

National Grid Reserved Matters, Land at Port Talbot Steelworks - Surface Water Drainage Strategy

Revision C

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Prepared for:

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1 Introduction

1.1 Terms of Reference

JBA Consulting were commissioned by Tata Steel UK Ltd to provide surface water drainage support for their decarbonisation plans at their Port Talbot Site. This outline surface water drainage strategy shall be used to support a Reserved Matters application in regard to the National Grid compound and preliminary works. The Reserved Matters submission follows a successful hybrid planning application for the proposed Electric Arc Furnace (EAF) development at the Port Talbot steelworks site.

1.2 Site description

The Land at Port Talbot Steelworks site is located south of Port Talbot, bound to the south-west by the Bristol Channel, and to the east by Margam and the M4. The Network Rail Swansea to London mainline is located near to the east of the site. The town of Port Talbot and Port Talbot Docks is located to the north of the site, with the Margam Moors and undeveloped fields located to the south. The Steelworks is approximately 5.8KM from north to south and 1.9KM from east to west.

The 10ha RM application site area consists of brownfield land which has previously been used to support the production of steel. This area of the site is currently crossed by an Ordinary Watercourse which flows easterly through the site boundary.

Table 1-1 below provides a summary of the key site details, and the site location is shown within Figure 1-1.

Table 1-1 Site summary

Site name	National Grid Compound
Site area	10 ha
Existing land use	Brownfield industrial space
Purpose of development	National Grid compound and preliminary works
Local Planning Authority	Neath Port Talbot Council
Lead Local Flood Authority	Neath Port Talbot Council

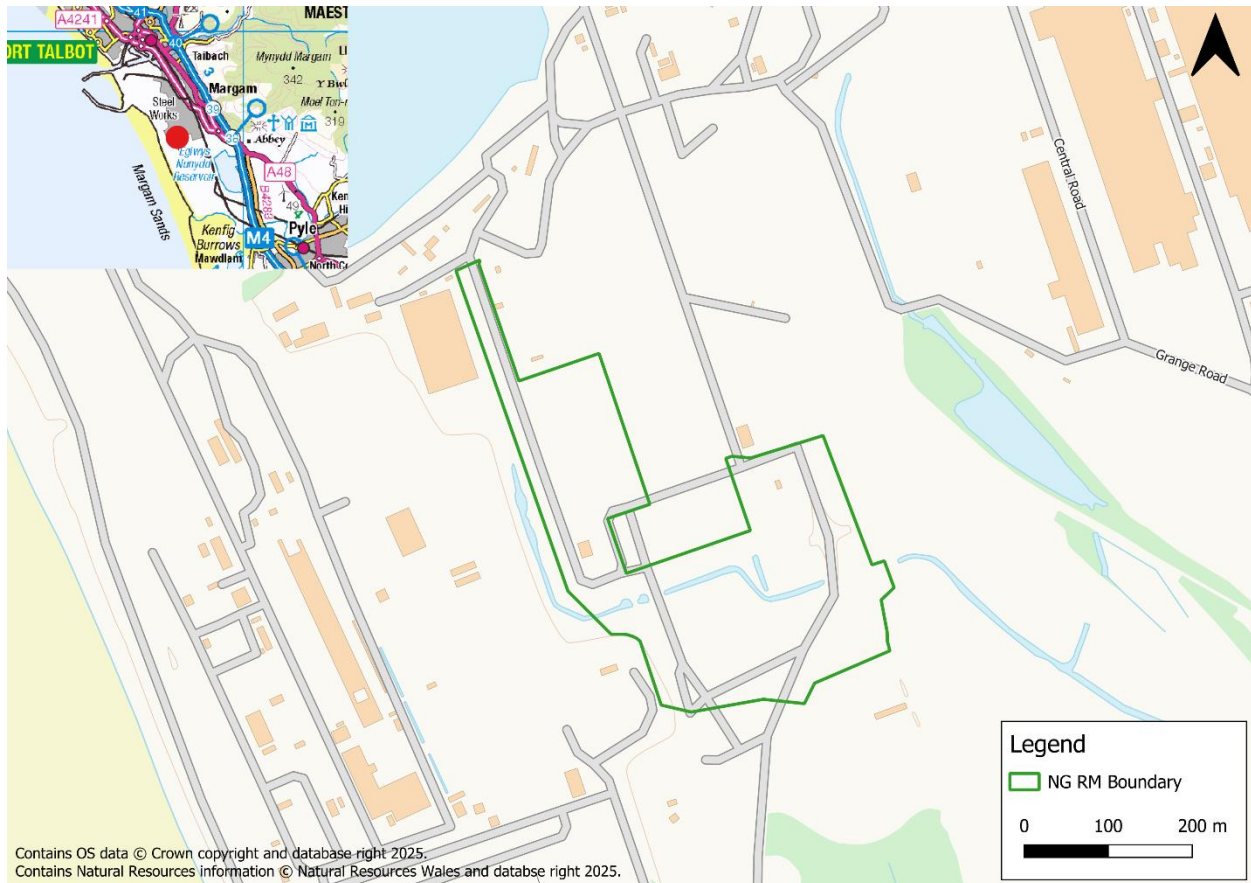


Figure 1-1 Site Location

1.3 Proposed development

Development proposals are as follows:

“Application for the approval of reserved matters (appearance, scale and layout) pursuant to planning permission P2024/0711 for the development of preliminary works and a new substation compound. Works to include earthworks, construction of working platforms, surface water management and drainage infrastructure, new electrical infrastructure (including ducting), new and improved internal access roads, 4 no. transformers, 1 no. generator, GIS building, amenity/welfare facility, water tank, storage/workshop buildings, boundary treatments, lighting, CCTV, noise mitigation measures, parking, creation of hardstanding and associated engineering operations.”

Development proposal plans are contained in Appendix A.

It should be noted that the proposed access road and the National Grid compound shall form two separate SAB applications and phases. The Reserved Matters application and this report cover both proposed surface water drainage systems.

1.4 Existing site topography

Natural Resources Wales (NRW) 1m LiDAR data has been used to illustrate the topography of the site, as shown in Figure 1-2. The site is lowest in the south, with ground

levels typically between 5-6mAOD. Highest ground levels are located in the east of the site along an existing site track, adjacent to existing railway infrastructure. The existing site road in the west of the site is highest in the north at approximately 8.24mAOD, with ground levels sloping in a general southerly direction.

The LiDAR data clearly presents the location of the existing watercourse as it flows through the red line boundary area.

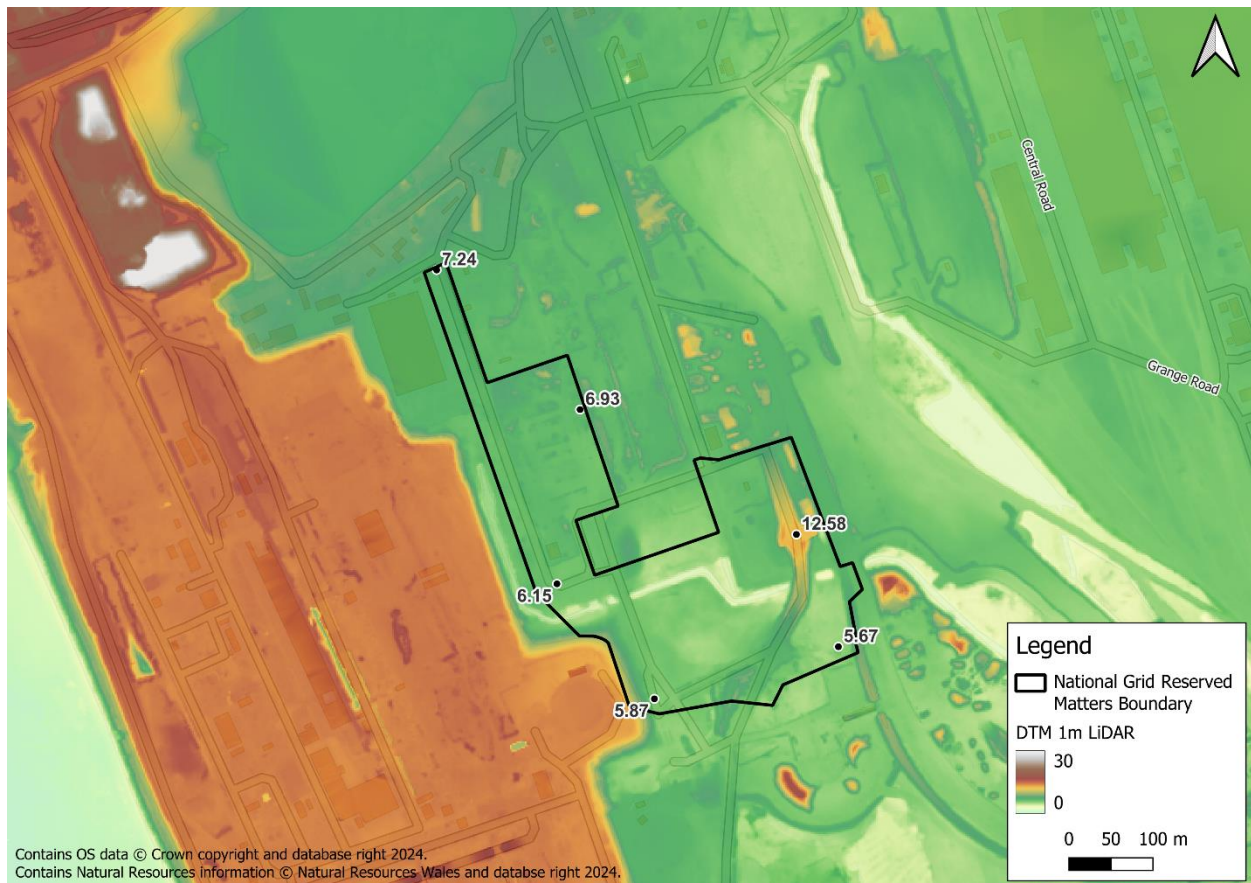


Figure 1-2 Site topography

1.5 Site geology and hydrogeology

The site's geology has been assessed using the British Geological Survey GeoIndex¹. The majority of the site's underlying bedrock geology is South Wales Middle Coal Measures Formation comprised of mudstone, siltstone, and sandstone. Superficial geology at the site is comprised of Tidal Flat deposits made up of clay, silt and sand. However, due to the site's current use, it is likely that there is a presence of made ground generated during the steel process, such as slag.

A Phase 1 Desktop Study, undertaken by RSKGeoScience, has been provided to support this study as is contained in Appendix B. The Desktop Study supports the above findings.

¹ <https://mapapps2.bgs.ac.uk/geoindex/home.html>

The soils have been assessed on the Cranfield University Soilscape² viewer and shown to be loamy and clayey soils of coastal flats with naturally high groundwater.

1.6 Summary of Surface Water Flood Risk

Surface water flooding occurs when rain falling on saturated ground flows overland, following the local topography. Surface water flooding and subsequent overland flow can therefore pose a risk to both the development site and the surrounding land. The overland flow may originate from the site itself or adjoining land at a higher elevation from which flow migrates onto the development.

Figure 1-3 displays the NRW Flood Risk Assessment Wales (FRAW) flood risk from Surface Water and Small Watercourses mapping. The mapping shows that the proposed development site is predominantly at very low risk (shown as transparent) of flooding from surface water and small watercourses, meaning that there is a less than 0.1% AEP (1 in 1000) chance of flooding in any given year.

A low-high risk of flooding is presented due to the existing ordinary watercourse that crosses the site. There are also localised areas of surface water ponding across the site.

Low risk indicates that there is between a 0.1% - 1% AEP (1 in 1000 to 1 in 100) chance of flooding from surface water and small watercourses in any given year.

High risk represents areas that have a greater than 3.3% AEP (1 in 30) chance of flooding from these sources.

Surface water flood risk shall be managed through the use of SuDS, as detailed in this report.

² <https://www.landis.org.uk/soilscales/>

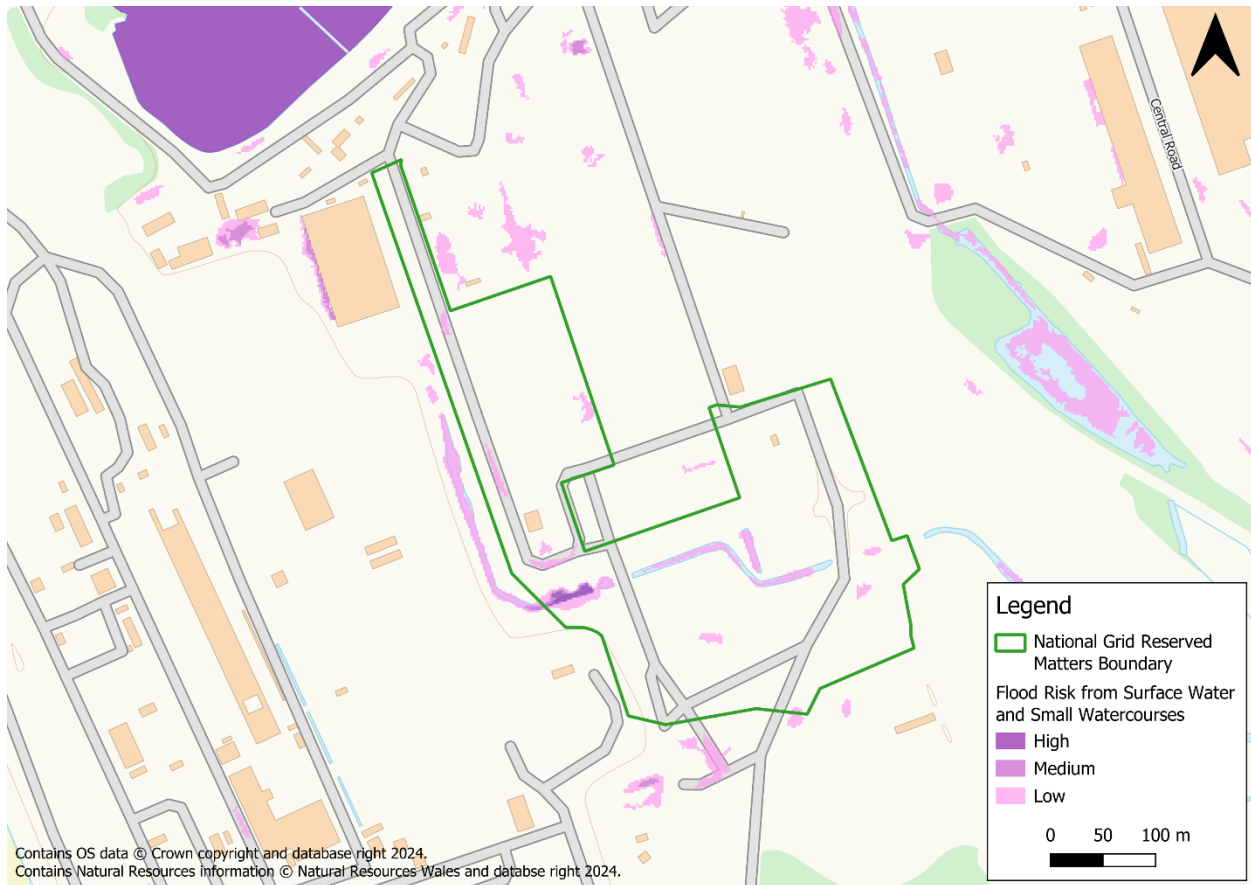


Figure 1-3 FRAW Surface Water and Small Watercourse flood risk

2 Existing Surface Water Drainage Regime

2.1 Existing Surface Water Regime and Nearby Watercourses

The wider steelworks has a complex existing drainage network, comprised of a number of watercourses, and an extensive piped drainage network to manage surface water runoff, foul drainage, and process water. These systems are outlined in Figure 2-1.

An Ordinary Watercourse flows in a general easterly direction through the National Grid compound and is proposed to be diverted to facilitate construction of the National Grid compound within the southern extent of the red line boundary area. The Ordinary Watercourse joins with the Lower Mother Ditch to the south-east of the National Grid compound, which subsequently flows in a northerly direction within the wider site.

Although not shown within the figure below, the Lower Mother Ditch drains towards Tata Steel owned structures which culvert surface water towards the 'Abbey Pumpouse' located to the north-east of the red line boundary area, from which surface water is ultimately directed into the Bristol Channel.

Crossing the site is part of Tata Steel's on-site private effluent system which directs process water to the Nautilus building for treatment. Water drains from the Nautilus building via Sump 2 which is located to the north-west of the site, and discharges water to the Bristol Channel via the Long Sea Outfall. The connection from Sump 10 to the Nautilus building is currently located within the RM boundary area. However, no works are proposed to this connection, and the existing drainage system shall not be impacted by the proposed works.

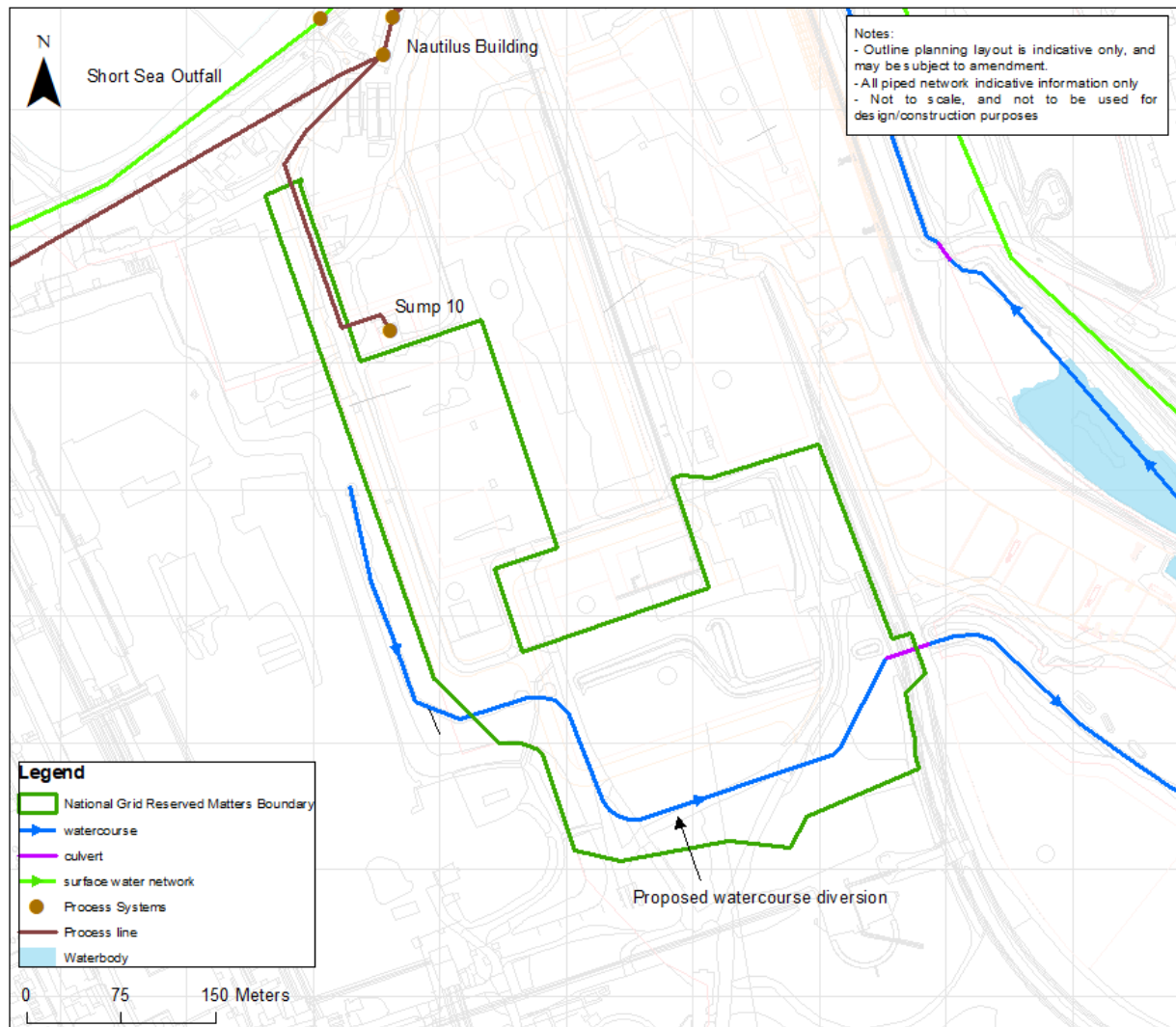


Figure 2-1 Existing Drainage Network

2.2 Greenfield Runoff Rates

Table 24.1 of Ciria C753 The SuDS Manual indicates that the FEH methods (FEH Statistical and ReFH2) should be the preferred method for calculating Greenfield runoff rates. This is supported by the Natural Resources Wales GN008: Flood Estimation: Technical Guidance and Environment Agency research by Faulkner et al which concluded that the FEH methods are applicable across a range of catchment sizes and that they should be used in place of outdated methods such as IH124 and ADAS 345 where possible.

The UK SuDS Tool was used to calculate the Greenfield runoff rates for the site. Catchment descriptors for the local catchment (SAAR and BFIHOST) were extracted from the FEH Web Service. The calculated Greenfield runoff rates are shown in Table 2-1 below and the UK SuDS calculation record is included in Appendix C.

Table 2-1 Greenfield Runoff Rates

Return Period	Specific Runoff (l/s/ha)	Peak Runoff Rate (l/s)
QBAR	2.52	25
30	4.83	47.8
100	5.91	58.5

2.3 Greenfield Runoff Volumes

Runoff volumes for the proposed development site were also calculated for the six-hour storm event using the FSSR16 method as shown in Equation 1 below.

Equation 1:

Runoff Volume = Site Area x Rainfall Depth x Percentage Runoff

The rainfall depths for a six-hour 100-year storm event were extracted from the FEH Web Service and are summarised in Table 2-2 with the calculated Greenfield Runoff Volumes.

Table 2-2 Greenfield Runoff Volumes

Return Period	6-hour rainfall runoff depth (mm)	Site runoff volume (m ³)
30	52.1	1178
100	62.3	1651

3 Ordinary Watercourse Diversion

As part of the proposals, an unnamed ordinary watercourse to the southern extent of the site is to be diverted as a result of the requirement to place the National Grid compound to the north of the southern fields. The existing watercourse crosses the proposed National Grid compound in an easterly direction. The existing channel is culverted along part of its length to facilitate highway crossings.

The proposed diversion route retains the watercourse as an open channel for as much as possible along its length. Figure 1-2 provides an indication of the proposed route of the channel.

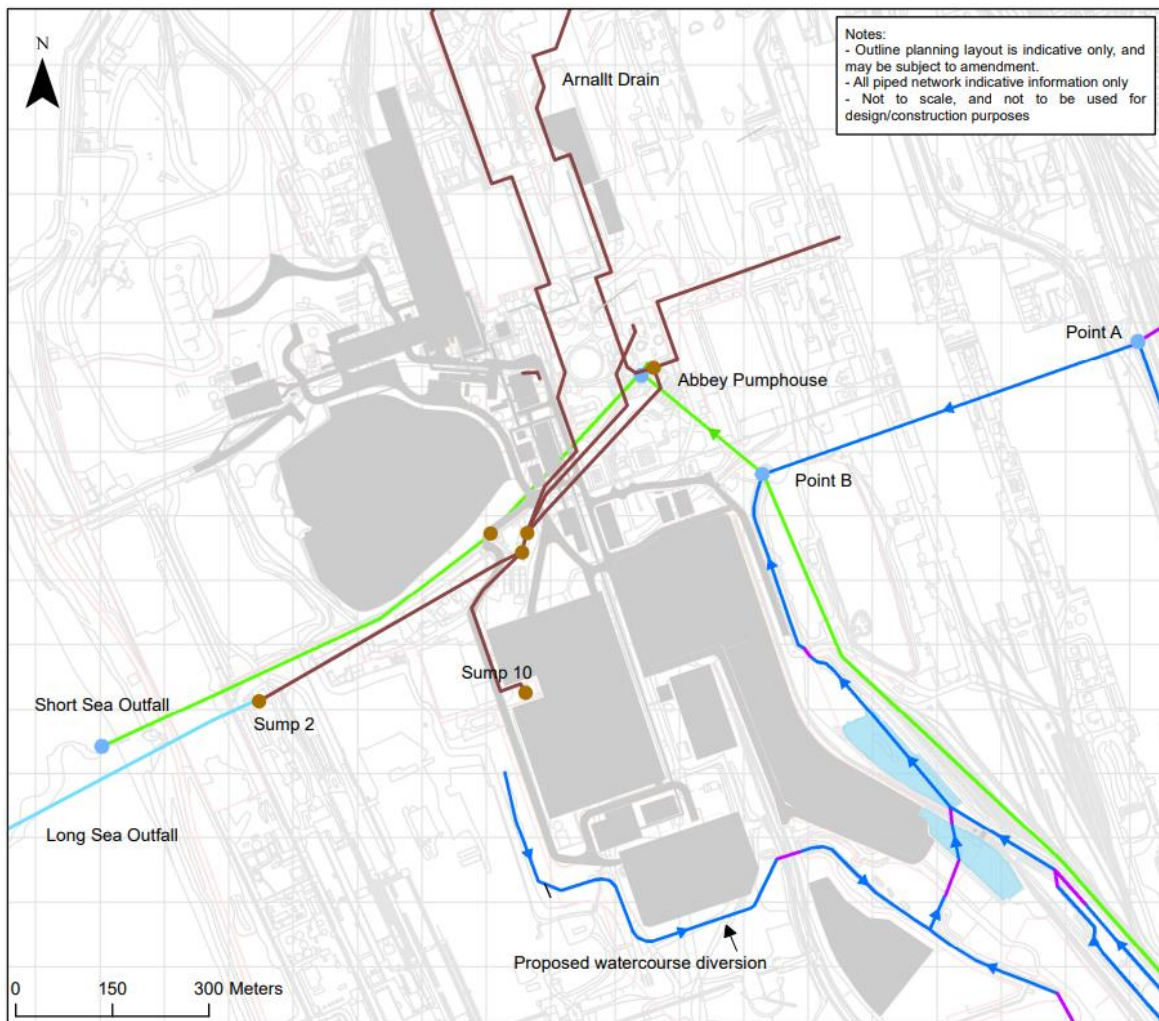


Figure 3-1 Indicative Watercourse Diversion - relocated route

3.1 Watercourse Catchment

The ordinary watercourse originates to the north-east of the proposed National Grid compound. Flows within this watercourse originate from surface overland flows from the Tata Steel site to the east, which predominantly comprises slag-based aggregate facilitating infiltration and lateral movements of flows towards the watercourse channel.

In its upstream extent, to the north-east of the proposed National Grid compound, the channel also serves as a drain at the toe of an elevated embankment serving a plateau of land serving the existing on-site coke ovens. Whilst the coke ovens have been decommissioned as part of the wider EAF proposals, it is likely that some surface water overland flows and lateral flows through the embankment shall drain to the watercourse.

Due to known high ground water levels in the area, it is also likely that elements of groundwater ingress contribute to the baseflow of this channel.

West of the proposed diversion, the watercourse flows in an easterly direction towards the Lower Mother Ditch.

As part of the proposals there are no plans to amend the catchment of the ordinary watercourse. It is not envisaged that the proposed works shall result in an increased of flows within the catchment. The proposed watercourse channel has been designed to the minimum requirements that the existing channel capacity is retained.

3.2 Ecology and Landscape Impacts

Following construction of the proposed channel diversion, it is envisaged that there shall be minimal impact on the surrounding ecology and landscape of the area. The proposals have been supported by an extensive Environmental Impact Assessment as part of the planning submission for the wider site proposals. These proposals include the watercourse diversion around the National Grid compound.

In summary, it is proposed to retain the existing vegetation and habitats of the existing channel as possible. The area is predominantly comprised of rough grass/mosaic habitat. It is therefore proposed that on completion of the channel construction, where ground is reinstated around the ditch diversion, natural colonisation shall occur to reinstate these existing habitats.

3.3 Ordinary Watercourse Consent

An application for temporary and permanent ordinary watercourse consent to facilitate the watercourse diversion has been submitted to the Lead Local Flood Authority (LLFA) for approval. The application for the temporary works is reference FD/25/0397. The application reference for the permanent works is FD/25/0398.

4 Surface Water Management Approach

4.1 Surface Water Drainage Proposal

A surface water drainage proposal for the site has been developed which will manage surface water runoff without increasing flood risk to other developments or impacting on water quality downstream. The development of the drainage strategy is via a number of steps where the drainage objectives and options for SuDS features are determined. Further details of the drainage system will be determined once an agreement in principle has been received from the SAB.

This drainage strategy discusses each SuDS standard in turn and details the way in which the proposed surface water drainage strategy will comply with each standard.

4.2 Sustainable Drainage Systems

Sustainable Drainage Systems (SuDS) aim to mimic the natural processes of surface water drainage by allowing water to flow along natural flow routes ensuring that runoff rates and volumes during storm events are not increased above the Greenfield values. SuDS also aim to provide water treatment, biodiversity, and amenity benefits within Blue and Green corridors.

Schedule 3 of the Flood and Water Management Act 2010 was enacted in Wales in January 2019, leading to the requirements for all new developments to incorporate the four pillars of SuDS design, shown in Figure 4-1.

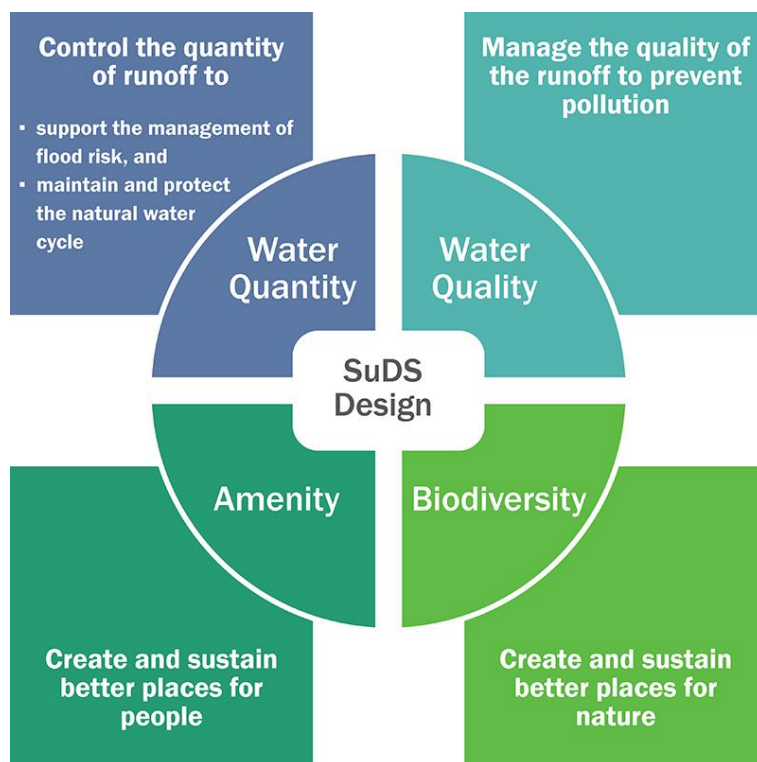


Figure 4-1 Four Pillars of SuDS Design (Ciria 2015)

4.2.1 Design Criteria

A drainage strategy outlining the means of surface water management at the proposed development site has been produced in line with the latest guidance and design standards including:

- C753 "The SuDS Manual" Ciria 2015
- Statutory standards for sustainable drainage systems - designing, constructing, operating and maintaining surface water drainage systems (Welsh Government 2018)
- Rainfall Runoff Management for Developments - SC030219 (Environment Agency 2013)
- Planning Policy Wales (Edition 12, February 2024)
- The Building Regulations 2010: Part H: Drainage and Waste Disposal

Neath Port Talbot County Borough Council do not currently have specific local guidance for SuDS. Should guidance become available, it should also be consulted to inform the drainage strategy.

4.3 SuDS Strategy Concept

The proposed development area comprises two main elements for surface water drainage - the proposed National Grid compound and an associated access road. Ultimately, these two areas shall comprise of separate surface water drainage systems and shall therefore form two separate SAB applications and phases.

The separate systems have been designed by two separate contractors to Tata Steel UK Ltd, with the surface water drainage system for the access road being prepared by Skanska as the Main Designer for the wider EAF development. The National Grid compound area surface water drainage system has been prepared by BakerHicks on behalf of National Grid. The principles of the outline drainage strategy have been summarised within Appendix D. Drawings within Appendix D are indicative only, and subject to change at detailed design and Full SAB Application stage.

Both systems have been designed in accordance with the principles set out within planning permission reference P2024/0711, and its supporting documentation "Outline Drainage Strategy Report - Rev D - 01 November 2024 - EAF".

The proposed development area is industrial in nature, and there is potential for contamination in terms of water quality. There is high potential for contaminated runoff due to the unknown quantum of materials on site at any one time, and therefore the potential for oils, TSS, dust and other contaminants needs to be carefully considered in the application. The development use results in requirements to manage the potential for contamination prior to discharge of surface water to its ultimate discharge location - the Bristol Channel.

General principles for surface water drainage design for the wider development have been consulted upon with the SAB through both pre-application advice and planning permission reference P2024/0711 and received in-principal approval to the proposals.

In summary, future development plans are proposed to have two main surface water systems across the site: the contaminated stream and the clean water stream, dependent upon the pollution hazard classification of the drained area. The clean water stream shall incorporate the use of SuDS techniques, whilst the contaminated stream shall comprise a piped system with the appropriate treatment provided.

Access Road

The access road shall be subject to low traffic counts, utilised for access to the National Grid Compound only. It shall therefore comprise of a Low Pollution Hazard and drained via SuDS techniques. It is currently proposed that surface water landing on the road will flow overland towards a swale directly adjacent to the road. Surface water will then be conveyed towards, and discharged into, the Ordinary Watercourse at the southern extent of the boundary area at an unattenuated rate. The swale will provide water quality, amenity, and biodiversity benefits.

National Grid Compound

The proposed National Grid compound shall comprise a mix of pollution hazard classifications, thereby resulting in a combined system, ultimately discharging to the unnamed ordinary watercourse at the southern extent of the red line boundary area.

As a result of poor ground conditions within the site, the National Grid compound required ground improvement in the form of a load transfer platform. The load transfer platform, in order to properly function, effectively forms a flat blanket which cannot be punctured / cut once installed to achieve the settlement criteria's required on site.

It has therefore been agreed with National Grid, as the maintaining agent for this area of works, that the proposed surface water network shall comprise a near flat system to achieve a drainage network within the depths available. Drainage of the system shall rely on a pressure-head differential on a surcharged network to ensure discharge to the watercourse (and cleansing of the system to be undertaken via maintenance as self-cleansing velocities will not be achieved).

It is recognised that this is not standard practice and a bespoke approach to surface water drainage across the area, driven purely by the ground conditions and workable depths within the ground profile. This approach has been accepted and understood by National Grid in terms of the basis of the design, and the operational risks/maintenance requirements as a consequence of this design.

To facilitate this design, clean surface water catchments will be conveyed via a filter trench and oily surface water within bunds will be conveyed via bund water control unit (pump) from within bunded areas and into a type 1 full retention oil interceptor. All systems provide a suitable level of filtration to minimise silts/fines/hydrocarbons and heavy metals in line with the simple index approach.

4.4 S1: Surface Water Runoff Destination

The Statutory Standards for SuDS in Wales address the use of surface water by the development and where it should be discharged. It has developed a destination hierarchy which sets out the preferred routes for discharge of runoff from the site:

- Priority Level 1: Surface water runoff is collected for reuse
- Priority Level 2: Surface water is infiltrated to ground
- Priority Level 3: Surface water runoff is discharged to a surface water body
- Priority Level 4: Surface water runoff is discharged to a surface water sewer, highway drain, or other drainage system
- Priority Level 5: Surface water runoff is discharged to the combined sewer.

Priority Level 1 is the preferred (highest) priority and 4 and 5 should only be used in exceptional circumstances. The following outlines how the proposed development adheres to the drainage hierarchy.

4.4.1 Priority Level 1 - water for reuse

Due to the nature of the proposed development as National Grid infrastructure, and the associated industrial use and access road, there is no requirement for re-use of water from this area. Consequently, lower discharge priority levels have been considered.

4.4.2 Priority Level 2 - infiltration

A Desktop study has been completed for the wider EAF site by RSKGeoScience in June 2024. The Phase One Desktop Study indicates the potential for high groundwater levels, 1-2m below the ground level. This details potential contamination risk sources and mitigation measures across the site to minimise the risk of mobilisation of contaminants.

To date, no infiltration testing has been undertaken across the site. However, as a result of the above, it is considered that infiltration shall not be a viable solution for surface water drainage. Given the risk of mobilisation of contaminants and the high groundwater levels across the site, the use of infiltration is not a suitable solution for surface water drainage. On the basis of the Phase One desktop Study, it is assumed that no further information is required to support this conclusion for the site.

Therefore, for the purpose of this report, it is assumed that infiltration is not viable.

4.4.3 Priority Level 3 - discharge to surface water body

An Ordinary Watercourse flows through the proposed planning boundary. Therefore, a connection into this watercourse is proposed for surface water discharge.

As a suitable discharge location has been found, Priority Levels 4 and 5 have not been considered further.

4.5 S2: Surface Water Runoff Hydraulic Control: Proposed Discharge Rate

There are typically three design storm events which should be considered when designing the surface water drainage system for managing flows and volumes:

- 1 in 1 year storm event, on sloping sites without basements, where surcharging above soffits of any surface water drainage pipework is not permitted.
- 1 in 30-year storm event, where surface water flooding of the site does not occur at this frequency,
- 1 in 100-year storm event, with allowances for future climate change, where runoff from the site should be controlled to Greenfield rate using SuDS attenuation features to management flows and volumes within the extents of the development site.

4.5.1 Discharge Limits and Attenuation Volume

In accordance with G2.1 of the Statutory Standards for SuDS in Wales *"where the surface water body is unaffected by either the discharge rate or volume of runoff (e.g. an estuary, the sea, or a waterbody identified in the Local Flood Risk Management Strategy (LFRMS) as not needing hydraulic control to runoff to it), the hydraulic management control requirements are limited to the drainage service provisions for the site and adjacent areas that could be affected by performance of the system"*.

As a result, there is no requirement to limit runoff from the proposed development as a consequence of discharging surface water directly into tidal waters (the Bristol Channel) or in order to mitigate fluvial flood risk, therefore reduction to greenfield runoff rates is not particularly relevant to this site.

4.5.2 Interception of Rainfall

When rainfall takes place on greenfield sites there is, for the majority of rainfall events no runoff due to evapotranspiration or groundwater recharge. Therefore, interception mechanisms are based on runoff volume reduction using evapotranspiration and infiltration processes. Table G2.1 of the Statutory Standards for SuDS in Wales lists the interception drainage components which have assumed compliance.

Given that the proposed surface water drainage strategy intends to discharge of surface water to a tidally influenced waterbody, the need to comply with the requirements of interception is limited.

4.5.3 Exceedance Events

Extreme events exceeding the design event could occur and may result in overland flows across the site. The duration of flooding, max depth, max velocity, and route of flood flows should be established and managed. It is envisaged that exceedance flows shall be retained and managed within the National Grid compound. Further details of these shall be provided at detailed design stage.

The impact of exceedance flows onto adjacent land should also be considered. However, there is no land downstream of the Tata Steel UK Ltd site and therefore potential impact on third parties is limited.

4.5.4 Climate Change Impact

The Welsh Government has produced an Adapting to Climate Change guidance which contains updated representative climate change allowances for Wales for peak flows. The guidance contains indicative sensitivity ranges for peak rainfall intensity. As a non-residential site, lifetime of development is 75 years. As such the 2070-2115 estimate should be used. The recommended climate change factor for small catchments using the upper end estimate for the 2070-2115 epoch is 40%.

4.6 S3: Water Quality

To mitigate against the adverse impacts on the water quality of the receiving environment the CIRIA SuDS Manual recommends the following steps to determine the required water quality management for discharges to surface waters and groundwaters:

- Plan land use to prevent runoff and associated pollutants for most rainfall events up to 5mm in depth.
- Identify the pollution hazard level associated with the given type of development.
- Select risk assessment approach based on receiving water environment and the pollution hazard level.
- Carry out the risk assessment for each outfall considering the pollution hazard level, the status of the receiving water environment and effectiveness of the proposed SuDS techniques.

Table 4.3 of the SuDS Manual advocates the use of the 'simple index approach' to determine the appropriate level of pollution mitigation for development sites. This splits pollution into three contaminant types (Total Suspended Solids, Metals, and Hydrocarbons) and assigns a 'pollution hazard index' to each type. Different SuDS features are then assigned a 'SuDS Mitigation Index' and sufficient treatment is deemed to be provided if the 'SuDS Mitigation Index' is equal to or greater than the 'pollution hazard index' for each pollutant type.

The outline surface water drainage strategy for the wider EAF project indicated a pollution hazard index for each catchment based on overarching principles and predicted land use. However, as the scheme has developed further details for development proposals, including for this National Grid Reserved Matters application, a review and update of the classifications has been completed accordingly. As such, the road is classified as having a 'low' pollution hazard due to its primary use as access for the National Grid compound. The National Grid compound itself will be classified as having a 'high' pollution hazard level due to the risk of contamination of water from oils, metals, and associated fire risk. To reflect the high-risk nature of compound appropriate mitigation measures such as bunding and treatment has been proposed.

Table 4-1 outlines the designated pollution hazard for the National Grid compound and associated access road.

Table 4-1 Pollution Hazard Indices

Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Low (road)	0.5	0.4	0.4
High (compound)	0.8	0.8	0.9

The SuDS Manual suggests that the simple index approach should only be considered appropriate for use in consideration of mitigation for water quality when used as part of a detailed risk assessment. When dealing with high hazard sites, the environmental regulator should be consulted for pre-permitting advice to determine the most appropriate approach to the development of design solution. However, as the proposed development site is located within the wider Tata Steel ownership boundary, the site is already subject to the requirements of an existing discharge permit. The site is served via an existing wastewater treatment system which services process water across the site to sufficient levels to permit discharge to the Bristol Channel via the long sea outfall.

Table 26.3 of the SuDS Manual provides indicative SuDS mitigation indices for discharges to surface water. Table 4-2 demonstrates the mitigation indices of potential contaminants by each individual SuDS feature proposed for the site. The swale will be used to treat the access road, whilst the filter drains and oil interceptor system will provide sufficient treatment for the compound area.

Table 4-2 Pollution hazard indices for SuDS features

SuDS component	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Swale (access road)	0.5	0.6	0.6
Filter drain (National Grid Compound)	0.4	0.4	0.4
Oil Interceptor (National Grid Compound)	0.8	0.6	0.9

4.7 S4 & S5: Amenity and Biodiversity

The design of the surface water management system should maximise amenity and biodiversity benefits across the site. SuDS components can enhance the provision of high-quality, attractive space which can help to provide health and well-being benefits, improve employee welfare and can contribute to improving the climate resilience of new developments.

The proposed site use, layout constraints and water quality pollution hazard make the use of SuDS difficult and a proportional approach to the application of amenity and biodiversity benefits has been applied across the clean water stream.

Access Road

As the proposed strategy utilises the 'clean water stream' discharging surface water to the Ordinary Watercourse that crosses through the site, amenity and biodiversity benefits can be obtained. Above ground SuDS techniques will be utilised adjacent to the road in the form of a swale. The swale feature will be self-seeding, with species that are suitable for the industrial nature of the site and have low maintenance requirements.

National Grid Compound

Due to the mix of pollution hazards and bunded nature of the National Grid compound, the opportunities for amenity and biodiversity benefits are low. Additionally, due to the fire risk associated with the infrastructure, no vegetated features have been proposed to mitigate the spread of fire, should it occur. Long, continuous stretches of vegetation can add to flame acceleration and should therefore be avoided.

However, future development aspirations should also be considered. This application forms a small area of a wider (future) development. Tata is in discussion with Neath Port Talbot Council on the wider SuDS proposal across the future configuration of the steelworks, which shall maximise amenity and biodiversity benefits across the site within the clean water stream.

In addition, a number of works are being proposed to the 'Southern Fields' at the southern extent of the wider project boundary, north of the Margam Moors SSSI. The approved landscape plans named in the EAF planning permission set out the mitigation and enhancement measures in this location and are including at Appendix E of this report for ease of reference.

4.8 Design for Construction, Maintenance, and Structural Integrity

The national SuDS standards state that components must be designed to ensure structural integrity of the drainage system and any adjacent structures under anticipated loading conditions over the design life of the development, taking into account the requirements for reasonable levels of maintenance. The detailed design will include a maintenance plan and associated costs for the development site.

4.8.1 Health and Safety

Under the Construction (Design and Management) Regulations 2015 (CDM 2015) it is the designer's duty to:

- Eliminate foreseeable health and safety risks to anyone affected by the project.
- Take steps to reduce or control any risks that cannot be eliminated.

- Communicate, cooperate, and coordinate with the client, other designers and contractors involved in the project so that designs are compatible, and health and safety risks are accounted for during the project and beyond.

The potential significant hazards and risks associated with the construction, operation, and maintenance of the proposed surface water drainage system are being identified during the design process, and designed out of the proposals wherever feasible.

4.8.2 Construction Surface Water Management

During construction of the proposed development, surface water runoff shall need to be managed carefully to mitigate and minimise the risk of silt laden runoff (or other contaminants) entering the drainage system and ultimately, the Bristol Channel. At this stage of the project, a Construction Environmental Management Plan (CEMP) has been prepared to cover the wider development site to outline the measures that shall be in place to manage surface water during the construction phase. A full Detailed Construction and Environmental Management Plan (DCEMP) shall be submitted with the full SAB application.

The following guidance documents should be referred to in the preparation of the CEMP:

- GPP1 Understanding your environmental responsibilities - good environment practices.
- GPP2 Above ground oil storage
- GPP5 Works and maintenance in or near water
- GPP6 Working on construction and demolition sites
- GPP8 Safe storage and disposal of used oils
- GPP13 Vehicle washing and cleaning
- GPP21 Pollution incident response planning
- GPP22 Dealing with spills
- Ciria C742 Environmental Good Practice on Site

4.8.3 Adoption and Maintenance

The proposed development site is possessed by a single landowner and uses a private network. Therefore, the proposed development site shall be retained within the land ownership and will not be adoptable. The proposed access road shall be owned and maintained by Tata Steel UK Ltd. The sub-station compound shall be maintained by National Grid.

During the detailed design phase, a detailed maintenance plan shall be developed to demonstrate the maintenance required to ensure that the proposed drainage system functions to optimal capacity in perpetuity.

5 Conclusions

JBA Consulting were commissioned by Tata Steel UK Ltd to provide surface water drainage support for their decarbonisation plans at their Port Talbot Site. This outline surface water drainage strategy shall be used to support a Reserved Matters application in regard to the National Grid compound and preliminary works. The Reserved Matters submission follows a successful hybrid planning application for the proposed Electric Arc Furnace (EAF) development at the Port Talbot steelworks site.

Development proposals are for preliminary works and a new substation compound, including associated infrastructure. The proposed access road, and the National Grid compound shall comprise separate surface water drainage systems and shall therefore form two separate SAB applications and phases for approval.

Surface water on the proposed access road will drain into an adjacent swale, which will provide sufficient water quality treatment whilst also providing amenity and biodiversity benefits.

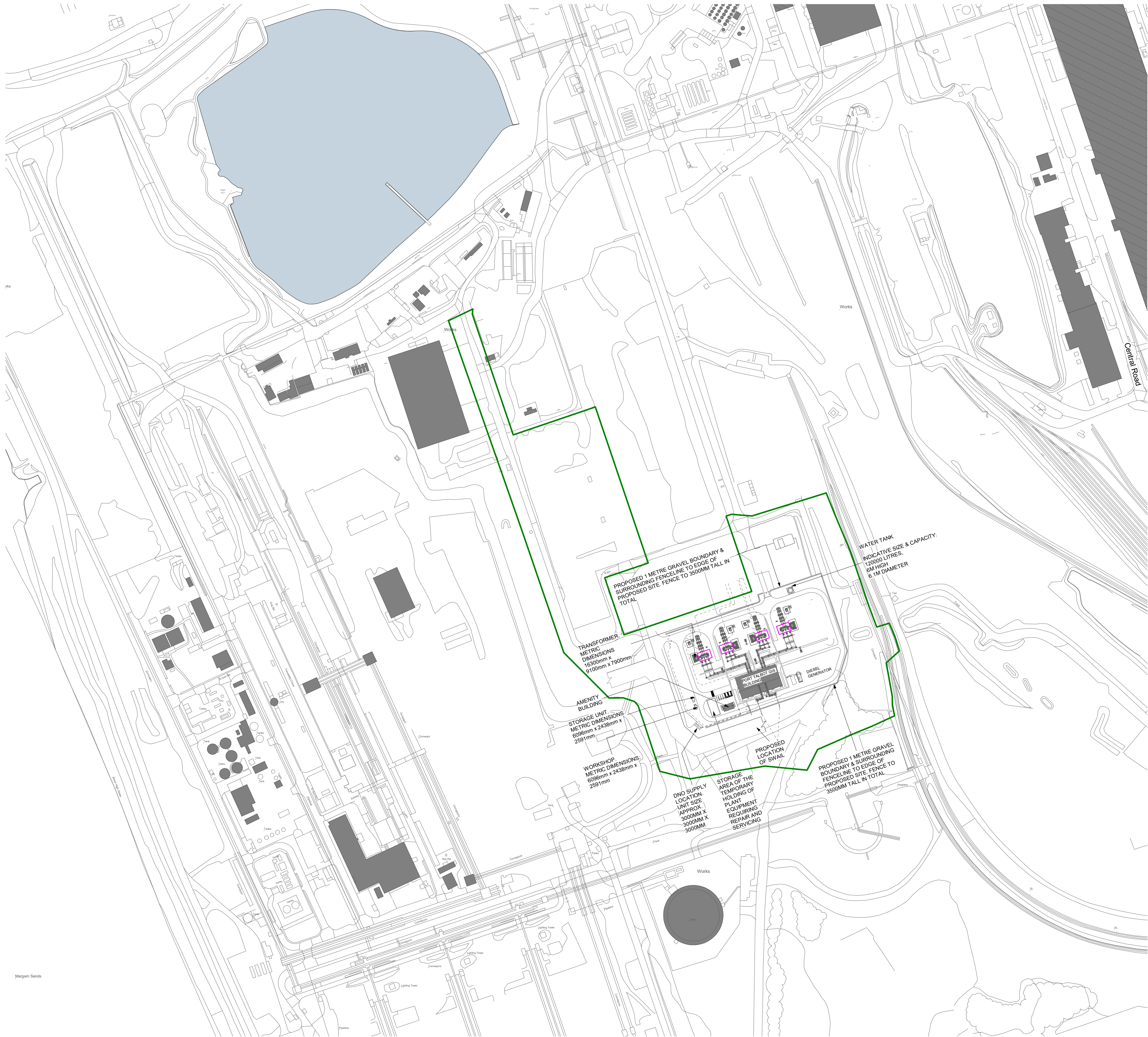
The proposed development site is a highly industrialised site due to its current production of steel. Consequently, due to the risk of water contamination from the National Grid compound and its associated fire risk, the management of surface water has been designed to reflect the industrial setting, along with meeting the requirements of the Statutory Standards for SuDS in Wales. Surface water within the National Grid compound will be conveyed via filter drains and oversized pipes, via an oil interceptor system, and therefore will receive appropriate water quality treatment.

Surface water from both networks will then be discharged into an existing Ordinary Watercourse which has been diverted within the proposed planning boundary as a result of the required location of the National Grid compound. The ultimate discharge location is the Bristol Channel, a tidal waterbody.

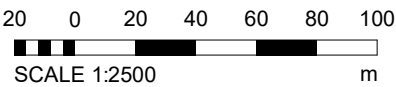
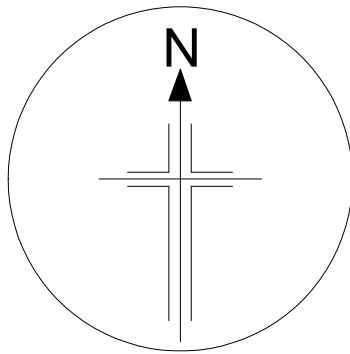
The proposed site use and layout constraints make the use of SuDS difficult. However, discussions are ongoing regarding wider configuration of the steelworks site which will maximise amenity and biodiversity benefits through the use of SuDS features where viable.

As the site shall retain in single ownership, long term management and maintenance shall be undertaken by Tata Steel UK Ltd and the National Grid for their respective systems. The system shall not be offered for adoption by the SAB.

A Development Proposal



100_Site Plan_Port Talbot Proposed & National Grid Works
Scale:1 : 2500



For Planning

GENERAL NOTES

ALL BAKERHICKS DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE GENERAL NOTES DRAWINGS, THE RELEVANT BAKERHICKS SPECIFICATIONS AND ALL RELEVANT ARCHITECTS AND SERVICE ENGINEERS DRAWINGS AND SPECIFICATION.

ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM.

ALL DIMENSIONS ARE IN MILLIMETRES (U.N.O.)

DO NOT SCALE ANY ENGINEERING DRAWINGS OR DIGITAL DATA. IF IN DOUBT ASK, WORK TO FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES IN DIMENSIONS ARE TO BE REFERRED TO ENGINEER BEFORE WORK IS PUT TO HAND.

THE CONTRACTOR MUST ADVISE THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND/OR SITE CONDITIONS / DIMENSIONS AT THE EARLIEST POSSIBLE OPPORTUNITY.

REVISION NOTES ARE FOR GUIDANCE ONLY. FOR SPECIFIC DETAILS, REFER TO CLOUDED AREA ON DRAWINGS FOR MOST RECENT AMENDMENTS.

ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR OR HIS SUBCONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.

ALL WORK HAS TO BE CARRIED OUT WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES AND REGULATIONS.

ALL METHOD STATEMENTS SHOULD BE SUBMITTED TO THE ARCHITECT / CDM PRINCIPAL DESIGNER AND ENGINEER FOR REVIEW AT LEAST TWO WEEKS BEFORE CARRYING OUT THE SAD WORKS.

ALL PROPRIETARY PRODUCTS TO BE AS SPECIFIED OR EQUAL APPROVED.



KEYPLAN

NOTE:

DRAWING TO BE PRINTED IN COLOUR

SITE KEY

RESERVED MATTERS BOUNDARY
SITE AREA:

(100436.981m²)
(10.04 Hectares)
(24.82 Acres)

NATIONAL GRID TRANSFORMER BOUNDARY
ENCLOSURE

MITIGATION OF NOISE TO THE SITE WILL BE CONTROLLED BY AN ENCLOSURE TO THE PLANT EQUIPMENT AS INDICATED, OR A REDUCTION IN SOUND EMISSION TO THE EQUIPMENT THEMSELVES



EXAMPLE IMAGE SHOWING STEEL ACCESS GATE WITH ELECTRIFIED WIRE OVERHEAD



EXAMPLE IMAGE SHOWING PALADIN STEEL PERIMETER FENCE WITH ELECTRIFIED WIRE OVERHEAD. ADDITIONALLY EXAMPLE OF GRP DNO ALSO SHOWN



EXAMPLE IMAGE SHOWING STEEL TRANSFORMER ENCLOSURE FOR ACOUSTIC ATTENUATION PURPOSES

P04	S3: Suitable for Review & Comment. Updated Keyplan	DSB	OTR / RW	10/07/25
P03	S3 - For Review & Comment. Updated colour of planning boundary to reflect planning authority feedback	OTR	PC / RW	25/06/25
P02	S3 - For Review & Comment. Updated following planning feedback provided on 19/05/25	OTR	PC / JK	10/06/25
P01	First Issue - for planning	GP	OTR / RW	07/05/25
Rev	Description	Cre'd	Chk'd / App'd	Date

nationalgrid

Master Scheme No:	Sub-Scheme No:	Site:
101677		PORT TALBOT

Scheme Name:

Margam Connection

Document Title:

Port Talbot GIS Hall -Proposed Site Plan
& National Grid Works

Created by:	Date:	Checked by:	Date:	Approved by:	Date:
GP	30/04/2025	OTR	30/04/2025	RW	30/04/2025
Development Eng:	Document Type:	Scale:	Format:	Sheet(s):	Rev:
DWG		1 : 2500	A1	1 OF 1	P04

National Grid Document Number:
13_LOR_0070

MARPT-BHK-02-ZZ-DG-A-130056

B Ground Investigation

Refer to approved Phase 1 Desk Study (reference 315531 R01, dated October 2024)

C Greenfield Runff Rates

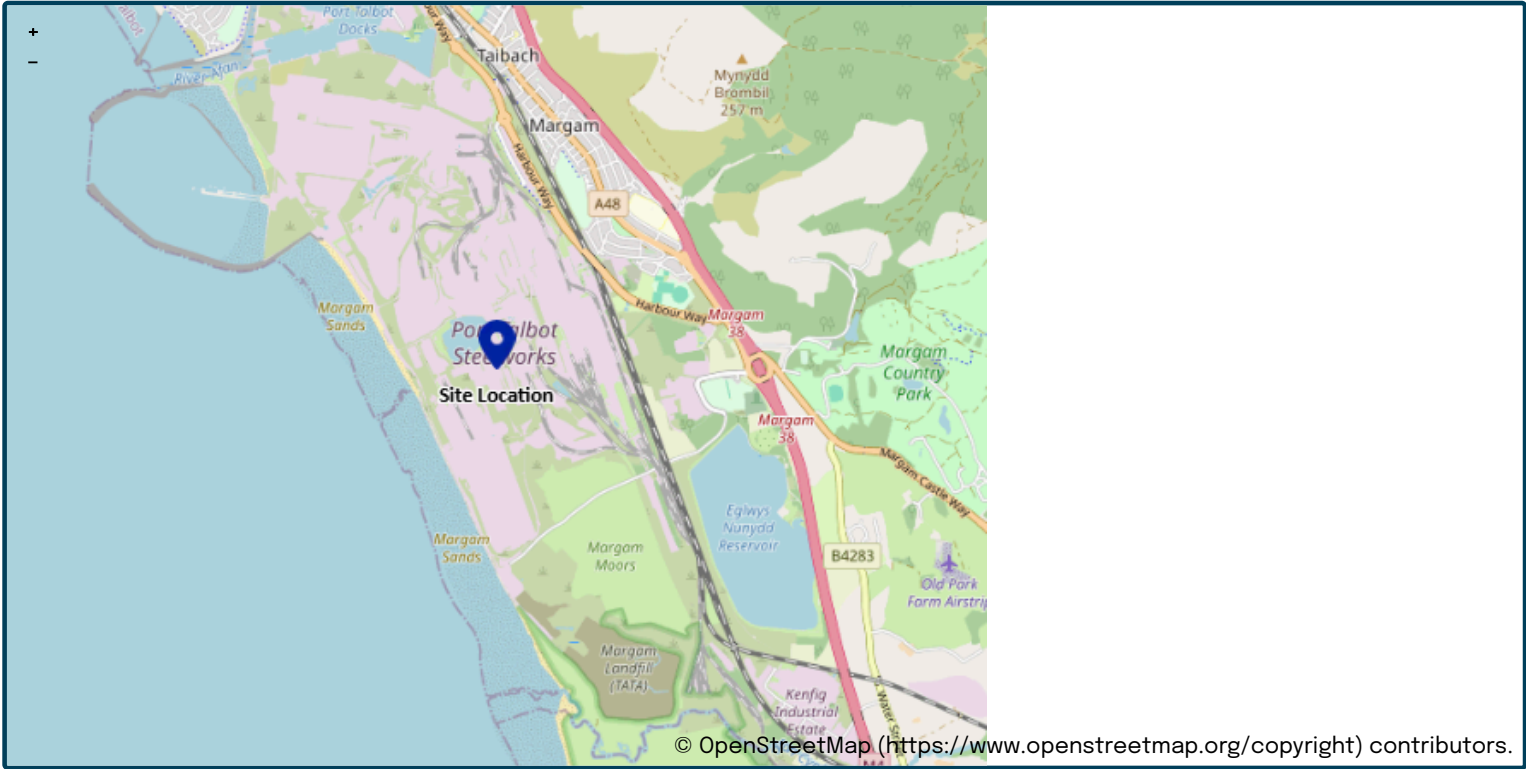
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	27/05/2025
Calculated by	CHARLOTTE LICKMAN
Reference	Tata Steel
Model version	2.0.1

Location

Site name	Port Talbot Steelworks
Site location	Port Talbot Steelworks



Site easting	277408
Site northing	186039

Site details

Total site area (ha)	9.89	ha
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Greenfield runoff

Method

Method	FEH statistical
--------	-----------------

FEH statistical

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	1081	mm	1129
BFIHOST	0.778		
QMed-QBar conversion	1.075	☐	1.075
QMed (l/s)	25		
QBar (FEH statistical) (l/s)	26.8		

Growth curve factors

	<u>My value</u>		<u>Map value</u>
Hydrological region	9	☐	9
1 year growth factor	0.88		
2 year growth factor	0.93		
10 year growth factor	1.42		
30 year growth factor	1.78		
100 year growth factor	2.18		
200 year growth factor	2.46		

Results

Method	FEH statistical	
Flow rate 1 year (l/s)	23.6	l/s
Flow rate 2 year (l/s)	25	l/s
Flow rate 10 years (l/s)	38.1	l/s
Flow rate 30 years (l/s)	47.8	l/s
Flow rate 100 years (l/s)	58.5	l/s
Flow rate 200 years (l/s)	66	l/s

Disclaimer

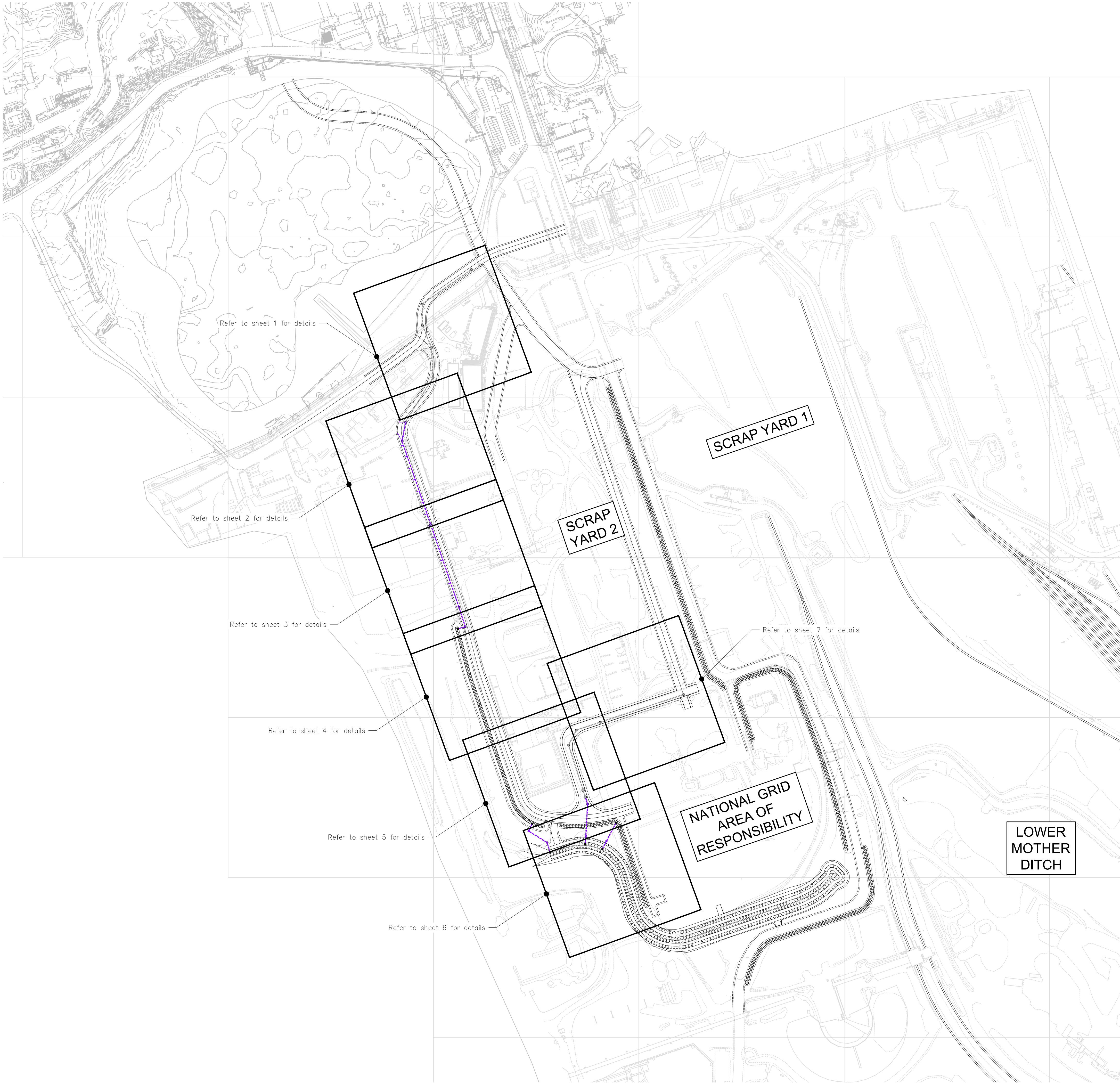
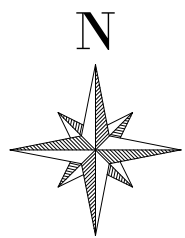
This report was produced using the Greenfield runoff rate estimation tool (2.0.1) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>).

The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

D Outline Drainage Strategy

NOTES

1. This drawing shall be read in conjunction with the civil engineering specification and all relevant Engineer's drawings.
2. This document must not be altered, reproduced or distributed without prior written consent of the originator.
3. Do not scale from this document – use figured dimensions only. All dimensions must be checked on site prior to commencement of any related works.
4. Any drawing error to be brought to the attention of the project manager before any works are undertaken.
5. Covers and frames to be as noted below for each particular location in accordance with BS EN 124 (unless noted otherwise)
6. During the enabling works stage, catchpit chambers are to be covered and protected to prevent additional surface water runoff and debris from entering the proposed drainage network.
7. All surface water network drainage pipes to be constructed soffit to soffit unless noted otherwise within the contract documentation (i.e. drawings, specification, schedules etc.)
8. The proposed surface water network criteria is designed to not surcharge for the 1:2 year storm, to not flood for the 1:30 year storm and to limit / contain flooding for the 1:100 year storm + 40% climate change within the extent of the site boundary.
9. The Lead Local Flood Authority (LLFA) has not been contacted to obtain their recommendations.
10. It is not known if there are any deleterious materials in the ground. It is agreed with TATA that the existing ground conditions are non-aggressive.
11. Ground water control methods during construction must be considered.
12. Protection measures to all live services within the vicinity of the construction works to be confirmed by the services network operators.
13. Surface water treatment apparatus are to be installed in accordance to manufacturers guidelines and requirements. Provisions for maintenance access will be required.
14. Flow control and chambers to be constructed/installed in accordance with the manufacturers requirements.
15. The contractor is made aware of the following risks associated with the works:
 - The presence of above and below ground services and structures, such apparatus may be live and form part of service critical infrastructure. The contractor is to locate, identify and secure all apparatus prior to undertaking any work. If discovered an appropriate management plan/risk assessment is to be submitted to the client for approval.
 - Appropriate tests are to be carried out on soils at sufficient intervals and depth to identify any contaminants that may impact on the h&s of operatives or the works. If discovered an appropriate management plan/risk assessment is to be submitted to the client for approval.
 - Heavy plant and rail freight operate across the site, the contractor is to agree with the client an appropriate management plan/risk assessment to protect the workforce.
 - Tests to identify the presence of tar bound materials in road surfacing materials are to be undertaken prior to any excavation in the material. If discovered an appropriate management plan/risk assessment is to be submitted to the client for approval.
 - The presence of harmful leachate and/or gas in excavations is to be identified and an appropriate management plan/risk assessment is to be submitted to the client for approval.
 - Existing ground conditions vary, the stability of any embankment or cutting and the bearing capacity of the ground where loaded is to be assessed for suitability prior to works being carried out and an appropriate management plan/risk assessment is to be submitted to the client for approval.
 - The presence of unexploded ordnance should be anticipated, a magnetometer survey is to be undertaken prior to any works commencing to search for any unexploded ordnance, during the works a watching brief is to me kept to identify any potential materials that may represent a hazard to the workforce or completed scheme.



SKANSKA

KEY CDM RESIDUAL DESIGN AND ENVIRONMENTAL RISKS	
Buried services (1.01)	Deep excavation (3.02, 3.03)
Overhead services (1.03)	Manual handling (3.04)
Buried structures (1.04)	High ground water levels (3.09)
Existing rail (1.05)	
Unexploded ordnance (2.01)	
Contaminated soil (2.02)	
Confined space (3.01)	

IN ACCORDANCE WITH THE CONSTRUCTION DESIGN MANAGEMENT REGULATIONS 2015, THE DOCUMENT ORIGINATOR HAS UNDERTAKEN A DESIGN RISK ASSESSMENT FOR THE ELEMENTS SHOWN ON THIS DOCUMENT. THE ABOVE ARE ONLY THE KEY RISKS THAT WERE IDENTIFIED DURING THE RISK ASSESSMENT. FOR A COMPREHENSIVE LIST REFER TO THE DESIGN RISK ASSESSMENT.

GENERAL NOTES:

1. DO NOT SCALE FROM THIS DRAWING
2. SITE VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION
3. REPORT ALL DISCREPANCIES TO THE DRAWING ORIGINATOR IMMEDIATELY
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT AS BUILT DRAWINGS AND OTHER DOCUMENTS

IMPORTANT
The existing services shown on this drawing are for information purposes only. Their exact alignments and levels are unknown and may be inaccurately shown. Additional site investigation is required to confirm their locations and levels.

1	03/06/25	Issued for construction	AJC	CT - KB
A	14/03/25	Tender issue	AJC	KS - KB
Rev	Date	Description	Dm	Chk'd-App'd
Revisions				

Client



Drawing Originator

SKANSKA | Skanska Technology

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Drawing Status

FOR CONSTRUCTION

Project Name

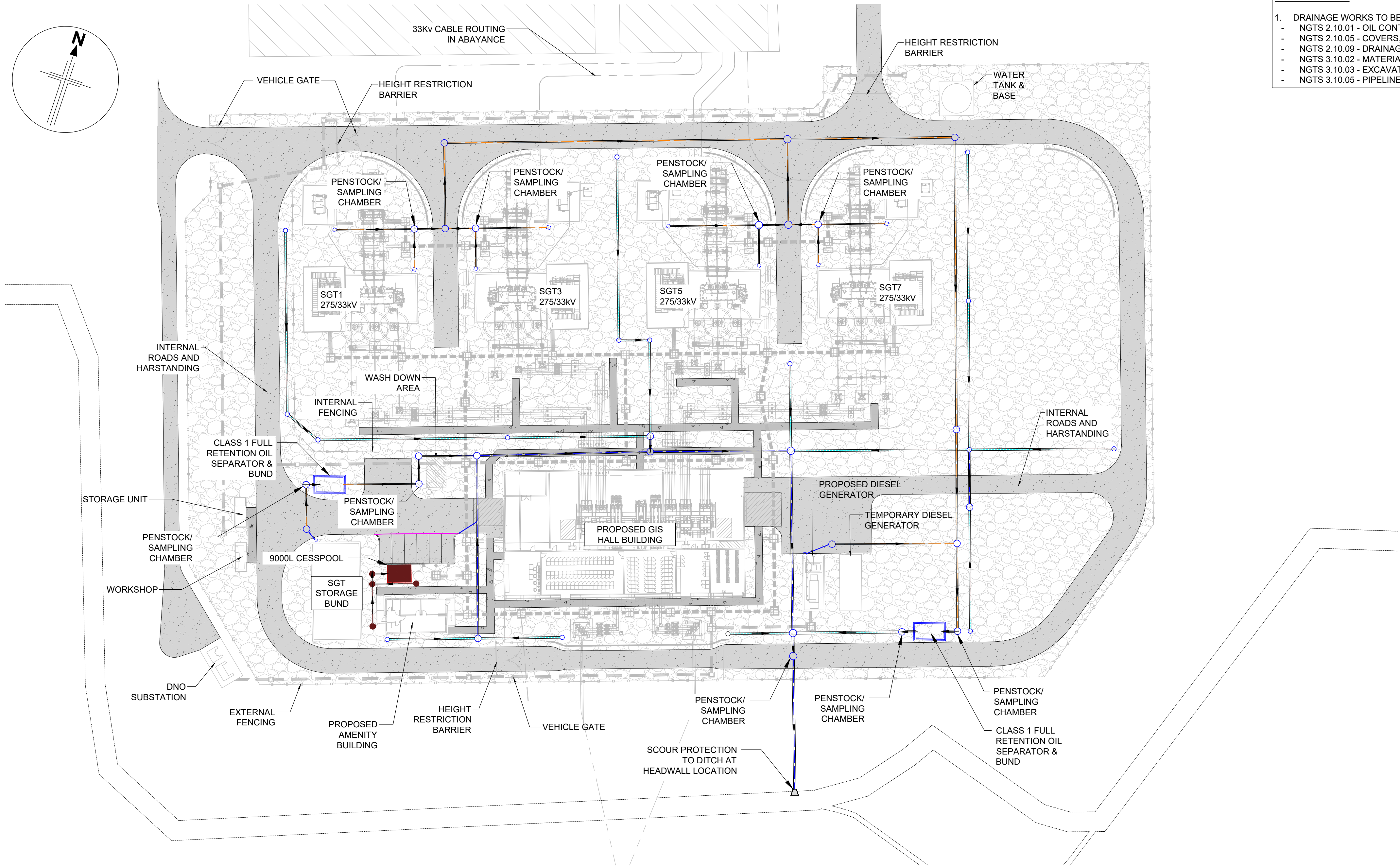
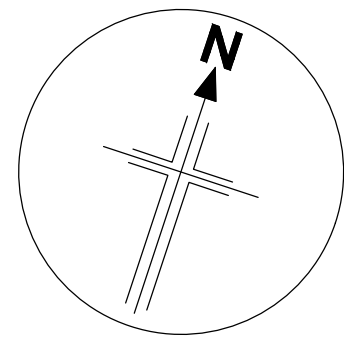
INVICTUS

Drawn by A COLLINS	Drawn Date 27/02/2025	Checked by K SULSH	Checked Date 14/03/2025
Approved by K BALDWIN	Approved Date 14/03/2025	Scale 1:2000	

Title Original drawing sheet is A1

NATIONAL GRID
ROAD 5.3
DRAINAGE OVERVIEW

Document Reference							
PROJECT NUMBER	ORIGINATOR	FACILITY BUILDINGS STRUCTURE	DISCIPLINE GROUP CODE	INFORMATION TYPE CODE	DOCUMENT TYPE CODE	RESOURCE NUMBER	REVISION
3701/00025 - SKA - 200102 - CI	DRG	DG	00520				1



DRAINAGE LAYOUT
SCALE 1:500



ASSOCIATED DRAWINGS:

MARPT-BHK-02-ZZ-DG-C-181512 - 18/LOR/0217 - PORT TALBOT DRAINAGE LAYOUT SHEET 01
MARPT-BHK-02-ZZ-DG-C-181527 - 18/LOR/0219 - PORT TALBOT DRAINAGE CONSTRUCTION DETAILS SHEET 01
MARPT-BHK-02-ZZ-DG-C-181528 - 18/LOR/0220 - PORT TALBOT DRAINAGE CONSTRUCTION DETAILS SHEET 02
MARPT-BHK-02-ZZ-DG-C-181529 - 18/LOR/0221 - PORT TALBOT DRAINAGE CONSTRUCTION DETAILS SHEET 03
MARPT-BHK-02-ZZ-DG-C-181530 - 18/LOR/0222 - PORT TALBOT DRAINAGE OIL INTERCEPTOR DETAILS SHEET 01
MARPT-BHK-02-ZZ-DG-C-181531 - 18/LOR/0223 - PORT TALBOT DRAINAGE CESSPOOL DETAILS SHEET 01

SPECIFICATIONS:

1. DRAINAGE WORKS TO BE IN ACCORDANCE WITH:-
 - NGTS 2.10.01 - OIL CONTAINMENT (ISSUE 2 - DECEMBER 2020)
 - NGTS 2.10.05 - COVERS, DUCTS & TRENCHES (ISSUE 1 - APRIL 2017)
 - NGTS 2.10.09 - DRAINAGE (ISSUE 1 - APRIL 2017)
 - NGTS 2.10.02 - MATERIALS (ISSUE 2 - APRIL 2017)
 - NGTS 3.10.03 - EXCAVATE, BACKFILL AND RESTORE (ISSUE 2 - APRIL 2017)
 - NGTS 3.10.05 - PIPELINES (ISSUE 2 - APRIL 2017)

Health & Safety
CDM regulations 2015

Significant risks associated with this drawing are identified below and, where applicable, at specific locations on the drawing. Refer to the CDM Regulation 9 Risk Register (3004595-BHK-XX-XX-RE-HS-0012) for full details.

1. DO NOT CONSTRUCT FROM THIS DRAWING - FOR REVIEW ONLY
2. WORKS TO BE CONSIDERATE OF PRESENCE OF GROUND CONTAMINATION.
3. WORKING IN PROXIMITY TO ACTIVE DRAINAGE DITCHES, CARE SHOULD BE TAKEN WHEN NEAR DITCHES.
4. DEEP EXCAVATIONS REQUIRED FOR INTERCEPTOR, CESS TANK. EXCAVATIONS SHOULD BE OPEN FOR THE MINIMUM TIME PRACTICABLE AND PROTECTED

GENERAL NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. UNLESS NOTED OTHERWISE, LEVELS (AOD) AND CO-ORDINATES (RELATIVE TO ORDINANCE DATUM) ARE IN METERS
3. DESIGN IN ACCORDANCE WITH:
 - 3.1. NATIONAL GRID TECHNICAL SPECIFICATION (NGTS) 2.10.09 SITE DRAINAGE (ISSUE 1).
 - 3.2. NATIONAL GRID TECHNICAL SPECIFICATION (NGTS) 2.10.01 OIL CONTAINMENT (ISSUE 2)
4. DRAWING NOT TO BE USED FOR CONSTRUCTION.
5. DRAWING TO BE READ IN CONJUNCTION WITH DRAINAGE STRATEGY REPORT REF MARPT-BHK-02-XX-RP-C-000001
6. ALL EXTERNAL DRAINAGE AND WATERCOURSE DIVERSION WORKS UNDER TSUK SCOPE. FOR DETAILS, REFER TO DRAWING 3701/00025-SKA-200102-CI-DRG-DG-00500 (REV A)
7. DESIGN DEVELOPED IN LINE WITH ACCEPTED OUTLINE PLANNING CONDITIONS SET BY JBA CONSULTING ON BEHALF OF TSUK.
8. DRAINAGE CONNECTIONS WILL BE PROVIDED FROM PROPOSED TROUGH LOCATIONS FOLLOWING CONFIRMATION OF ROUTES AND REQUIREMENTS.
9. PROPOSED DNO SUBSTATION ACCESS ROAD AND CATCHMENT TO BE CONVEYED AND MANAGED VIA TSUK DRAINAGE SYSTEM, REFER TO 3701/00025-SKA-200102-CI-DRG-DG-00500 (REV A)

KEY:

- SURFACE WATER PIPE
- OILY WATER PIPE
- FILTER DRAIN
- FOUL DRAINAGE PIPE
- LINEAR DRAIN
- CONNECTION PIPE
- BWCU GULLY
- SURFACE WATER CATCHMENT CHAMBER
- SURFACE WATER PPIC
- FOUL WATER MANHOLE
- HEADWALL
- INDICATIVE ROUTE OF DIVERTED WATERCOURSE
- ROAD AREA
- FOOTPATH AREA
- GRANULAR STONE PLATFORM
- CESSPOOL TANK
- OIL SEPARATOR

NOTE - FOR CLARITY THIS DRAWING
SHOULD BE PLOTTED IN COLOUR

PRELIMINARY

P02	[S3 - FOR REVIEW AND COMMENT	KA	CE/RC	14.05.25
P01	DRAFT ISSUE FOR PLANNING	KA	CE/JS	05.12.24
Rev	Description	Cre'd	Chk'd / App'd	Date

nationalgrid

National Grid Electricity Transmission plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

Master Scheme No:	Sub-Scheme No:	Site:
101677		MARGAM / PORT TALBOT

Scheme Name: MARGAM SUBSTATION
LoR

Document Title: PORT TALBOT
DRAINAGE LAYOUT
SHEET 01 OF 02

Created by:	Date:	Checked by:	Date:	Approved by:	Date:
KA	14.05.25	CE	14.05.25	RC	14.05.25
Development Eng:	Document Type:	Scale:	Format:	Sheet(s):	Rev:
DWG		1:500	A1	01 OF 02	P02

National Grid Document Number:
18_LOR_0217

Document Number:
MARPT-BHK-02-ZZ-DG-C-181512

Significant risks associated with this drawing are identified below and, where applicable, at specific locations on the drawing.
Refer to the CDM Regulation 9 Risk Register
(30004595-BHK-XX-XX-RE-HS-0012) for full details.

- DO NOT CONSTRUCT FROM THIS DRAWING - FOR REVIEW ONLY
- WORKS WITHIN CLOSE PROXIMITY OF TO EXISTING OHL.
- WORKS TO BE CONSIDERATE OF PRESENCE OF GROUND CONTAMINATION.
- DEEP EXCAVATIONS REQUIRED FOR INTERCEPTOR, CESS TANK. EXCAVATIONS SHOULD BE OPEN FOR THE MINIMUM TIME PRACTICABLE AND PROTECTED.

GENERAL NOTES:

- DO NOT SCALE THIS DRAWING.
- ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
- ALL LEVELS IN METRES UNLESS NOTED OTHERWISE AND RELATIVE TO ORDNANCE DATUM (A.O.D.).
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
- BUILDING CONSTRUCTION TOLERANCES IN ACCORDANCE WITH BS EN 13670 CLASS 1.
- DRAWING NOT TO BE USED FOR CONSTRUCTION.

SEPARATOR:

- SEPARATOR TO BE CLASS 1, FULL RETENTION, TWO CHAMBER UNIT WITH SILT CAPACITY. PRODUCT REFERENCE: P065/2CSC/NG, SERIES 400. DESIGNER TO REVIEW PRIOR TO PRODUCT ORDER.
- INSTALLATION OF UNIT SHALL BE TO MANUFACTURER'S RECOMMENDATIONS, TAKING NECESSARY PRECAUTIONS TO PREVENT FLOTATION OF THE UNIT PRIOR TO CASTING CONCRETE SURROUND.
- EXTENSION SHAFTS TO ACCESS POINTS TO BE PROVIDED AS REQUIRED WITH MIN 150MM CONCRETE SURROUND. COVER AND FRAME TO BE BEDDED ON EITHER TWO COURSES 215 CLASS 'B' ENGINEERING BRICK OR PRECAST CONCRETE COVER FRAME SEATING RINGS. COVER AND FRAME TO BE HAUNCHED IN CONCRETE.
- PIPE REDUCERS / FLEX SEAL COUPLINGS ARE REQUIRED WHERE MANUFACTURERS INLETS/OUTLETS DO NOT MATCH DRAINAGE DESIGN.
- AN OIL LEVEL ALARM SYSTEM SHALL BE PROVIDED IN THE SEPARATOR WITH TELEMETRY FACILITY FOR CONNECTION TO CENTRAL CONTROL BY OTHERS.
- ALL CONTROL EQUIPMENT SHALL BE SUITABLE FOR EXTERNAL OPERATION.
- SEPARATOR TO HAVE SOLID SEALED ACCESS COVER TO B125 (MIN) CLASSIFICATION. ACCESS TO INCLUDE REMOVABLE SAFETY GRILL AT 200MM BELOW COVER (MAX).
- ALL PIPEWORK CONNECTIONS TO BE FORMED USING HYDROCARBON RESISTANT SEALS.
- ALL CHAMBER COVER AND FRAME LOCATIONS TO BE IN ALIGNED IN ACCORDANCE WITH TANK ACCESS SHAFT LOCATION. SPECIFIC LOCATION TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
- BACKFILLING OF EXCAVATIONS SHALL ONLY COMMENCE ONCE THE CONCRETE STRENGTH HAS REACHED 15N/MM². IT SHALL BE IN ACCORDANCE WITH MCHW VOL.1 SHW SERIES 600 EARTHWORKS AND NGTS 3.10.03 ISSUE 2 (2017.)
- 90 DEGREE PIPE BEND TO BE BRETT MARTIN 110MM LONG RADIUS BEND OR SIMILAR APPROVED.
- EARTHING OF ALL METALLIC ITEMS REQUIRED IN ACCORDANCE WITH TS 3.1.2.

CONCRETE:

- ALL STRUCTURAL CONCRETE IN ACCORDANCE WITH BS-8500-1. CONTRACTOR TO PROVIDE THE SUPPLIED MIX DESIGN FOR APPROVAL PRIOR TO CONSTRUCTION.

FINISHES:

- BELOW GROUND CONCRETE FINISHES 'BASIC' TO BS EN 13670 UNLESS NOTED OTHERWISE. ALL EXPOSED ARRISES TO HAVE 25MM X 25MM CHAMFER UNLESS NOTED OTHERWISE.
- EXPOSED SLAB SURFACES TO RECEIVE BRUSHED FINISH. WALLS TO RECEIVE PLAIN FINISH TO BS EN 13670.

PRELIMINARY

P01	S3 - FOR REVIEW AND COMMENT	KA	CE/RC	14/05/2025
Rev	Description	Cre'd	Chk'd / App'd	Date

nationalgrid

National Grid Electricity Transmission plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

Master Scheme No:	Sub-Scheme No:	Site:
101677		MARGAM / PORT TALBOT

Scheme Name:	MARGAM SUBSTATION LoR
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Document Title:	PORT TALBOT DRAINAGE OIL INTERCEPTOR DETAILS SHEET 01 OF 01
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ASSOCIATED DRAWINGS:

MARPT-BHK-02-ZZ-DG-C-181512 - 18/LOR/0217 - PORT TALBOT DRAINAGE LAYOUT SHEET 01
MARPT-BHK-02-ZZ-DG-C-181527 - 18/LOR/0219 - PORT TALBOT DRAINAGE CONSTRUCTION DETAILS SHEET 01
MARPT-BHK-02-ZZ-DG-C-181528 - 18/LOR/0220 - PORT TALBOT DRAINAGE CONSTRUCTION DETAILS SHEET 02
MARPT-BHK-02-ZZ-DG-C-181529 - 18/LOR/0221 - PORT TALBOT DRAINAGE CONSTRUCTION DETAILS SHEET 03
MARPT-BHK-02-ZZ-DG-C-181530 - 18/LOR/0222 - PORT TALBOT DRAINAGE OIL INTERCEPTOR DETAILS SHEET 01
MARPT-BHK-02-ZZ-DG-C-181531 - 18/LOR/0223 - PORT TALBOT DRAINAGE CESSPOOL DETAILS SHEET 01

SPECIFICATIONS:

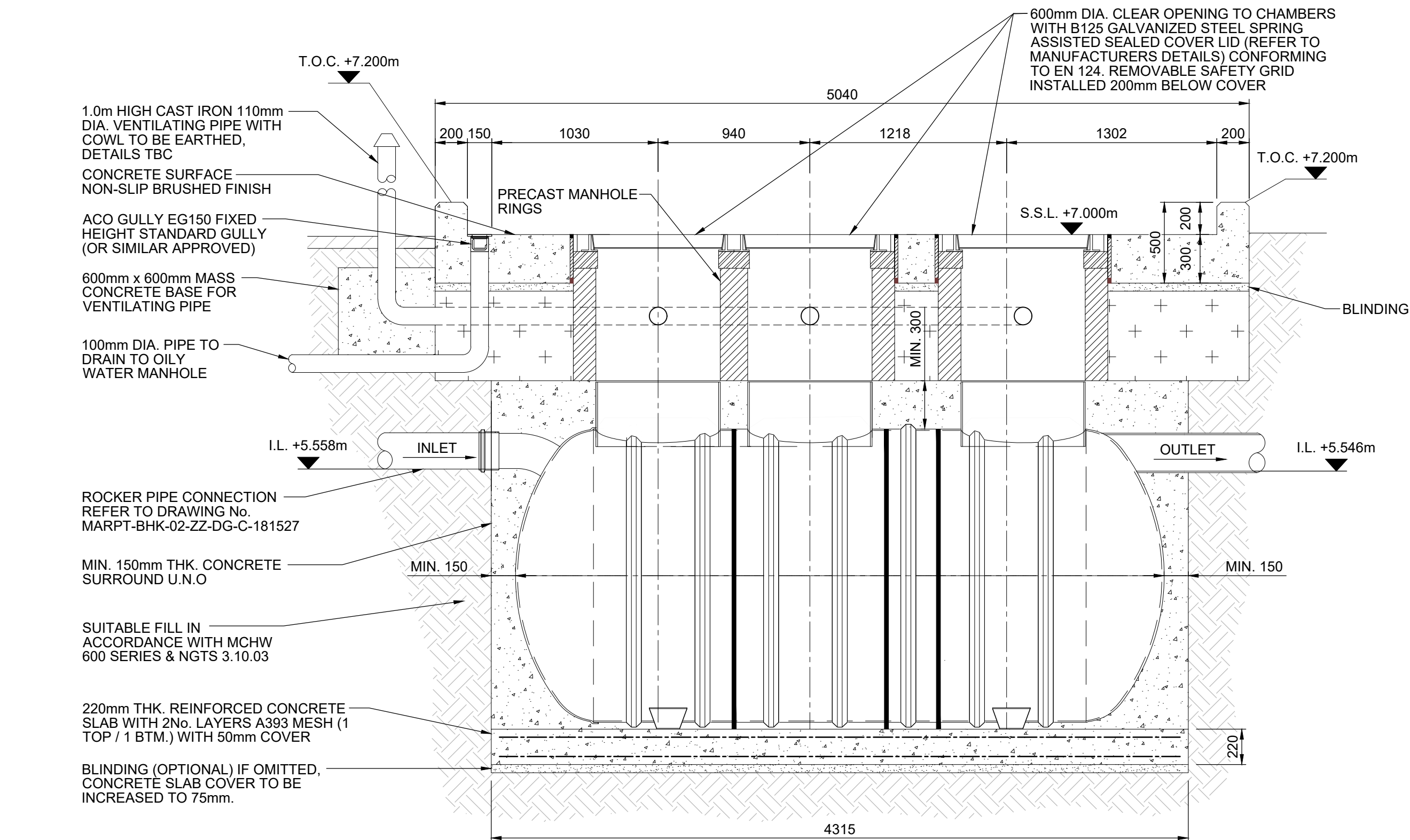
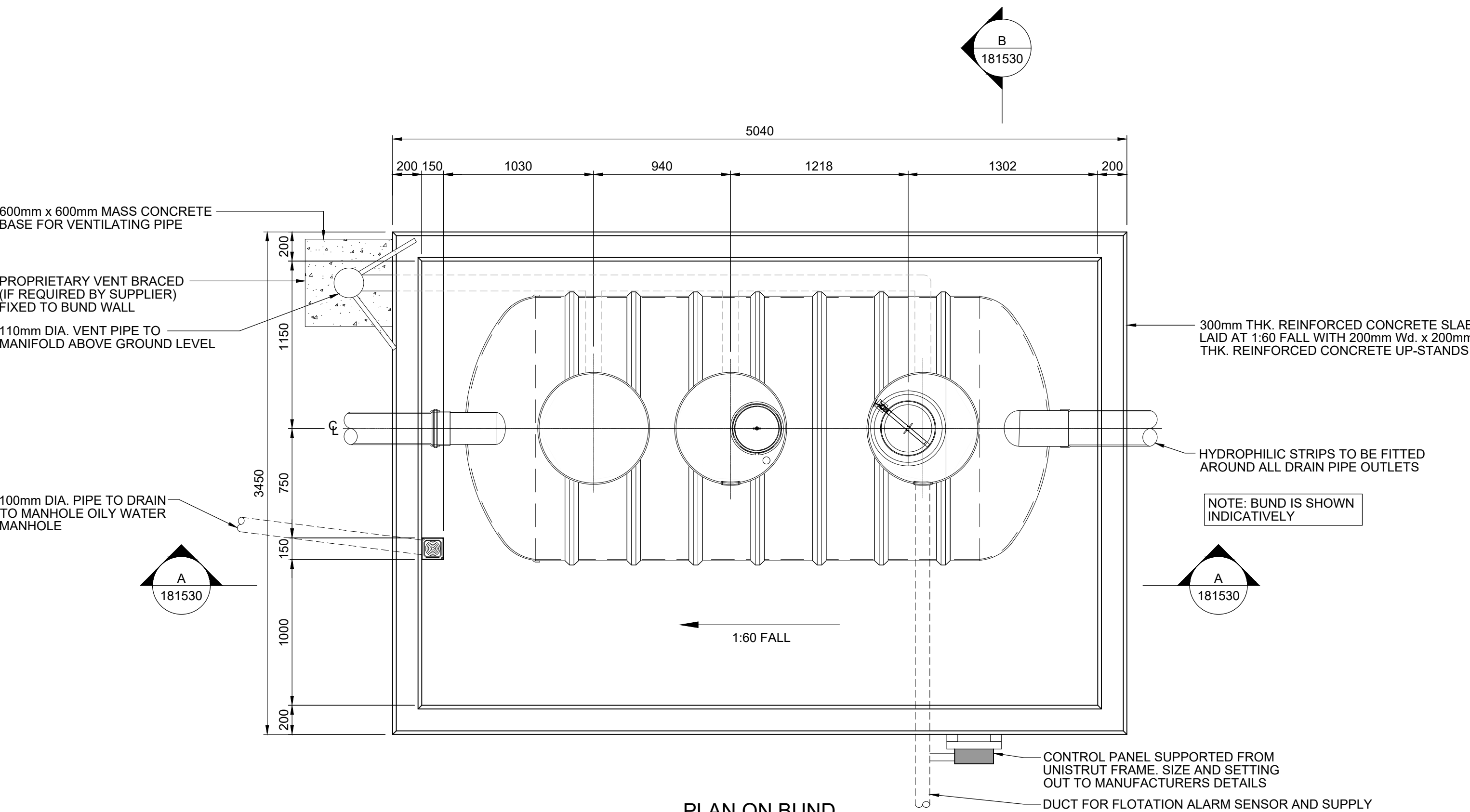
- DRAINAGE WORKS TO BE IN ACCORDANCE WITH:-
 - NGTS 2.10.01 - OIL CONTAINMENT (ISSUE 2 - DECEMBER 2020)
 - NGTS 2.10.05 - COVERS, DUCTS & TRENCHES (ISSUE 1 - APRIL 2017)
 - NGTS 2.10.09 - DRAINAGE (ISSUE 1 - APRIL 2017)
 - NGTS 3.10.02 - MATERIALS (ISSUE 2 - APRIL 2017)
 - NGTS 3.10.03 - EXCAVATE, BACKFILL AND RESTORE (ISSUE 2 - APRIL 2017)
 - NGTS 3.10.05 - PIPELINES (ISSUE 2 - APRIL 2017)

600mm DIA. CLEAR OPENING TO CHAMBERS WITH B125 GALVANIZED STEEL SPRING ASSISTED SEALED COVER LID (REFER TO MANUFACTURERS DETAILS) CONFORMING TO EN 124. REMOVABLE SAFETY GRID INSTALLED 200mm BELOW COVER

MIN 2No. COURSES OF CLASS B ENGINEERING BRICKS OR PRECAST CONCRETE COVER FRAME SEATING RINGS

DETAIL A - TOP OF MANHOLE /
SURFACE FINISH DETAIL

SCALE 1:10



FOR CONTROL PANEL DETAILS REFER TO NGTS 3.10.15

T.O.C. +7.200m

S.S.L. +7.000m

MIN. 300

100mm TWINWALL DUCT FOR FLOTATION ALARM SENSOR AND SUPPLY

100mm DIA. PIPE TO DRAIN TO OILY WATER MANHOLE

MIN. 150mm THK. CONCRETE SURROUND U.N.O

MECHANICAL ANCHORING:- INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

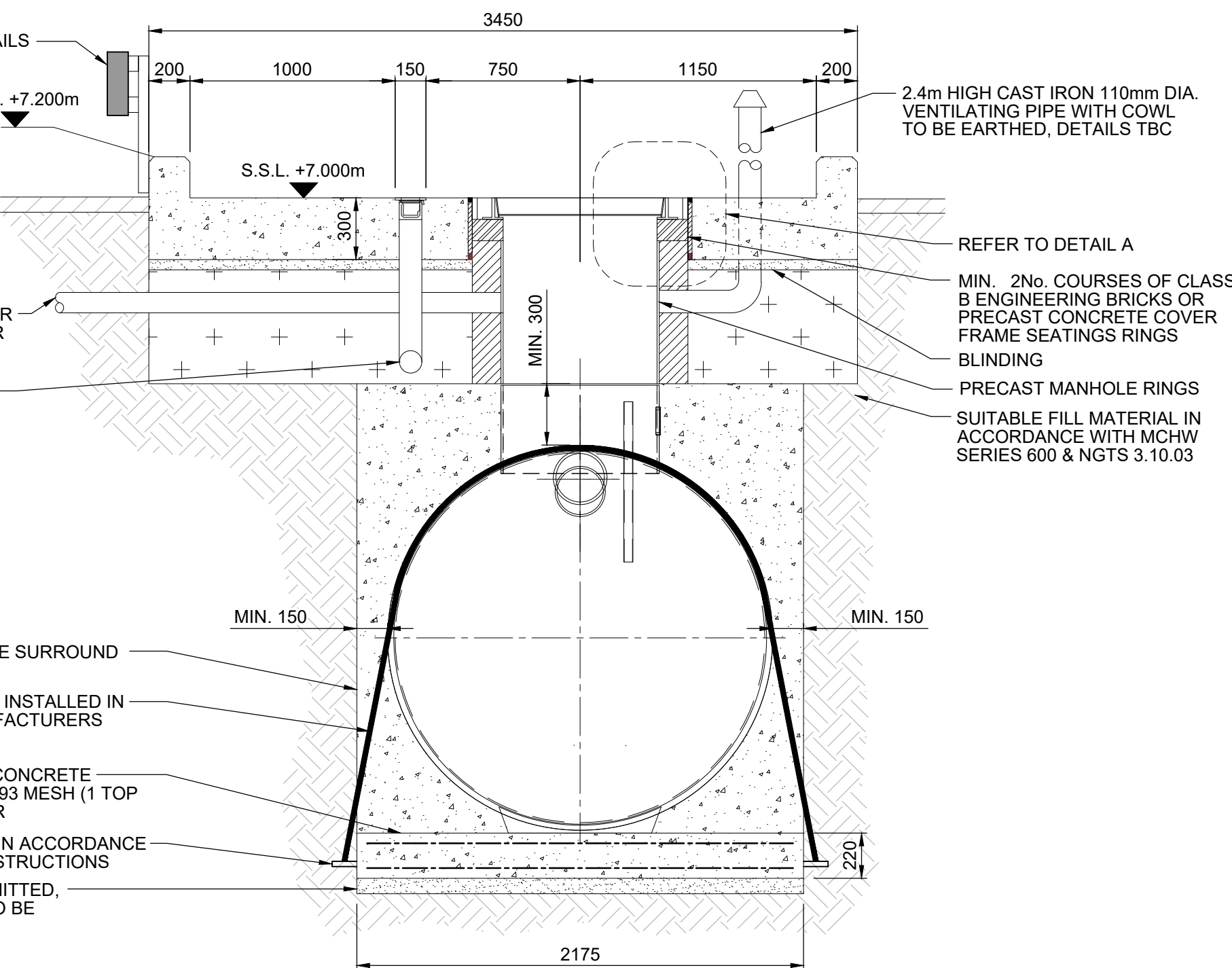
220mm THK. REINFORCED CONCRETE SLAB WITH 2No. LAYERS A393 MESH (1 TOP / 1 BTM.) WITH 50mm COVER

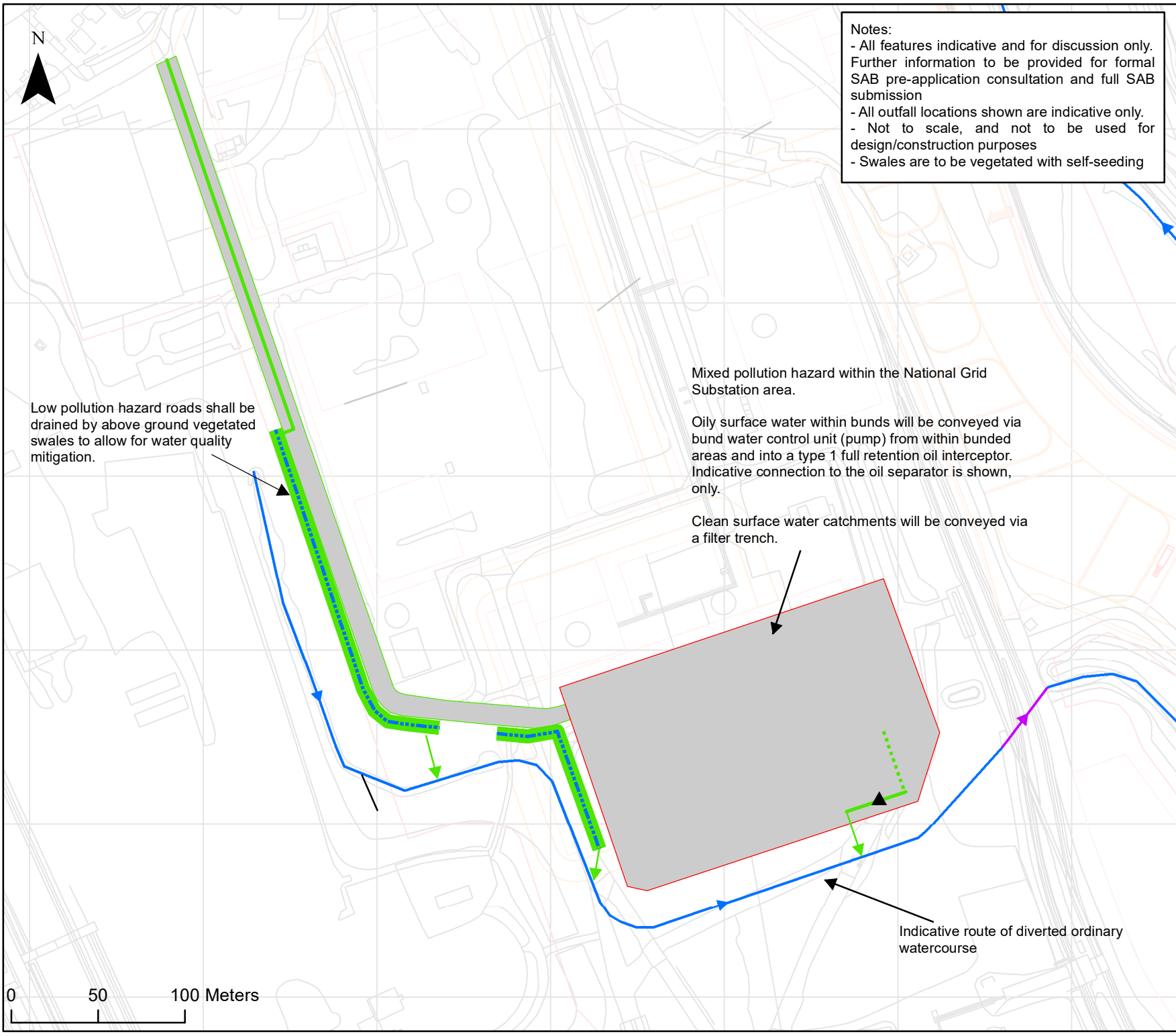
ANCHOR LUGS INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

BLINDING (OPTIONAL) IF OMITTED, CONCRETE SLAB COVER TO BE INCREASED TO 75mm.

SECTION B - B

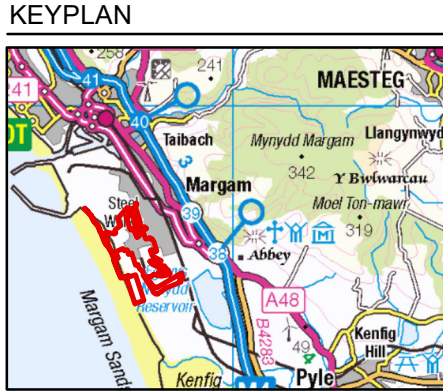
SCALE 1:25





Notes:

- All features indicative and for discussion only. Further information to be provided for formal SAB pre-application consultation and full SAB submission
- All outfall locations shown are indicative only.
- Not to scale, and not to be used for design/construction purposes
- Swales are to be vegetated with self-seeding



- Legend**
- Swale
 - Outfall Connection
 - Surface Water System
 - Indicative Surface Water Connection
 - Oil Interceptor
 - High Pollution Hazard
 - Low Pollution Hazard
 - culvert
 - open channel



EAF Project - Reserved Matters

Outline Drainage Strategy

SuDS007 - Tata NG RM - REV B

July 2025

Drawn by:	Reviewed by:	Approved by:
Charlotte	Faye	John
Lickman	Tomalin	Panesar
09/07/2025	09/07/2025	09/07/2025