred by pipe to the mixer from the cement silos;
- (iii) The dry materials will then flow into a stationary mixer where they are blended together for several minutes. After the dry materials are blended, controlled volumes of admixtures and water are added and they are mixed further. All input weights and volumes are measured and controlled by computer.
- (iv) Readymix concrete lorries collecting concrete from the plant are required to reverse into the loading bay beneath the concrete mixing plant (also called the batch house).
- (v) Batched concrete from the mixer is then discharged via a chute into the lorry mixer drums and transported to off-site development projects.

The proposed readymix concrete manufacturing plant at Cappagh Quarry is expected to produce an average of 50,000m³ of concrete per annum, predominantly for supply to local construction and development projects and agricultural holdings around West Waterford and East Cork.

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3.0 EXISTING ENVIRONMENT, EFFECTS AND MITIGATION

3.1 Population and Human Health

Environmental Protection Agency (EPA) guidelines in relation to Environmental Impact Assessment (2017) indicate that the consideration of human health and population in EIA should address employment, human health and amenity issues. For the purposes of EIA, human health is considered in the light of the relevant topics or 'pathways' addressed by the EIA Report, such as noise, vibration, air quality and water quality, and in the light of established, acceptable limits for exposure.

The application site and Cappagh Quarry are located in County Waterford, within the townland and Electoral Division of Whitechurch, immediately to the south of the adjoining townland and Electoral Division of Cappagh. The primary population and commercial centre for the area is Dungarvan, the centre of which lies approximately 8km to the east of the existing quarry. Other secondary population centres in the locality include the towns of Cappoquin which lie c.8.5km and c.13km respectively to the north west. There are several isolated residences and farmsteads located along the local road network around the existing quarry and application site. Existing land use and/or land zoning and residential development in the vicinity of the application site is shown on Figure NTS-4.

The closest social welfare office to the site is in Dungarvan, Co. Waterford. The Live Register statistics show that number of people on the Live Register in December 2020 was 1012, marginally lower than the 1041 which was recorded 12 months previously in December 2019. The 2016 census figures indicate that, of those at work locally in Whitechurch ED, the largest proportion are working in skilled trades or as plant operatives and that these account for a higher proportion of the local workforce than for County Waterford as a whole. Workers in Whitechurch ED are under-represented in the professions, caring / leisure, sales / customer service and administrative occupations relative to elsewhere in the county.

It is considered that the proposed development will have a positive effect on employment. During the construction and operational phases the development will provide continued employment for a workforce of up to 10 people (directly and indirectly) on a full time equivalent (FTE) basis. The development will also indirectly support and sustain employment for hauliers in the construction and development industry, as well as providing occasional employment for sub-contractors, maintenance contractors and environmental monitoring personnel and advisors as required. This employment effect will cease once the quarry / application site is restored.

It is considered that the proposed development is not likely to have significant effects on human health. The main potential pathways for effects on human health arising from the planned satellite quarry development and new concrete batching plant are noise, dust and groundwater emissions. Measures will be in place to prevent the spread of dust, to mitigate noise emissions and to minimise and prevent spillages of fuel which could potentially affect groundwater quality in the underlying regionally important karstified aquifer.

With these measures in place, it is considered that potential adverse health effects are unlikely to occur. On cessation of operations, effects on noise and air quality would largely cease once the existing quarry / application site is restored to agricultural use and the concrete batching plant is fully decommissioned. Any long-term effects on groundwater will be avoided through the implementation of precautionary measures during the operational phase.

The main potential pathways for effects on amenity are noise and dust emissions as well as traffic and landscape / visual impacts. A number of mitigation measures will be in place to control environmental emissions, minimise visual impact and minimise any associated nuisance effects on residential amenity in the surrounding area as a result of the proposed extraction and production activities.

During the construction works period, both prior to, and during, the tunnel underpass installation, soil, rock and aggregate will be transferred between the satellite quarry and existing quarry by HGVs and trucks crossing the existing passageway at ground level. To facilitate the proposed installation and backfilling of a sub-surface underpass linking the quarries on either side, it will also be necessary to temporarily close the passageway to traffic and to divert it away from the works area along a temporary track which will follow established field boundaries. The crossing of haulage traffic and temporary diversion of the passageway will cause some minor, temporary inconvenience to any occasional users of the passageway. These impacts will cease and be reversed once the tunnel underpass is installed and the passageway reinstated over it.

The principal access road to the application site will be via an existing local road leading off the N72 National Secondary Road and an existing access junction which will be modified to ensure that traffic sightlines comply with current technical design and road safety standards. The traffic assessment prepared in respect of the proposed development concluded that there would be no significant adverse effects arising in respect of the capacity or safety of the local road network as a result of the proposed development.

As part of the proposed development, monitoring will be undertaken in relation to noise, vibration, dust and groundwater. This will measure the actual impact of the development during the preliminary (construction) site works, operational and post closure phases.

3.2 Biodiversity

An Ecological Impact Assessment was undertaken in respect of the proposed satellite quarry and new concrete plant at Cappagh Quarry. The existing quarry has been worked to 10mOD, with quarry faces rising up to a maximum height of 20m from the quarry floor. The quarry is bounded to the north by the L2018 Local Road and by agricultural fields on all other sides. The application site comprises a portion of the existing quarry footprint and a proposed satellite quarry area to the east extending across an area of c. 13.6 ha.

The lands beyond the existing quarry are dominated by intensive agriculture, primarily pasturelands separated by heavily managed hedgerows. There are remote small stands of woodland throughout the area, with larger areas of forestry within the wider landscape. There are no watercourses within or immediately adjacent to the application site.

An ecological walkover survey undertaken by SLR personnel in April 2019 was followed up by a bat survey at the derelict building and surrounding lands (within the proposed satellite quarry area) in May 2019. Further ecological surveys were undertaken in December 2020 and July 2021 to update the previous survey and establish what, if any changes had occurred to the ecological environment in the interim.

The application site does not lie within or adjacent to any site designated for nature conservation or subject to any nature conservation designations. There is one Natura 2000 site within the 2 km Zone of Influence around the proposed development; the Blackwater River (Cork/Waterford) Special Area of Conservation (SAC: 002170), along the banks of the River Finisk which flows approximately 1.2km to the west of the quarry.

The Natura Impact Statement (NIS) prepared in support of the planning application concluded that there is no risk of direct, loss or fragmentation of habitats within Blackwater River (Cork/Waterford) Special Area of Conservations (SAC) as the application site is located approximately 1.3 km from the SAC at the closest point and there is no surface ecological connectivity, such as along watercourses, hedgerows or treelines, between the application site and the SAC.

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The NIS also identified that the Dungarvan Harbour Special Protection Area (SPA), which is designated for wetlands and waterbirds, is located approximately 6.3 km to the south-east of the application site and is potentially ecologically connected to it via groundwater. The NIS concluded that with the implementation of existing / proposed mitigation measures to prevent groundwater contamination throughout all stages of the proposed development, there will be no adverse impact on groundwater quality and by extension, no adverse effects on the integrity of the Dungarvan Harbour SPA.

The dominant habitat within the application site is improved agricultural grassland (designated GA1), followed by active quarries and mines (designated ED4). Hedgerows are present throughout the proposed satellite quarry area. Small areas of recolonising bare ground (designated ED3), mixed broadleaved woodland / buildings and artificial surfaces (designated WD1 / BL3) and scrub (designated WS1) are also present. Of these habitats, only hedgerows were considered as important beyond the site level.

Within the application site, evidence of rare and/or protected species or features suitable to support rare and/or protected species is confined to bat foraging and commuting habitat, live sighting of peregrine falcon and swallow nests. The above listed species are considered as important beyond the site level.

Mitigation measures are to be incorporated in the proposed development to reduce its potential effects on the habitats and species identified. Mitigation measures for the loss of hedgerow (WL1) and the commuting and foraging habitats supporting bat species include provision for additional boundary landscaping at the outset of the development and for further planting as part of the long-term quarry restoration plan. No significant effect to peregrine falcon is anticipated. Demolition of the derelict building (where swallow is nesting) and vegetation clearance within the application site will be carried out outside of the bird nesting season (from 1st March to 31st August inclusive).

In conclusion, it is considered that, following implementation of the mitigation measures outlined above, the effects of the proposed satellite quarry development and new concrete plant will be confined to the application site and the area immediately surrounding it and the development will not have any significant residual impact on the overall biodiversity resource at a local level.

There are no recent or planned future developments in the local area that, when considered together with the proposed development, are likely to give rise to any cumulative effects. It is considered that there is no pathway for the proposed development to act in-combination with other plans and projects.

3.3 Land, Soils and Geology

The assessment of the likely environmental impact of the proposed development on land, soil and geology is based on a desk study of the application site and surrounding area using published geological data, a site walkover of the lands and available ground investigation information, including well installation records, and a geophysical survey.

Six groundwater monitoring wells were drilled and installed around the existing quarry and proposed satellite quarry area in 2016 to provide information on the nature and thickness of the subsoils at the site, to confirm groundwater levels and facilitate subsequent groundwater sampling and testing. All six wells (designated BH16-02, BH16-06, BH16-07, BH16-09, BH16-11 and BH 16-13) were drilled through thin soil / subsoil cover (0m to 2m deep) before encountering bedrock. All of the wells were terminated in limestone bedrock at depths ranging from 11.0m to 34.5m.

The application site comprises the existing active quarry and a satellite quarry development on agricultural fields immediately to the east. Within the existing quarry footprint, soil and subsoil were previously stripped to facilitate the extraction of the underlying bedrock limestone and were re-used

in the construction of perimeter screening berms. Following cessation of rock extraction activities, available soil / subsoil cover is spread across the lower quarry floor and grassed as part of ongoing, long-term site restoration works.

Published Teagasc soil mapping indicates that the soils across the application site belong to the Clashmore Soil Association. These soil types are indicated to be moderately draining soils, formed of siliceous sandstone subsoil parent material. Soils and subsoil cover are relatively thin in places, as evidenced from site observations and groundwater well installations.

Subsoil mapping indicates that much of the pre-existing quarry footprint extends across rock outcrop and that the eastern end of the site, including the proposed eastern satellite quarry area, is underlain by till derived from Devonian sandstone. A geophysical survey carried out across the satellite quarry area indicates that soil and subsoil cover may be locally up to 5m deep in places.

Bedrock mapping published by the Geological Survey of Ireland (GSI) indicates that the existing quarry at Cappagh and the proposed eastern satellite quarry are underlain by the Carboniferous-age Waulsortian Limestone, a pale grey, clean and very fine-grained rock. The Waulsortian Limestone varies in thickness across Ireland, and in the vicinity of the quarry and application site, it is estimated to be c.500m thick. The geophysical survey undertaken across the eastern satellite quarry area indicates that it is largely underlain by competent bedrock, albeit with some minor karst features formed by localised dissolution of the limestone bedrock by infiltrating rainfall.

The existing quarry void is designated as a geological heritage feature and is reported to present some of the best exposures of Waulsortian Limestone in Co. Waterford. The quarry faces also expose karst features of interest, providing the opportunity to observe them in cross section. The existing quarry faces and the features exposed in them form the principal heritage interest at this location.

The principal impact of the proposed development on land and soil will be the loss of the existing agricultural land resource and soil cover on the lands within the satellite quarry area for the period of rock extraction. This impact will however be partially reversed with the subsequent restoration of soil cover and grassland across the quarry floor following cessation of extractive activities.

The proposed development will preserve the existing exposures and features, with the exception of a short section of the existing eastern quarry face which will be removed to facilitate the tunnel underpass installation. The proposed satellite quarry development will however provide additional geological exposures as excavations progress. It is likely that future extraction of limestone bedrock will expose additional features which will enhance the overall geological heritage value and interest of the existing heritage site. Roadstone will continue to liaise with the Geological Survey of Ireland and facilitate appropriate future inspection and recording of face exposures as quarrying progresses.

A number of mitigation measures will be implemented to minimise any potential adverse effects on soils, subsoils and bedrock geology at and surrounding the application site as a result of the proposed development. These measures will principally be focussed on preserving the existing soil / subsoil resource for future use in quarry restoration works. Measures will also be implemented to prevent potential fuel / oil spills which could adversely impact land quality and arise as a result of extraction and concrete production activities, inadequate plant maintenance or inspection, collisions between vehicles or poor storage arrangements for hazardous substances etc.

Site activities will be monitored to ensure all soil mounds and stockpiles are placed at safe slope angles and comply with all relevant Health and Safety legislation and guidance published by the Health and Safety Authority guidelines for the extractive sector, thereby limiting the potential for instability / unplanned events.

With the implementation of proposed mitigation measures, residual impacts on soil and geology arising as a result of the proposed development are deemed to be low. Following completion of the final restoration works and the return of the site to a natural grassland / scrub habitat, the long-term impact of the proposed development on land, soils and geology, specifically the loss of productive agricultural land, is assessed as low at a local scale.

3.4 Water

The receiving water environment at, and in the immediate vicinity of, the application site is characterised on the basis of a desk study of published information, site visits and inspections, monitoring of groundwater quality and levels and collation and analysis of the information gathered.

The proposed eastern satellite quarry area is underlain by well-drained soil and a moderately permeable subsoil, both derived mainly from sandstones. Across the existing quarry footprint, soil and subsoil have been removed and bedrock is exposed across the quarry floor. Both the existing quarry and the satellite quarry area are underlain by Waulsortian Limestones, described as massive, unbedded limestone.

The existing quarry / application site is located in a geological syncline feature. The underlying limestone bedrock is karstified and there are a number of mapped karst features in the locality, including caves and closed depressions. These karst features within the limestone may act as preferential flow paths for groundwater through the limestone bedrock.

The aquifer underlying the site is identified as the Dungarvan Groundwater Body (GWB). It covers an area of 58.6 km² and is designated a high yielding aquifer. The Dungarvan GWB characterisation report states that Waulsortian Limestone units are typically 300-500m thick. However, in all aquifers within this GWB, most groundwater flow is indicated to occur within the top 30m-40m of the aquifer, in the more fractured, weathered zone. Deeper flows generally occur along isolated faults or significant fractures within the bedrock. Groundwater flow within the Dungarvan GWB is generally more diffuse than concentrated in conduits (such as open fractures and discontinuities).

Aquifer vulnerability mapping published by the GSI indicates the vulnerability of the aquifer across the quarry / application site is High (H), with small areas of Extreme (E) vulnerability where bedrock occurs at or close to the surface. The vulnerability classifications reflect the fact that soils and subsoils are relatively thin and provide little protection to the underlying bedrock aquifer from potential contamination by human activities at the ground surface.

Monitoring of groundwater levels indicates that groundwater lies below the existing quarry floor level and that groundwater flows beneath the site are broadly in an easterly direction toward the sea. Groundwater levels in the satellite quarry area did not exceed 10mOD (the proposed quarry floor level) at any time over the monitoring period between January 2019 and November 2020.

Groundwater quality results suggest that the groundwater flowing beneath the quarry and application site is being impacted by activities remote from it, principally by agriculture which is the predominant land use in the surrounding area. Test results did not identify hydrocarbons in any groundwater samples indicating that it is not / has not been impacted by the use and storage of fuel and oil stored for the established quarry operation.

The application site is not located within the groundwater Source Protection Zone (SPZ) for any public water supply (PWS). The closest groundwater SPZ to the application site is that for the Dungarvan Public Water Supply, the designated Outer Protection Zone for which is located at a distance of c.1.5km to the east, at its closest point.

There are no hydrological features within or adjoining the existing quarry or application site. The Brickey River flows c. 1km to the south, in a broadly easterly direction. The Finisk River flows c. 2km to the west, in a broadly southerly direction. The Celtic Sea is approximately 8.5km east of the site at Dungarvan Harbour. The mouth of the Brickey River intersects a Special Protection Area (SPA) at Dungarvan Harbour while the Finisk River intersects a Special Area of Conservation with designated habitat and species and is in a designated nutrient sensitive area. The transitional and coastal waters around Dungarvan Harbour are designated as a SPA and proposed Natural Heritage Area (pNHA) and are also a designated shellfish area. They also adjoin as a designated coastal SAC.

Process water for quarry activities is provided from an onsite supply well. Potable (drinking water) at site offices and welfare facilities will continue to be supplied from offsite and delivered to site as required.

The baseline study undertaken for EIA purposes identified the following sensitive receptors within the receiving environment around Cappagh Quarry and the application site:

- the River Brickey, which is the closest surface water receptor;
- the underlying Regionally Important karstified bedrock aquifer (including karst features);
- nearby domestic and agricultural local groundwater supply wells;
- existing public water supplies and their surrounding Source Protection Zones; and
- the Dungarvan Harbour SPA / pNHA.

Mitigation measures are proposed in the EIA Report to reduce or eliminate any adverse impact from the proposed satellite quarry and concrete batching plant on these sensitive water environment receptors. As for the receiving geological environment, these measures will principally focus on prevention of potential fuel / oil spills (as a result of accidental leakages or spillages during refuelling activities) and on the minimising the risk associated with the handling of other dangerous substances (such as lubricants, greases etc).

With the proposed mitigation measures in place, it is considered that the residual impact of the proposed development on water environment receptors will be slight.

A groundwater monitoring programme will be implemented at the application site to confirm that there is no adverse impact on groundwater level or quality over time as extraction activity extends eastwards and concrete production activities become established. It is proposed that the scope and frequency of groundwater sampling and testing will be agreed with the Local Authority under the terms of any planning permission issued in respect of the planned development. Proposed groundwater monitoring locations are identified in Figure NTS-9.

3.5 Air Quality

An assessment of potential fugitive dust emissions from the proposed development has been undertaken. The assessment takes into consideration the potential sources, surrounding receptors, and the pathway between source and receptor in order to assess the magnitude of risk of dust impacts without mitigation measures in place.

The main focus of the assessment is the potential impact on sensitive receptors from fugitive dust emissions from the following activities:

- soil stripping;
- construction earthworks and demolition works;
- trafficking by mechanical plant and heavy goods vehicles (HGVs) over paved / unpaved surfaces;

- end-tipping, handling, and processing of excavated rock materials;
- stockpiling of aggregates;
- concrete plant operations; and
- site landscaping and final restoration activities.

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There are approximately 52 sensitive receptors identified within 1km of the application site boundary. The dust impact at residential properties located within 500m of the application site was assessed in detail, as these were considered to have greater exposure to potential dust impact.

In the absence of any mitigation measures, the risk of impact from dust emissions was assessed as moderate adverse to insignificant at those receptors which are located within 500 meters of the application area.

A number of mitigation measures will be implemented to minimise the generation / migration of fugitive dust from the planned construction, extraction, concrete production and site restoration activities and to ensure that any emissions are within the accepted threshold limits for fugitive dust values. These measures include the use of water bowsers to dampen dry surfaces and stockpiles, directing traffic through a wheelwash with overhead spray bar to dampen loads, application of on-site speed limits, use of a road sweeper as required and the establishment of planted screening berms around the quarry perimeter.

With the range of mitigation measures implemented at the site, the risk of dust impact at the receptors within 500m is reduced to mostly insignificant with the exception of five residences where the impact is assessed as 'acceptable'.

It is envisaged that an air quality / dust monitoring programme will continue to be implemented across the existing quarry and will be extended to cover the eastern satellite quarry area to confirm compliance with dust deposition emission limit values set by any grant of planning permission in respect of the proposed development and best practice guidelines for the sector. It is envisaged that the scope and frequency of any air quality / dust monitoring will be subject to prior agreement with the Local Authority. Proposed air quality / dust monitoring locations are identified in Figure NTS-9.

3.6 Climate

Ireland has a typical maritime climate with relatively mild and moist winters and cool, cloudy summers. The prevailing winds are south westerly in direction. The climate is influenced by warm maritime air associated with the Gulf Stream which has the effect of moderating the climate, and results in high average annual humidity across the country.

An assessment of potential climate impact has been undertaken for this project having regard to the evolving baseline, climate hazards, project vulnerability and greenhouse gas (principally carbon dioxide, CO₂) emissions. The assessment identified climate change concerns in relation to the development, assessed effects and identified mitigation measures where possible. It also had regard to the likelihood and exposure / vulnerability of the proposed development to climate hazards, both now and in the future, and included a climate hazard impact analysis.

The project is not considered to be particularly vulnerable to climate change events, although some consideration will be given to reducing vulnerability and improving resilience to extreme rainfall events, localised flooding, storms and high winds.

Based on the scale and extent of the proposed development / activities at Cappagh Quarry, the greenhouse gas emissions are assessed as not significant in the context of existing national emission levels. Measures will be implemented to assess and/or monitor greenhouse gas emissions and to reduce these wherever practically possible.

3.7 Noise and Vibration

The noise impact assessment undertaken in support of the proposed development describes and assesses the existing noise characteristics of the existing quarry and application site. The effects of the planned activities within the site are identified and noise impacts quantified and described. Appropriate mitigation measures are then identified to eliminate or minimise, insofar as practical, such impacts.

Noise arising from the proposed development will primarily be generated by plant and equipment working within the application area. The principal noise sources and activities during the construction phase will comprise excavators stripping the soil overburden, excavation and construction works for the tunnel underpass, processing of the excavated rock, plant / trucks moving excavated soils to construct perimeter screening berms or transferring soil, rock and aggregate to the existing quarry. There will also be some intermittent and variable noise associated with the assembly, erection and commissioning of the new concrete plant at the site. All of these works will be temporary and transient in nature.

During the operational phase, the principal noise impacts will be generated by rock blasting at the satellite quarry, front end loaders transferring rock to mobile crushers, the operation of crushing and screening plant and the transfer of aggregates to designated stockpile areas around the site.

The closest residential receptor to the application site boundary is located 135m to the east. (R14). Noise attenuation increases with distance and as such, resultant noise impacts at any receptors reduce with increasing distance from the application site boundary. To determine the noise impact from the proposed development activities, SLR Consulting Ireland prepared a noise prediction assessment, whereby the resultant levels of noise arising from the cumulation of planned on-site activities were determined at nearby noise sensitive receptors, principally local residential properties.

This assessment indicated that any short-term noise effect arising from the construction phase works at the nearest sensitive receptors will be minor. The cumulative long term noise effects associated with rock extraction and concrete production activities will be negligible. Notwithstanding the fact that the impact assessment assessed that long-term noise related impact will be negligible, a range of pre-existing noise reduction and mitigation measures will continue to be implemented at the satellite quarry area, in line with industry best practice.

Rock blasting will be required to progress development of the satellite quarry. Blasting-induced vibration is impulsive and transient in nature. A typical blast comprises detonation of explosive charges placed in a number of pre-drilled blast holes, with microsecond delays between each detonation. The principal cause for complaint around blast-induced vibration can generally be attributed to the fear of damage and/or nuisance, rather than any actual damage or nuisance itself. The human body is very sensitive to vibration and this can frequently result in concerns being raised at vibration levels well below the threshold of cosmetic damage to buildings or levels permitted in existing planning conditions.

The frequency of blasting at this (and any other) quarry is largely dependent on market demand and aggregate / concrete production rates. The duration of a rock blast in terms of noise is of short duration, similar to a clap of thunder. The existing comprehensive blast monitoring programme at Cappagh Quarry confirms that rock blasts are all below recommended emission limit values for ground-borne vibration and air overpressure.

There are a number of pre-existing measures in place at Cappagh Quarry to minimise and mitigate potential disturbances due to blasting, all of which are in line with industry best practice. Blasting will continue to be undertaken by only qualified personnel. Blast design will continue to be reviewed on an ongoing and regular basis and modified where necessary to achieve compliance with limits for

ground-borne vibration. All blasts will continue to be monitored, with records maintained of resultant vibration, air over pressure and blast design as part of the overall quarry Environmental Management System (EMS).

Rock blasting will be restricted to between the hours of 11:00 hrs and 15:00 hrs from Monday to Friday (except in emergencies or for health and safety reasons beyond the control of the operator) to ensure that there is no impact on dairy cows around milking time. Blasting shall not be carried out on Saturdays, Sundays or Public Holidays.

It is concluded, on the basis of past performance, that blasting activities for the planned satellite quarry will have no residual impact on any sensitive receptors.

The existing noise and vibration monitoring programme will continue to be implemented at the quarry and will be extended / amended to cover the satellite quarry area to confirm that any noise and vibrations generated are within emission limit values set by any grant of planning permission in respect of the proposed development. It is envisaged that the scope and frequency of such monitoring will be subject to prior agreement with the Local Authority. Proposed noise and vibration monitoring locations are identified in Figure NTS-9.

3.8 Material Assets

The Environmental Protection Agency guidelines in relation to environmental impact assessment (2017) indicate that the consideration of material assets in environmental assessment should address built services, roads and traffic and waste management. Traffic is addressed separately, and this section principally relates to built infrastructure, services and waste management only.

3.8.1 Infrastructure Assets

The road infrastructure surrounding and servicing the application site is described in Section 1.6 of this Non-Technical Summary. An assessment of likely development impacts on the surrounding road network concluded that the proposed development will not have a likely significant effect on the existing capacity of local roads and junctions.

The public water supply to Dungarvan area is sourced from a wellfield developed in the regionally important karstified aquifer to the north-west of the town. The wellfield which is located approximately 5.5km east of the application site comprises four groundwater abstraction wells to a maximum depth of 27.5m and has a maximum abstraction rate of just over 7,000m³ (or 7 million litres) per day. A source protection report for the Dungarvan public water supply prepared by the GSI in 1998 indicates that the source protection zone (SPZ) for the wellfield is located approximately 1.5km north-east of the application site at its closest point.

Mitigation measures will be implemented at the application site to ensure that any potential direct impact on the underlying groundwater resource arising as a result of the planned extraction and concrete production activities (e.g., accidental oil or fuel spills) will be minimised and groundwater quality protected. Notwithstanding the fact that the application site is located outside of the designated source protection zone, the implementation of environmental best practice in avoiding and minimising direct impacts on groundwater, will provide added confidence that the proposed development will not have any indirect impacts on the existing wellfield or the Dungarvan public water supply.

3.8.2 Utilities

Overhead electrical distribution lines generally run to the north and south of the quarry and application site and no overhead lines cross it. Fixed telecom / communications lines run along the local road network to the south of the quarry. Two high voltage electricity transmission lines run a short distance

beyond the south-eastern corner of the Roadstone property boundary. A 220kV line runs approximately 100m south of the proposed satellite quarry at its closest point, while a 100kV line runs approximately 1.3km to the south east. Lower voltage, overhead electricity distribution lines criss-cross the surrounding rural landscape.

Electrical power supply to the quarry will continue to be supplied to site offices from existing overhead power lines and will be extended to also service the new concrete batching plant as required. Electricity will provide the principal source of energy for office lighting and heating.

Water will be supplied to the proposed development from the existing groundwater production well on-site. Water demand will be minimised by re-using water captured in settlement tanks at the concrete production plant for concrete production and wash out activities.

Potable water is not sourced from the on-site well and bottled drinking water is delivered to the site on a regular basis, as required. Wastewater from existing on-site facilities is currently fed via a sewerage pipe to a septic tank. Treated effluent is discharged to ground via a percolation area.

The proposed development will not give rise to any short- or long-term impacts on any existing services or utilities within or around the application site.

3.8.3 Waste

No extractive waste will be generated by the proposed development. Soils and subsoils stripped to facilitate rock extraction will be used for construction of perimeter screening berms and for backfilling and restoration works at the application site where necessary.

Management systems will be established and implemented at the site preparation / establishment stage to control and manage all potential waste streams, to avoid waste generation where possible and to maximise re-use or re-cycling opportunities thereafter during the operational phase. The development will comply with all waste management obligations and ensure that waste management activities present no adverse environmental impacts on the local environment.

3.9 Cultural Heritage

The cultural heritage and archaeological component of the environmental impact assessment of the proposed satellite quarry and new concrete plant comprised paper / literature reviews, site visits and fieldwork studies over an extended period between 2016 and 2021.

Although the assessment identified a number of features and items of cultural heritage interest and value in the surrounding landscape, there are no known items of cultural heritage, archaeological sites or monuments or buildings of heritage interest within the existing quarry or application site area.

Ballykenny Church (Structure No. 668) is a protected structure situated immediately north-west of the existing quarry and will not be directly or indirectly impacted by the proposed development. Two appendices to the cultural heritage assessment in the EIAR identify other local sites in the (statutory) Record of Monuments and Places (RMP) and the (non-statutory) Sites and Monuments Record (SMR).

The proposed development of a satellite quarry on the lands to the east of the existing quarry will have an impact on a series of arcing ditches and cut features detected by an archaeological geophysical survey which could relate to archaeological or agricultural activity. The anomalies identified by the geophysical survey as having some archaeological potential will be tested under licence to determine their archaeological significance in advance of the proposed satellite quarry development. Any anomalies that are confirmed by testing to be of archaeological significance will be preserved by record in advance of quarry development.

Kilgreany Cave, which is listed in the Register of Historic Monuments (WA030-18-) is located south of the existing quarry footprint and Roadstone property boundary, approximately 230m to the south-west of the application site. Potential blast related impacts on the cave resulting from the development of the satellite quarry will continue to be mitigated through the control and monitoring of ground-borne vibrations to ensure they are within prescribed threshold limits.

Any potential development impact on the physical setting of the cave will be mitigated by construction of a screening berm and boundary landscaping around the perimeter of the application area. The perimeter berm and landscaping will ensure the proposed development will be screened from view at Kilgreany Cave.

Following implementation of the mitigation strategies identified herein, there will be no direct impact on any features of cultural heritage interest arising from the proposed development.

3.10 Landscape

A landscape and visual impact assessment (LVIA) of the proposed development was completed in accordance with published guidance.

The application site comprises part of the existing footprint of Cappagh Quarry and a number of existing quarry facilities in Ballykenedy and Kilgreany townlands, as well as proposed satellite quarry lands comprising seven agricultural fields to the east in the adjoining townland of Canty. The existing passageway separating the satellite quarry from the existing passageway will be retained and a tunnel underpass installed beneath it to link the quarries at quarry floor level.

It is proposed to restore the existing quarry floor and that at the proposed satellite quarry to agricultural grassland on a phased basis in tandem with future extraction works at the satellite quarry. Following quarry closure, tree and hedgerow planting will also be undertaken across the quarry and application site to provide additional screening and to reduce large areas across the quarry floor, refer to Figure NTS-6.

The study area for the LVIA was identified as an area of approximately 3km surrounding the application site. It should be noted that the field survey revealed that the visual envelope, i.e., the area from where the application site is actually visible, is much smaller than the defined study area, on account of the intervening topography and vegetation.

Cappagh Quarry is located on the limestone floor of a wide valley which runs broadly west to east, between two parallel sandstone ridges which rise to elevations in excess of 200mOD. Ground levels start to rise from the valley floor up to the Drum Hills approximately 2km to the south, and to the foothills of the Comeragh Mountains approximately 2km to the north. The topography of the area immediately surrounding the existing quarry and application site is locally flat to gently undulating, with ground levels typically between 7mOD and 35mOD.

The lands surrounding the quarry and application site are characterised as rural and predominantly agricultural in nature. Local fields comprise a mix of grassland and tillage, ranging from small to large in size and are typically bound by tree-lined hedgerows. There is no forestry on the valley floor and only a number of small blocks of deciduous woodland are present, typically associated with farm properties or old estates. A mix of deciduous and coniferous woodlands / forestry is present on the slopes and along the ridgelines to the south and north of the application site.

The main transport routes through the study area are the N72 National Secondary Road (between Dungarvan and Cappoquin), which runs approximately 1.5km to the north of the quarry and the R671 Regional Road, approximately 2km to the west of it. There are many farm-based enterprises of varying size and scale throughout the area, together with many farm homesteads and dispersed residential

housing, much of it located along the local road network. There are no villages or other larger settlements within the study area.

The application site is located within, and surrounded by, an area which is designated as 'Normal Areas' within the Scenic Landscape Evaluation contained in the current Waterford County Development Plan (WCDP). These areas are indicated to have "a potential to absorb a wide range of new developments". A number of areas designated as sensitive and visually vulnerable are located over 1.5km to the north-east and 2km to the south of the application site and are therefore physically and visually separated from the proposed development at Cappagh Quarry. None of the designated scenic routes identified within the WCDP area are located within the study area.

The sensitivity of the landscape receptors, i.e., the undulating agricultural landscape and the landscape elements impacted by the proposed development (i.e., agricultural fields and associated hedgerows) was assessed as low, due to the 'normal area' designation, abundance of similar landscape elements and screening provided by existing topography and vegetation.

At the outset of the project, the transfer of materials by HGV's and trucks across the existing passageway and its temporary diversion to accommodate the tunnel underpass installation will result in some temporary visual changes and impacts for any occasional passageway users. The impact of these works and activities will be screened in views from the wider area by existing boundary hedgerows, which will be retained. Any temporary visual impacts for passageway users will be reversed once the tunnel underpass is complete, the passageway reinstated above it and adjoining screening berms and planting are re-established.

Considering the proposed development will effectively extend an existing established quarry, no new elements will be introduced into the local landscape and its general composition will not be altered. Further to that, the changes will only be experienced over a restricted area, for the proposed 20-year duration of the development. Combining these factors with the low sensitivity of the landscape receptors, the overall impact on landscape receptors during the extraction and restoration period was assessed as minor to negligible. This will reduce to negligible on completion of the extraction works, as the application site is restored to agricultural grassland and becomes increasingly integrated into the surrounding landscape over time.

The application area is screened in views from the vast majority of locations within the study area, by topography and vegetation. The satellite quarry area can be glimpsed through gaps in the boundary hedgerow from the L2018 Local Road immediately to the north and from the back of some nearby properties. Parts of the upper eastern quarry face and some existing site plant are visible in a number of views from locations along the local road network west of the application area (at distances of between 0.5km and 1.2km). The most open, somewhat distant, views of the existing quarry and proposed satellite quarry adjoining it can be gained from locations along the roads on elevated ground to the south-west (at distances of between 1.5km and 3km).

In the available views from the locations to the immediate north / north east, although some of the proposed planting / vegetation will be visible, none of the extraction works will. The vegetation will merge with the existing boundary hedgerows and while noticeable, this will not impact visual amenity.

In the available views to the west and south west of the application site, the small changes to the existing eastern quarry face and in some views, the top of the proposed concrete plant, will be visible. However, these changes will be seen in the context of the existing quarry and as small elements in the overall views. The composition of these views will be barely altered.

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The visual receptors include road users, principally drivers and cyclists, and a small number of residential property owners. Due to the absence of protected views, the sensitivity of residents and cyclists was assessed as medium, while that of drivers was assessed as low. Overall, the number of visual receptors is deemed to be low.

While the visual changes will be experienced for the proposed 20-year duration of the development, the level of effect for all visual receptors was assessed as minor or less, mainly due to the small scale of changes in all views. On completion of all extraction and restoration works the visual effects will reduce to negligible as all planting matures and quarry faces weather over time, and thereby integrate into the surrounding rural landscape.

3.11 Traffic

PMCE Consulting Engineers was commissioned by SLR Consulting on behalf of Roadstone Ltd. to prepare a Traffic Impact Assessment (TIA) in respect of the proposed satellite quarry development and the new concrete batching plant at Cappagh Quarry.

Access to Cappagh Quarry and the application site is directly from the L2018 Local Road. The L2018 extends eastwards from its junction with the N72 National Secondary Road near Finisk Bridge, through the junction with the L2019 at Whitechurch Cross and past the quarry access. The L2019 Local Road extends from the R671 Regional Road to the west, and continues in a north-east direction, past Whitechurch Cross to the N72 National Road at Cappagh, as shown on Figure NTS-1.

It is envisaged that the application site will use the same site entrance as that previously permitted. In order to improve sightlines at the quarry access and ensure that they comply with modern design standards and the requirements of the current Waterford City and County Development Plan, the boundary wall and hedge line will be set back in accordance with development proposals.

During the construction works period, both prior to, and during, the tunnel underpass installation, soil, rock and aggregate will be transferred between the satellite quarry and existing quarry by HGVs and trucks crossing the existing passageway at ground level. To facilitate the proposed installation and backfilling of a sub-surface underpass linking the quarries on either side, it will also be necessary to temporarily close the passageway to traffic and to divert it away from the works area along a temporary track which will follow established field boundaries. The crossing of haulage traffic and temporary diversion of the passageway will cause some minor, temporary inconvenience to any occasional users of the passageway. These impacts will cease and be reversed once the tunnel underpass is installed and the passageway reinstated over it.

For impact assessment purposes, traffic count survey data was gathered over a seven-day period in 2017 at six junction locations across the existing public road network around the quarry. Maximum / peak flows recorded during the morning and evening peak hours over the seven-day period were then used for traffic assessment purposes.

Twelve-hour classified turning counts were carried out between Wednesday 18th October and Tuesday 24th October 2017 at six locations, including the N72 / L2019 junction, the R671 / L2019 junction, the L2018 / L2019 junctions and the L2019 junction with an un-named Local Road. To ensure that earlier 2017 traffic counts reflected current traffic volumes, a TII traffic counter approximately 4km from the quarry was used to develop local traffic growth factors for 2020. The total forecast number of trips generated by the proposed development and all future quarry activity, when fully operational, is assumed to be a maximum of 240 (120 arrivals in and 120 departures out per day), of which 200 (100 arrivals in and 100 departures out) will comprise return HGV trips.

Link capacity analysis was carried out on the L2018, the L2019 (north and west of the Whitechurch Crossroads), the R671 and the N72. In all cases, the analysis determined that the existing roads would continue to operate within capacity for each of the assessment years 2022, 2027 and 2037.

Junction capacity analysis at the junction of the quarry access and the L2018, the junction of the L2018 and the L2019 and the N72 / R671 junction indicate that they too will continue to operate within capacity for each of the assessment years 2022, 2027 and 2037.

3.12 Interaction of the Foregoing

The interactions of the various potential impacts and mitigation measures have been covered, where applicable, under the relevant sections within the EIAR.

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FIGURES

Figure NTS-1
Site Location Map

Figure NTS-2
Applicant's Landholding and Application Site

Figure NTS-3
Existing Site Layout

Figure NTS-4
Surrounding Land Use

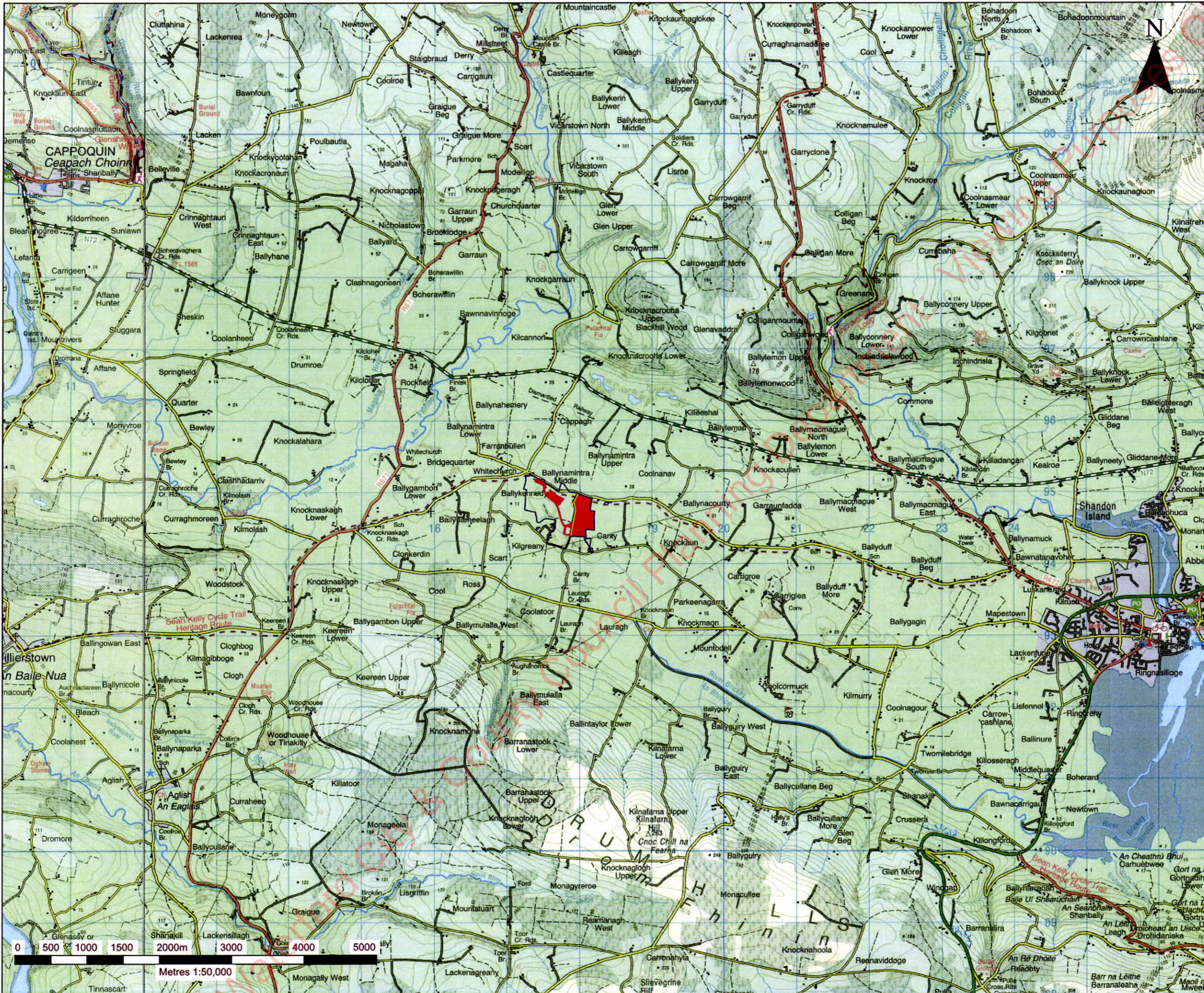
Figure NTS-5
Phased Quarry Extraction and Restoration Plan

Figure NTS-6
Final Restoration Plan

Figure NTS-7
Proposed Cross Sections

Figure NTS-8
Proposed New Concrete Batching Plant

Figure NTS-9
Proposed Environmental Monitoring Locations



NOTES

1. EXTRACT FROM ORDNANCE SURVEY IRELAND DISCOVERY SERIES SHEET NO. 82
2. ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

- ROADSTONE LAND INTEREST (C. 58.9 HA)
- PLANNING APPLICATION AREA (C. 18.2 HA)
- EXISTING PASSAGEWAY

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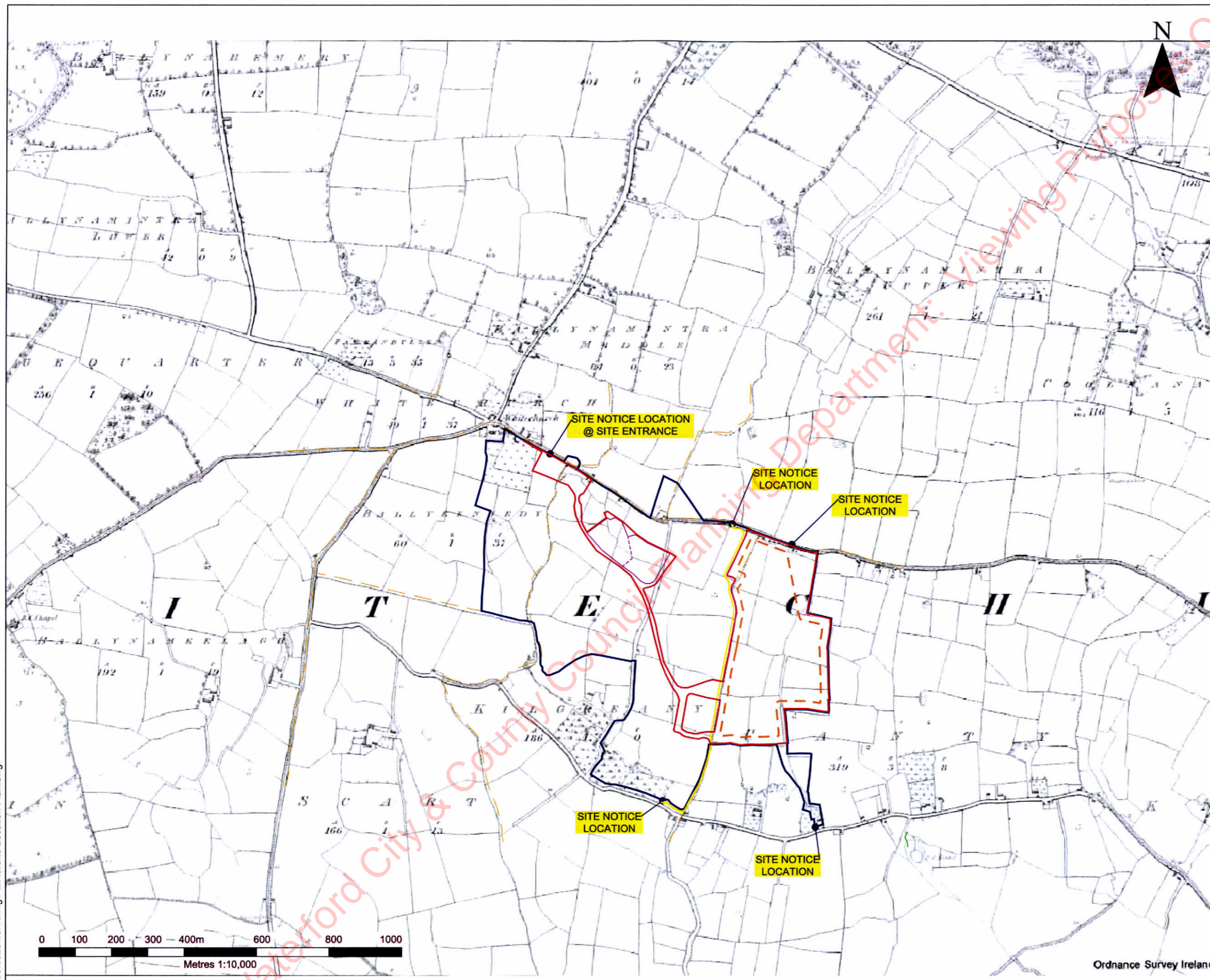
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EIAR NON-TECHNICAL SUMMARY

EASTERN SATELLITE QUARRY AND
NEW CONCRETE PLANT
CAPPAGH QUARRY, COUNTY WATERFORD

SITE LOCATION PLAN

FIGURE NTS 1

Scale: 1:50,000 @ A3 | Date: JULY 2021



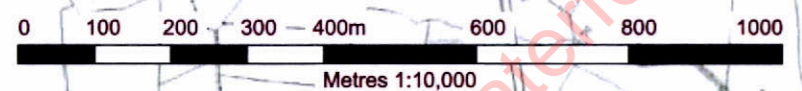
NOTES

1. MAPPING EXTRACT FROM 6 INCH MAP SHEET **WD030** FROM ORDNANCE SURVEY IRELAND
2. ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032
(C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

	ROADSTONE LAND INTEREST (C. 58.9 HA)
	PLANNING APPLICATION AREA (C. 18.2 HA)
	PROPOSED EXTRACTION AREA (C. 9.7 HA)
	PROPOSED CONCRETE PLANT & AGGREGATE STORAGE AREA (C. 1.9 HA)
	EXISTING PASSAGEWAY

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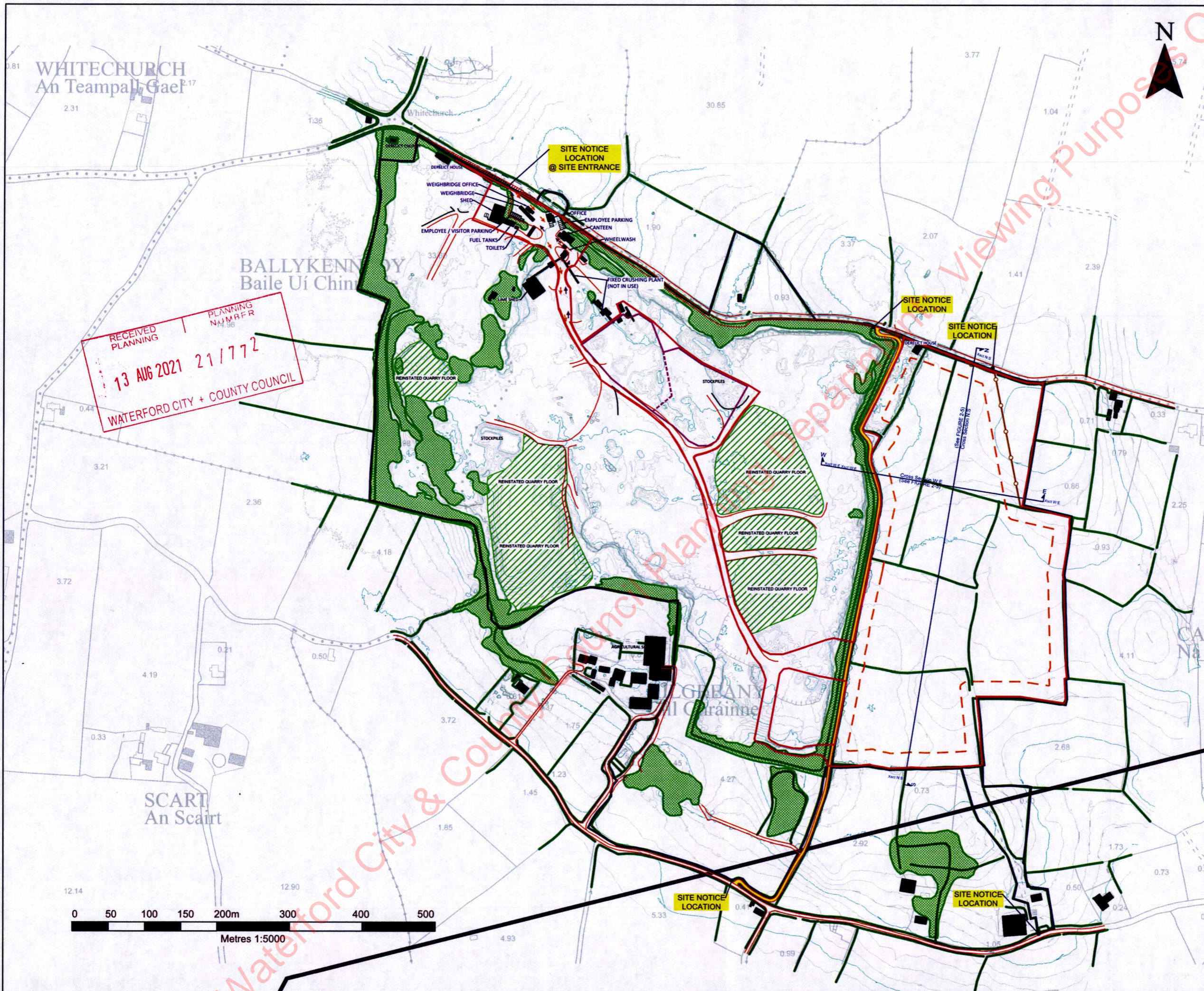
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EASTERN SATELLITE QUARRY AND
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CAPPAGH QUARRY, COUNTY WATERFORD

SITE LOCATION / SITE NOTICE PLAN

FIGURE NTS 2

Scale 1: 10,000 @ A3	Date JULY 2021
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- NOTES**
1. VECTOR SURVEY EXTRACT FROM ORDNANCE SURVEY IRELAND
 2. ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032 (C) ORDNANCE SURVEY IRELAND/GOVERNMENT OF IRELAND
 3. SURVEY COMPLETED ON 2ND FEBRUARY 2018 BY ASM IRELAND AND UPDATED IN DEC 2020

- LEGEND**
- ROADSTONE LAND INTEREST (C. 58.9 HA)
 - PLANNING APPLICATION AREA (C. 18.2 HA)
 - PROPOSED EXTRACTION AREA (C. 9.7 HA)
 - PROPOSED CONCRETE PLANT & AGGREGATE STORAGE AREA (C. 1.9 HA)
 - EXISTING PASSAGEWAY
 - EXISTING GROUND CONTOUR (mOD)
 - BUILDINGS
 - TRACKS
 - DENSE VEGETATION & FORESTRY
 - EXISTING HEDGEROWS
 - OVERHEAD TRANSMISSION LINE
 - TRAFFIC FLOW DIRECTION

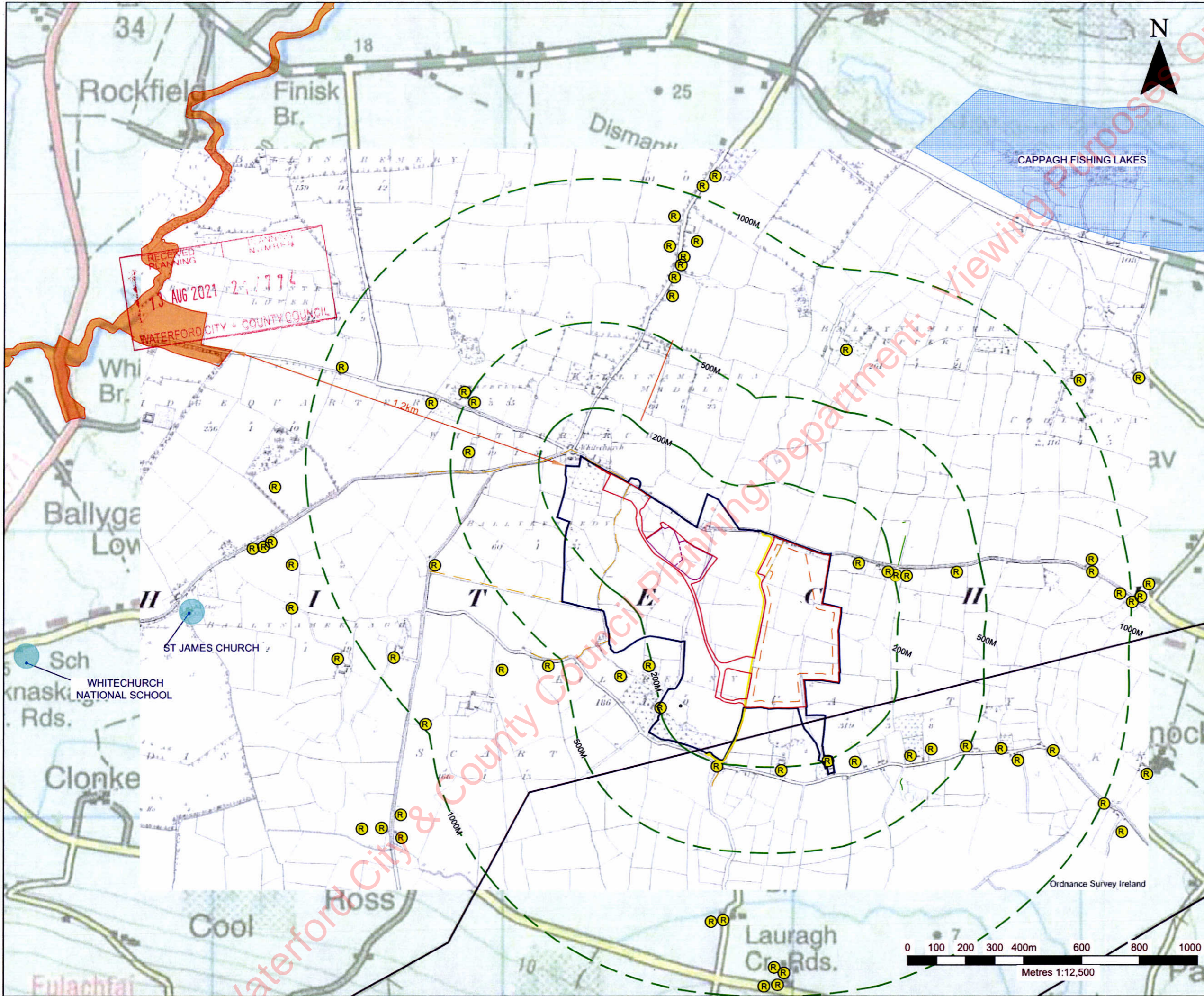
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 EASTERN SATELLITE QUARRY AND
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 CAPPAGH QUARRY, COUNTY WATERFORD
 EXISTING SITE LAYOUT
FIGURE NTS 3

Scale 1: 5,000 @ A3 Date JULY 2021

00180.00264.0.16.Fig2-1.R2.Existing Site Layout.dwg



NOTES

1. MAPPING EXTRACT FROM 6 INCH MAP SHEET WD030 FROM ORDNANCE SURVEY IRELAND AND DISCOVERYSY SHEET NO. 82
2. ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032 (C) ORDNANCE SURVEY IRELAND/GOVERNMENT OF IRELAND
3. SURVEY COMPLETED ON 2ND FEBRUARY 2018 BY ASM IRELAND AND UPDATED IN DECEMBER 2020.

LEGEND

	ROADSTONE LAND INTEREST (C. 58.9 HA)
	PLANNING APPLICATION AREA (C. 18.2 HA)
	PROPOSED EXTRACTION AREA (C. 9.7 HA)
	PROPOSED CONCRETE PLANT & AGGREGATE STORAGE AREA (C. 1.9 HA)
	EXISTING PASSAGEWAY
	EXISTING GROUND CONTOUR (mOD)
	BUILDINGS
	OVERHEAD TRANSMISSION LINES
	RESIDENCE LOCATIONS
	1KM OFFSET FROM PLANNING APPLICATION AREA
	BLACKWATER RIVER SPECIAL AREAS OF CONSERVATION (SITE CODE 002170)

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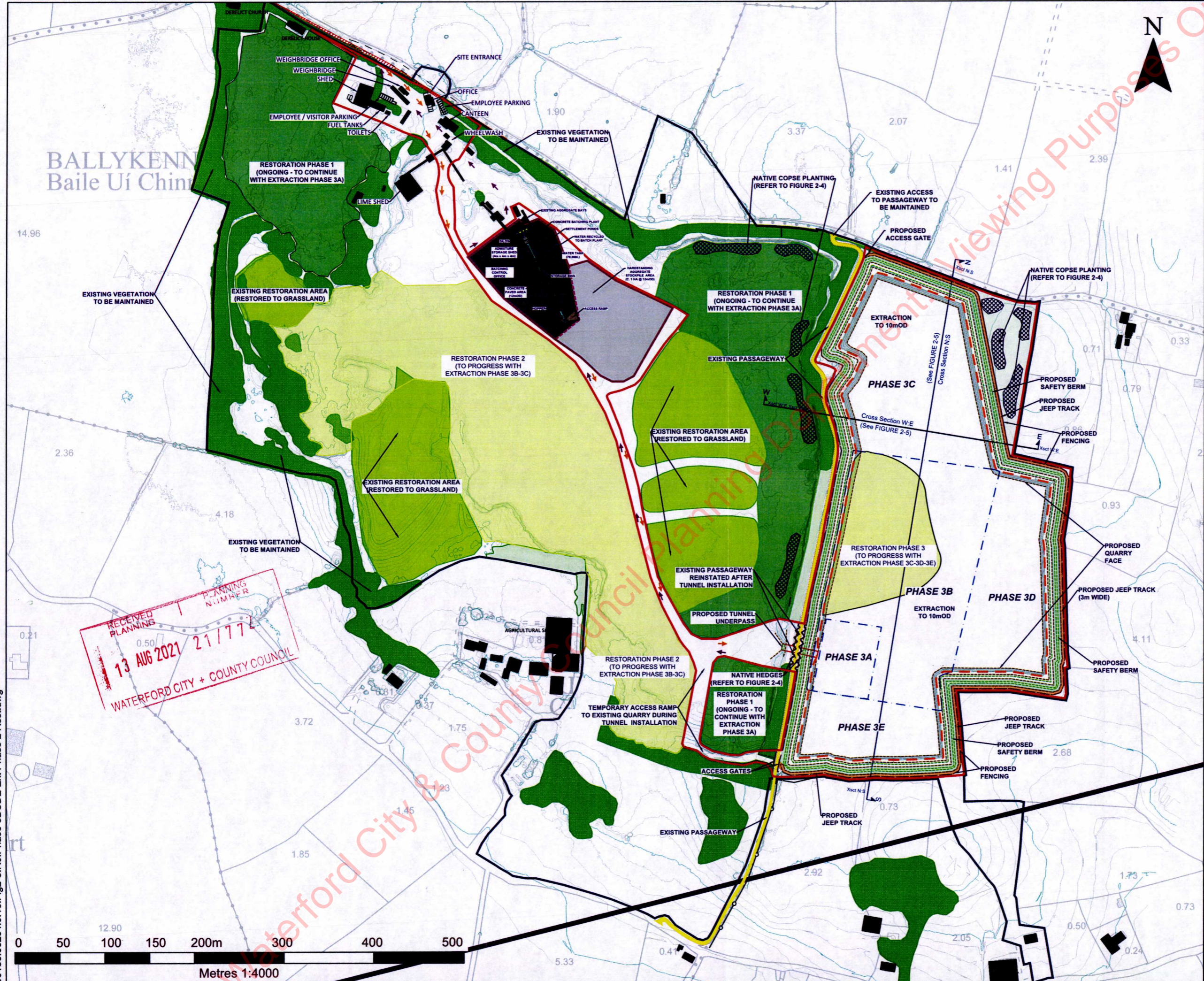
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SURROUNDING LAND USE

FIGURE NTS 4

Scale 1:12,500 @ A3 Date JULY 2021

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NOTES

- VECTOR SURVEY EXTRACT FROM ORDNANCE SURVEY IRELAND.
- ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032 (C) ORDNANCE SURVEY IRELAND/GOVERNMENT OF IRELAND.
- SURVEY COMPLETED ON 2ND FEBRUARY 2018 BY ASM IRELAND AND UPDATED IN DEC 2020.

LEGEND

	ROADSTONE LAND INTEREST (C. 58.9 HA)
	PLANNING APPLICATION AREA (C. 18.2 HA)
	PROPOSED EXTRACTION AREA (C. 9.7 HA)
	PROPOSED JEEP TRACK
	PROPOSED SCREENING BERM
	PROPOSED FENCE
	PROPOSED CONCRETE PLANT & AGGREGATE STORAGE AREA (C. 1.9 HA)
	EXISTING PASSAGEWAY
	EXTRACTION PHASE AREAS
	EXISTING GROUND CONTOUR (mOD)
	BUILDINGS
	TRACKS
	DENSE VEGETATION & FORESTRY
	EXISTING HEDGEROWS
	OVERHEAD TRANSMISSION LINE
	TRAFFIC FLOW DIRECTION

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 CAPPAGH QUARRY, COUNTY WATERFORD
 PHASE 3B, 3C, 3D AND 3E EXTRACTION
 (AND PHASE 2 RESTORATION)

FIGURE NTS 5

Scale 1:4,000 @ A3 Date JULY 2021

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LANDSCAPE AND RESTORATION PROPOSALS

The proposed landscape and restoration works at Cappagh Quarry will be carried out on a phased basis, as described further below. It is proposed to restore the majority of the site to agricultural grassland, which is one of the beneficial afteruses recommended in the EPA Guidelines 'Environmental Management in the Extractive Industry' (2006). There will further be some pockets of native copse planting and inaccessible areas, which will be left for natural regeneration. These will provide natural habitat, another suggested beneficial afteruse.

It should be noted that all existing boundary screening berms and all boundary vegetation will be retained, including the hedgerows / trees along the existing passageway (except for those removed to facilitate the tunnel construction) and hedgerows along the external boundaries of the satellite quarry extension area.

GRASSLAND RESTORATION

Parts of the existing quarry floor have already been restored to grassland. This type of restoration will continue to be carried out on a phased basis, in tandem with and on completion of the proposed extraction works. The different phases of the grassland restoration, in relation to the extraction phases are indicated on Drawing PL04. Overburden stripped from the satellite quarry extension area will be spread on those sections of the quarry floor, where the extraction works have been completed. A suitable grassland-seed-mix containing native species will then be seeded. On completion of all extraction works all plant, structures, stockpiles and machinery will be removed from the site to facilitate the final grassland restoration phase.

NATIVE HEDGE PLANTING

On completion of the tunnel construction works native hedge planting will be carried along both sides of the reinstated passageway, filling the gaps created by the works. On completion of all grassland restoration works on the quarry floor, native hedges will be planted in a number of locations to break up the large grassland areas and provide additional biodiversity interest.

PLANTED SAFETY BERM

On commencement of the proposed development and in order to secure the boundaries of the satellite quarry extension area, a safety berm will be constructed just outside the proposed quarry footprint. As soon as the berm is completed it will be planted with native shrub/hedgerow species to provide an additional barrier, as well as additional screening vegetation.

NATIVE COPSE PLANTING

Some blocks of native tree and shrub species will be planted on commencement of the proposed development in the field in the north eastern corner of the application area, as well as at the base of the existing northern and eastern quarry faces. On completion of all grassland restoration works on the quarry floor, further blocks will be planted at the base of the quarry faces within the satellite quarry extension area. This planting will provide screening (of the quarry faces) and biodiversity interest.

Please refer to Planning Drawing PL05 for further details on the proposed planting mixes and planting specifications.

- NOTES**
- VECTOR SURVEY EXTRACT FROM ORDNANCE SURVEY IRELAND.
 - ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032 (C) ORDNANCE SURVEY IRELAND GOVERNMENT OF IRELAND.
 - SURVEY COMPLETED ON 2ND FEBRUARY 2018 BY ASM IRELAND AND UPDATED IN DEC 2020.

- LEGEND**
- ROADSTONE LAND INTEREST (C. 58.9 HA)
 - PLANNING APPLICATION AREA (C. 18.2 HA)

LANDSCAPE & RESTORATION PROPOSALS

- EARLY GRASSLAND RESTORATION AREAS**
Phased implementation, prior to the completion of Extraction Phases 3-C-D-E (refer to Figures 2-1, 2-2 & 2-3).
- NATIVE HEDGE (PLANTING PHASE 1)**
Along the passageway, in the gaps created by the tunnel construction.
- PLANTED SAFETY BERM**
To be planted with native shrub/hedgerow species - to be implemented on commencement of the development.
- NATIVE COPSE PLANTING (PLANTING PHASE 1)**
In north eastern corner of the application area and in front of existing northern / eastern quarry face - to be implemented on commencement of the development.
- FINAL GRASSLAND RESTORATION AREAS**
To be implemented on the completion of all extraction works.
- NATIVE HEDGE (PLANTING PHASE 2)**
On the quarry floor, breaking large grassland areas into smaller parcels - to be implemented on the completion of all extraction works.
- NATIVE COPSE PLANTING (PLANTING PHASE 2)**
Along base of the northern / eastern quarry faces in the satellite quarry extension area - to be implemented on the completion of all extraction works.

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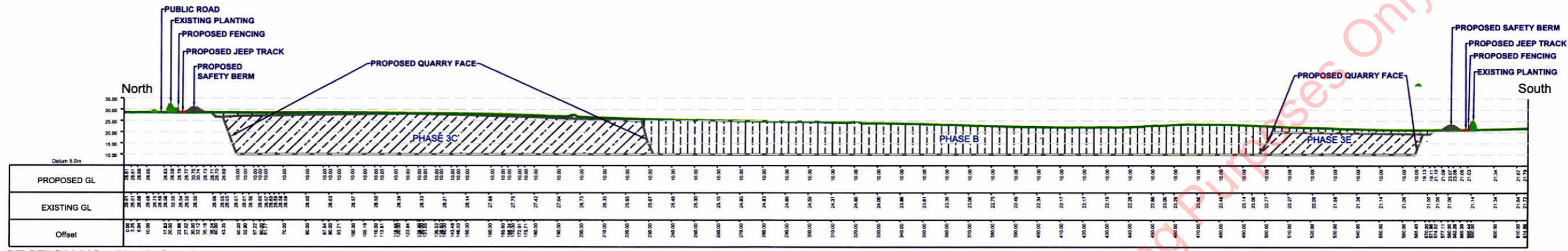
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EASTERN SATELLITE QUARRY AND NEW CONCRETE PLANT
CAPPAGH QUARRY, COUNTY WATERFORD
FINAL QUARRY RESTORATION PLAN

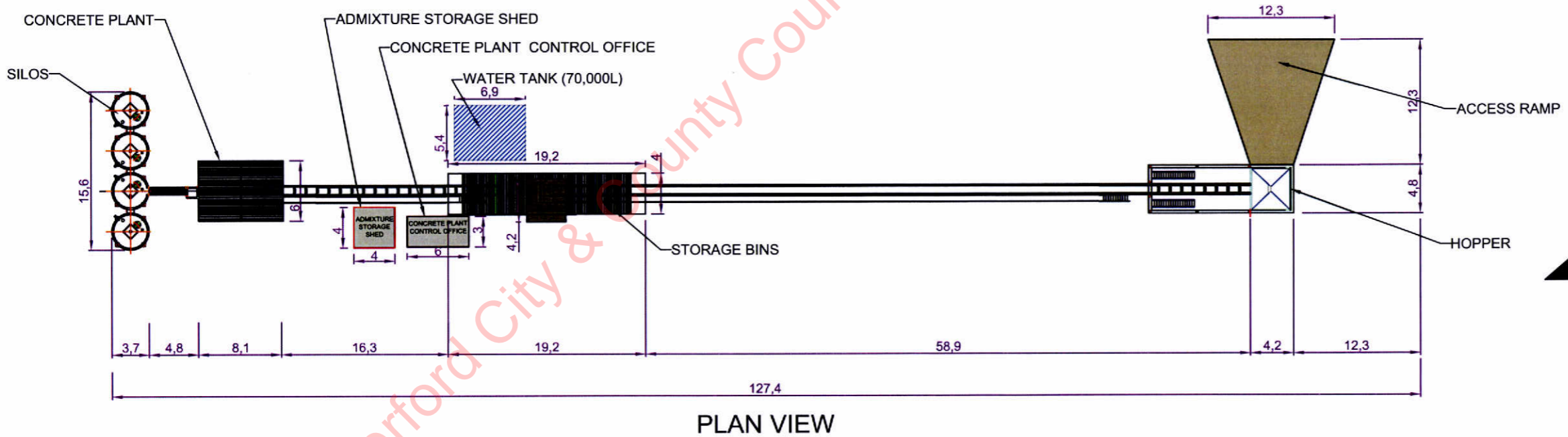
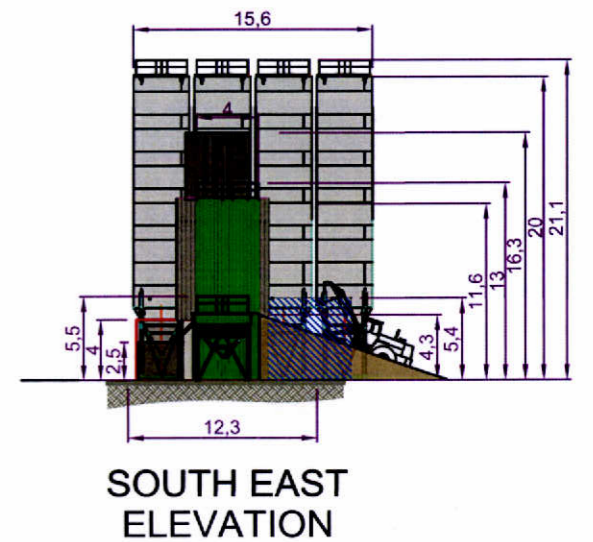
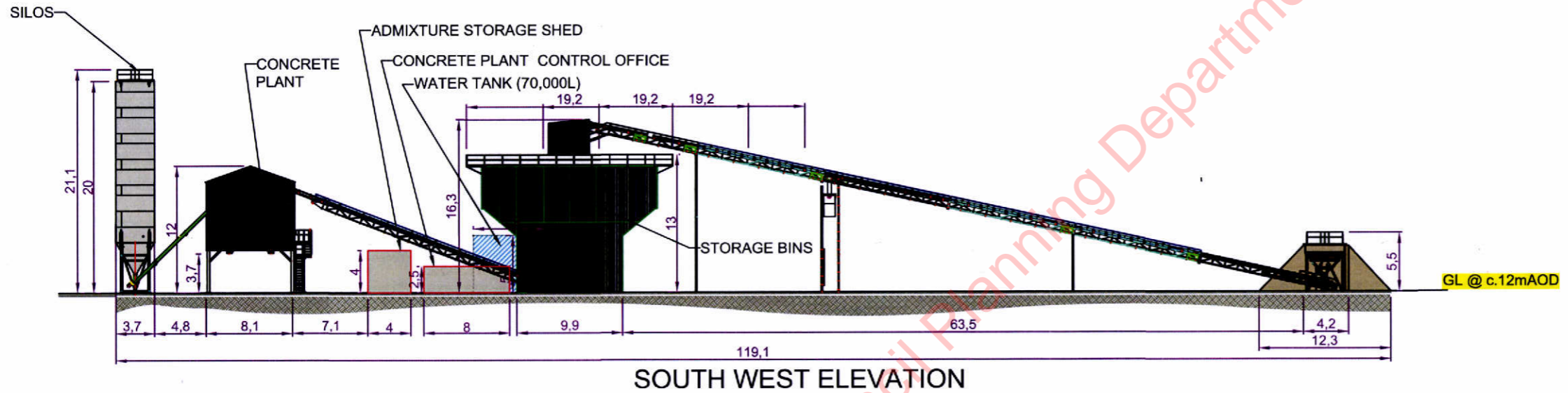
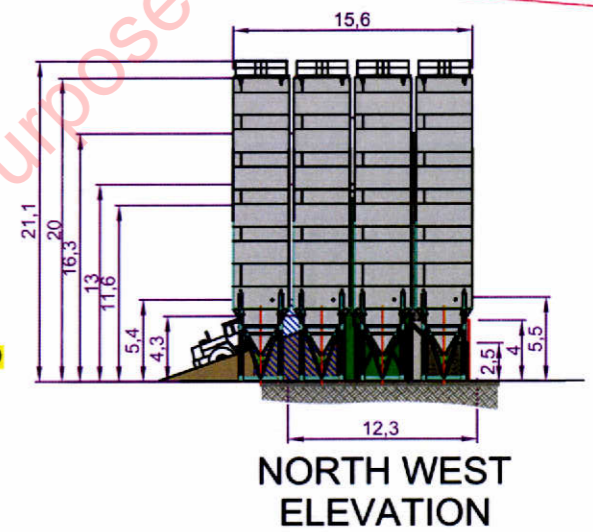
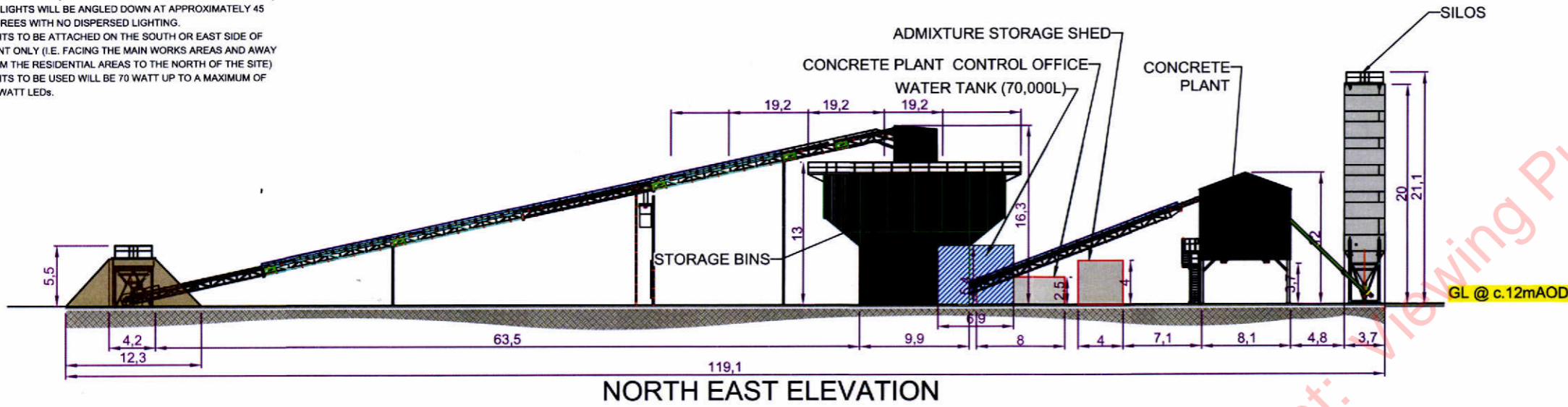
FIGURE NTS 6

Scale: 1:4,000 @ A3
Date: JULY 2021



- GENERAL INFO:
- ALL DIMENSIONS IN METERS
 - ALL LIGHTS WILL BE ATTACHED AT LESS THAN 10M ABOVE GROUND LEVEL (GL OF APPLICATION SITE APPROX. 28M AOD)
 - ALL LIGHTS WILL BE ANGLED DOWN AT APPROXIMATELY 45 DEGREES WITH NO DISPERSED LIGHTING.
 - LIGHTS TO BE ATTACHED ON THE SOUTH OR EAST SIDE OF PLANT ONLY (I.E. FACING THE MAIN WORKS AREAS AND AWAY FROM THE RESIDENTIAL AREAS TO THE NORTH OF THE SITE)
 - LIGHTS TO BE USED WILL BE 70 WATT UP TO A MAXIMUM OF 140 WATT LEDs.

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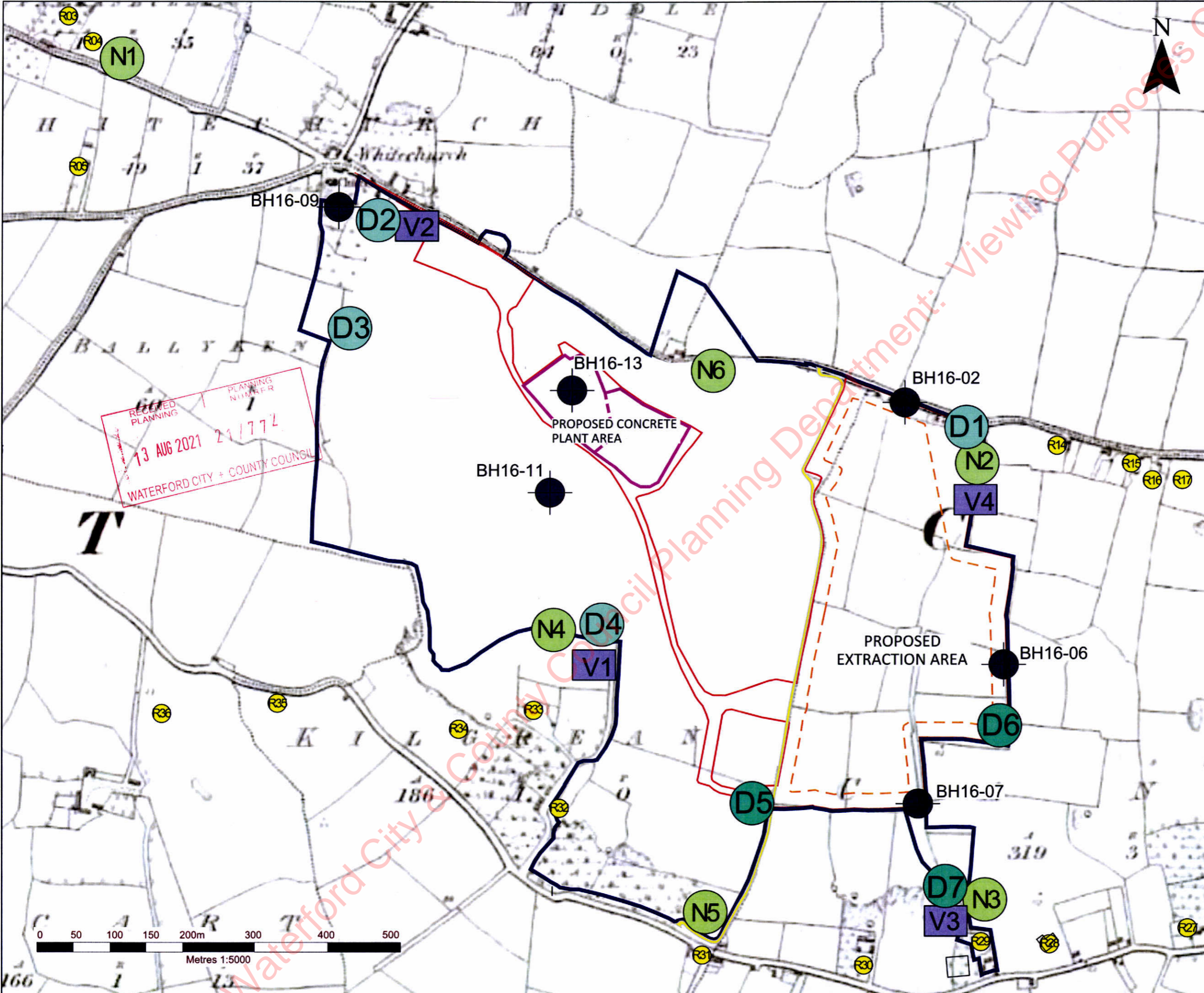
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EASTERN SATELLITE QUARRY AND
 NEW CONCRETE PLANT
 CAPPAGH QUARRY, COUNTY WATERFORD

**PROPOSED CONCRETE BATCHING PLANT:
 ELEVATION AND CROSS SECTION**

FIGURE NTS 8

Scale 1:500 @ A3 | Date APRIL 2021



NOTES

- VECTOR SURVEY EXTRACT FROM ORDNANCE SURVEY IRELAND
- ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50167032 (C) ORDNANCE SURVEY IRELAND/GOVERNMENT OF IRELAND
- SURVEY COMPLETED ON 2ND FEBRUARY 2018 BY ASM IRELAND AND UPDATED IN DEC 2020

LEGEND

	ROADSTONE LAND INTEREST (C. 58.9 HA)
	PLANNING APPLICATION AREA (C. 18.2 HA)
	PROPOSED EXTRACTION AREA (C. 9.7 HA)
	PROPOSED CONCRETE PLANT & AGGREGATE STORAGE AREA (C. 1.9 HA)
	EXISTING PASSAGEWAY
	RESIDENCE LOCATIONS
	DUST MONITORING LOCATIONS
	ADDITIONAL DUST MONITORING LOCATIONS
	NOISE MONITORING LOCATIONS
	VIBRATION MONITORING LOCATIONS
	GROUNDWATER MONITORING LOCATIONS

Roadstone

SLR SLR CONSULTING IRELAND
7 DUNDUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

ROADSTONE LTD.
EIA NON-TECHNICAL SUMMARY
EASTERN SATELLITE QUARRY AND
NEW CONCRETE PLANT
CAPPAGH QUARRY, COUNTY WATERFORD

**ENVIRONMENTAL
MONITORING LOCATIONS**

FIGURE NTS 9

Scale 1: 5,000 @ A3 Date APRIL 2021

EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

T: +44 (0)28 9073 2493

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 906 4280

CAMBRIDGE

T: +44 (0)1223 813805

CARDIFF

T: +44 (0)29 2049 1010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

T: +44 (0)131 335 6830

EXETER

T: +44 (0)1392 490152

GLASGOW

T: +44 (0)141 353 5037

GUILDFORD

T: +44 (0)1483 889800

LEEDS

T: +44 (0)113 258 0650

LONDON

T: +44 (0)203 691 5810

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER

T: +44 (0)161 872 7564

NEWCASTLE UPON TYNE

T: +44 (0)191 261 1966

NOTTINGHAM

T: +44 (0)115 964 7280

SHEFFIELD

T: +44 (0)114 245 5153

SHREWSBURY

T: +44 (0)1743 23 9250

STAFFORD

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STIRLING

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WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: +353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)4 76 70 93 41

RECEIVED PLANNING	PLANNING NUMBER
13 AUG 2021 21/772	
WATERFORD CITY + COUNTY COUNCIL	