

## **ENVIRONMENT**

Hargreaves Land Limited  
Planning Application 1 at Lincolnshire Lakes (North)  
Scunthorpe  
Sustainable Drainage Statement

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## 1. INTRODUCTION

1.1 A Sustainable Drainage Statement (SDS) sets out the principles of drainage design for a development and summarises the reasoning behind the chosen design. This includes consideration of national and local guidance, justification of specific flow rates, volumes of attenuated storage, as well as the appropriate level of treatment to be provided to surface water runoff.

1.2 This SDS has been produced by BWB Consulting on behalf of Hargreaves Land Limited in respect of a hybrid planning application for the proposed residential-led development ('the proposed Development') known as Lincolnshire Lakes North (Planning Application 1), Scunthorpe, hereafter, referred to as the 'Site' (approximate grid reference: SE 86164 09687). The application is summarised as follows:

*Full planning application for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a foul pumping station, earthworks and 'off-plot' drainage, ecological and associated landscaping and infrastructure works.*

*Outline planning application, with all matters reserved, for the development of up to 550 residential dwellings (Use Class C3), a local centre (Use Class E) and associated 'on-plot' landscaping, drainage and other infrastructure works.*

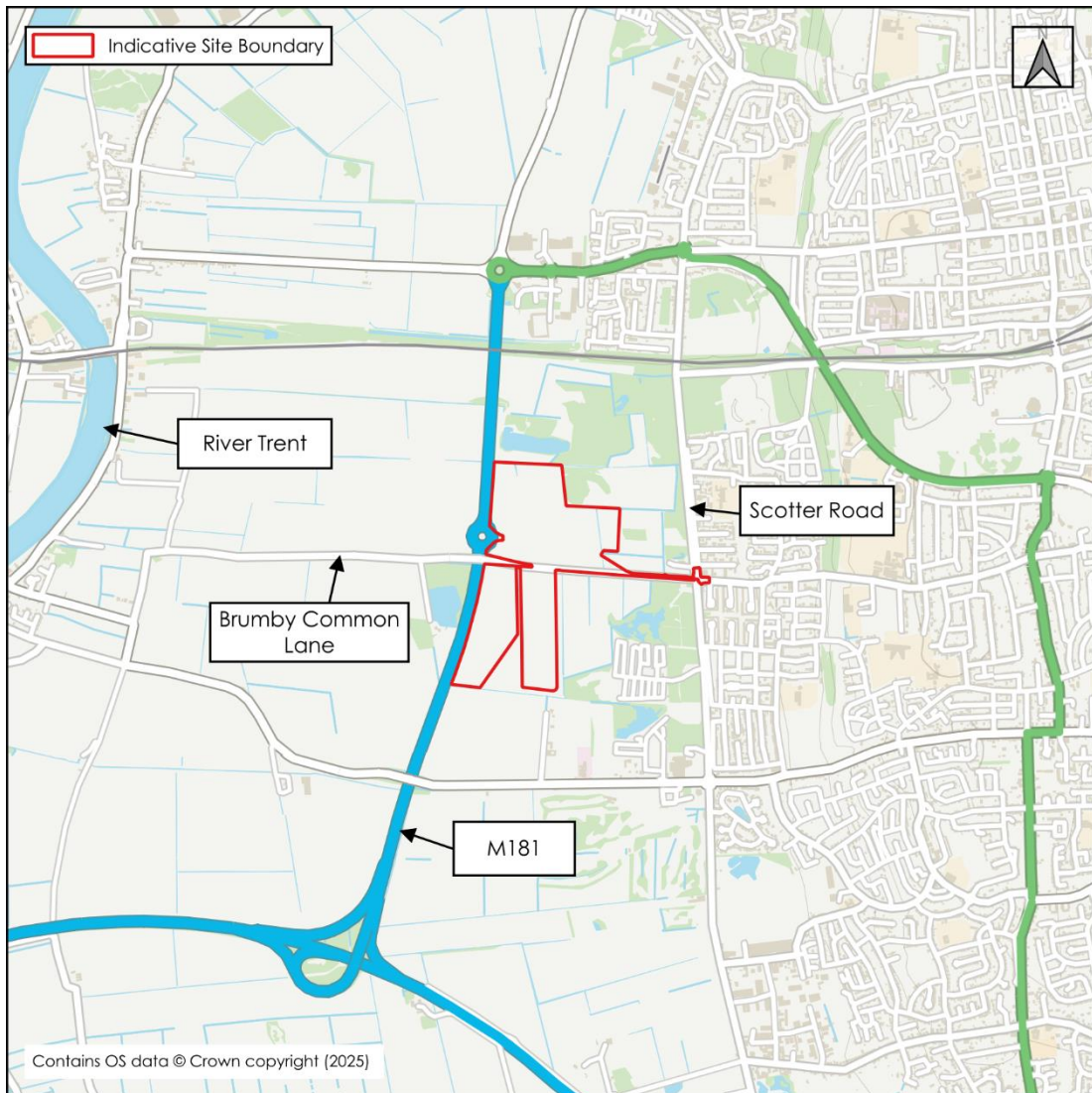
1.3 The report is intended to support a hybrid planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

1.4 A Flood Risk Assessment (FRA) has been produced for the Site (reference: LLP1-BWB-ZZ-XX-RP-YE-0001\_FRA) and this SDS accompanies this overarching document.

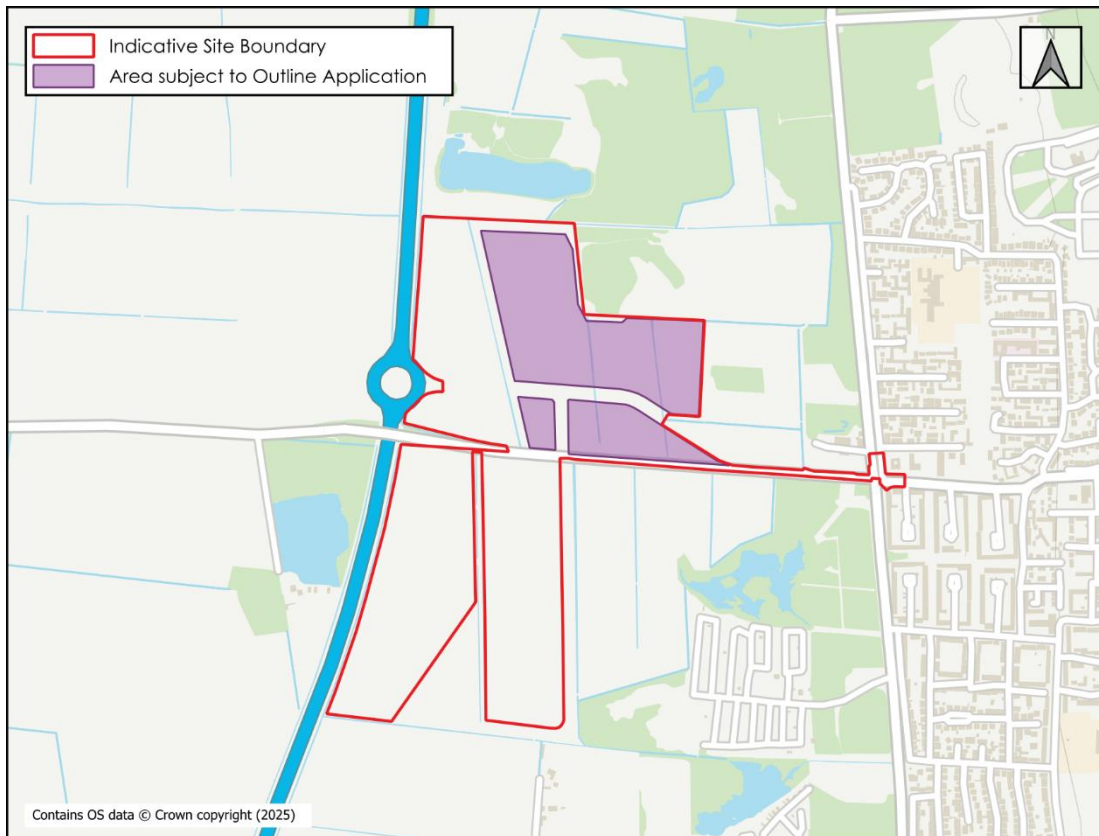
1.5 The location of the Site is illustrated within **Figure 1.1**, with contextual information provided within **Table 1.1**.

1.6 The area subject to the outline application is shown in **Figure 1.2** and will be the focus of this drainage strategy.

1.7 The Proposed Development is to be built out in a phased approach. The phasing plan is included within **Appendix 1** and shows the area subject to the outline application. The land in the south of the site is to be used for ground improvement works as part of this application and will not initially be developed.



**Figure 1.1: Site Location**



**Figure 1.2: Area subject to outline application**

**Table 1.1: Site Details**

<b>Site Name</b>	Lincolnshire Lakes – Phase 1
<b>Location</b>	Scunthorpe
<b>NGR (approx.)</b>	SE 861 64 09687
<b>Application Site Area (ha)</b>	56.51 (approx.)
<b>Development Type</b>	Residential Local Centre
<b>Lead Local Flood Authority (LLFA)</b>	North Lincolnshire Council
<b>Local Planning Authority (LPA)</b>	North Lincolnshire Council
<b>Environment Agency Area</b>	Lincolnshire and Northamptonshire
<b>Sewerage Undertaker</b>	Severn Trent
<b>Internal Drainage Board (IDB)</b>	Scunthorpe & Gainsborough Water Management Board

## Sustainable Drainage Guidance

- 1.8 Sustainable Drainage Systems (SuDS) aim to reduce the impact of development by replicating the natural runoff regime in a sustainable, cost-effective manner, whilst protecting water quality and reducing pollution. The four key objectives of SuDS design are to achieve improvements in water quantity, water quality, amenity provision and biodiversity.
- 1.9 North Lincolnshire Council, in their role as the Lead Local Flood Authority (LLFA) have published 'SuDS and Flood Risk Guidance Document'<sup>1</sup> and 'Local Flood Risk Management Strategy (LFRMS)<sup>2</sup>. This guidance states that it is not acceptable to use the roads as flood conduits, formal overland routes should be formed from SuDS techniques if required (SuDS and Flood Risk Guidance Document).
- 1.10 North Lincolnshire Council (LLFA) and Scunthorpe & Gainsborough Water Management Board (IDB) were also contacted prior to the writing of this report for any information relating to flood risk or drainage. A response was received from the LLFA; however, they could not provide any relevant information. No response has yet been received from the IDB in relation to drainage.
- 1.11 The 'Lincolnshire Lakes Area Action Plan'<sup>3</sup> states that run-off rates should be limited to 1.4l/s/ha as required by the IDB.
- 1.12 As well as the LLFA guidance, the Non-Statutory Technical Standards for Sustainable Drainage Systems<sup>4</sup> as published by DEFRA and The SuDS Manual<sup>5</sup> have also been utilised to inform the strategy.
- 1.13 Table 2 from the Environment Agency's (EA) 'Flood risk assessments: climate change allowances'<sup>6</sup>, included as **Table 1.2** , shows anticipated changes in peak rainfall intensity.

<sup>1</sup> SuDS and Flood Risk Guidance Document (North Lincolnshire Council, April 2017)

<sup>2</sup> Local Flood Risk Management Strategy (North Lincolnshire Council, August 2016)

<sup>3</sup> Lincolnshire Lakes Area Action Plan (North Lincolnshire Council, August 2019)

<sup>4</sup> 2015, DEFRA. Non-statutory technical standards for sustainable drainage systems

<sup>5</sup> The SuDS Manual (CIRIA, 2015)

<sup>6</sup> <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

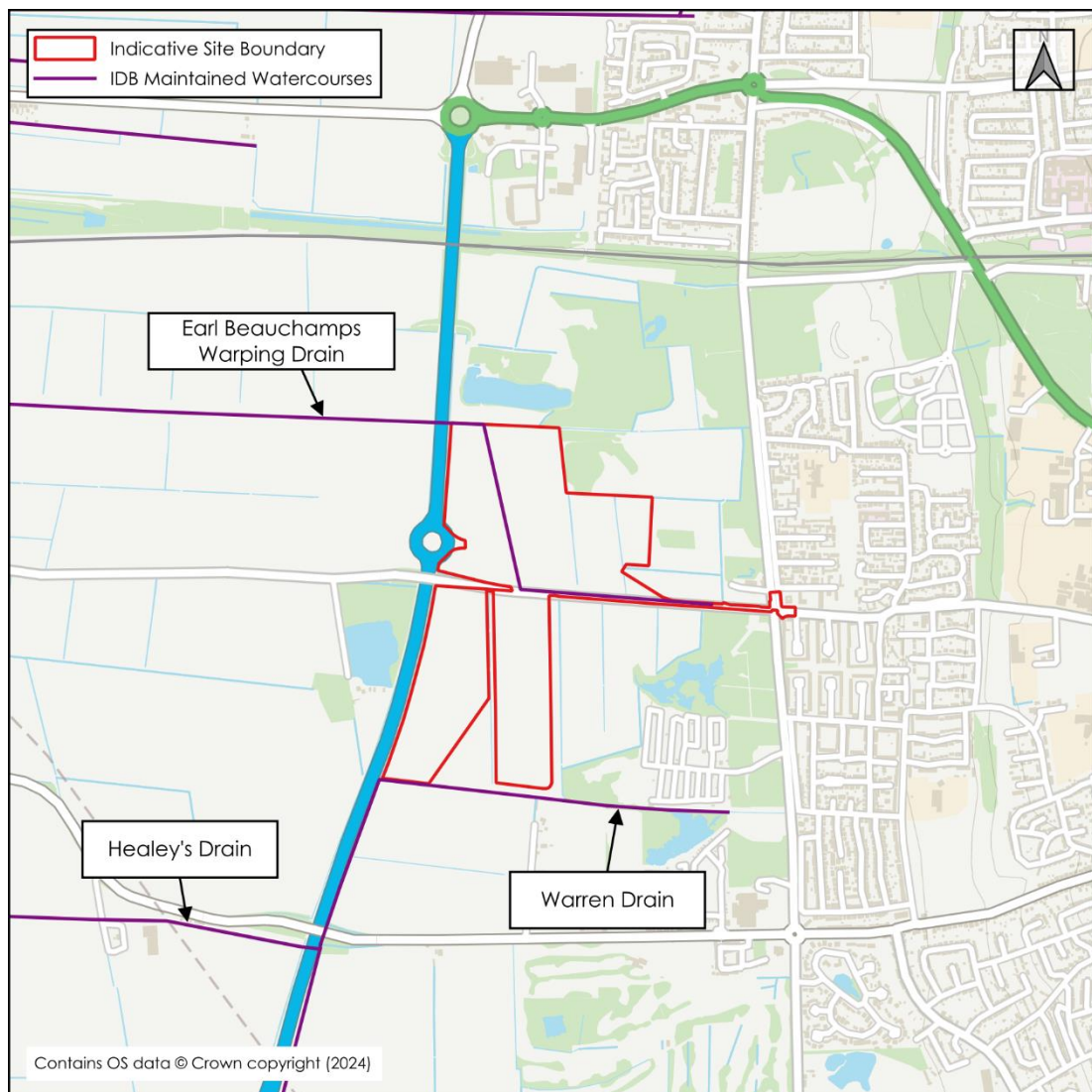
**Table 1.2: Peak Rainfall Climate Change Allowances for the Lower Trent and Erewash Management Catchment**

Lower Trent and Erewash Management Catchment peak rainfall allowances	Total Potential Change Anticipated for the '2050s' (Lifetime up to 2060)	Total Potential Change Anticipated for the '2070s' (2061 to 2125)
1 in 30-Year Rainfall Event		
Upper End	35%	35%
Central	20%	25%
1 in 100-Year Rainfall Event		
Upper End	40%	40%
Central	20%	25%

- 1.14 The EA's guidance on peak rainfall intensity climate change allowances states that residential development should be considered to have a minimum lifetime of 100 years. The Proposed Development falls into the 2070s epoch therefore a 40% climate change allowance should be applied. It should be noted that the 1 in 30-year event plus 35% climate change event will need to be considered through detailed design. These allowances have also been applied to the local centres.
- 1.15 A 10% allowance for urban creep is required to be included in the impermeable area calculations for residential development.

## 2. EXISTING CONDITIONS

- 2.1 The Site is situated within North Lincolnshire, located approximately 2.7km southwest of Scunthorpe town centre. The Site comprises two parcels and is bisected by Brumby Common Lane. In a wider site context, the Site is bound to the north and south by greenfield land comprising agricultural and forested land, to the east by Scotter Road and existing residential development, and to the west by the M181/A1077(M).
- 2.2 The existing site condition is mostly greenfield, comprising agricultural land.
- 2.3 A network of IDB drains is shown to be present within and surrounding the Site. The IDB drains are understood to be maintained by the Scunthorpe & Gainsborough Water Management Board who maintain the water levels and pumping stations which ultimately outfall to the River Trent. The IDB watercourses in proximity to the Site can be seen in **Figure 2.1** below.



**Figure 2.1: IDB Maintained Watercourses**

- 2.4 A topographical survey of the Site is included as **Appendix 2**. The Site is generally flat with levels ranging generally between 1.9mAOD and 3.0mAOD.
- 2.5 The Phase 2 Ge-Environmental Assessment by BWB (referenced LLP1-BWB-XX-XX-T-G-002\_Ph2) states the ground geology comprised of varying depths of topsoil overlying warp deposits, in turn overlying the Sutton Sand Formation. Water strikes and seepages were recorded during the ground investigation. During the subsequent monitoring, groundwater was present in all boreholes monitored, with groundwater levels ranging between 0.94m and 1.62m below ground level.
- 2.6 The existing Site is understood to drain via a combination of limited infiltration, followed by runoff to the watercourses within and adjacent to the Site ultimately discharging to the IDB Drains.
- 2.7 The local sewerage undertaker is Severn Trent Water. A copy of their asset plans is included as **Appendix 3** and shows a public surface water and foul water network situated to the east of the Site, located within the existing residential development. Sewerage assets are shown to pass through the far eastern portion of the Site which overlaps with Scotter Road and West Common Lane.
- 2.8 Public surface water sewers are shown to be directed in a westerly direction towards the Site, and ultimately outfall to a wetland area and pond known as Brumby Common. Public foul sewers are shown to be directed in a south-westerly direction towards a pumping station located within an existing residential area, known as Parkland, located approximately 700m south of the Site.

## Existing Runoff Rates

- 2.9 An assessment of the existing surface water runoff rates has been undertaken on a per hectare basis and is summarised within **Table 2.1**. Calculations are included within **Appendix 4**.
- 2.10 The runoff rates have been estimated using the IH124 method, with appropriate prorated adjustments for a site of less than 50ha, as recommended in Interim Code of Practice for Sustainable Drainage<sup>7</sup>. This was undertaken using HR Wallingford Greenfield runoff estimation tool, which makes the necessary adjustments for small sites automatically.

**Table 2.1: Existing Runoff Rate from the Site per Hectare**

Return Period (Yrs.)	Runoff Rate (l/s/ha)
1	1.3
Mean Annual Flow Rate (QBAR)	1.5
30	3.1
100	4.0

## Existing Runoff Volume

- 2.11 An assessment of the existing surface water runoff rates from the Planning Application 1 proposed impermeable area (14.75ha) has been made for a 1 in 100-year, 6-hour storm.
- 2.12 As the existing Site is permeable, the runoff volume has been calculated using the Discharge Volume within Causeway 'Flow' to be **2,124m<sup>3</sup>**, results are included within **Appendix 5**.

<sup>7</sup> The National SUDS Working Group (2004), Interim Code of Practice for Sustainable Drainage

### 3. SURFACE WATER DRAINAGE STRATEGY

3.1 The total Planning Application 1 area is 56.51ha. Catchments proposed with residential housing development used an estimate of 60% impermeability, and an allowance of 10% for urban creep. Catchments for Local Centres used an estimate of 90% impermeability. The total impermeable area for Planning Application 1 has been calculated to be 14.75ha as shown below in **Table 3.1**.

**Table 3.1: Catchment Areas**

Catchment	Catchment Area (ha)	Percentage Impermeable (%)	Impermeable Area (ha)
HA1	6.88	70	4.82
HA2	5.27	70	3.69
HA3	3.31	70	2.31
LC1	1.05	90	0.95
LC2	1.09	90	0.98
Access Road Phase 1	0.74	90	0.66
Access Road Phase 2	0.93	90	0.84
Brumby Common Ln	0.50	100	0.50
<b>Total</b>	<b>24.2</b>	<b>-</b>	<b>14.75</b>

3.2 Due to the hybrid nature of the application, the access road and western drainage infrastructure has been designed to a greater level of detail than the residential parcels.

3.3 Parcels BG4, HA6, AB3 and HA7 in the south of the Site are being utilised as borrow pits for ground surcharging in the north of the Site for this Phase of the Proposed Development. Hence there are no drainage proposals in this part of the Site.

#### Drainage Hierarchy

3.4 The Planning Policy Guidance<sup>8</sup> and the SuDS Manual<sup>9</sup> identify that surface water runoff from a development should be disposed of as high up the following hierarchy as reasonably practicable:

- i. into the ground (infiltration);
- ii. to a surface water body;
- iii. to a surface water sewer, highway drain, or another drainage system; and

<sup>8</sup> Planning Practice Guidance. <http://planningguidance.planningportal.gov.uk/>.  
<sup>9</sup> The SuDS Manual (C753). CIRIA 2015.

- iv. to a combined sewer.
- 3.5 The aim of this approach is to manage surface water runoff close to where it falls and mimic natural drainage as closely as possible.
- 3.6 Due to the high groundwater levels, disposal of surface water via infiltration is not feasible in this instance.
- 3.7 As there are existing ditches and watercourses within the Site, it is proposed to discharge surface water to these watercourses following the development. This is in keeping with the existing conditions of the Site.

**Peak Flow Control**

- 3.8 In order to comply with the Non-Statutory Technical Standards for Sustainable Drainage Systems S2-S3<sup>10</sup>, runoff from greenfield developments should not exceed the equivalent greenfield rates for the 1 and 100-year return period events.
- 3.9 The Site is proposed to discharge surface water at a rate of 1.4l/s/ha as required by the IDB and stated in the Lincolnshire Lakes Area Action Plan.
- 3.10 All rainfall events will be restricted to this rate up to the 1 in 100-year plus climate change event. This is summarised within **Table 3.2**.

**Table 3.2: Existing & Proposed Runoff Rates per Hectare**

Return Period (Yr.)	Existing Runoff Rate (l/s/ha)	Proposed Discharge Rate (l/s/ha)
1	1.3	1.4
QBAR	1.5	
30	3.1	
100	4.0	
100 + 40%	-	

- 3.11 This approach fulfils the necessary peak runoff control criteria.
- 3.12 The above table demonstrates there would be no adverse impact on the flows to the receiving watercourse and provides a 65% betterment to the 1 in 100 year event runoff rate.

<sup>10</sup> 2015, DEFRA. Non-statutory technical standards for sustainable drainage systems

## Attenuated Storage

- 3.13 As the Proposed Development requires a restricted runoff rate, it will be necessary to provide attenuated storage to balance the excess volume in a safe manner within the Site.
- 3.14 The surface water storage should be located within the Site in a position where it can receive runoff from the Proposed Development and discharge from the Site by gravity and is also in a position where it is hydraulically isolated from any fluvial floodplain or external surface water floodplain / overland flow route that may be present in the Site.
- 3.15 Sufficient storage for events up to the 1 in 100-year storm with a 40% allowance for climate change should be provided, and a 10% allowance should be applied to the current proposed residential development area to allow for urban creep over the lifetime of the Proposed Development.
- 3.16 The necessary surface water storage volume is found within a combination of attenuation features throughout the Site. A large area of Blue / Green Infrastructure is proposed in the west of the Site which will be integrated into the public open space. Further attenuation will also be provided in swales situated throughout the development parcels. The Proposed Development has been split into multiple catchments based on existing topography and the development parcels splits.
- 3.17 Each parcel shown on the Outline Drainage Strategy in **Appendix 6** collects and attenuates in local swales which then discharge into the roadside proposed watercourse. From here it is then conveyed to the outfall at the IDB ditch (Earl Beauchamps Warping Drain) adjacent to parcel HA1. The flow into this IDB ditch will be limited at 16.8l/s via a flow control chamber. Excess flows will discharge over a weir in the flow control chamber back into the roadside watercourse which will then convey the flows north to the second outfall into the IDB ditches, which will discharge at 2.5l/s. The Blue / green Infrastructure area in the west contains attenuation basins which are situated in between the parcels and outfall point which provide additional attenuation storage allowing excess flows to discharge at 2.5l/s. Parcel LC 1 is an exception as it does not discharge into the roadside proposed watercourse and instead is discharged into the Blue / Green infrastructure parcel BG1 where it is attenuated and discharged into an IDB drain at a limited rated of 1.3l/s. This is the third outfall.
- 3.18 A simulation has been run using Micro Drainage 'Quick Storage Estimate' to identify the necessary storage provision for each parcel. Using the discharge rates outlined below and applying the proposed impermeable area, the volume of attenuated storage required for the Proposed Development has been calculated for storm events up to the 100 year + 40% storm. The results are summarised in **Table 3.3** and calculations are included as **Appendix 7**.

**Table 3.3: Catchment Area Details**

Catchments	Impermeable Area (Ha)	Proposed Discharge Run-Off Rate (ls/s)	Lower Range Attenuation (m <sup>3</sup> )	Upper Range Attenuation (m <sup>3</sup> )
HA1	4.82	6.7	3,877	5,119
HA2	3.69	5.2	2,969	3,921
HA3	2.31	3.2	1,863	2,460
LC1	0.95	1.3	762	1,007
LC2	0.98	1.4	792	1,045
Access Road Phase 1	0.66	0.9	534	705
Access Road Phase 2	0.84	1.2	677	894
Brumby Common Ln	0.50	0.7	403	532
<b>Total</b>	<b>14.75</b>	<b>20.7</b>	<b>11,876</b>	<b>15,682</b>

3.19 A MicroDrainage 'Network' model was prepared to simulate the proposed drainage system. Results are included as **Appendix 8** and show no flooding in the system up to the 1 in 100 year + 40% event.

### Runoff Volume Control

3.20 The Non-Statutory Technical Standards for Sustainable Drainage Systems S4-S6<sup>11</sup> states that where reasonably practical the runoff volume from a development for the 1 in 100-year 6 hour rainfall event should not exceed the runoff volume prior to development or redevelopment. Additionally, if practicable on previously developed sites, the runoff volume should not exceed the equivalent greenfield runoff volume. Where it is not reasonably practicable to constrain the volume of runoff from a development at or below the existing volume, then the runoff must be discharged in a manner that does not adversely affect flood risk, i.e.:

- i. The additional runoff volume resulting from the development (the 'long term storage volume') should be discharged separately from the site at a rate of 2L/s/ha or less; or,
- ii. All the runoff volume from the development should be discharged at a rate equivalent to the mean annual flow rate (QBAR) rate under greenfield conditions or less; or,

<sup>11</sup> 2015, DEFRA. Non-statutory technical standards for sustainable drainage systems

- iii. All the runoff volume from the development should be discharged at a rate of 2L/s/ha or less.
- 3.21 The 1 in 100-year 6-hour storm runoff volume from the Site will increase because of the Proposed Development and the increase in impermeable area. However, as the runoff from the Proposed Development will be discharged at less than QBAR, the volume control criteria will be met.

### **Sustainable Drainage Systems**

- 3.22 A surface and foul water layout for the Proposed Development is shown on BWB Dwg No. **LIN-BWB-CIV-XX-D-C-0500**, **LIN-BWB-CIV-XX-D-C-0501** and **LIN-BWB-CIV-XX-D-C-0502** which are included as **Appendix 6**.
- 3.23 Surface water runoff from all the parcels will be locally captured via swales and conveyed to the new roadside watercourse. From here they will either be discharged directly to the IDB ditches via a flow control chamber or be further stored in above ground attenuation basins within the Blue / Green Infrastructure area.
- 3.24 The interception volume (defined as the first 5mm of most rainfall events) will be contained within the storage provided to prevent contamination from high pollutant concentrations. This will be achieved via residual infiltration and / or evapotranspiration from the swales and basins. Further SuDS features such as permeable paving in shared parking areas, water butts and rain gardens should be considered at detailed design stage.

### **Water Quality Assessment**

- 3.25 The impact on the receiving watercourses will be mitigated by discharging the surface water flow through the SuDS management train within the site which is primarily made up of enhanced detention basins and swales.
- 3.26 The Simple Index Approach (SIA) is used to determine pollution hazard indices based on land use to determine the SuDS features needed. The pollutants and the associated hazards within the site are shown in **Table 3.4**.

**Table 3.4: Pollution Hazard Indices**

Land Use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential Roofs	Very low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7

3.27 The SuDS Mitigation Index based upon the predominate proposed SuDS features for the site is shown in **Table 3.5**.

**Table 3.5: Total SuDS Mitigation Indices**

Land Use	Total suspended solids (TSS)	Metals	Hydrocarbons
Swale	0.5	0.6	0.6
Attenuation Basin	0.5	0.5	0.6

3.28 The pollution hazard rating and proposed SuDS Mitigation Index for the Site is compared within **Table 3.6**. Where more than one SuDS component is proposed, a factor of 0.5 has been applied to the downstream (i.e., secondary and / or tertiary) treatment stages to account for the reduced performance due to reduced inflow concentrations.

**Table 3.6: Comparison of Pollution Hazard Rating against Proposed Mitigation Index**

Pollution Type	Pollution Hazard Rating	Proposed Mitigation Index	Sufficient Treatment Provided?
<i>Route 1 - Swale and Attenuation Basin</i>			
TSS	0.7	0.75	✓
Metals	0.6	0.85	✓
Hydrocarbons	0.7	0.9	✓
<i>Route 2 – Local Swale and Roadside Swale</i>			
TSS	0.5	0.75	✓
Metals	0.4	0.9	✓
Hydrocarbons	0.4	0.9	✓

### Residual Risk and Designing for Exceedance

- 3.29 To protect against extreme events in exceedance of the drainage infrastructure, the external levels of the Proposed Development should be profiled to direct water away from vulnerable infrastructure and towards the nearest drainage point.
- 3.30 In addition to the volume of storage provided within the main attenuation, there will be capacity within the upstream drainage systems features which has not been accounted for at this stage and a further level of redundancy to the network will therefore be provided
- 3.31 The detention basins will be designed to have a minimum 300mm freeboard in the 100 year plus 40% climate change event to cater for events in exceedance of the design.

## **4. MAINTENANCE**

- 4.1 The proposed drainage system should be designed in accordance with the Design and Construction Guidance (DCG) and proposed for adoption by Severn Trent Water. If any parts of the drainage network remain unadopted, or until the point that they are, an appropriate maintenance company should be appointed. Any drainage features within private curtilage will be the homeowner's responsibility.
- 4.2 Requirements for the ongoing maintenance of the drainage network should form part of the Operation and Maintenance manual for the Site. Any specialist or proprietary products that are specified at detailed design should have a manufacturer specific maintenance regime which should be included within the document.
- 4.3 It is envisaged that the Operation and Maintenance manual will be developed at the construction design stage once manufacturer specific products are known, but some examples are included below.
- iv. All drainage features should be in open areas which are readily accessible;
  - v. Gullies should be inspected and de-silted at least once a year, where necessary;
  - vi. Pipes, manholes and silt traps should be inspected and de-silted at least once a year, where necessary;
  - vii. The surface water detention basins will be predominantly dry, and the base will be seeded with a wildflower grass seed mix that can tolerate wet ground conditions;
  - viii. Regular inspections of the detention basins should be undertaken to remove litter / debris, invasive / colonising vegetation and silt build up, as necessary;
  - ix. Inlet and outlet structures to be regularly inspected, with remedial work as required to maintain water flows and prevent silt / vegetation build up;
  - x. Vegetation / grass with the detention basins should be maintained appropriately to allow establishment and promote habitat formation, without impeding the operation of the inlet and outlet structure; and
  - xi. Flow controls should be inspected every 6 months, litter / debris and silt build up should be removed, as necessary.

## **5. FOUL WATER DRAINAGE**

- 5.1 As the existing Site is currently undeveloped and there are no positive foul drainage connections within the Site, a new foul connection must be sought.
- 5.2 Severn Trent Water are the sewerage undertaker for the area. A copy of their asset records is included as **Appendix 4**.
- 5.3 A developer enquiry was submitted to Severn Trent Water in order to determine the capacity of the receiving sewer and the most appropriate point of connection. Their response is included as **Appendix 9**, and states that network improvements are required to enable the increase flow demand from future developments.
- 5.4 Foul Water will be pumped via a rising main approximately 2.6km south east to connect onto the existing sewer network in Burringham Road following a sewer requisition. This will be delivered as part of the full planning application and hence will be included within one of the initial construction stages.
- 5.5 The location of the pumping station and the route of the rising main are shown on the Drainage Strategy included as **Appendix 6**. A plan showing the arrangement of the pumping station compound is included within **Appendix 10**.
- 5.6 The pumping station will require a 15m cordon sanitaire between the wet well and the nearest habitable dwelling and must be accessible from an adopted highway.

## 6. SUMMARY

- 6.1 This statement and supporting appendices demonstrate that the drainage design for the Proposed Development will comply with the relevant local and national standards, specifically the hierarchy of discharge, runoff rate and volume criterion.
- 6.2 This SDS is intended to support a hybrid planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

**Table 6.1: Sustainable Drainage Statement Summary**

		Existing Site	Proposed Development
<b>Site Area (Ha)</b>		56.51	
<b>Impermeable Area (Ha)</b>		0	14.75
<b>Outfall Location</b>		Watercourse	Watercourse
<b>Peak Runoff Rate (l/s/ha)</b>	<b>QBAR</b>	1.54	1.4l
	<b>1 in 30-Year</b>	1.28	
	<b>1 in 100-Year</b>	3.07	
	<b>1 in 100-Year + CC</b>	-	
<b>Runoff Volume (100yr RP 6 hour Storm)</b>		8,139m <sup>3</sup>	N/A
<b>Volume Control</b>		-	Discharge rate limited to below QBAR
<b>Proposed Storage Volume</b>		-	11,876m <sup>3</sup> – 15,682m <sup>3</sup>
<b>Flow Control Type</b>		-	Vortex
<b>SuDS Features</b>		-	Swales Attenuation Basins
<b>Maintenance Responsibility</b>		-	Severn Trent Water

- 6.3 It is envisaged that the final drainage strategy will be determined during the detailed design stage, as the Proposed Development layout is finalised.

**APPENDICES**

**Appendix 1: Phase 1 Indicative Area**

Architects are to be notified of any discrepancies.  
 Contractors must check all dimensions on site.  
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Rev	Description	Date	By	CD
P1	FIRST ISSUE	06.02.20	TD	CG

Status: PLANNING

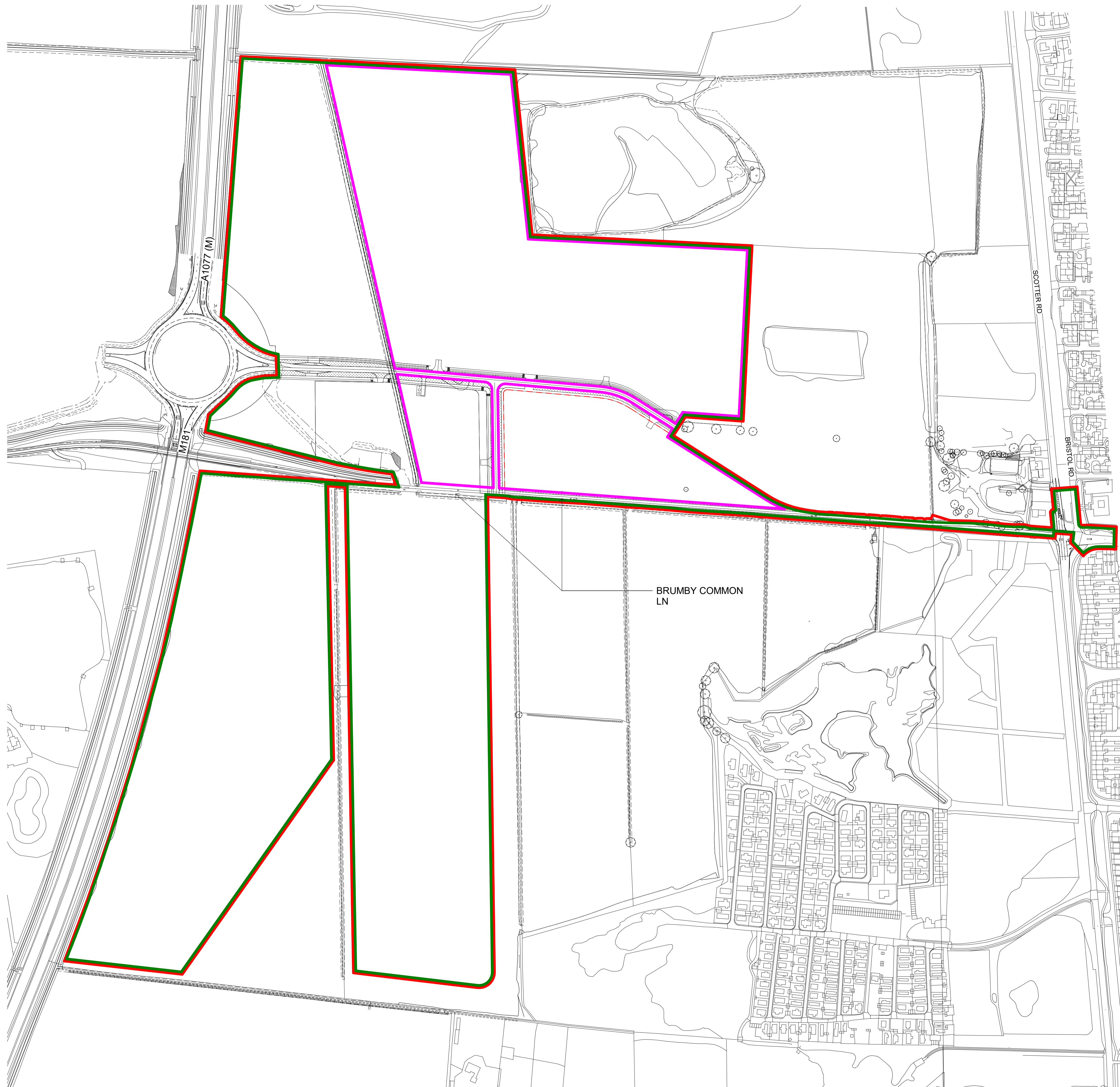
**SMR**  
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 01423 707 787 admin@smrarchitects.co.uk

Project: LINCOLNSHIRE LAKES

Client: **Hargreaves Land**

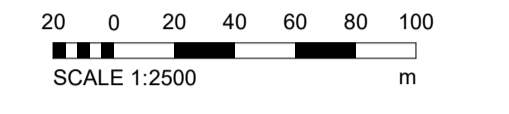
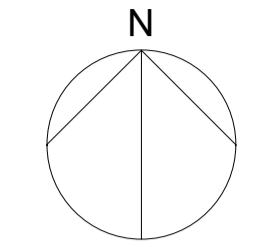
Drawing Title: LINCOLNSHIRE LAKES PHASE 1 - ILLUSTRATIVE MASTERPLAN

Proj Ref	Origin	Date	Level	Type	Scale	Sheet	Total	Status	Rev
7730 - SMR	00 - ZZ	DR	A	2030	S3	P1			
SMR Job Ref	Sheet	Scale	Drawn	TD					
7730-00-2030	A0	1:1500							



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- KEY**
- PA#1 RED LINE BOUNDARY
  - FULL PLANNING BOUNDARY
  - OUTLINE PLANNING AREA

**PA1 GROSS AREA**

Name	Acres	Hectares
PA1	139.65 acres	56.51 hectare

**FULL PLANNING AREA**

Name	Acres	Hectares
PA1	139.65 acres	56.51 hectare

**OUTLINE PLANNING GROSS AREA**

Name	Acres	Hectares
OUTLINE PLANNING	48.91 acres	19.79 hectare

Rev	Description	Date	Dm	Ckd
P6	UPDATES TO RLB	19.12.24	TD	CG
P5	INDIVIDUAL PLOT BOUNDARIES REMOVED, AREAS TABLE UPDATED.	12.12.24	HE	CG
P4	UPDATED RED LINE BOUNDARY	11.12.24	HE	CG
P3	PHASING AND OUTLINE PLANNING BOUNDARIES UPDATED.	10.12.24	HE	CG
P2	RED LINE BOUNDARY UPDATED ON SCOTTER ROAD	09.12.24	HE	CG
P1	FIRST ISSUE	03.12.24	TD	CG

Status  
 SKETCH - NOT FOR CONSTRUCTION



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Project  
 LINCOLNSHIRE LAKES



Drawing Title  
 LINCOLNSHIRE LAKES PA#1 FULL & OUTLINE PLANNING BOUNDARIES

Proj Ref	Origin	Zone	Level	Type	Role	Num	Status	Rev
7730 - SMR	01	ZZ	DR	A	8015	S3	P6	
SMR Job Ref	Sheet	Scale	Drawn					
7730-01-8015	A1	NOTED	TD					