# Infrastructure

## Construction Environmental Management Plan Framework

## Land to the South of Dearne Valley Parkway, Goldthorpe

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| Reference | GDT-HAGS-CMP-XX-RP-ZM-001-Construction Environmental Plan Framework |
| Status | S3 |
| Revision | P2 |
| Date | 21st June 2024 |

**Title** Construction Environmental Management Plan Framework

**Client** Newlands Developments

**Project** Land to the South of Dearne Valley Parkway, Goldthorpe

**Status** Planning

**Date** April 2023

| Issue Number | Date | Revision Details |
|---|---|---|
| P0 | 24th April 2023 | |
| P1 | 28th November 2023 | |
| P2 | 21st June 2024 | |
| | | |

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## 1.0 Purpose of the Construction Environmental Management Plan Framework (CEMPF)

This Construction Environmental Management Plan Framework (CEMPF) sets out the overarching systems and controls that will be adopted during the construction of the Land to the South of Dearne Valley Parkway, Goldthorpe scheme to minimise any adverse environmental impacts in accordance with Construction Good Practice. The CEMPF provides the framework which all construction activities will comply with, with individual activities having their own specific Risk Assessment and Method Statement.

**Obligations, Compliance and Enforcement**

The principles set out by the CEMPF, and the arrangements established through the CEMPF, will be incorporated within all construction contracts arising from the development and all contractors, their subcontractors and suppliers will be required to comply with the overarching principles and details contained in this CEMPF.

The contractor responsible for the construction of each Phase will be required to prepare a Construction Environmental Management Plan (CEMP) to be compliant with the CEMPF and cover the following elements, as a minimum:

i) Earthworks Management measures to control the emission of dust and dirt during construction;
ii) Control of noise emanating from the site during the construction period;
iii) Contractors' compounds, materials storage and other storage arrangements, cranes and plant, equipment and related temporary infrastructure, including provision for all site operatives, visitors and construction vehicles parking and turning, loading and unloading
iv) Designation, layout and design of construction access and egress points;
v) Internal site circulation routes for construction traffic;
vi) Provision for emergency vehicles;
vii) Details of measures to prevent mud and other such material migrating onto the highway from construction vehicles;
viii) Waste audit and scheme for waste minimisation and recycling/disposing of waste resulting from demolition and construction works.

Contractors shall submit their CEMP to the Project Manager for approval and will allow within their programme adequate time to obtain all necessary statutory approvals.

Any non-conformance or infringement of the approved CEMP shall be reported to the Project Manager within 24 hours and proposals for rectifying the non-conformance shall be submitted to the Project Manager within 7 days. The management and reporting of non-conformances will be the responsibility of the Environmental Manager.

The contractor shall submit proposals to the Project Manager, before works commence, for the internal and external auditing of compliance with the CEMP. Copies of all audit reports are to be provided to the Project Manager within 7 days of the audit. Furthermore, the Project Manager will undertake audits as and when he/she sees fit.

Failure to rectify a non-conformance within an agreed timescale may result in relevant works being suspended until the Project Manager is satisfied that the non-conformance has been corrected, or in extreme cases termination of the contract.

The CEMP will remain valid throughout the construction phase of the scheme.

The parameters plan for the proposed scheme is provided at Appendix 01.

## 2.0 Description of the Works

Hybrid planning permission is sought for:

"Outline permission sought for the construction of Storage and Distribution (Use Class B8) and General Employment (Use Class B2) space with ancillary offices and gatehouses on four separate, self-contained and severable plots as shown on the submitted Parameters Plan. All matters reserved except for site access. Full permission sought for engineering infrastructure works to support the employment development comprising: the access roads; earthworks to create the development platform zones/bunding; drainage and culvert works; a flood compensation area; and strategic landscaping areas"

The development plots are shown on the attached parameters plan (Appendix 1).

## 3.0 General Site Management

**Roles and Responsibilities**

The site wide coordination and implementation of the principles established in this CEMPF and CEMP, will be the responsibility of the Project Manager with the support of the development's Environmental Consultant.

As each section of work is taken forward an Environmental Manager will be appointed for that section, generally this will be a contractor appointment but in some circumstances the Project Manager may undertake this role or appoint others. The Environmental Manager shall ensure that the principles of the CEMP shall be fully integrated into all site procedures, processes, and activities, and ensure that appropriate environmental management systems, under BS 14000 or similar, are put in place.

The key contacts are:

- Developer – Newland Developments – Ken Brown
- Project Manager – Avison Young - tbc
- Ecological Consultant – fpcr – Paul Andrews
- Landscape Consultant – BCA – Mark Greaves
- Engineering Consultant – Hydrock – Matt Hipkiss
- Principal Contractor – tbc
- Principal Designer – Curran Webb
- Site Manager – tbc

- Environmental Manager – tbc
- Health and Safety Manager – tbc

(Please note that the key firms and individuals may change as the scheme develops).

**Communications**

The effective implementation of the CEMPF is intrinsically linked to good communications between all the project stakeholders and the public.

To promote effective communications during the contract the following will be implemented at the commencement of each section:

- The Project Manager will brief the contractor's senior management team on the philosophy and content of the CEMPF, which will generally include the Director responsible for the scheme.

- The Ecological Consultant shall brief the contractor's senior management team on all ecological aspects of the scheme.

- The contractor's Director shall be responsible for developing a site-specific induction for all those working or visiting his/her site. The scope of the induction will be agreed in advance with the Project Manager.

The contractor will provide a programme to achieve continuous improvement of environmental matters during the contract. The Developer wishes to see positive training on environmental matters on an on-going basis.

The contractor shall develop an appropriate strategy for communicating with the public both before commencement and during the contract in accordance with the Stakeholder Communication Protocol.

## 4.0 Construction Access & Traffic Management

### 4.1 Construction Traffic

Access to Land to the South of Dearne Valley Parkway, Goldthorpe will be strictly controlled. All vehicles approaching or leaving the Land to the South of Dearne Valley Parkway, Goldthorpe will be instructed to only use the designated routes.

Barred Routes

Barred access routes will be agreed by the contractor with the:

- Project Manager
- Planning Authority
- Highway Authorities
- Police

All barred routes shall be signed in accordance with a scheme agreed with the above authorities.

Monitoring

The contractor will submit details of his proposed method on monitoring and reporting Construction Traffic to the Project Manager for his/her approval before he/she undertakes any works on site

Enforcement

LGV enforcement will be undertaken on a 'three strikes and you're out' principle. On the first breach, transgressors will be warned in writing that they have used a "Barred Route" without authorisation. On the second breach a mandatory meeting with the Travel Plan Co-ordinator will be arranged to enforce the issue. On the third breach the driver's permission to enter the site will be withdrawn for three months. After this, should the driver concerned transgress further on any subsequent occasion then permission to enter the site will be permanently withdrawn.

HGV movements will be covered by the same enforcement principles.

### 4.2 Traffic Management

All works on the Public Highway shall be carried out in accordance with Chapter 8 and the traffic management arrangements agreed with the Local Highway Authority, National Highways and the Police.

The development shall be carried out in such a manner to ensure that emergency vehicles visiting the development, adjacent properties or passing through or adjacent to the development are always unhindered and provided with free flow passage as far as is practicable.

## 5.0 Working Hours

No construction work that has the potential to cause adverse noise impacts outside the site boundary shall take place on the site outside the hours of **0800 - 1800** Mondays to Fridays and **0800 - 1300** on Saturdays, and at no times on Sundays or Bank Holidays unless otherwise agreed with the local planning authority.

Deliveries will also be kept to within these hours; however, the contractor(s) will endeavour to reduce deliveries during peak hour traffic of **0800 – 0930** and **1530 - 1730hrs** Monday to Friday where possible.

In addition, consent for additional working hours may be sought for specific phases or elements of the works. Any such temporary change to hours for such activities will require agreement in writing from the Local Authority, with an explanation of the reasons for the request.

## 6.0 Pollution and Contamination

Pollution and contamination can be pre-existing or caused by construction activities.

The contractor must make himself fully aware of all the ground investigation reports and geotechnical design reports relating to the site.

The contractor shall plan and execute his/her work to ensure that hazardous or polluting substances do not cause harm to surface water systems, landscaping and associated ecology.

The scheme requires significant earthworks which will inevitably increase the risk of pollution to the surface water system. The contractor shall adopt water pollution prevention procedures in line with good practice. In preparing the procedures the contractor shall consider the following as a minimum:

- Published guidance from the Environment Agency
- Control of water pollution from construction site and other documents published by CIRIA
- The site-specific requirements of the EA

- Arrangements for monitoring water bodies to ensure and demonstrate water quality
- Fuelling of plant and equipment
- Maintenance of plant and equipment
- Storage of hazardous materials
- Control of concrete truck washout arrangements
- Flood warnings
- The landscape and ecological environment

Also see Section 15 – Temporary Surface Water Management System.

The contractor will be required to include water pollution prevention in all inductions and shall arrange update toolbox talks at appropriate intervals during the contract.

All incidents involving water pollution shall be immediately reported to the Project Manager.

## 7.0 Measures for Controlling Noise and Vibration

### 7.1 Noise

#### 7.1.1 Responsibilities

The Developer will appoint a Noise Consultant to:

- Oversee compliance with this Construction Environmental Management Plan.
- To provide advice to the contractor.
- To assist in the interpretation of monitoring data.
- To advise on amendments to Method Statements and working plans based on observed data.
- To coordinate Noise issues between different contractors engaged on the development.
- To liaise with adjacent projects that may have an impact of Noise on sensitive receptors.

The appointed contractor shall:

- Appoint a Noise Manager (site based).
- Comply with this Construction Environmental Management Plan.

- Install monitoring equipment which is in accordance with the Dust Sensitive Zones and Monitoring positions (Dust and Noise). As the sensitive receptors, monitoring stations will be established on the eastern boundary of Land to the South of Dearne Valley Parkway, Goldthorpe.
- Review monitoring data to ensure the mitigation measures are being effective,
- Implement additional measures if monitoring suggests it to be necessary,
- Maintain a log of all noise data,
- Maintain a log of Noise Complaints including details as to how the complaint was closed out and signed off by the Developer's Noise Consultant.
- Provide a Noise Report at each monthly progress meeting.

### 7.1.2 Monitoring

Noise monitoring will be provided as noted above, on the appropriate boundaries of Land to the South of Dearne Valley Parkway, Goldthorpe.

The monitoring equipment shall be ***i-dB*** Type 2 noise monitor or similar with continuous monitoring via ***AirQWeb*** software***.***

Acceptable levels shall be in accordance with BS 5228:2009 + A1:2014.

The monitoring equipment shall send notification if acceptable levels have been exceeded.

Details of typical equipment is provided in Appendix 02

### 7.1.3 General Mitigation Measures

The Contractor will implement measures to minimise the disturbance caused by construction traffic and activities.

When planning all activities, contractors should predict noise levels and review the likely impacts and what can be done to mitigate any adverse impacts.

If construction activities are likely to cause a potential nuisance at sensitive receptors, consideration should be given to noise measurements before and during construction.

The guidance given in BS 5228: 2009 "Code of Practice for Noise and Vibration Control on Construction and Open Sites" relating to "Methods of Work" will be followed and will be incorporated within the

method statement which will form the basis for the implementation of construction works. As required by BS 5228, a survey of background noise will be undertaken prior to the works commencing, and acceptable noise levels established in accordance with Table E.1 of BS 5228: 2009. Any material breach of acceptable noise levels notified to the Environmental Manager will be addressed immediately to ensure no recurrence.

In planning their work, the contractor shall consider the following, as a minimum:

- Selection of plant and equipment
- Timing of an operation in the programme
- Timing the activity during the day
- Duration of tasks
- Maintenance of plant and equipment
- Use of sound reducing equipment
- Closing equipment during period of non-use
- Location access routes and haul roads

Noise shall be considered in all method statements and risk assessment.

### 7.1.4 Additional Mitigation Measures

Should monitoring indicate that the measures in Section 7.1.3 are not achieving the required levels then additional measures shall be considered and implemented, these shall include:

- Working Hours
- Task Durations,
- Additional Screening,
- Relocation (if possible)
- Alternative methods and plant.

## 7.2 Vibration

The Contractor will implement measures to minimise the disturbance caused by construction traffic and activities.

When planning all activities, the contractor will consider vibration and review the likely impacts and

what can be done to mitigate any adverse impacts.

If appropriate, a Vibration Impact Assessment should be carried out in accordance with BS5228. In planning their work contractors should consider the following, as a minimum:

- Selection of plant and equipment
- Methods of working
- Duration of activities
- Working hours

## 8.0 Measures for Controlling Emission of Dust

### 8.1 Risk of Dust Emissions

The risk of dust emissions causing loss of amenity and/or health or ecology is related to:

- The activities being undertaken (earthworks, number of vehicles and plant etc.)
- The duration of these activities,
- The meteorological conditions (wind speed, direction and rainfall),
- The proximity of receptors
- The adequacy of mitigation measures, and
- The sensitivity of the receptors to dust.

### 8.2 Dust impacts considered in the plan:

- Annoyance due to dust soiling,
- The risk of health effects due to an increase in exposure to $PM_{10}$, and
- Harm to ecological receptors.

### 8.3 Screening Criteria for potential receptors.

Human receptors, being locations where people spend time and where property may be impacted by dust, within:

- 350m of the boundary of the site, or

Ecological receptors, being habitats that might be sensitive to dust, within

- 50m of the boundary of the site, or

- 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance.

**Responsibilities**

The Developer will appoint an Air Quality Consultant to:

- Oversee compliance with the Dust Management Plan.
- To provide advice to the contractor,
- To assist in the interpretation of monitoring data, and
- To advise on amendments to the Dust Monitoring Plan based on observed data.
- To coordinate Air Quality issues between different contractors engaged on the development,
- To liaise with adjacent projects that may have an impact on Air Quality and sensitive receptors

The appointed contractor shall:

- Appoint an Air Quality Manager (site based),
- Comply with the Dust Management Plan,
- Install monitoring equipment is accordance with the Dust Management Plan,
- Review monitoring data to ensure the mitigation measures are being effective,
- Maintain a log of all air quality data,
- Maintain a log of Air Quality Complaints including details as to how the complaint was closed out and signed off by the Developer's Air Quality Consultant.
- Provide an Air Quality Report at each monthly progress meeting.
- Obtain the agreement of the Air Quality Manager to Method Statements and Risk Assessments for all works within Dust Sensitive Areas

**Monitoring Measures.**

8.3.1 Wind Speed and Direction

A static wind speed monitor shall be provided at the Site Compound.

A handheld wind speed monitor shall always be available on-site.

A record of wind speed and direction shall be recorded twice a day. The contractor, in conjunction with the Air Quality Consultant, shall correlate wind speed, wind direction, PM10 readings and activities. The results of the correlation, which shall be continually refined, shall be used to identify

days when the Site Dust Management Status is likely to be Amber or Red, see section 8.3.4.

### 8.3.2 PM10 at designated locations

Air Quality monitoring equipment shall be installed at three locations along the eastern boundary of Land to the South of Dearne Valley Parkway, Goldthorpe.

The equipment shall be similar to a Topas or Osiris manufactured by Turnkey Instruments Ltd.

The instrumentation shall be capable of sending alerts when readings of PM10 exceed 250µg/$m^3$ when averaged over a 15-minute period.

A handheld detector, similar to a Dustmate manufactured by Turnkey Instruments Ltd, shall always be available on site.

A copy of the software necessary to analyse the output from the monitoring equipment shall be available on-site. The format of output reports shall be agreed with the Air Quality Consultant and reported at each Progress Meeting.

Details of typical equipment is provided in Appendix 02

### 8.3.3 Visual Inspections

At the agreed Air Quality Monitoring locations, a flat smooth surface shall be provided (500mm x 500mm) to allow the Air Quality Manager to visually inspect the level of dust deposition. Albeit a subjective assessment, this will provide evidence of dust risk. The results of each inspection shall be recorded.

The Air Quality Manager shall also observe activities twice a day to assess dust risk and the results of each assessment shall be recorded.

### 8.3.4 Site Dust Management Status

A simple traffic light system shall be adopted for all works within Dust Sensitive Areas:

Green – General Mitigation Measure to apply
Amber – Additional Mitigation Measure shall apply
Red – No high-risk activities shall take place in a Dust Sensitive Area.

The Air Quality Manager shall assess the Site Dust Management Status twice a day and advise the

site team management of the status. The site team shall then ensure that the appropriate measure is adopted.

8.3.5 Site Action Level

The Air Quality Manager shall increase the Dust Management Status to Amber on receipt of a warning that the PM10 readings have exceeded 250µg/$m^3$ when averaged over a 15-minute period.

**General Mitigation Measures**

- Haul roads should not be used in Dust Sensitive Areas whenever possible,
- Haul roads in Dust Sensitive Areas shall be constructed with a surface that will reduce the risk of dust generation and thereafter maintained in an appropriate manner.
- A site speed limited of 20km/hr shall always apply
- Materials should not be stockpiled in Dust Sensitive Areas, whenever possible.
- Processing areas should not be established in Dust Sensitive Areas,
- No burning on site shall be permitted,
- Soil stockpiles to be in place between April to October shall be profiled and seeded as soon as possible after completion,
- The final surface of permanent landscaped areas shall be seeded as soon after completion as conditions allow.
- Plant and equipment shall be selected to minimise the generation of dust,
- Methods of construction shall be adopted to minimise dust generation, whenever possible.

**Additional Mitigation Measures**

- All haul roads shall be damped down,
- The site speed limit shall be reduced to 10km/hr,
- Whenever possible, works in Dust Sensitive Areas that could give rise to dust should be stopped or minimised.
- Dust suppression measures shall be used on all crushing/screening plant and equipment.

Contractors will plan their activities to reduce the level of risk and mitigate any residual impacts.

Generally, the most effective method of dust control is damping using a fine spray. The contractor will fully investigate sources of water and, where possible, use recycled water. Potable water should not

be used.

In planning his activities, contractors should consider the following as a minimum:

- Damping down arrangements
- Sources of water for damping down
- Location of haul roads and their surfaces
- Stabilisation of temporary haul roads.
- Sweeping arrangements of hard surfaces
- Site speed limits
- Selection of plant and equipment
- Maintenance of plant and equipment
- Covering of payloads while in transit
- Location and surface treatment of stockpiles
- Burning will not be permitted on site
- Prevailing wind direction
- Programme and seasonal timing

## 9.0 Contractor's Facilities, Compound, Offices, Fencing, Parking and Storage

Within the site compound designated walkways will be established to segregate pedestrians from vehicles.

The contractor shall provide details of his proposed car parking area to the Project Manager before works commence.

The management of material storage is a key element to minimising waste and to maximise the efficiency of site operations. The gate person will direct the deliveries to the correct location. Deliveries which are stored in the site compound will be off loaded using either a fork-lift or a lorry mounted crane. The bulk loose material will be discharged directly from the delivery vehicle.

## 10.0 Waste Management

It is inevitable that some waste will be produced during the construction works. Throughout the construction process, all activities will seek to minimise the generation of waste, utilising the waste hierarchy where practicable, to manage waste. The waste hierarchy seeks to reduce waste through elimination, reduction, re-use, recycling through to disposal as the final option. Handling and disposal of waste must be carried out under the 'Duty of Care' Regulations and current legislation.

Waste management procedures shall be developed and will include the following topics:

- Identification of the types of waste that may be generated;
- Implementation of re-use and recycling strategies;
- Implementation of waste minimisation strategies;
- Set up of waste disposal facilities;
- Control and management of the disposal of different types of waste;
- Roles and responsibilities;
- Monitoring, reporting and auditing of waste produced on site.

**Earthworks/Spoil**

The proposed development will seek to minimise the import and export of material, wherever possible. The re-use of materials around the site, as suitable engineering material or infill material, will be carried out whenever possible.

**Reduction**

A number of potential options are available to complement construction waste reduction including maximising off-site fabrication, efficient design specification of standardised components/materials, implementing a just-in-time delivery system to minimise the volume of goods/materials stored on site and therefore exposed to inclement weather conditions and other site damage sources. Procedures will include:

**Re-Use**

Certain materials may have a relatively high level of re-use (e.g. timber, aggregates, brick and blockwork) within the construction stage operations. Such wastes may arise from spoiled materials, and natural waste from construction processes. Procedures will include:

- Separate skips/receptacles will be provided to receive different types of specific waste which can be re-used on site.
- Licensed waste carriers will be required to identify possibilities of local community re-use of waste materials.

**Recycling**

Certain materials may have a feasible recycling value (e.g. timber, aggregates, plastics, glass, metals). These may arise from similar construction processes as those identified above for re-use.

Procedures will include: -

- Separate marked skips/receptacles will be provided for the depositing of types of waste suitable for efficient recycling; and
- Discussion with licensed waste carriers in respect to the feasibility/efficiency of specific materials recycling.

**Disposal**

It is inevitable that certain materials will have to be removed from site for disposal as they have no re-

use/recovery value. Procedures to be considered in preparing a Site Waste Management Plan will include:

- All wastes which require removal from site for final disposal will be subject to an effective management control regime ensuring statutory compliance. The key components of this regime are illustrated below:

  - Appointing competent and suitably registered waste carrier(s);
  - Establishing an effective site waste stream strategy (recycling, re-use, disposal);
  - Providing an effective waste skip strategy to suit the waste stream strategy and which differentiates between hazardous, non-hazardous and inert wastes;
  - Should asbestos be encountered all potentially asbestos containing materials will be disposed of by a suitably licensed contractor in accordance with relevant guidance and legislation;
  - Providing adequate information/training to site operatives in respect of the waste stream strategy; and
  - Implementing an effective audit procedure, to audit the waste disposal regime from source to licensed disposal facility(s). This will include reviewing all relevant Waste Management Licences and Waste Transfer Licences of all waste contractors on the project. In addition, a record will be kept of all Waste Transfer Notes to ensure that all waste movements from the site are properly documented. Non-Conformance Reports would be issued to ensure any deficiencies are corrected.

## 11.0 Storage of Fuel, Oil and other Chemicals

All fuel, oil and chemicals shall be stored in accordance with the Manufacturer's recommendations and any tanks shall be in accordance with PPG7 (above ground oil storage tanks) and PPG22 dealing with spills.

Mobile bowsers will be used to refuel construct plant. All bowsers have a double skin construction and bund capacity to store 110% of their total volume. Drip trays will be used beneath all refuelling hoses and no refuelling will take place within 100m of a watercourse or drain.

## 12.0 Temporary Lighting

Generally, no works are planned to be undertaken in periods of darkness and therefore it is unlikely that task lighting will be required. However, unplanned events can occur for which task lighting may be required for short periods; in this event a method statement shall set out the maximum height of lighting lanterns and the average lux levels.

Temporary lighting will be provided in the site contractor compound for security and safety reasons. All security lighting will be focused to the middle of the site compound and will not face any neighbouring properties or directly into the public highway.

Task lighting shall ensure that there is no upward light.

Lighting will be switched off when not required for safety or security.

## 13.0 Prevention of Debris on Highways

The measures and provisions set out in Section 9 and 10 of this Plan will go a long way to prevent the deposition of debris on the highway.

The contractor will provide a Wheel Cleaning facility at the exit to the site compound. At all times delivery vehicles will either be driving on tarmac or Type 1 sub-base, therefore this will minimise the risk of tyres becoming dirty. It is anticipated that there will be a low number of delivery vehicle movements, onto and off site during the Infrastructure work.

The Wheel Cleaning equipment will consist of a high-pressure hose mounted onto a portable water bowser. In the unlikely event that this is not sufficient, and debris is deposited outside the site boundary, it will be cleaned immediately using a road sweeper.

## 14.0 Protecting Biodiversity Interests

**Landscape**

The Landscape Designer will identify existing landscaping or newly planted landscaping that needs to be protected. Protection shall be provided in accordance with BS 5837: 2012 Trees in relation to design, demolition, and construction – Recommendations.

**Ecology**

**Invasive Non-Native Species (INNS)**

No INNS were identified at the Site in the most recent ecological surveys. However, Himalayan balsam Impatiens glandulifera has been previously recorded on-Site.

Prior to Site clearance and development works commencing a suitably experienced ecologist will undertake a walkover survey of the Site and identify any INNS.

Should any INNS be identified, the ecologist will ensure that the area is marked clearly, and no works are undertaken in the vicinity. An INNS management plan will be developed, and measures put in place to prevent the further spread of any INNS within the Site or to off-site areas. The plan will set out measures to remove or treat the INNS prior to any works taking place in the area. If required a specialist contractor would be commissioned to undertake the removal or treatment of INNS

**Landscaping/Habitat Creation**

Once landscaping and habitats have been created within the Site, further construction activities should not take place within those areas in order to prevent damage to these habitats during establishment.

Areas already landscaped to be avoided should be cleared communicated to Site personnel and signage and fencing installed (if appropriate).

Should any damage occur to created habitats and landscaping this should be put right at the earliest opportunity and species replaced if necessary.

**Habitats**

The proposals include for the retention of some of the boundary habitats including hedgerows and plantation woodland located adjacent to Barnsley Road/Doncaster Road (A635) in the north of the Site, hedgerows adjacent to Carr Head Lane in the south of the Site, hedgerows bounding the east of the Site, and plantation woodland and hedgerows adjacent to Carr Dike and the wet ditch in the central area of the Site. Only small areas of the boundary habitats and habitats along the watercourses will be lost in

order to provide Site access and access roads.

Carr Dike, a small watercourse that flows in a general south-westerly direction bisects the Site from Barnsley Road in the north-east and exits the Site in the south-west. An artificially created watercourse/ditch drains the adjacent Aldi distribution centre and flows in a general westerly direction through the Site and discharging into Carr Dike in the south-western part of the Site. With the exception of two short crossing points for access roads, these watercourses will be retained in their current configuration.

As per the landscaping strategy for the Site, which has been submitted with the application, there will be a scheme of enhancement and habitat creation that will expand the existing ecological interest of these habitats and provide additional habitat for species of interest through appropriate management. The above habitats will be protected during Site clearance and development works.

**General Measures**

The potential for impacts on retained habitats outside of the immediate working areas during construction activities will be minimised by protecting all unaffected habitats within the site and those bounding it to ensure that disturbance is kept to a minimum and any sensitive species are retained in-situ where feasible.

All retained habitats will be protected by the erection of fencing of a type of barrier appropriate to the likely impact in each area, such as Heras panels or orange barrier mesh fencing. Working areas will be marked out prior to start in that area and kept within the footprint of the new plot or habitat creation area. No temporary storage of materials, site machinery or construction of haul routes will be sited within or adjacent to retained habitats and access by construction personnel will be prevented by erection of fencing as above.

An Ecological Clerk of Works (ECoW) will ensure that measures are implemented to prevent inadvertent damage to retained or created habitats throughout the construction phase particularly where vegetation is to be removed or during works close to retained habitat.

The ECoW will be suitably qualified and experienced and act as the main point of contact in relation to ecological issues.

**Tree protection**

Retained trees will be adequately protected during works ensuring that the calculated RPA for all retained trees is protected through the erection of the requisite tree protection barriers. Measures to protect trees should follow the guidance in BS5837 and detailed within the FPCR Arboricultural Assessment (November 2023) and should be applied where necessary for the purpose of protecting trees and hedgerows within the site whilst allowing sufficient access for the implementation of the proposed layout.

**Pollution avoidance**

Site management protocols will be put in place to ensure that best practice measures are complied with, these must be outlined within the Construction Environmental Management Plan (CEMP).

The possibility of fuel spillages will be minimised through sound site management in accordance with the CEMP. The CEMP will also include strategies for remediation and contamination incidents in the unlikely event of their occurrence, including the use of spill kits.

The location of all works compounds will be agreed with the supervising ECoW and will be located at an agreed safe distance from the watercourses located within the Site. Any environmentally hazardous materials will be kept in dedicated stores and storage tanks will have appropriate bunding.

To ensure construction works are undertaken in an environmentally responsible manner the best practice guidance listed below will be adhered to; these include Pollution Prevention Guidance (2012), it should be noted that some guidance has withdrawn or has been superseded by Guidance for Pollution Prevention (GPP). GPPs (applicable only for Northern Ireland, Scotland, and Wales) and withdrawn guidance are still considered to be relevant for best practice:

• PPG 1: Understanding your environmental responsibilities - good environmental practices. A basic introduction to pollution prevention, with signposts to other PPGs and publications (July 2013).
• GPP 2: Above ground oil storage tanks – For above ground oil storage, excluding oil refineries and distribution depots (January 2018).
• PPG 3: Use and design of oil separators in surface water drainage systems – For identifying where an oil separator is required and, if so, what size and type of separator is appropriate (April 2006).
• GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer – For selecting the correct sewage disposal, treatment and disposal options, and maintenance and legal requirements. Also, for what to have in mind, in terms of wastewater treatment, when buying a house (November 2017).
• GPP 5: Works and maintenance in or near water – For construction or maintenance works near, in, or over water (January 2017).
• PPG 6: Working at construction and demolition sites – For the construction and demolition industry (2012).
• PPG 7: Safe storage – The safe operation of refuelling facilities for operators of liquid fuel refuelling facilities; it applies to all types of fixed refuelling facilities (July 2011).
• GPP 8: Safe storage and disposal of used oils – For storing and disposing of used oils. Applies to activities ranging from a single engine oil change to those of large industrial users (July 2017).
• GPP 13 Vehicle washing and cleaning (April 2017) – For washing and cleaning any vehicle using automatic wash systems, high pressure or steam cleaners and washing by hand.
• PPG 18: Managing fire water and major spillages – For identifying equipment and techniques available

to prevent damage to the water environment caused by fires and major spillages (June 2000).
• GPP 21: Pollution incident response planning – For producing emergency pollution incident response plans to deal with accidents, spillages, and fires (June 2021).
• PPG 22: Incident response – dealing with spills or incident response – dealing with spills (April 2011).
• PPG 23 Maintenance of structures – replaced by PPG 5, Works, and maintenance in or near water.
• PPG 26 Safe storage – drums and intermediate bulk containers – For site operators of industrial and commercial premises storing and handling drums and intermediate bulk containers (IBCs) containing oil, chemicals, or potentially polluting substances. (March 2011).

**Protected Species**

The following section provides outline details of the protected species potentially present within the Site and outlines the measures that may need to be taken to avoid impacts and potential breaches to legislation.

The key species mitigation and enhancement aims are:
• Avoid unnecessary disturbance during site works through careful programming, implementation, and supervision.
• Create habitats using general principles known to benefit specialist species groups of interest.

**Mammals**

No badger setts were recorded on-site or within 30m of the Site during previous surveys. No evidence of otters or water voles have been identified at the Site. Small mammals (such as rabbits and hedgehogs) may be present within the Site. A historical record of badgers (provided by Barnsley Biological Records Centre) was identified for a location within RSPB Old Moor, no specific location was provided. Records exist for otters and water voles within the wider River Dearne valley.

Habitats within the Site are generally sub-optimal for badgers with limited potential for sett building and foraging. However, badgers and otters are a highly mobile species and given their likely presence in the wider landscape precautions should be provided to identify whether badgers these species have colonized the Site or the immediate vicinity and to prevent badgers becoming entrapped within excavations during construction.

Prior to commencement of Site clearance, the ECoW (or other suitably experienced ecologist) should undertake a walkover survey to identify any signs of badger, otter, and water vole, including signs of foraging, badger latrines, otter spraints, and any new badger setts within the Site or within 30m of the boundary. Should any new badger sett be identified, the ecologist would determine whether further survey and application for a license to close the sett are required. In the event that any new setts are identified, 30m exclusion zones may need to be adhered to unless the sett has been successfully closed under licence between the 1st of July and the 30th of November. Should any evidence of otters or water voles be identified the ecologist would provide additional advice on how best to protect these species

during construction, including the implementation of exclusion zones and if there is a requirement for licenses to be applied for.

During construction, any open trenches or pipework should be covered at night. Excavations that cannot be covered should be provided with a means of egress for badgers and other small mammals such as a suitably gentle slope or a wildlife ladder.

Stockpiles of materials or soil/earth from cut and fill should be covered or compacted to reduce the potential of badgers and other mammals attempting to create a sett within the material. Stockpiled material should be subject to daily inspection by construction personnel to identify any signs that badgers or other mammals may be present. In the event that evidence of badger is found (burrowing into stockpiles) further advice must be sought from the ECoW.

Should a small mammal be found during construction it should be left alone and allowed to move off on its own accord. Should the animal remain present, or there is a risk to it being harmed if left, advice may be sought from an ecologist. If it is safe to do so and there is no risk or minimal risk to the animal and Site personnel (e.g. hedgehog) the animal may be translocated by carefully handling(wearing appropriate gloves) and moved to an area of retained suitable habitat which provides cover (e.g. hedgerow, woodland, tall grass) located outside of the working area at the Site periphery.

**Bats**

Bat surveys were conducted at the Site in 2022, additional aerial assessment of four trees was undertaken in 2023, three of these trees were identified to have bat roost potential (Cross refer to the Bat Assessment Report (FPCR August 2023)).

Foraging and commuting bats were found to use the Site in relatively modest numbers with areas of greatest use identified as the area adjacent to Carr Dike, the wet ditch associated with Carr Dike, the hedgerow adjacent to Carr Head Lane on the southern Site boundary, and the hedgerow/scrub habitat bounding the eastern Site boundary. The majority of bat activity was common pipistrelle Pipistrellus pipistrellus, although small numbers of more light sensitive species (Myotis species, and brown long-eared bat Plecotus auratus) were recorded foraging/commuting at the Site.

One tree (Tree 1, Grid Reference: SE 4440 0381. As identified in the FPCR Bat Assessment Report) was identified as having low bat roost potential. This tree may be felled without further survey; however, this tree must be felled under supervision from a suitably experienced and bat licensed ecologist and felled using soft felling methods.

**Best Practice Lighting Design**

Construction lighting should be designed to avoid deterring bats from retained habitats or habitats outside

of the Site.

Suggested measures include:

• All construction lighting should be screened from retained habitats, particularly those along the retained watercourses, and the boundary habitats on the southern and eastern Site boundaries.

• All lighting columns and building-mounted lights should be located as low as possible and comprise sensitively positioned directional lighting.

• Lighting should be free of UV emissions to prevent potential adverse effects on flying insects and bat populations.

• Lighting designed to switch off or be dimmable where possible.

• Recommend use of LED lighting units with sharp light cut-off.

**Birds**

Breeding bird surveys were conducted at the Site in 2022, wintering bird surveys were conducted over the winter of 2022-2023. A variety of breeding birds have been identified within the Site including those that nest within scrub and dense vegetation and those that prefer open habitats such as arable fields and open grassland.

To avoid disturbance to breeding birds, ground clearance works, and vegetation clearance should be undertaken prior to the bird-breeding season (generally accepted as March to August, inclusive). If this is not possible, areas must be checked prior to removal of vegetation or ground works by the ECoW (or other suitably experienced ecologist). This applies to both the arable field areas (for ground nesting species) and the scrub and woodland areas (for species that nest in dense vegetation).

If active nests are found, vegetation will be left untouched and an appropriate buffer zone from works will be put in place until all chicks have fledged and the nest is abandoned. Specific advice will be provided by the ECoW/ecologist prior to commencement of clearance works and clearance works will be supervised by the ecologist is deemed to be appropriate.

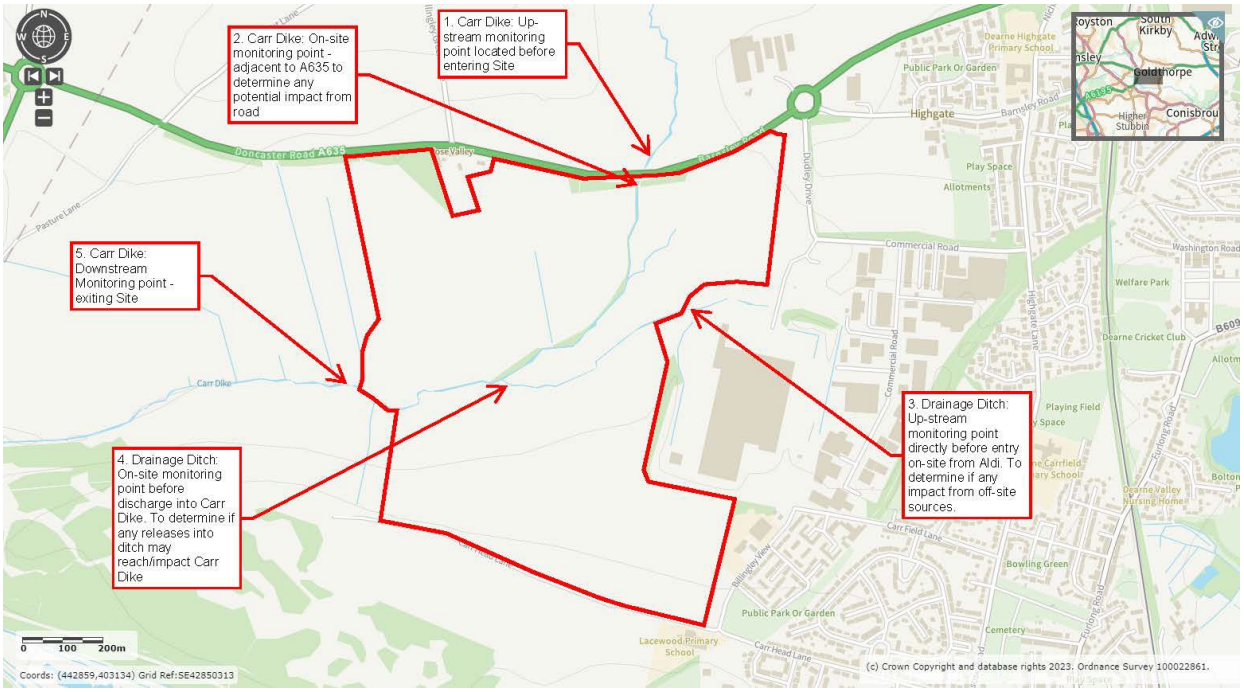
## 15.0 Temporary Surface Water Management System

The arrangements for the temporary management of surface water shall be set out in a detailed method statement.

The contractor shall prepare and submit to the Project Manager's for approval surface water management plan before any works in a phase commences and the contractor shall thereafter carry out the works in accordance with the approved plan.

Measures shall be adopted in accordance with PPG5, particularly Section 2.2b (balancing lagoons) and 2.2c (filtration) and CIRIA Report C532 “Control of water pollution from construction sites”.

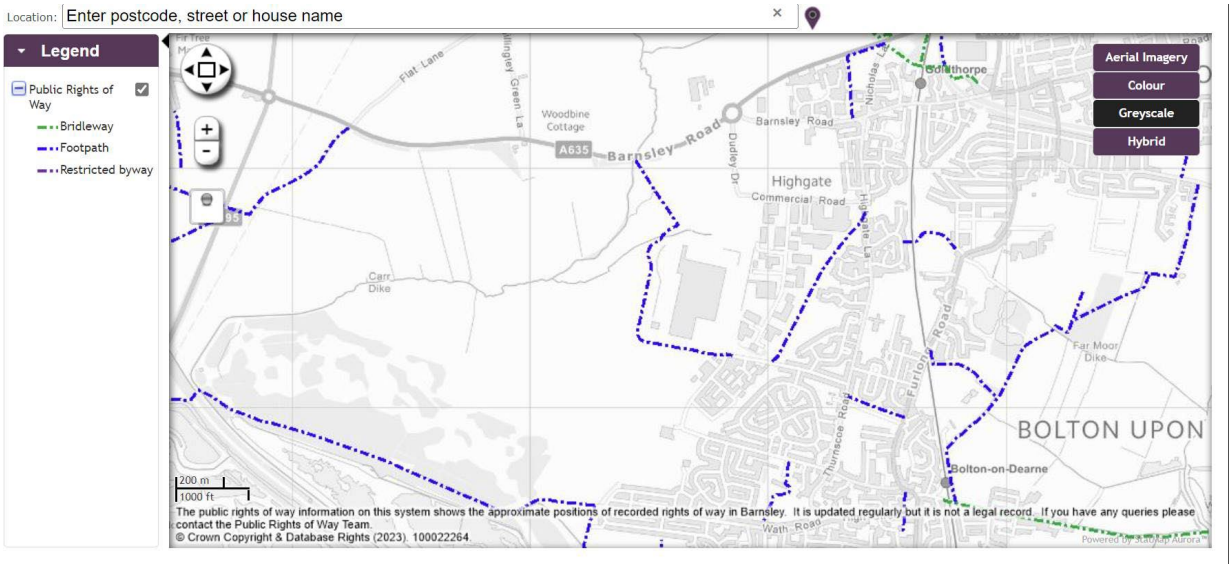
Monitoring points shall be established downstream of any temporary balancing lagoons to monitor water quality so that the effectiveness of the measures can be assessed and improved, if necessary. Details of monitoring techniques shall be set out in the detailed method statement. Proposed monitoring location are shown below,




Testing parameters shall be agreed with the Environment Agency/Local Lead Flood Authority ahead of collection of baseline test data.

## 16.0 Public Rights of Way

The existing Public Rights of Way (PRoW) are shown below:




The Contractor shall maintain all Public Rights of Way and where necessary agree with the Local Authority diversion as and when required, The Contractor attention is drawn to the needs to obtain formal diversion arrangements and that and shall make appropriate allowances within the programme.

## Appendix 01 – Parameters Plan

- Dimensions are in millimeters, unless stated otherwise.
- Scaling of this drawing is not recommended.
- It is the recipients responsibility to print this document to the correct scale.
- All relevant drawings and specifications should be read in conjunction with this drawing.

N

## Key

Planning Application Boundary — 210.81 ac — 85.31 ha

## Parameters Key

- Development Plot Boundary
- Green and Blue infrastructure
- Strategic Landscape screening
- Estate Road infrastructure
- Indicative access points (subject to reserved matters)
- Safeguarded land

Roundabout delivered under a separate planning application [Ref. No. 2021/1511]

Flood Compensation Area

Flood Compensation Area

Plot 1

Plot 2

Plot 3

Plot 4

Hollygrove Roundabout

A635 Barnsley Road

Dudley Drive

Rose Valley

Woodbine Cottage

Billingley Green

Aldi Goldthorpe RDC

Heather Garth Primary School

Carr Head Lane

Lacewood Primary School

Carr Dike

50m SCALE 1:2500

### Development Schedule

| Zone | Plot Size NDA (ha) | Maximum GIA Floor Space ($m^2$) | Plateau Height(in meters above ordnance datum) | Maximum Finished Floor Level (in meters above ordnance datum) [+1.000m above proposed plateau] | Maximum Building Height Measured to roof ridge / highest point (in meters above ordnance datum) | Ridge Height (above F.F.L. level) |
|---|---|---|---|---|---|---|
| Zone 1 | 11.35 | **204,000m²** Total Area distributed across Zones 1,2, 3 & 4 | 24.50 | 25.50 | 43.50 | 18.00 |
| Zone 2 | 8.46 | | 25.00 | 26.00 | 44.00 | 18.00 |
| Zone 3 | 17.92 | | 33.70 | 34.70 | 52.70 | 18.00 |
| Zone 4 | 6.29 | | 33.70 | 34.70 | 52.70 | 18.00 |
| Total | 44.02 | | | | | |

The use class applied for within each zone is primarily Class B8 with up to 30% of the floorspace being for Class B2 together with ancillary office space

For the avoidance of doubt, the information shown within the development plots is indicative only, and will be subject to subsequent Reserved Matters Applications

PLANNING
THIS DRAWING IS FOR PLANNING CONSIDERATION ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE

| rev | amendments | by | ckd | date |
|---|---|---|---|---|

Barnsley Road, Goldthorpe

Parameters Plan

newlands developments

umc architects
Newark Beacon, Cafferata Way, Newark, Nottinghamshire NG24 2TN
t. +44 (0)1636 653027 e. info@umcarchitects.com

| | |
|---|---|
| Drawing Status: | Planning |
| Drawn / Checked: | SS /SM |
| Date: | 07/11/2023 |
| Scale: | 1:2500 A1 |
| Drawing no: | Revision: |
| 22081 P0520 | E |

## Appendix 02 – Noise and Air Quality

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# i-dB Noise Monitor

## i-dB Internet Noise Monitor

- **Accuracy:** **IEC61672-1 Class 2 as standard**
  **IEC61672-1 Class 1 as cost option**
- **Measurement Range:** **30dB to 120dB RMS**
- **Parameters:** **LAeq, LAmax, LA10, LA90 and others**
- **Operating Temperature:** **-10C to 50C**
- **Humidity:** **0 to 95%**
- **Enclosure:** **IP65, up to 10m cable**

**i-dB** is Turnkey's new internet noise monitor. It connects directly to any Osiris or Topas continuous multi-fraction PM dust monitor to allow both dust and noise to be continuously monitored and recorded via the internet using our free ***AirQWeb*** software application and a web browser such as Internet Explorer, Chrome or Firefox. An equivalent free 'app', AirQApp, is also available for Android and iPhone devices.

***AirQWeb*** can be used to graph and tabulate most commonly used noise parameters such as LAeq, LAmax, LA10 and LA90 and others along with simultaneous measurements for PM1, PM2.5, PM10, TSP dust fractions, wind-speed and direction

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# APM

Osiris Monitor
Sira MC 090157/01

Topas Monitor
Sira MC 090158/01

## Airborne Particulate Monitors

- **Real time air quality monitoring**
- **Simultaneous TSP, PM10, PM2.5 & PM1**
- **Multi-monitor networks**
- **Spot monitoring, portable or permanent installations**
- **Meteorological instruments**

**Turnkey Instruments** design and manufacture a range of easy to use instruments which continuously measure and record the concentration of airborne particles. In their environmental mode, these instruments can simultaneously monitor the concentrations of TSP, PM10, PM2.5 and PM1 particles. Alternatively, in their workplace mode, the inhalable, thoracic and respirable fractions can be monitored.

**An internal reference filter can be used to confirm the gravimetric calibration of the instruments.**

All instruments feature internal data logging for the particle concentrations. Osiris and Topas also allow wind speed and direction, temperature, humidity, rainfall and two external gas or noise meter inputs to be recorded at the same time.

All instruments use our own proprietary nephelometer. A pump continuously draws an air sample through the nephelometer, which analyses the individual particles as they pass through a laser beam. These same particles are then collected on the reference filter. The nephelometer's dedicated microprocessor can analyse individual particles even if there are millions of them per litre. This allows size fractions to be determined at concentrations up to several mg/m$^3$. Above this there is an indicator range which can be used without sizing up to 60 mg/m$^3$.

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## Osiris (Particulate Monitoring)

The Osiris is a small and compact instrument that can be used to study short to long term particulate monitoring. Powered by various power options to suit your application. The Osiris can be used effectively to determine exceedance areas.

## DustMate

DustMate is a hand-held detector ideal for short term sampling. Highly effective for monitoring air quality within buildings and clean rooms. It measures TSP, PM10, PM2.5 and PM1 simultaneously in real time. Data can then be transferred to a PC via PC-Link.

## Topas (Particulate Monitoring)

The Topas fixed station monitor is intended for long term installation. Several sites can be networked together to form a city wide monitoring system, which can be controlled by various communication means including GSM, 3G router or radio modem.

## Osiris (site sentry, full site monitoring system)

When Osiris is used with i-dB, Turnkey's latest noise monitor, a full site monitoring station can be used to meet all regulations. The system is designed to provide remote online monitoring of dust and noise emissions to meet regulatory requirements. This innovative web based remote system simultaneously measures multi-parameter dust, noise, wind speed and direction, temperature & humidity and rainfall from a single UK based manufacturer. All data is stored on a web based secure system with private login.

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# AirQ Software, AirQWeb & AirQApp

### Environmental Monitoring Software

**AirQ** the user friendly and quick reporting PC software, designed in-house will manage and display results from our range of environment sensors.

**AirQ** can be used to control sensors and record measurements in real time

- "Live" graphs and tables appearing on the PC screen.
- Software automatically starts and stops sensors.
- Change parameters and configurations.
- Upload stored results.
- Powerful database engine.

With **AirQ** a live "on-screen" pollution rose can be created which plots measurements against wind direction on a polar chart.

### Networked Environmental Monitoring

Creating a network of sensors is easy. Any number of sensors can be connected to an **AirQ** network created with fixed wiring (up to 10km), licence free radio telemetry (up to 20km), telephone and GSM cellular modems.

A network can include alarm facilities such as beacons or sirens for early warning and response to high readings. It can also active water sprinkler systems for damping down exceedance levels of dust.

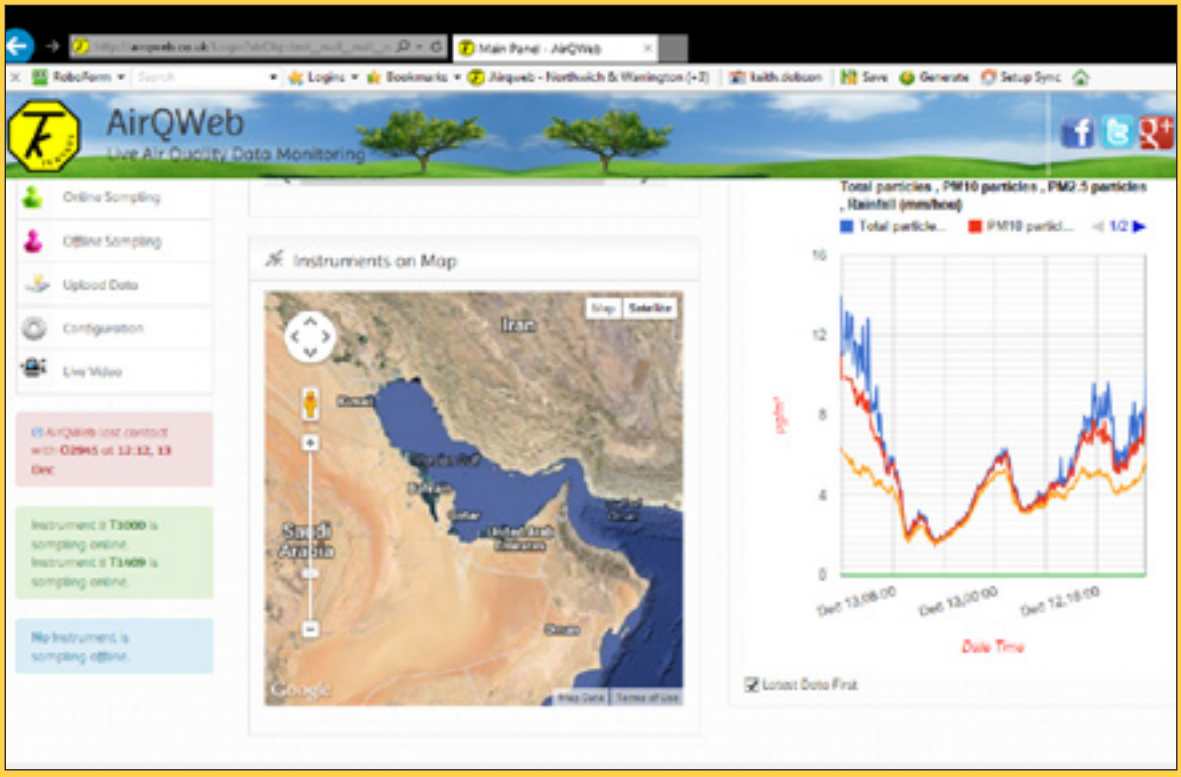
### AirQWeb & AirQApp


Units fitted with a web router can be accessed via the internet (M2M simcard with 2GB data, fixed or dynamic public IP address, required).

Also via smartphone app, instant alerts can be sent to your phone before a likely exceedance breach occurs.

Alerts can be set for wind direction and wind speed, as well as dust levels.

A remote pan/tilt rotate IP camera can be added when connected via the web.

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| Feature | Description | TOPAS | OSIRIS | DUSTMATE |
|---|---|---|---|---|
| Standard inlet | TSP (1mm stainless mesh) | ✓ | ✓ | ✓ |
| Heated inlet | Heating to 60°C | ✓ | ✓ | • |
| Detector | Turnkey laser nephelometer | ✓ | ✓ | ✓ |
| Environmental mode | TSP, PM10, PM2.5, PM1.0 | ✓ | ✓ | ✓ |
| Workplace mode | Inhalable, thoracic, respirable | ✓ | ✓ | ✓ |
| Measurement range | 0 to 6000 micrograms per cubic metre | ✓ | ✓ | ✓ |
| Detection limit | 0.01 micrograms per cubic metre | ✓ | ✓ | ✓ |
| Indicator range | 0 to 60mg/$m^3$ without particle sizing | ✓ | ✓ | ✓ |
| Particle size range | 0.5 to 20 micron diameter | ✓ | ✓ | ✓ |
| Particle counting mode | Three size channels in particle per cc | ✓ | ✓ | ✓ |
| Flow rate | 600cc per minute | ✓ | ✓ | ✓ |
| Reference filter | 25mm diameter GFA circle | ✓ | ✓ | ✓ |
| Operating temperature | -5°C to +50°C | ✓ | ✓ | ✓ |
| Security | Password protection | ✓ | ✓ | ✓ |
| Alarm | Siren, text to cellular phone, visual beacon and email | ✓ | ✓ | × |
| Display | Two line alphanumeric with backlight | ✓ | ✓ | ✓ |
| Data storage | Internal with separate battery backup | 128k byte | 128k byte | 32k byte |
| Averaging period | 1 second to 4 hours | ✓ | ✓ | ✓ |
| Battery | Sealed lead acid, rechargeable | n/a | Internal 6v 2.8 AH | Belt pack 6v 1.2 AH |
| Sampling current drain | Including heated inlet and backlight | 1.2A | 1.2A | 200mA (without heated inlet) |
| External power pack | 80 to 260v AC input, weatherpoof | • | • | × |
| Meteorological inputs | Wind speed and direction, rainfall, temperature and humidity | ✓ | ✓ | × |
| Other logging inputs | Two 0 to 5 volt analogue inputs | ✓ | ✓ | × |
| RS232 I/O | 9600 baud via PC-link | ✓ | ✓ | ✓ |
| Telemetry I/O | 1200 baud opto isolated | ✓ | ✓ | × |
| Analogue output | 0 to 4 volt analogue of TSP or PM10 channel, 12 bit resolution | • | • | × |
| Wall or lamppost box | Lockable steel | ✓ | ✓ | × |
| Case protection | To IP66 (excluding inlet and exhaust) | ✓ | ✓ | Carry case |
| Dimensions | External dimensions in mm | 400 x 300 | 260 x 160 x 150 | 160 x 100 x 100 |
| Weight | Instrument and enclosure approximate weight in kg | 12kg | 11.8kg | 1.2kg |
| Power options | Solar, wind, mains and battery | ✓ | ✓ | Mains and battery only |
| ✓ Fitted as standard × Not available • Available as option | | | | |

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# **Turnkey** Instruments Ltd

## World Wide Web Interface

- **View latest PM readings and associated live site video feed on any web browser, even on your Android or iPhone. Automatically links with Google map of instrument location and satellite images**
- **Pan (& zoom) video image to remotely inspect site in more detail**
- **Use AirQ to control instrument and continuously monitor dust readings over the internet**
- **Use AirQ to upload stored results from instruments anywhere in the world using your internet connection**
- **Program automated emails or text messages in the event of alarm conditions**
- **Multi-drop RS485 to connect multiple instruments at one site to a single internet node at distances of up to 1km**
- **Worldwide connection with 3G/4G mobile broadband or fixed DSL landline**
- **Mains or battery powered**
- **Can be retro-fitted to all existing Osiris/Topas installations**



**Turnkey Instruments** are pleased to announce the availability of an internet device server for their range of environmental instruments. This new proprietary device allows you to conect to any Osiris or Topas dust monitor by means of a standard internet or ethernet connection.



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