International Advanced Manufacturing Park
Area Action Plan 2017-2032
Publication Draft 2016 Area Action Plan

Proposed modifications following the Area Action Plan Examination in Public

Report for the Inspector on Safeguarded Land

1. Introduction

1.1 Context

Sunderland City Council and South Tyneside Council (hereafter referred to as the Councils) submitted the International Advanced Manufacturing Park Area Action Plan 2017-2032 Publication Draft 2016 (hereafter referred to as the Plan) to the Secretary of State for examination in public. Planning Inspector Malcom Rivett MRTPI (hereafter referred to as the Inspector) was appointed to undertake the examination.

The Inspector's role was to assess whether the Plan meets the requirements of Section 20 (5) (a-c) of the 2004 Act and associated Regulations, and has been prepared in accordance with the Duty to Cooperate set out within the 2011 Localism Act and all relevant legal and procedural requirements. In accordance with paragraph 182 of the NPPF a Local Planning Authority (LPA) should submit a plan for examination which it considers is 'sound' - namely that it is:

- Positively prepared - the plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development.

- Justified - the plan should be the most appropriate strategy, when considered against the reasonable alternatives, based on proportionate evidence.

- Effective - the plan should be deliverable over its period and based on effective joint working on cross-boundary strategic priorities.

- Consistent with national policy - the plan should enable the delivery of sustainable development in accordance with the policies in the Framework.

During the hearing sessions, which commenced on the 3rd April 2017, the Inspector discussed the approach that the Councils had set out in relation to the safeguarding of land in the Publication Draft (PSD01). The Plan included 100ha of land for development and a further 50ha of land 'safeguarded' for future development. The Inspector raised the following matters:

- **Could the Plan meet its Objectively Assessed Needs (OAN) on the allocated 100ha of employment land? –** The Inspector noted that the OAN is justified by the Strategic Employment Study (SD28) which identified 140-150 ha for a 20 year period whilst the Plan identified 100 ha for a 15 year period.

- **Is the approach to the safeguarding of land consistent with the NPPF, as safeguarded land could be required within the plan period and infrastructure is identified within the safeguarded land? -** Paragraph 85 states *"…where necessary, identify in their plans areas of 'safeguarded land' between the urban area and the Green Belt, in order to meet longer-term development needs stretching well beyond the plan period. LPAs should make clear that the safeguarded land is not allocated for development at the present time. Planning permission for the permanent development of safeguarded land should only be granted following a Local Plan review which proposes the development".*

  During the EIP, the Inspector reflected on the additional information provided through the Matters, Issues and Questions (MIQ) process in relation to commercial demand and the OAN and raised the potential that (i) the land identified as safeguarded could be needed in the short-medium term; and that (ii) the approach to the safeguarding of land could prevent the development of essential IAMP infrastructure.

- **Is it a 'sound' approach to safeguard land, or would a different mechanism such as phasing be more appropriate?**

- **Would the plan be deliverable (in accordance with paragraph 173 and 177 of the NPPF) if the land identified as safeguarded were to be allocated for employment development?–** are the infrastructure proposals set out in the Infrastructure Delivery Plan (IDP) still appropriate in the context of a 150ha development proposal.

Similar considerations were also raised at the examination by the Church Commissioners for England, who suggested that IAMP (if the 50 ha of land remains safeguarded) would be of an insufficient size to address market requirements and the OAN.

The Inspector therefore requested the Councils to re-examine the approach to safeguarded land and, if necessary, to propose modifications to the Plan to be taken into consideration.

1.2 Format of the Report

This report is structured as follows:

- Chapter Two provides the context to the safeguarded land discussion – including the OAN, additional information provided through the MIQ process and policy considerations;

- Chapter Three explains the Councils' approach to re-examining safeguarded land within the Plan;

- Chapter Four provides the Councils' analysis of the revised approach, to ensure that the Plan remains 'sound';

- Chapter Five includes the proposed modifications to the Plan as a result of that analysis.

This report has been prepared to assist the Inspector. It is supported by a Schedule of Modifications which includes all proposed modifications, an updated version of the Plan (PSD 01) and an updated Infrastructure Delivery Plan. If the Inspector concludes that the plan as modified is 'sound', the Councils will undertake a comprehensive consultation on the proposed modifications.

2. Context

This section of the report reviews the approach taken by the Councils to determine the OAN for IAMP and also reviews the current policy position.

2.1 Objectively Assessed Need

The guidance within the NPPF to local authorities when preparing Local Plans is clear – an authority must under undertake an assessment to determine their OAN. To support the need for IAMP, the Councils commissioned a Strategic Employment Study (August 2013) (SD28).

The study identified three alternative growth scenarios for advanced manufacturing/engineering, distribution and offshore renewable sectors to identify potential floorspace demand (Figure 1).

Very optimistic	*a large scale growth scenario requiring an advanced manufacturing park of around 300 hectares (ha);*
Moderate	*scope for significant growth requiring an advanced manufacturing park of around 140 – 150ha; and*
Pessimistic	*assuming a long period of on-going recession for the North East combined with structural changes to the automotive industry and re-location of production away from the region.*

Figure 1 Growth Scenarios

The study (SD28) concluded that the moderate growth scenario, which identified the requirement 569,000sqm Gross Internal Area (GIA) with a total land requirement for approximately 140 - 150ha to be delivered over 20 years was the most achievable.

The Councils subsequently prepared the Sunderland and South Tyneside City Deal submission, which was approved by Government in 2014 (Para 70 PSD1). This included an IAMP project with 260,000 sqm of developable floorspace, on a 100ha site to be delivered over a 15 year period, and this became the baseline for the detailed work to progress the IAMP project from 2014 onwards.

The scale of the site and the quantum of development was defined at this stage as a balance between likely demand and the capacity of the key infrastructure – at that stage funding had not been confirmed for the A19 improvements at the Testo's roundabout or the Downhill Lane junction. Both of these key influential factors have subsequently changed significantly, with Highways England now committing to invest in the two A19 schemes and Nissan, in October 2016, committing to deliver two new models at their Sunderland plant with the resulting demand from supply-chain businesses to relocate to the UK and, more specifically, the IAMP site.

During the preparation of the Plan, the Councils commissioned RPJ Consulting to review the evidence set out in SD28 and provide an up-to date analysis of the need, given the consultant's particular expertise and knowledge of the automotive sector. Their findings are summarised in section 2.3.4 of the Commercial Technical Paper (PSD11 page 16) and supported the outcomes of the Strategic Employment Study (SD28) and the OAN approach set out by the Councils. Consequently, the Councils confirmed the OAN as 260,000 sqm of developable floorspace on a 100ha site to be developed over 15 years, with an additional 50ha of land safeguarded for future development.

Within the MIQs (Matter 3.1), the Inspector requested further information on the evidence of need, to support that provided within the submission Plan documentation. The MIQ response to Matter 3.1 referenced the Councils' updated enquiry database, following the announcement by Nissan of the new model development at Sunderland and subsequent supplier engagement held from the period January 2017 until the commencement of the Plan Examination. This evidenced significant supplier demand, to fully support the information set out within SD28 and PSD11, which also raised the prospect of this demand being realised early within the 15 year Plan period. This prompted the discussion at the Examination on the approach to safeguarded land.

2.2 AAP Policy Context

The Publication Draft (PSD01), Policy S1 (see below) amends the Green Belt boundary to allocate 100ha for employment land and safeguard 50ha of land for development beyond the Plan period. This is illustrated on the Policies Map (Figure 2)

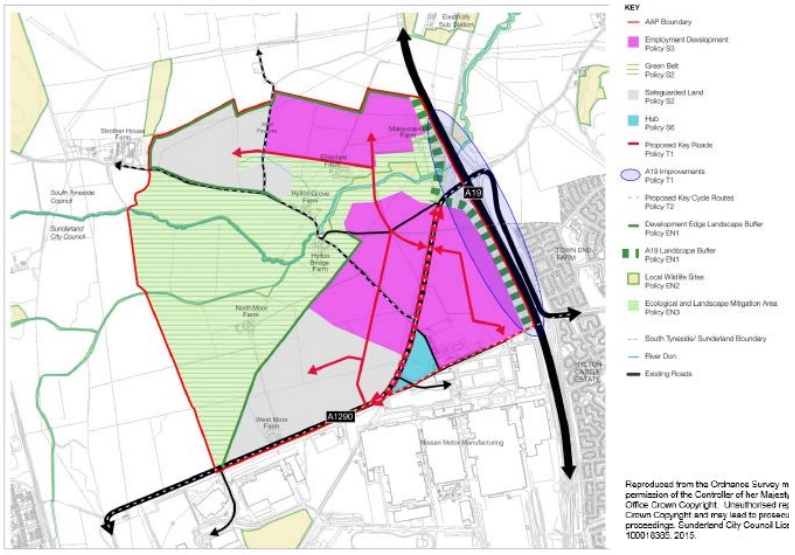

Figure 2 Publication Draft Policies Map

Policy S2 (see below) prevents safeguarding land being developed until a review of the AAP is undertaken.

Policy S1: Comprehensive Development

A. Comprehensive development of the IAMP for automotive and advanced manufacturing businesses shall be enabled by releasing 100 ha of land from the Green Belt and safeguarding a further 50ha for potential longer term development, as shown on the policies map.
B. Only the delivery of a single comprehensive scheme which meets the objectives of the IAMP AAP will be supported. To demonstrate comprehensive development

the scheme promoter in submitting a DCO application shall:

i. ensure the proposed development is designed and orientated to relate well to the existing employment area and Enterprise Zone and established infrastructure;
ii. include a detailed masterplan incorporating a unifying design code;
iii. include a phasing plan for 15 years for the delivery of the IAMP AAP area. This shall exclude the safeguarded land; and
iv. show how the application complies with policy Del2.

Policy S2: Green Belt and Safeguarded Land

A. The IAMP AAP policies map shows areas designated as Green Belt or safeguarded land.
B. Areas of safeguarded land shall only be released for development, through a review of the AAP, where it can be demonstrated that there is insufficient land within the allocated employment areas to accommodate development needs.
C. Development adjacent to land designated as Green Belt shall ensure boundaries are recognisable and permanent through the use of built form or established landscaping buffers.

In assessing the options for modifications to policies S1A and S2, the key considerations within this report are therefore:

- Policy S1 A
  - should the policy remain as currently written; or
  - should the safeguarded land be removed and the site referenced as 100ha; or,
  - should IAMP be referenced as a 150ha development site with no land safeguarded?

- Policy S2
  - A – should the reference to safeguarded land be removed from the policy wording?
  - B – should this policy be removed; or is it re-worded to reflect the fact that the site is a 150ha development that may be phased or delivered as a single development scheme?

These issues are considered further in Chapter Three.

3. Re-examination of Safeguarded land.

3.1 Assessment of options

To inform the process, the Councils have identified a number of alternative options for addressing the safeguarded land matter raised at the Examination. The following table assesses each option and provides the Councils' commentary in relation to the benefits of each option.

Option	Approach	Commentary
Option 1 Continue with the approach in the Publication Draft (PSD01)	The Plan would remove 150ha from Green Belt and allocate 100ha for employment and 50ha of land would be safeguarded.	The option raises several issues :(i) it would prevent necessary IAMP infrastructure (essential highways) from being delivered, as they are within the land that would be safeguarded from development. (ii) Given the market evidence that has emerged since the Publication Draft (PSD01), the OAN case as now presented could not be delivered through this approach; and (iii) this approach is (on the basis of the new market evidence) not consistent with the NPPF, as it is likely that the Plan would need to be reviewed in the short term. The timescale that would be required to review the Plan would constrain development in that period.
Option 2 – Allocation of 100ha of land without safeguarding land	The Plan would allocate 100 ha of land for employment, to accommodate 5200 new jobs. The land currently identified as safeguarded would remain Green Belt.	This option is not considered to be 'sound' as the OAN of 150ha of employment land could not be met. When additional land is required then a planning application which justifies very special circumstances for removing land from the Green Belt, or a new Local Plan (AAP or strategic Plan), would be required to provide the rationale to support a consent. This could potentially take a

		lengthy time to complete and delay investment at IAMP.
Option 3 – Phased release of 150ha of employment land.	The Plan would allocate 150ha of land for employment: 100 ha in phase 1 and 50 in phase 2 (Reserve Employment Land). Phase 2 would not be released for development unless it could be demonstrated that it was required and that related infrastructure requirements could be delivered.	Whilst this option would be considered a 'sound 'approach, as the Plan would be delivering the OAN requirements and necessary infrastructure, it would create a restrictive and inflexible approach to the development of the site. The strategic infrastructure required for the site, as set out in the IDP, will be funded by the public sector and that investment will be made in the early years of the project, in order to satisfy the conditions of the funding programme. The whole 150ha site will therefore be ready to accept development and there is no reason to restrict access through a phasing approach, subject to compliance with other plan policy such as environmental mitigation.
Option 4 – Allocated 150ha of employment.	The Plan would allocate 150ha of land for employment, with no reference to safeguarded or reserve employment land.	This approach ensures that the Plan delivers against the OAN and it also removes any restriction to development that could result from either (i) the inability to construct necessary infrastructure within land that was designated as safeguarded; (ii) a phasing/allocation policy which limited access to certain areas of the site until certain time or other thresholds had been achieved; and (iii) the need to review the AAP or prepare a planning application to enable the OAN to be delivered as the project progresses. The Councils consider that this is a 'sound' approach and would still achieve the key policy objective of IAMP being

	developed in a comprehensive and planned manner.

3.2 Preferred approach

The Councils have concluded that their preferred approach is Option 4 and therefore propose to modify the Plan to allocate 150ha of land for employment uses rather than safeguarding 50ha as set out in PSD01.

The principal reasons for this are as follows:

- This approach enables the Councils to adopt a policy framework which delivers against the updated OAN for IAMP. The evidence available to the Councils from early 2017, following the public announcements of new model developments by Nissan, indicates that the 150ha of OAN is sound but that demand is likely to be within a shorter period of time. The previous approach of safeguarding 50ha of that 150ha of land does not now offer a sound approach for the Plan – the Plan would require an early review to bring forward the safeguarded land.

- This approach allows for the provision of critical infrastructure necessary for the comprehensive delivery of IAMP that would have otherwise been prevented due to the safeguarded designation.

- There is little, if any, rationale for applying a phasing approach to IAMP based on the information available regarding infrastructure funding and market demand. The necessary infrastructure for the project will be funded by public sources and that investment will be front loaded so as to be consistent with the fundamental principle of comprehensive development. If the key infrastructure is in place, then the whole of the site is available for development. Restricting development in areas that can readily accept development frustrates the market and delays the return on investment to the funding parties.

- Chapter Four demonstrates that this approach is also sound in terms of deliverability, with reference to the Infrastructure Delivery Plan, and also the Duty to Cooperate – the latter based on discussions and further agreed Statements of Common Ground with the neighbouring local authority in Gateshead and also the Church Commissioners for England.

4. Examination of Soundness of the revised approach

For the Plan to be considered 'sound', it must be positively prepared, justified, effective and consistent with national policy. This section of the report sets out how the revised approach is legally compliant and meets the tests of soundness.

4.1 Positively Prepared

The Councils consider that that the revised approach is positively prepared, as it will provide a Plan that will deliver the fully assessed needs. The ability of the Plan to deliver a development area of 150ha within the Plan period is considered below in relation to the key infrastructure.

4.1.1 Infrastructure

In regards to infrastructure, the IDP (PSD21) currently identifies the infrastructure necessary to deliver 100ha of employment land by 2022. To ensure that Plan is 'Sound' the Councils have undertaken further analysis to establish if the infrastructure, as set out within the PSD01 and the Infrastructure Delivery Plan (PSD21), has the capacity to support the allocation of 150ha for employment development, or whether additional infrastructure is required. The Councils have assessed:

- Highway infrastructure;
- Drainage and flooding;
- The utility network; and
- The ecological mitigation requirements.

To test the impacts of 150ha of employment land the Councils have proportioned the development on the same basis as the 100ha proposal, adopting the same development density and Use Class criteria. This has established the following assumptions to assess the impacts of the additional employment land (Figure 3).

Site Area	100ha	150ha
Total Office GFA (sqm)	23,750	35,625
Total B1/B2 GFA (sqm)	237,500	356,250
Total Floorspace GFA (sqm)	261,250	391,875

Total Equivalent Jobs	5,228	7,842

Figure 3

4.1.2 Highways infrastructure

A Highways Network Capacity Assessment (Appendix 1) has been undertaken to determine if the network could accommodate the additional 50ha of employment land. The micro-simulation S-Paramics model used to assess the traffic impact of the 100ha IAMP development site has been used to assess the suitability of the proposed highway infrastructure to accommodate the traffic demand generated by a 150ha IAMP development site. The methodology used to determine trip generation and distribution set out in the previously submitted AAP evidence has again been adopted in this assessment, thereby ensuring consistency between the testing of scenarios.

The performance of the road network in a future-year scenario of 2028 with a 150ha IAMP development site has been considered against the impact of a 100ha IAMP development site. Journey times, queue lengths and network speeds across the road network have been reported.

The results demonstrate that whilst increases in journey times are experienced, these changes are not significant. Queue lengths at some of the key junctions on the network have been modelled and demonstrate that increased queue lengths occur during the AM and PM peak periods. However, the impact of these increased queue lengths do not impact on adjacent junctions and observation of the model in operation reveals that queues quickly disperse across the network. Network speeds are reduced by up to 7mph in the AM Peak period, with only a minimal reduction in speed noted in the PM Peak.

An overarching Travel Plan will be implemented at the IAMP, which will be overseen by a dedicated Travel Plan Coordinator. The Travel Plan and the specific measures identified within will play an important role in managing IAMP related trips and reducing single occupancy car trips. A successful Travel Plan will be influential in promoting sustainable travel choices including reducing single occupancy car trips to/from IAMP, which will assist in further minimising the highway impact during the peak periods.

Based on the findings of the assessment presented within Appendix 1, it is considered that the highway infrastructure set out within the AAP (PSD01) and the IDP (PSD21) has the capacity to support a 150ha development site.

4.1.3 The utility network

Appendix 2 contains a report from Desco, the specialist utility consultancy that advise the Councils on network capacity and the related investment required to deliver IAMP. A summary of their findings is set out below:

- Electricity – the original IDP identified that a Primary Sub-Station would be required to serve the 100ha IAMP site. The Desco report confirms that the primary sub-station proposed, and the costs identified within the IDP, would also serve a 150ha development.

- Water – Further dialogue with Northumbrian Water Limited following the Examination has confirmed that the existing water infrastructure within the area will be sufficient to serve a 150ha IAMP site.

- Gas – the gas network in the vicinity of, and also across the site, is extensive and includes significant intermediate gas mains. Northern Gas Network had previously indicated that this was sufficient for the 100ha site but final confirmation is still required that the network can provide for the 150ha site. A reinforcement to the network may be required and we have reflected within the amended IDP that additional investment may be required to achieve this reinforcement in the later stages of the development.

The Councils are therefore satisfied that the infrastructure referenced in the IDP, and the amendments proposed to the IDP, will enable the 150ha site to be delivered.

4.1.4 Drainage and Flooding

A drainage and flood risk assessment (Appendix 3) has been undertaken to assess the drainage requirements for a 150ha IAMP and consider the impacts on surface water, foul water and flood risk.

The assessment demonstrates that whilst additional outfalls and attenuation will be required for the surface water drainage, a 150ha IAMP allocation can be drained in accordance with current best practice.

Foul water that will be generated from a 150ha allocation will require a new discharge point to be used for either all, or some of the flows. Feasible discharge points have been identified and the most suitable connection points can be agreed with Northumbrian Water as part of the preparation of the development consent order.

Some areas of the extended IAMP allocation will be partially located in existing flood areas, but these can be protected with mitigation measures such as elevated building floor levels and flood compensation. Based on the findings of this

assessment presented within this report, it is considered that a 150ha allocation site can be drained and sufficiently protected from flooding.

4.1.5 Ecological Mitigation

The National Planning Policy Framework requires development to deliver net gains in biodiversity and contribute to Government commitments to halt the decline in biodiversity (paragraph 9 and 109). In terms of planning policy, the NPPF advocates "planning for biodiversity at the landscape scale, map local networks, and promote the conservation of priority habitats and species" (paragraphs 117).

To help determine the amount of land required for biodiversity mitigation, the Councils used the DEFRA metric as a defined and accepted methodology. If both the 'developable area' and 'safeguarded area' were to be developed out, the DEFRA metric indicates a broad range in size of area required to mitigate and arrive at no net loss, that being c49ha to 127ha. However, adopting a more realistic percentage mix of habitats the range arrived at is between 80-100ha. By establishing the size of the potential mitigation area for both the 'developable' and 'safeguarded areas' at 110ha, therefore provides flexibility to accommodate mitigation for species and habitats within the AAP area.

This approach was agreed and accepted by key stakeholders and landowners as demonstrated within the Statement of Common Ground with the Church Commissioners

4.2 Effective

Following the Examination, the Councils have been in discussion with Gateshead Council and the Church Commissioners for England on this matter. Both parties have signed an updated Statement of Common Ground to set out to the Inspector that they support the preferred approach set out in this report and these are attached at Appendix 4.

To assess the impacts of the IAMP on local and neighbouring authorities a series of Topic Papers were prepared. These Papers were based on assumptions related to the direct number of B Use Class Jobs that will be delivered on the IAMP and were as follows:

- Skills Topic Paper (SD6);
- Employment Land Supply Topic Paper (SD8);
- Displacement Impact Paper (SD9); and
- Housing Requirements Impact Paper (SD7).

The Councils have agreed that they will update the above papers, to reflect the preferred approach set out in this report, to ensure that neighbouring authorities can take the impacts on IAMP into consideration when preparing their respective Local Plans. This will be undertaken over the forthcoming months.

The Councils therefore consider that they have met the requirements of DtC.

4.3 Consistent with national policy

The Councils consider that the proposed approach is consistent with the NPPF on the basis of:

- the preferred option set out in this report provides a sound and more robust approach to delivering OAN;

- the IDP as submitted for the Examination is still valid and appropriate for the extended development area, with minor modifications;

- the ecological mitigation land proposed in the Plan will also support the extended 150ha development site;

- the Councils' Duty to Cooperate obligations on this matter have been addressed and support the preferred approach.

4.4 Justified

This report has reviewed a number of alternative options and concluded that the preferred approach to promote a 150ha IAMP project through the Plan is the most appropriate strategy. This can be justified on the following basis:

- It delivers against the required demand and the OAN;

- The infrastructure set out within the IDP can also accommodate the 150ha development;

- A Statement of Common Ground has been agreed and signed with Gateshead Council. A Statement of Common Ground has been agreed with Barton Willmore – Planning advisers to the Church Commissioners for England –which is currently with the commissioners for consideration and signing. These are attached at Appendix 4.

5. Proposed Modifications to the Plan and supporting documents

The Council propose that the following modifications are made to PSD01 to ensure that the Plan is 'sound'.

- An amended Policy S1 as set out below.
- The deletion of the previous Policy S2.
- An updated IAMP AAP Policies Map (Appendix 5).

Policy S1 Comprehensive Development

The Comprehensive Development of the IAMP for principal uses associated with the automotive and advanced manufacturing businesses will be delivered by:

1) Revising the Green Belt boundary to release 150ha of land from the Green Belt.
2) Allocating approximately 150ha of land for development of principal uses (defined in Policy S2) in the Employment Areas.
3) Requiring Masterplans, Design Codes and Phasing Plans to be submitted which demonstrates how development:
   i. will meet the objectives of the AAP and will not prejudice comprehensive development of the IAMP;
   ii. ensures the proposed development is designed and orientated to relate well to the existing employment area and Enterprise Zone and established infrastructure;
   iii. contributes towards infrastructure identified in the IDP;
   iv. contributes fully, in a proportionate and timely manner, to the mitigation required for the IAMP;
   v. is capable of being implemented without breaching the provisions of the Planning Act 2008.

Infrastructure Delivery Plan

The infrastructure set out within the IAMP AAP and its policies will be delivered through the IAMP AAP Infrastructure Delivery Plan (IDP) (PSD21) and proposed policies Del1 and Del2. The IDP describes the infrastructure requirements, setting down what is required, when it is required, the likely cost and how it will be funded. The Councils have updated the IDP to reflect any additional infrastructure or costing associated with allocating the additional 50ha of land (Appendix 6). This is a strategic document and therefore does not detail every infrastructure project being planned; it does however set out the main infrastructure projects needed to assist in delivering the IAMP AAP and remains a live standalone document.

6. Conclusion

In summary, the analysis of the matters raised at the examination lead the Councils to conclude that the preferred approach is to allocate the full 150ha of the IAMP development within the Plan, with no land referenced as safeguarded. There are several reasons for this:

- This approach is more effective in terms of delivering against OAN and the market requirements;

- The infrastructure set out within the IDP will also support the larger 150ha development;

- It is a more straightforward approach in terms of plan making and consenting – the evidence indicates that the OAN would not be met by the 100ha site and that, within the early lifetime of the Plan, there is a real prospect of the Plan requiring review. This is not an efficient approach to Plan making;

- The approach provides certainty to future occupiers, the automotive, advanced manufacturing and development sectors;

- It enables the maximum value (in terms of economic growth) to be achieved through the early investment by the public sector in strategic infrastructure; and

- The approach is also supported by the adjoining local authority, Gateshead.

On that basis, the Inspector is requested to consider the evidence presented in this report and support the Councils approach to delivering a 'sound' Plan.

7. Appendices

The following technical appendices are attached to this report:

- Appendix 1 – Systra report on highway infrastructure capacity and additional traffic modelling;

- Appendix 2 – Desco report on the Utility Network;

- Appendix 3 – Systra report on Drainage and Flooding;

- Appendix 4 – Statements of Common Ground

- Appendix 5 - updated IAMP AAP Policies Map

- Appendix 6 – Updated Infrastructure Delivery Plan

APPENDIX ONE

SYSTRA REPORT

HIGHWAY INFRASTRUCTURE CAPACITY AND ADDITIONAL TRAFFIC MODELLING

IAMP AAP

HIGHWAYS NETWORK CAPACITY ASSESSMENT FOR 150HA ALLOCATION FOR EMPLOYMENT AND RELATED USES

SYSTRA

IAMP AAP

HIGHWAY NETWORK CAPACITY ASSESSMENT FOR 150HA ALLOCATION FOR EMPLOYMENT AND RELATED USES

IDENTIFICATION TABLE	
Client/Project owner	Sunderland City Council & South Tyneside Council
Project	IAMP AAP
Study	Highways network capacity assessment for 150ha allocation for employment and related uses
Type of document	Report
Date	03/07/2017
Reference number	NEA1301

APPROVAL				
Version	**Name**		**Date**	**Modifications**
1	Author	SE	03/07/2017	
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	Approved by	SP	03/07/2017	

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1. INTRODUCTION

1.1 Foreword

1.1.1 This report relates to the Area Action Plan ("AAP") for the International Advanced Manufacturing Park ("IAMP") being promoted jointly by Sunderland City Council and South Tyneside Council as Local Planning Authorities ("the Councils").

1.1.2 The Publication Draft AAP included 100ha of land for development and a further 50ha of land 'safeguarded' to be removed from the Green Belt for future development.

1.1.3 During the AAP examination hearings held between 3 and 6 April 2017, the Inspector asked questions about objectively assessed need, the amount of land required for IAMP, and the development constraints imposed by designating land as 'safeguarded'. The Inspector requested that the Councils consider modifying Policy S1 so that 150 ha (rather than 100 ha) was designated as employment land.

1.1.4 The Councils are therefore reviewing the options available regarding the treatment of safeguarded / future development land within the IAMP AAP.

1.1.5 The purpose of this report is to explain how the highway infrastructure, as set out within the AAP and the Infrastructure Delivery Plan, has the capacity to support a potential allocation of 150ha for IAMP development.

1.2 Previously Submitted Evidence

1.2.1 The Councils submitted the IAMP AAP and associated documents in February 2017. The following Transport related evidence was submitted to support the IAMP AAP and are available in the Evidence Library:

- Transport Technical Background Report (PSD19) February 2017
- Base Modelling Approach (SD60) July 2015
- Future Year Modelling (SD61) July 2015
- Multi-modal Trip Generation (SD62) November 2015
- Vehicle Trip Distribution (SD63) November 2015
- Local Model Validation Report (SD64) December 2015
- Washington Road Bridge Option Testing (SD65) December 2015
- Existing Network Trigger Point Assessment (SD66) April 2016

1.2.2 The previous assessments, which have informed the highway infrastructure requirements for the IAMP, have considered the impact of a 100ha development site, supporting the creation of 5,228 jobs.

1.2.3 Within the S-Paramics traffic model for the IAMP, the highway improvement works being proposed by Highways England for the Testos and Downhill Lane junctions on the A19 are considered to have been implemented. In addition to these measures, the findings of the previous work identified that the following infrastructure was required to mitigate the highway impact of the IAMP and are also included within the traffic model:

- The A1290 to become a dual carriageway from A19 Downhill Lane junction to immediately east of West Moor Farm;
- Construction of a new single carriageway road from a new junction on A1290 eastward towards the A19;
- Construction of a new single carriageway bridge over A19 to link the IAMP site with Washington Road ("Washington Road Bridge");
- Construction of a new single carriageway road to run parallel and to the west of the A1290;
- Construction of a new road leading northward, including a new single span bridge over the River Don.

2. APPROACH TO TRAFFIC ASSESSMENT

2.1 Micro-Simulation S-Paramics Model

2.1.1 To test the suitability of the proposed highway infrastructure to accommodate the earlier implementation of a 150ha development site, the previously produced S-Paramics micro-simulation model referenced in SD65 (Washington Road Bridge Option Testing) has been used.

2.2 Assessment Periods

2.2.1 The S-Paramics model again considers the road network operations for a 3-hour AM Peak period of 07:00-10:00am and a 3-hour PM Peak period from 15:00-18:00hrs.

2.3 Trip Generation

2.3.1 To assess the 150ha IAMP development site, the previously determined trip generation for the 100ha site, as set out SD62 (Multi-modal Trip Generation) over the respective AM and PM Peak 3-hour periods have been multiplied by a factor or 1.5. In doing so, this approach therefore assumes that the 50ha of safeguarded land is developed in a similar density as that previously considered and comprises the same mix of uses.

2.3.2 Table 2.1 sets out the differences between the IAMP development assumptions used in assessing the traffic impacts within the S-Paramics model.

Table 2.1 – Scenario Comparison

	Scenario 1	Scenario 2
Site Area	100ha	150ha
Total Office GFA (sqm)	23,750	35,625
Total B1/B2 GFA (sqm)	237,500	356,250
Total Floorspace GFA (sqm)	261,250	391,875
Total Equivalent Jobs	5,228	7,842

2.4 Trip Distribution

2.4.1 The new forecast traffic generation resulting from a 150ha IAMP development site has again been distributed onto the road network using the methodology outlined in SD63 (Vehicle Trip Distribution).

2.5 Future Year Scenario

2.5.1 The IAMP AAP is a plan for the next 15 years and it is therefore appropriate that for consistency with the previously submitted evidence, the S-Paramics modelling again considers a future-year scenario of a full 150ha IAMP development build-out in 2028. In doing so, the approach to background traffic growth assumptions set out in SD61 (Future Year Modelling) remain applicable for this additional assessment.

3. ASSESSMENT RESULTS

3.1 Reporting Approach

3.1.1 To provide a measurable comparison of the network operations between the previously considered 100ha IAMP site and that of a 150ha IAMP development site, modelling results are reported for a number of Journey Time paths across the network and Queue Lengths at junctions. The difference in average Network Speed is also considered across the study area.

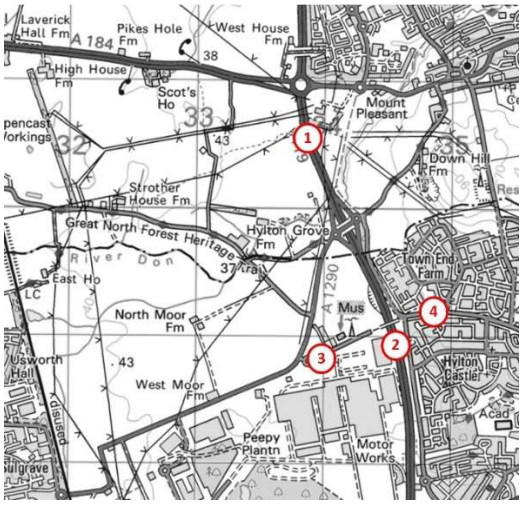
3.1.2 In addition to the quantifiable and measurable performance indicators outlined above, it is equally important to observe the network operations during the 'running' of the S-Paramics model, to ensure that irregularities are not occurring and that undue congestion is not occurring elsewhere on the network.

3.1.3 The results presented reference the following scenarios:

- Scenario 1: 100ha IAMP Development Site
- Scenario 2: 150ha IAMP Development Site

Journey Times

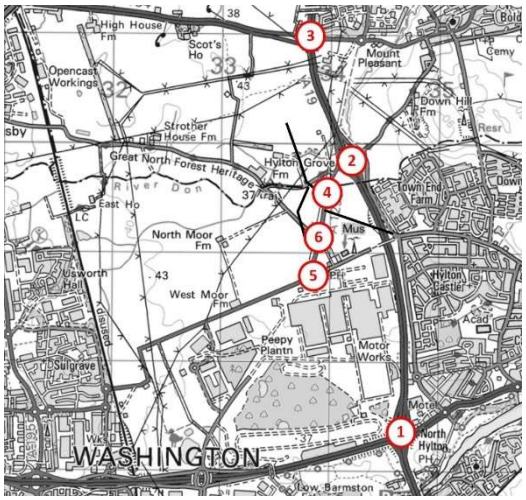
3.1.4 Journey time paths have been coded in the model between various origin and destinations (OD) in order to determine the shortest journey times between OD pairs. The following origin and destinations have been used for coding journey time paths:



1. North: on the A19, mid-way between the Testos junction and Downhill Lane junction.
2. South: on the A19, in the proximity of the existing footbridge that crosses the A19 east-west to the immediate north of the Nissan factory.
3. West: Nissan access on the A1290.
4. East: on Washington Road, to the east of Ferryboat Lane.

Queue Lengths

3.1.5 For each operational run of the S-Paramics model, the average queue on each arm is identified in 15-minute increments. These are averaged over 10 operational runs, to give a "total average" queue for each arm of each junction in 15-minute increments. These values are added together to give the "total average queue" for the junctions considered. Queue length results are reported for the following junctions:



1. A19 Wessington Way junction
2. A19 Downhill Lane junction
3. A19 Testos junction
4. A1290 junction with new road to the north
5. A1290 Nissan access junction
6. A1290 junction with new link road running parallel with A1290

Network Speed

3.1.6 For each operational run of the S-Paramics model, the average network speed across the model is recorded and averaged over 10 runs, to give an "average network speed".

3.2 Journey Time Results

3.2.1 The results presented below consider the journey time differences between the two scenarios for the 15-minute intervals over the respective AM and PM 3-hour Peak periods.

3.2.2 Where there are gaps in the results, no data was available for that recorded 15-minute period. This typically occurs when no vehicles have been recorded taking that particular route in full, within the relevant time period. This is commonly associated with vehicles turning off before completing the entire coded journey time route – this is particularly apparent for the North-West movement.

3.2.3 Typically, right-turn movements through a junction present the greatest sensitivity to increased traffic volume and as such, these are presented in Table 3.1 and Table 3.2. The journey time movements considered are outlined below, which should be read in conjunction with the plan given in section 3.1.4.

- **East to North (JT point 4 to 1):** from Washington Road, east of Ferryboat Lane, through the Downhill Lane junction and then north on the A19 toward the Testos junction.
- **North to West (JT point 1 to 3):** from the A19 south of the Testos junction travelling southward, through the Downhill Lane junction and then westward along the A1290 to the existing Nissan access.
- **West to South (JT point 3 to 2):** from the existing Nissan access on the A1290 and travelling eastward, through the Downhill Lane junction and then southward on the A19 toward Wessington Way
- **South to East (JT point 2 to 4):** from the A19, in the proximity of the existing footbridge immediately north of the Nissan factory, travelling northward, through the Downhill Lane junction and then eastward on Washington Road to a point east of Ferryboat Lane.

Table 3.1 – AM Peak Journey Time Differences (in Seconds)

	EAST TO NORTH	NORTH TO WEST	WEST TO SOUTH	SOUTH TO EAST
Time	Difference Scenario 2 - 1	Difference Scenario 2 - 1	Difference Scenario 2 - 1	Difference Scenario 2 - 1
06:30	-1.8	-18.5	-6.1	-2.9
06:45	-1.7	-11.2	0.6	-14.9
07:00	-6.2	7.5	2.9	1.6
07:15	9.7	3.9	6.1	-1.9
07:30	-0.4	2.0	3.4	2.6
07:45	4.1	-5.0	-2.3	14.3
08:00	7.5	2.0	-4.7	-0.2
08:15	32.6	-32.2	4.0	18.1
08:30	35.5	-23.8	16.0	18.7
08:45	33.6	-	9.8	12.6
09:00	37.8	-	9.8	12.5
09:15	4.3	-14.0	-3.4	1.7
09:30	3.0	3.0	0.9	3.8
09:45	-2.7		10.7	3.9
10:00	4.8			34.3

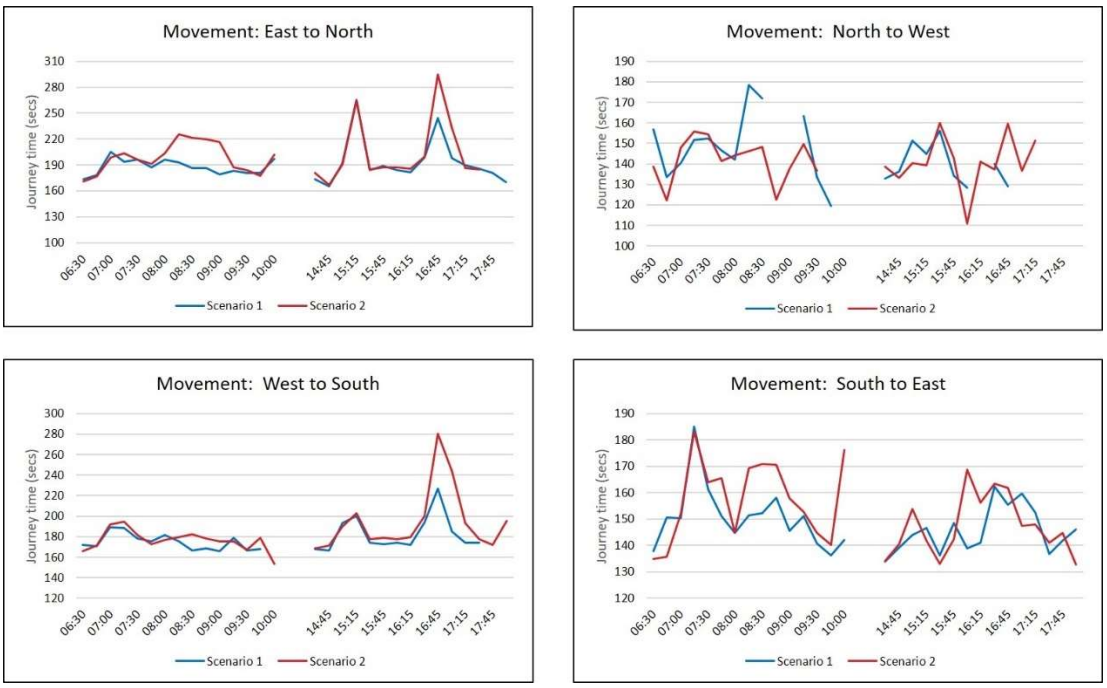
Table 3.2 – PM Peak Journey Time Differences (in Seconds)

	EAST TO NORTH	NORTH TO WEST	WEST TO SOUTH	SOUTH TO EAST
Time	Difference Scenario 2 - 1	Difference Scenario 2 - 1	Difference Scenario 2 - 1	Difference Scenario 2 - 1
14:30	7.8	5.9	0.8	0.2
14:45	1.5	-2.8	4.7	1.4
15:00	-2.1	-10.8	-3.3	10.0
15:15	-0.9	-5.8	3.3	-4.8
15:30	1.1	4.0	3.0	-3.1
15:45	-1.9	8.4	6.3	-6.1
16:00	3.3	-17.5	3.6	29.9
16:15	4.0	-	7.3	15.2
16:30	0.5	-2.7	6.1	0.8
16:45	50.5	30.6	53.5	6.4
17:00	35.0		59.3	-12.0
17:15	-2.9	7.8	19.4	-4.6
17:30	-1.5		3.6	4.2
17:45				3.0
18:00				-13.3

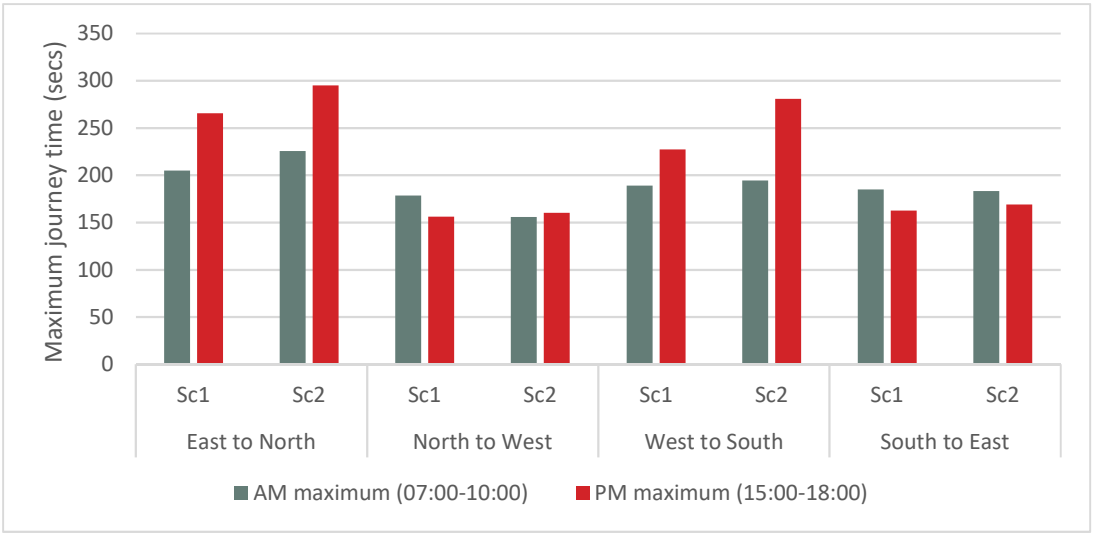
Table 3.3 – Maximum Journey Times

	EAST TO NORTH		NORTH TO WEST		WEST TO SOUTH		SOUTH TO EAST	
Time	Sc1	Sc2	Sc1	Sc2	Sc1	Sc2	Sc1	Sc2
AM Maximum (07:00 – 10:00)	204.97	225.45	178.50	155.66	188.87	194.50	185.00	183.14
PM Maximum (15:00-18:00)	265.42	294.94	156.00	160.00	227.09	289.54	162.45	168.87

Graphs 3.1 – Journey Times by Movement



Graph 3.2 – Maximum Journey Times



3.2.14 The journey time results demonstrate that although journey times through the coded routes increase, the difference is not significant. In the AM Peak period, journey times between 08:00-09:00hrs experience the greatest level of change, with average times increasing by up to 38 seconds for the East to North movement. In the PM Peak period, journey times between

16:45-17:15hrs experience the greatest level of change, with average times increasing by 60 seconds on the West to South movement.

3.2.15 The average journey time results across all movements over both the 3-hour AM and PM Peak periods show that no journey times increase by over 60 seconds. In instances where journey times are reported to be close to 60 seconds, this increase only occurs over a relatively short period of time (15-30 minutes), outside of this period, differences are less than 30 seconds.

3.2.16 The reported journey time differences are deemed acceptable when considered in the context that most signal controlled junctions typically operate on a cycle-time[1] of 60 seconds or greater (up to 120 seconds). The reported level of increased delay of up to 60 seconds is therefore comparable with a vehicle being stopped by a red traffic signal for one cycle and as such, is considered acceptable and not detrimental to the overall network operation.

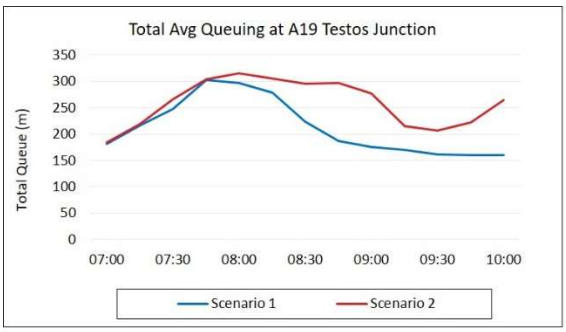
3.3 Queue Length Results

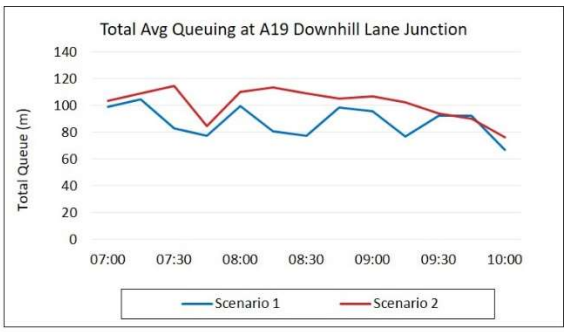
3.3.1 Queue length result tables for all of the junctions under consideration are presented in **Appendix A**.

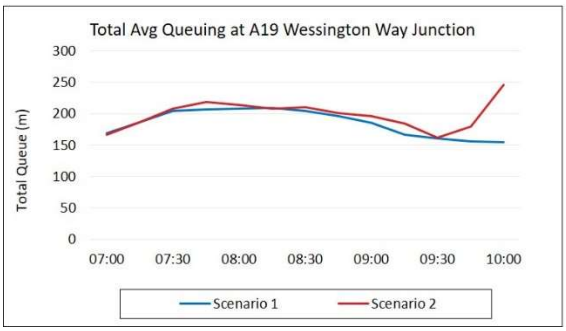
3.3.2 Queue length graphs for the average queues (total of all approach arms) on the three A19 junctions being considered (Testos, Downhill Lane and Wessington Way) are presented for the 3-hour AM and PM peak periods in Graphs 3.3 and Graph 3.4 respectively. Also presented are average queue length graphs for the A1290 junctions, which consider the northern-most junction (i.e. first junction west of A19 Downhill Lane junction) and the existing Nissan site access. The 3-hour AM and Pm Peak period queue lengths graphs are given in Graph 3.5 and Graph 3.6 respectively.

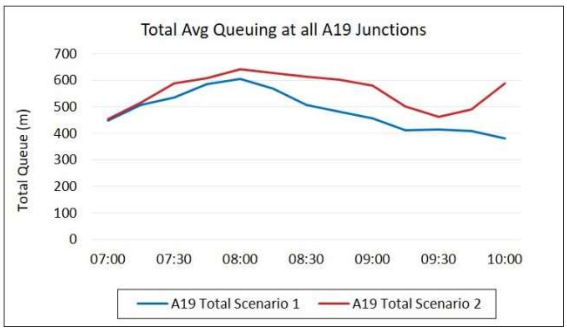
[1] The Cycle Time is the duration, in seconds, that it takes a signal to complete one full cycle of indications. It indicates the time interval between the starting of a green light for one approach until the next time the green light starts.

Graphs 3.3 – A19 Junctions in AM Peak

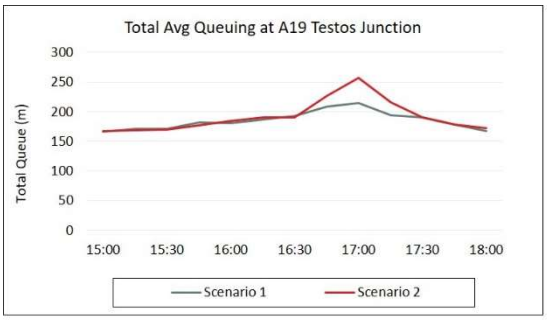


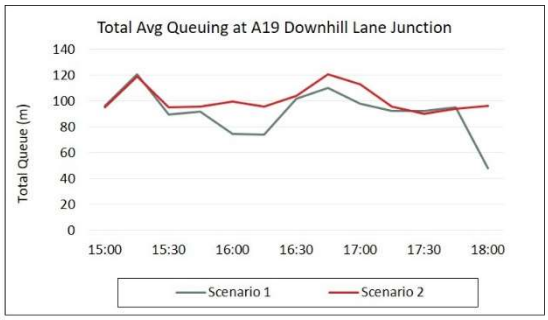


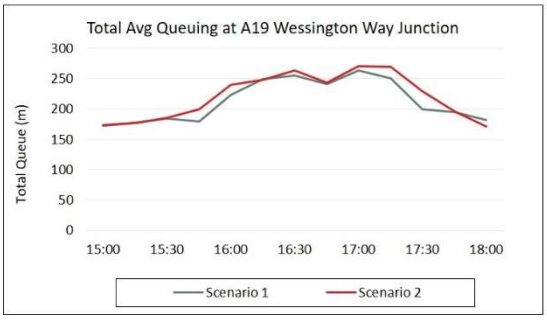


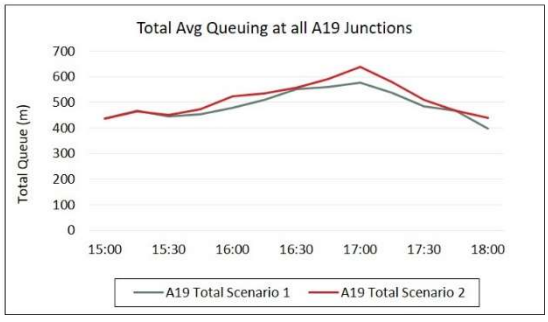


Graphs 3.4 – A19 Junctions in PM Peak

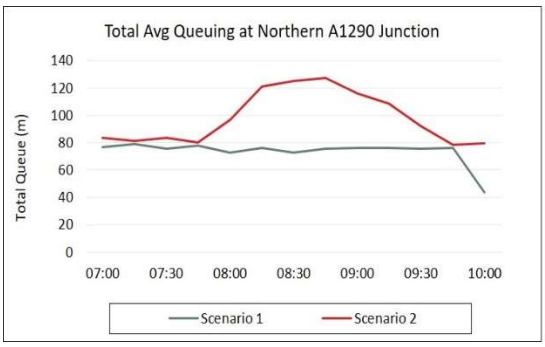


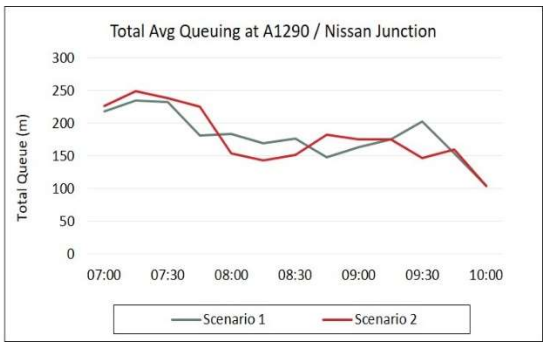




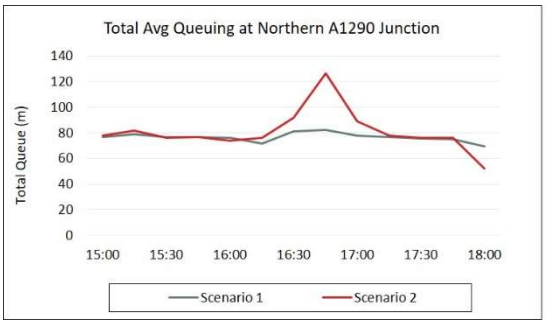


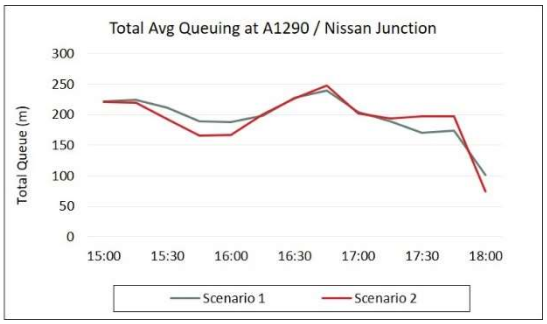
Graphs 3.5 – A1290 Junctions in AM Peak





Graphs 3.6 – A1290 Junctions in PM Peak





A19 Testos Junction

3.3.3 It can be seen from the results that the Testos junction experiences the greatest level of increased average queue lengths in the AM Peak period. In the AM Peak, only a modest level of increased queue length is reported on the northern and eastern arm approaches, with increased average queues of typically less than 10 metres in any 15-minute period.

3.3.4 The southern and western approach arms to Testos experience the greatest level of increased average queue length in the AM Peak, with increases of up to 58 metres between 09:00-09:15hrs on the southern approach arm. For the majority of the 3-hour period however, average queue lengths are typically less than 30 metres.

3.3.5 In the PM Peak period, the junction experiences only relatively small differences in queue lengths, with average increases peaking at around 16:45-17:15hrs when queues are predicted to be up to 41 metres greater on the southern approach arm. For the majority of the 3-hour period however, average queue lengths are typically less than 15 metres.

3.3.6 Whilst the average queue length results are reported in metres, it is important to reflect what this could represent in vehicle numbers. A car for example, within traffic modelling, a car is generally considered to be 5.75 metres, therefore a queue of 58 metres will generally represent a 10 car length queue.

A19 Downhill Lane

3.3.7 The increase in difference between average queue lengths at this junction are typically modest. In both the AM and PM Peak periods, increases are not greater than 25 metres in any 15-minute period on any approach arm.

A19 Wessington Way

3.3.8 At this junction, only minor queue length differences are reported on the northern and eastern arms in the AM Peak period. The difference in maximum average queue lengths on the southern approach and western approach arms are typically less than 25 metres over the 3-hour AM period.

3.3.9 In the PM Peak period, the difference in average queue lengths on the eastern, southern and west arms are minimal and less than 5 metres across the entire time period. On the Northern arm of the junction, increase in average queues lengths of between 9-25 metres are experienced.

A1290 Junctions

3.3.10 The modelling results for the junctions on the A1290 demonstrate that the southbound movement along the A1290 experiences the greatest increase in queue lengths.

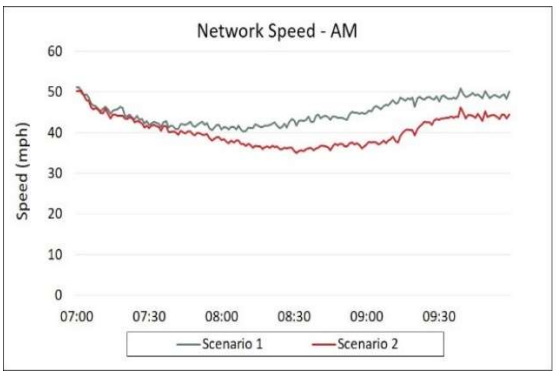
3.3.11 In the AM period, the average queue length increases by up to 48 metres (or 8.3 cars) on the southbound movement at the new junction immediately to the west of the Downhill Lane junction. This occurs over the period 08:00 – 09:15hrs. The other arms of this junction see minimal differences in queue lengths during the AM period. In the PM period, the difference in queue length is less notable, with the northern arm seeing an increase of 16 metres during a 15-minute period. Whilst the difference in queue lengths on the southern arm are negligible, it is noted that an increase of 26 metres is reported on the western arm between 16:45-17:00hrs, before reducing to 7 metres for the following 15-minute period (17:00-17:15hrs).

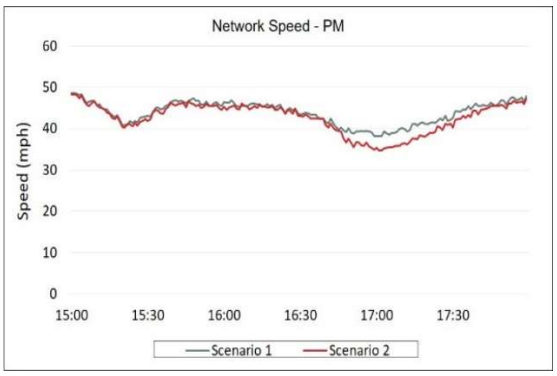
3.3.12 At the existing Nissan junction on the A1290, queue length fluctuations occur on the eastern arm (Nissan access) over the period. This is likely due to the varying demand profile on this arm and in a worst case 15-minute period, the queue length is reported to increase by 31 metres (5.4 cars). On the A1290 northern arm, an increase of 14 metres is reported for the period 07:15-07:30hrs. In the PM peak, changes in average queue length on the northern and southern arms are minimal, although again, an increase in queue length of 29 metres is reported on the eastern arm (Nissan access) during the period 17:30-18:00hrs).

3.4 Average Network Speeds

3.4.1 The average network speeds across the study area provide a useful comparison of overall network performance. It can be seen from the Graphs below that as would be expected, the average speed across the network decreases. The decrease in average network speed is less notable in the PM Peak period. In the AM Peak, the decrease in the average network speed is greatest during 08:30-09:15hrs when the speed drops by approximately 7mph.

Graphs 3.5 – Average Network Speeds





3.5 Observations of Model Operation

3.5.1 One of the merits of an S-Paramics is that enables users to view the replicated road network operating conditions in the future-year scenario being considered. When the S-Paramics model is viewed in operation 'running' the future-year scenario with the 150ha IAMP Development site, the network is observed to operate in a generally satisfactory manner.

3.5.2 Whilst increased queues are noted on junction approach arms, these are typically short-lived and/or clear within a short period of time. The congestion experienced at junctions does not impact on the operation of adjacent junctions, which would otherwise give rise to safety concern.

3.5.3 It is noted from the model that the highway infrastructure in close proximity to the IAMP site is capable of accommodating the increased traffic levels without causing a severe impact. As traffic disburses to the periphery of the study area, the increased traffic levels see junctions more susceptible to increased congestion, this is most notable at junctions on the A1231 to the south. These junctions already experience intermittent queuing in the peak periods within the base model and the increased congestion at junctions is not at a level that gives rise to any operational issues in the road network.

3.6 Summary

3.6.1 When consideration is given to the reported journey times, queue lengths and network speed, along with the general observation of the model in operation, it is concluded that a 150ha IAMP Development site can be accommodated by the proposed highway infrastructure set out in the AAP and IDP.

4. SUSTAINABLE TRAVEL & MODAL SHIFT

4.1 Travel Planning

4.1.1 The results presented in the previous section demonstrate that changes to queue length and journey times are not significant, however, with the promotion of sustainable travel modes to reduce the number of single occupancy car trips to IAMP, the impact on the surrounding road network could be further reduced.

4.1.2 The IAMP Development will provide new sustainable travel infrastructure, in the form of enhanced bus services, additional bus stops and new cycle and footway links that will connect the site into the wider non-motorised user network. These elements, along with a strong commitment to Travel Planning, will assist in reducing the traffic impact from the IAMP.

4.1.3 The IAMP Development will implement an overarching Travel Plan to provide the framework and mechanism for reducing single occupancy car trips. This section sets out some of the key measures which could form part of a Travel Plan for IAMP.

4.2 Measures

4.2.1 As part of an application for development consent or planning permission, specific measures will be identified within an IAMP Travel Plan to help manage a modal shift towards sustainable travel. The following present a number of measures which could be explored in further detail within the IAMP Travel Plan, which could contribute towards alleviating congestion on the surrounding road network capacity.

- IAMP Website – A dedicated travel section could be included within an IAMP website, providing up-to-date travel information, including bus time tables. Links to cycle maps could also be included, along with details of car-share options and discounts and selected retailers.
- IAMP Travel Plan Coordinator (TPC) – a dedicated role for a person tasked with delivering of the Travel Plan measures and monitoring against targets. The TPC will likely be appointed prior to the first occupation on the IAMP and will be the main point of contact for all organisations at the IAMP, working closely with the local authorities to achieve a modal shift away from single occupancy car use. The appointed TPC would work closely with the Nissan TPC, with a single combined role potentially created as the IAMP becomes established.
- IAMP Car Share Database – managed by the TPC, the car share database could hold details of all employees based at the IAMP who are prepared to car share, with suitable matches made between employees with similar working patterns and common origin/destinations.
- New Bus Services / Routes – providing bus services to IAMP from the surrounding residential areas and the Tyne and Wear Metro will play an important role in achieving an higher percentage of bus travel for the IAMP workforce.
- Shift Patterns – if shift patterns at the IAMP could be operated at periods out with the network peak periods, this would ease congestion. This would however require further liaison and agreement with end users.
- Discounts / Concessions – a reduced cost for bus travel for IAMP employees and promotions at cycle shops etc could be investigated by the TPC.

5. SUMMARY & CONCLUSIONS

5.1 Summary

5.1.1 This report has been produced to present the findings or further traffic modelling and assessment work to aid in the Councils' decision making process with regard to the treatment of safeguarded / future development land at the IAMP.

5.1.2 The micro-simulation S-Paramics model used to assess the traffic impact of a 100ha IAMP development site has been used to assess the suitability of the proposed highway infrastructure to accommodate the traffic demand generated by a 150ha IAMP development site.

5.1.3 The methodology used to determine trip generation and distribution set out in the previously submitted AAP evidence has again been adopted in this assessment, thereby ensuring consistency between the testing of scenarios.

5.1.4 The performance of the road network in a future-year scenario of 2028 with a 150ha IAMP development site has been considered against the impact of a 100ha IAMP development site. Journey times, queue lengths and network speeds across the road network have been reported.

5.1.5 The results demonstrate that whilst increases in journey times are experienced, these changes are not significant. Queue lengths at some of the key junctions on the network have been presented and demonstrate that increased queue lengths occur during the AM and PM peak periods. However, the impact of these increased queue lengths do not impact on adjacent junctions and observation of the model in operation reveals that queues quickly disperse across the network. Network speeds are reduced by up to 7mph in the AM Peak period, with only a minimal reduction in speed noted in the PM Peak.

5.1.6 An overarching Travel Plan will be implemented at the IAMP, which will be overseen by a dedicated Travel Plan Coordinator. The Travel Plan and the specific measures identified within, will play an important role in managing IAMP related trips and reducing single occupancy car trips. A successful Travel Plan will be influential in reducing single occupancy car trips to/from IAMP, which will assist in further minimising the highway impact during the peak periods.

5.2 Conclusion

5.2.1 Based on the findings of the assessment results presented within this report, it is considered that the highway infrastructure set out within the AAP and the IDP has the capacity to support a 150ha development site.

Appendix A – Journey Time and Queue Length Result Tables

Journey times through A19 / Downhill Lane junction

	East to North		North to West		West to South		South to East	
	100ha	150ha	100ha	150ha	100ha	150ha	100ha	150ha
Time Period	Average JT	Average JT	Average JT	Average JT	Average JT	Average JT	Average JT	Average JT
06:30	172.962	171.177	157	138.5	172.131	166.011	137.694	134.778
06:45	178.532	176.845	133.375	122.167	170.448	171.012	150.611	135.683
07:00	204.967	198.721	140.528	148.071	188.87	191.813	150.481	152.083
07:15	193.926	203.643	151.763	155.661	188.398	194.499	185.001	183.139
07:30	196.535	196.122	152.519	154.503	178.147	181.581	161.352	163.935
07:45	187.43	191.536	146.526	141.479	175.106	172.803	151.102	165.448
08:00	196.191	203.664	142	144	181.681	176.964	144.88	144.657
08:15	192.888	225.447	178.5	146.292	175.491	179.508	151.315	169.371
08:30	185.964	221.511	172	148.167	166.662	182.614	152.144	170.822
08:45	186.359	219.978		122.5	168.49	178.265	158.157	170.727
09:00	178.97	216.749		137.5	165.809	175.622	145.448	157.941
09:15	183.197	187.546	163.5	149.5	179.045	175.641	151.113	152.764
09:30	180.751	183.713	133.5	136.5	166.556	167.477	140.87	144.645
09:45	180.403	177.699	119.5		168.019	178.707	136.354	140.281
10:00	197	201.75				153.5	142	176.25
14:30	173.113	180.943	132.75	138.661	168.042	168.825	133.925	134.094
14:45	165.06	166.604	136.15	133.321	166.762	171.491	139.093	140.542
15:00	192.237	190.174	151.25	140.5	193.262	189.942	143.854	153.833
15:15	265.422	264.537	145	139.25	199.923	203.191	146.639	141.889
15:30	184.056	185.12	156	160	174.333	177.285	136.135	133.024
15:45	188.953	187.079	134.3	142.7	172.776	179.074	148.567	142.433
16:00	184.196	187.543	128.5	111	174.116	177.739	138.938	168.869
16:15	181.391	185.411		141.167	172.101	179.364	140.905	156.117
16:30	198.792	199.251	139.917	137.25	193.697	199.775	162.454	163.3
16:45	244.431	294.944	129	159.607	227.087	280.542	155.509	161.898
17:00	197.664	232.672		136.667	184.84	244.111	159.569	147.531
17:15	189.537	186.669	143.5	151.25	173.937	193.311	152.417	147.867
17:30	185.882	184.413			174.13	177.714	136.762	140.927
17:45	180.871					171.779	141.725	144.769
18:00	170.25					195	146	132.75

Scenario 1 - Average Queue (m) on average day, AM Period

A19 Junctions	Direction	Time (start) 07:00	07:15	07:30	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45	10:00
Junction 4 (DHL)	North arm	22	27	27	25	27	27	26	26	25	24	23	23	23
	East arm	34	30	32	29	30	30	29	28	27	30	26	26	23
	South arm	22	25	24	24	24	24	23	24	23	23	22	23	20
	West arm	21	23	0	0	19	0	0	21	21	0	21	21	0
Downhill Lane Total		**99**	**105**	**83**	**77**	**100**	**81**	**78**	**98**	**96**	**77**	**92**	**93**	**67**
Junction 1 (Testos)	North arm	35	39	40	39	37	35	35	35	34	33	32	33	33
	East arm	58	61	64	63	61	60	57	53	53	51	49	47	45
	South arm	45	55	56	102	106	106	74	51	47	43	39	41	38
	West arm	43	60	88	98	93	78	56	47	43	42	41	39	45
Testos Total		**180**	**216**	**248**	**302**	**297**	**278**	**223**	**187**	**176**	**170**	**161**	**159**	**159**
Junction 7 (Wessington Way)	North arm	36	36	35	35	35	35	34	34	33	33	32	32	33
	East arm	45	53	59	54	48	52	49	47	47	47	44	43	41
	South arm	40	44	52	58	63	62	61	58	49	35	35	31	30
	West arm	48	53	58	59	62	61	60	58	57	52	51	50	51
Wessington Way Total		**169**	**186**	**205**	**207**	**208**	**210**	**205**	**196**	**186**	**166**	**161**	**156**	**155**
A19 Total		**449**	**507**	**535**	**586**	**604**	**569**	**506**	**481**	**457**	**413**	**415**	**408**	**381**

Downhill Lane junctions (north to south)

Junction 33 (DHL/IAMP)	North arm	22	23	22	23	23	25	23	25	23	22	21	22	21
	South arm	26	26	25	25	25	25	24	25	25	25	25	25	23
	West arm	29	30	28	31	25	26	25	25	28	30	30	30	0
Junction 33 (DHL/IAMP) Total		**77**	**79**	**75**	**78**	**73**	**76**	**73**	**76**	**76**	**76**	**75**	**76**	**44**
Junction 30 (DHL / Washington Road)	North arm	24	25	26	24	26	23	23	24	23	21	25	21	20
	East arm	27	28	26	26	25	26	26	26	26	26	26	26	26
	South arm	29	31	28	25	25	22	22	21	22	26	22	29	0
Junction 30 (DHL / Washington Road) Total		**79**	**84**	**80**	**74**	**76**	**71**	**71**	**71**	**71**	**73**	**73**	**76**	**46**
Junction 6 (DHL/Nissan)	North arm	21	22	38	21	19	20	21	21	20	21	20	20	19
	East arm	96	101	81	55	60	56	56	28	54	58	82	26	0
	South arm	101	112	113	106	105	94	100	99	89	97	100	108	84
Junction 6 (DHL/Nissan) Total		**219**	**235**	**232**	**181**	**184**	**170**	**176**	**148**	**164**	**175**	**203**	**154**	**104**

Scenario 1 - Average Queue (m) on average day, PM Period

A19 Junctions	Direction	Time (start) 15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00
Junction 4 (DHL)	North arm	21	23	22	23	23	24	24	22	22	23	23	22	21
	East arm	30	51	27	28	29	27	30	38	29	29	28	26	26
	South arm	23	23	23	22	23	23	23	24	23	20	21	25	0
	West arm	22	24	18	19	0	0	25	26	23	21	21	22	0
Downhill Lane Total		**96**	**121**	**90**	**92**	**75**	**74**	**102**	**110**	**98**	**92**	**93**	**95**	**48**
Junction 1 (Testos)	North arm	32	34	33	35	33	34	34	34	34	34	33	33	32
	East arm	53	54	53	56	56	57	57	56	58	58	61	56	54
	South arm	40	42	41	47	43	45	44	47	52	48	45	43	41
	West arm	41	42	44	45	48	51	57	70	71	54	51	46	41
Testos Total		**166**	**171**	**171**	**182**	**180**	**187**	**193**	**208**	**215**	**194**	**191**	**178**	**167**
Junction 7 (Wessington Way)	North arm	39	41	44	47	76	102	97	82	94	99	61	65	50
	East arm	43	42	43	46	52	53	58	65	74	58	50	44	47
	South arm	32	31	33	34	34	36	36	37	36	36	37	36	37
	West arm	59	63	64	53	62	58	65	57	60	57	52	50	47
Wessington Way Total		**173**	**177**	**184**	**180**	**223**	**249**	**255**	**241**	**264**	**251**	**200**	**195**	**182**
A19 Total		**435**	**469**	**445**	**454**	**478**	**510**	**550**	**559**	**576**	**537**	**483**	**469**	**396**

Downhill Lane junctions (north to south)

Junction 33 (DHL/IAMP)	North arm	21	22	22	22	22	22	23	22	22	21	21	20	16
	South arm	26	28	25	25	25	25	26	27	26	25	25	25	25
	West arm	29	29	29	30	30	25	33	33	31	30	29	30	29
Junction 33 (DHL/IAMP) Total		**76**	**79**	**77**	**77**	**76**	**71**	**81**	**82**	**78**	**77**	**76**	**75**	**69**
Junction 30 (DHL / Washington Road)	North arm	23	24	21	20	21	23	25	25	25	22	24	24	20
	East arm	26	30	26	26	26	26	27	32	27	27	26	26	27
	South arm	26	24	22	25	21	24	32	31	28	0	28	23	0
Junction 30 (DHL / Washington Road) Total		**75**	**78**	**70**	**72**	**68**	**73**	**83**	**88**	**80**	**49**	**78**	**74**	**48**
Junction 6 (DHL/Nissan)	North arm	21	21	20	20	20	20	22	22	22	22	20	21	20
	East arm	109	110	103	80	78	81	107	115	84	84	55	54	0
	South arm	92	93	89	89	90	97	99	103	98	83	94	99	81
Junction 6 (DHL/Nissan) Total		**221**	**224**	**212**	**189**	**188**	**199**	**228**	**240**	**204**	**190**	**170**	**174**	**101**

Scenario 2 - Average Queue (m) on average day, AM Period

A19 Junctions	Direction	Time (start) 07:00	07:15	07:30	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45	10:00
Junction 4 (DHL)	North arm	23	26	33	29	31	32	31	27	26	27	23	22	28
	East arm	32	33	33	30	32	34	31	30	28	28	28	24	25
	South arm	22	24	27	26	25	25	26	28	31	26	22	23	23
	West arm	25	25	21	0	22	23	21	20	22	21	21	21	0
Downhill Lane Total		**103**	**109**	**114**	**85**	**110**	**114**	**109**	**105**	**107**	**103**	**94**	**90**	**76**
Junction 1 (Testos)	North arm	36	41	43	41	41	37	36	39	39	40	37	37	42
	East arm	58	61	65	65	60	61	57	55	54	53	52	52	60
	South arm	46	57	58	91	110	106	101	104	104	71	69	67	66
	West arm	44	61	100	107	105	102	103	100	80	51	47	65	96
Testos Total		**184**	**220**	**265**	**304**	**316**	**306**	**296**	**297**	**277**	**215**	**206**	**221**	**265**
Junction 7 (Wessington Way)	North arm	34	36	35	35	35	35	35	34	33	33	31	33	32
	East arm	43	54	60	56	52	53	50	46	46	48	45	42	46
	South arm	40	45	55	63	64	61	62	62	61	51	35	32	30
	West arm	48	53	58	65	63	59	62	58	56	52	50	72	138
Wessington Way Total		**166**	**187**	**208**	**219**	**214**	**207**	**210**	**200**	**196**	**184**	**161**	**179**	**246**
A19 Total		**454**	**516**	**588**	**608**	**640**	**627**	**614**	**603**	**580**	**502**	**461**	**491**	**587**

Downhill Lane junctions (north to south)

Junction 33 (DHL/IAMP)	North arm	24	23	28	29	44	69	71	73	63	54	40	23	23
	South arm	26	26	25	24	25	25	25	25	25	25	25	26	26
	West arm	33	33	30	27	27	28	29	30	28	30	28	30	31
Junction 33 (DHL/IAMP) Total		**84**	**81**	**83**	**80**	**97**	**121**	**125**	**128**	**116**	**109**	**92**	**78**	**80**
Junction 30 (DHL / Washington Road)	North arm	23	25	25	24	23	22	22	24	22	23	23	22	21
	East arm	27	28	26	26	26	26	26	26	26	26	26	26	25
	South arm	21	23	24	28	23	21	24	22	22	24	25	24	0
Junction 30 (DHL / Washington Road) Total		**71**	**76**	**75**	**77**	**72**	**70**	**72**	**72**	**70**	**73**	**74**	**72**	**46**
Junction 6 (DHL/Nissan)	North arm	22	36	34	34	20	21	20	20	21	20	21	20	21
	East arm	104	99	82	83	30	27	28	59	58	56	26	30	0
	South arm	100	115	123	107	104	95	103	104	96	99	100	109	82
Junction 6 (DHL/Nissan) Total		**227**	**250**	**239**	**225**	**154**	**143**	**151**	**183**	**175**	**176**	**147**	**159**	**103**

Scenario 2 - Average Queue (m) on average day, PM Period

A19 Junctions	Direction	Time (start) 15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00
Junction 4 (DHL)	North arm	21	22	23	23	24	23	24	23	23	24	21	21	22
	East arm	30	47	29	28	28	28	31	43	41	28	29	27	25
	South arm	23	23	21	23	24	22	24	23	22	21	19	23	22
	West arm	21	27	22	22	24	22	25	32	26	23	21	23	27
Downhill Lane Total		**95**	**119**	**95**	**96**	**100**	**95**	**104**	**121**	**113**	**96**	**90**	**94**	**96**
Junction 1 (Testos)	North arm	32	32	35	33	34	35	34	34	33	35	33	33	33
	East arm	54	51	51	56	57	57	57	56	58	60	60	55	56
	South arm	40	41	39	43	44	44	43	59	92	65	46	43	44
	West arm	42	43	45	45	48	55	56	77	73	56	51	47	39
Testos Total		**168**	**168**	**170**	**177**	**184**	**191**	**190**	**226**	**257**	**215**	**190**	**178**	**172**
Junction 7 (Wessington Way)	North arm	41	43	45	63	94	99	105	87	98	108	86	64	44
	East arm	42	42	45	46	51	53	56	65	76	62	51	46	43
	South arm	32	31	33	35	35	36	35	36	36	38	36	35	39
	West arm	59	60	63	55	59	61	66	56	60	61	55	50	45
Wessington Way Total		**174**	**177**	**186**	**200**	**240**	**248**	**263**	**243**	**271**	**269**	**229**	**196**	**171**
A19 Total		**437**	**465**	**451**	**473**	**523**	**534**	**557**	**590**	**640**	**580**	**509**	**468**	**438**

Downhill Lane junctions (north to south)

Junction 33 (DHL/IAMP)	North arm	22	23	22	22	21	22	23	38	25	21	21	20	0
	South arm	26	28	25	25	24	25	25	29	26	26	25	25	24
	West arm	30	31	30	29	28	30	44	59	38	31	31	31	28
Junction 33 (DHL/IAMP) Total		**78**	**81**	**76**	**76**	**74**	**76**	**92**	**126**	**89**	**78**	**76**	**76**	**52**
Junction 30 (DHL / Washington Road)	North arm	22	23	21	21	21	22	24	24	24	24	21	23	22
	East arm	27	31	26	26	26	26	28	33	28	27	26	26	27
	South arm	26	23	21	33	20	29	24	32	27	24	28	23	0
Junction 30 (DHL / Washington Road) Total		**75**	**77**	**69**	**80**	**67**	**77**	**76**	**89**	**78**	**74**	**75**	**73**	**49**
Junction 6 (DHL/Nissan)	North arm	20	21	21	21	21	20	22	23	23	23	22	22	21
	East arm	107	110	84	55	53	84	104	114	81	83	84	83	0
	South arm	94	89	88	90	93	97	100	110	98	88	92	93	53
Junction 6 (DHL/Nissan) Total		**221**	**220**	**193**	**166**	**167**	**201**	**226**	**248**	**202**	**194**	**198**	**197**	**74**

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APPENDIX TWO

DESCO REPORT ON THE UTILITIES NETWORK

IAMP AAP

UTILITIES NETWORK CAPACITY ASSESSMENT FOR 150HA ALLOCATION FOR EMPLOYMENT AND RELATED USES

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Issue No.: 1
Date: 11 July 2017

Author: Stephen Smith
Checked/Authorised: Neil Crowe

Ref: 1315-96-RPT-ELEC 03

1.0 Introduction

1.1 This report relates to the Area Action Plan ("AAP") for the International Advanced Manufacturing Park ("IAMP") being promoted jointly by Sunderland City Council and South Tyneside Council as Local Planning Authorities ("the Councils").

1.2 The Publication Draft AAP included 100ha of land for development and a further 50ha of land 'safeguarded' to be removed from the Green Belt for future development.

1.3 During the AAP examination hearings held between 3 and 6 April 2017, the Inspector asked questions about objectively assessed need, the amount of land required for IAMP, and the development constraints imposed by designating land as 'safeguarded'. The Inspector requested that the Councils consider modifying Policy S1 so that 150ha (rather than 100ha) was designated as employment land.

1.4 The Councils are therefore reviewing the options available regarding the treatment of safeguarded / future development land within the IAMP AAP.

1.5 The purpose of this report is to explain how the utility infrastructure (Water, Gas and Electricity) can be managed for a potential allocation of 150ha for IAMP development.

2.0 Water Services

2.1 The existing water infrastructure records for the site have been received and these confirm that there are Northumbrian Water Limited (NWL) services present across the proposed allocation of 150ha for IAMP development.

2.2 NWL distribution pipe work is located across the site running from the south east corner diagonally to the north west corner. In addition to this a number of private mains are connected to this distribution system to supply various consumers across the site. Refer to appendix A for a copy of the NWL services layout drawing.

2.3 Desco submitted an initial pre-development enquiry to NWL on the 13th Aug 2015, based on the original IAMP allocation area of 100ha, to enable an assessment to be made on the impact of the proposed allocation on NWL assets, and to assess the capacity within the NWL network to accommodate and treat the anticipated flows arising from the proposed allocation.

2.4 NWL confirmed that a new water supply could be made available for the proposed 100ha allocation from the existing water mains network and that there would be no abnormal infrastructure costs incurred.

2.5 Desco have contacted NWL again and enquired if the existing distribution pipe work has capacity to support an allocation of 150ha. NWL have confirmed that the existing infrastructure can support the 150ha allocation of land without the need for abnormal infrastructure reinforcement.

3.0 Gas Services

3.1 The Northern Gas Networks (NGN) existing gas infrastructure records for the site have been received and these confirm that there are gas services present across the AAP site. These consist of intermediate pressure gas mains (2 – 7 bar) and medium pressure gas mains (75 milli bar – 2 bar).

3.2 The intermediate pressure gas mains run from both the north and south of the site into the centre and then run out to the eastern boundary. The medium pressure main runs along the southern boundary of the site and also from the south eastern corner to the centre of the site. Refer to appendix B for a copy of the NGN services layout drawing.

3.3 Desco submitted an initial pre-development enquiry to NGN on the 3rd Aug 2015, based on the IAMP allocation area of 100ha, to enable an assessment to be made on the impact of the proposed allocation on NGN assets, and to assess the capacity within the NGN network to accommodate the anticipated gas demand arising from the proposed allocation.

3.4 NGN confirmed that the gas mains operating in the vicinity of the site should have the capacity to supply the anticipated loads without any requirement for network reinforcement.

3.5 Desco are currently in dialogue with NGN regarding the capacity of the existing gas infrastructure network and the impact that the 150ha IAMP allocation area would have. Given the extent of gas infrastructure in the vicinity it is likely that the additional allocation area can be supported, however it is unknown at this time if NGN would need to undertake any reinforcement works to their network.

4.0 Electricity Services

4.1 The existing electrical infrastructure drawings for the site have been received from both National Grid (NG) and Northern PowerGrid (NPG). These drawings confirm that there are both National Grid and Northern PowerGrid services present on the site. Refer to appendix C for a copy of the NG and NPG combined services layout drawing.

4.2 The NG service consist of a 275kV overhead line running diagonally from the north eastern corner across the south eastern corner of the site.

4.3 NPG services consist of overhead 66kV and 11kV lines and underground HV and LV cables. The 66kV and 11kV overhead cables run across the north of the site from east to west. These overhead cables also run along the western side from north to south. In addition 66kV overhead lines also run along the eastern boundary.

4.4 11kV overhead cables run diagonally across the site from the north east corner to the south west corner with various branches running north and south from this run. In addition 11kV overhead lines are also present to the western boundary.

4.5 The underground HV and LV cabling is present across all areas of the site.

4.6 Desco submitted a pre-development enquiry to NPG on the 1st Sept 2015, based on the IAMP allocation area of 100 ha, to enable an assessment to be made on the impact of the proposed allocation on NPG assets, and to assess the capacity within the NPG network to accommodate the anticipated electrical demand from the development.

4.7 NPG confirmed that a primary substation would need to be established to support the 100ha IAMP allocation area and costs have been provided within the Infrastructure Delivery Plan. They have more recently confirmed that the 150ha allocation could be supported by the same primary substation infrastructure.

5.0 Summary

5.1 Record information for Water (NWL), Gas (NGN) and Electricity (NPG) confirm that utility services exist within the 150ha proposed allocation area.

5.2 **Water:**

NWL have confirmed that its infrastructure will support the 150ha allocation of land without the need for abnormal infrastructure reinforcement.

5.3 **Gas:**

NGN have confirmed that the gas infrastructure could support a 100ha allocation area, however they have not yet confirmed this for a 150ha allocation. Given the extent of gas infrastructure in the vicinity Desco would expect that the 150ha allocation area can be supported, however it is unknown at this time if NGN would need to undertake any reinforcement works to their network.

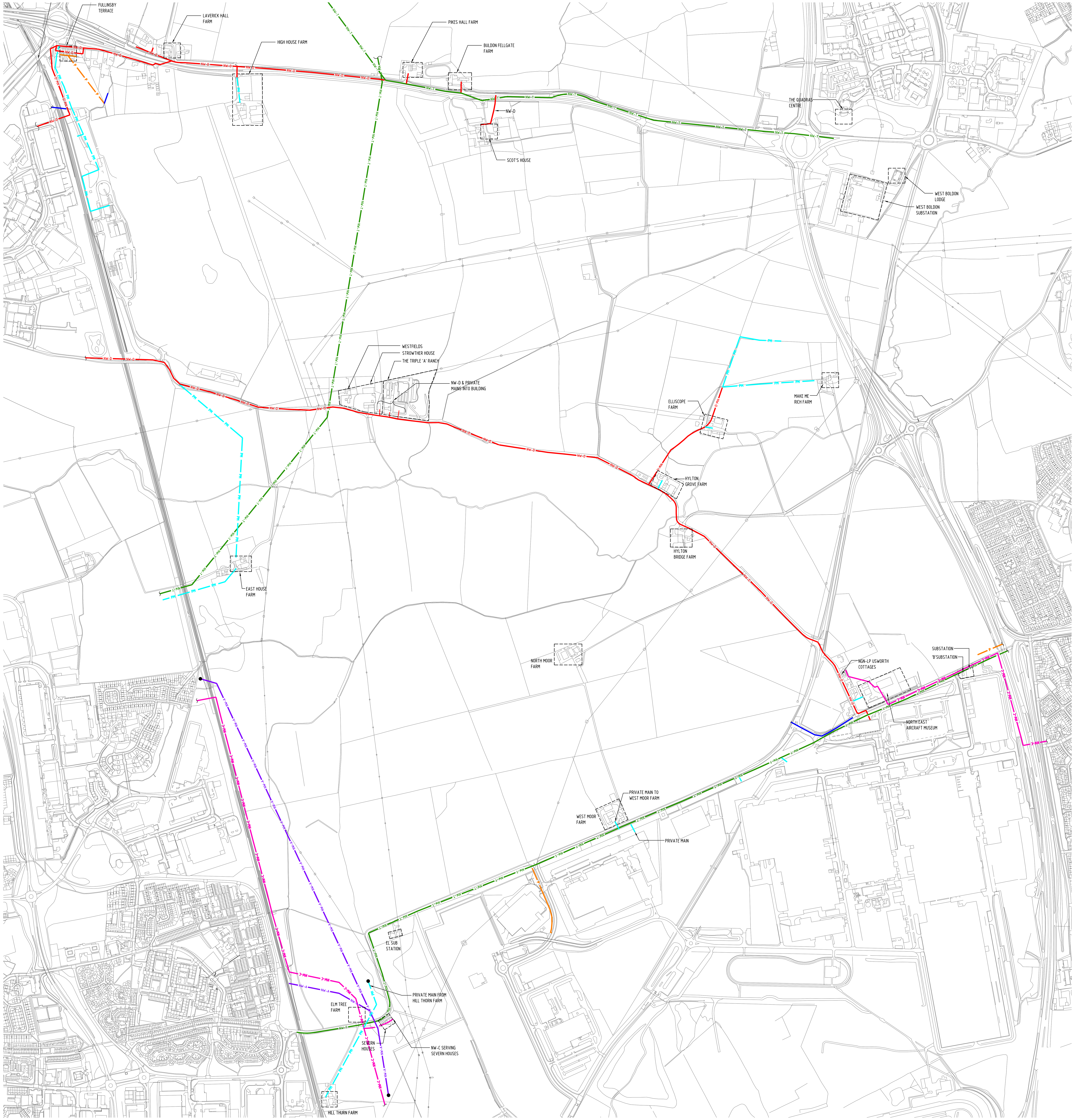
5.4 **Electricity:**

NPG have confirmed that the primary substation identified as necessary to support the 100ha allocation area would also be capable of supporting the 150ha allocation area.

APPENDICES

Appendix A – Drawings

Drawing No.	Description
1315-EXT-53-LAY-01	Existing Northumbrian Water Services Layout



Original drawing size A0
Original line length 50mm

THIS DRAWING REFERS TO THE FOLLOWING XREF FILES:
XBSITE.DWG

LEGEND

P	PRIVATE (NON NW) - FOUL
P-W	PRIVATE (NON NW) - WATER COURSE
PM	PRIVATE MAIN
NW-A	NORTHUMBRIAN WATER ABANDONED
NW-C	NORTHUMBRIAN WATER COMBINED
NW-T	NORTHUMBRIAN WATER TREATED
NW-D	NORTHUMBRIAN WATER DISTRIBUTION

NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH :
THE PROJECT SPECIFIC M&E SPECIFICATIONS.
THE PROJECT SPECIFIC DESIGNERS RISK ASSESSMENTS.

NORTHUMBRIA WATER

UNDERGROUND WATER APPARATUS

INTERNAL DIAMETER OF THE PIPE	EASEMENT WIDTH, EACH SIDE OF THE EASEMENT EDGE OF THE PIPE.
GREATER THAN 600mm	6m
MEDIUM PRESSURE	2m
INTERMEDIATE PRESSURE	3m

THIS DRAWING MUST BE PRINTED IN COLOUR.

REV	DATE	BY	DESCRIPTION	CHK/APP
03	15.12.16	R.P	UPDATED TO URBED SITE LAYOUT EMAIL 13.12.26	S.S
02	05.05.15	R.P	EASEMENT TABLE ADDED.	S.S
01	27.03.15	A.B	PRELIMINARY ISSUE.	S.S

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DRAWING STATUS	SCALE	SIZE
PRELIMINARY	1:5000	A0

CLIENT
SUNDERLAND CITY COUNCIL

ARCHITECT
JMP CONSULTANTS LTD

PROJECT
INTERNATIONAL ADVANCED MANUFACTURING PLANT

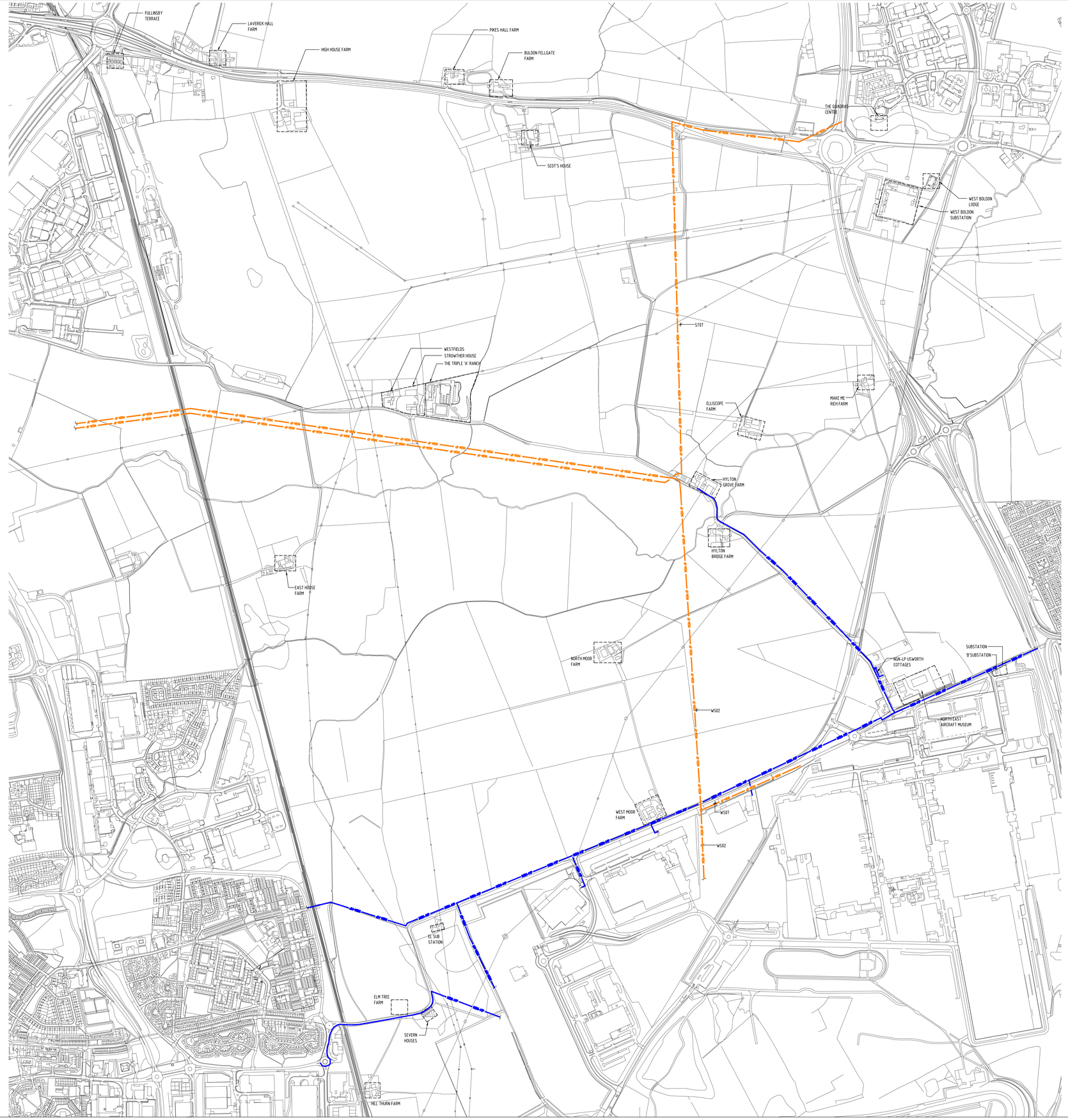
TITLE
UTILITY SERVICES
SITE LAYOUT
SITE EXISTING NORTHUMBRIAN
WATER SERVICES

DRAWING NUMBER	REV.
1315-EXT-53-LAY-01	03

Appendix B – Drawings

Drawing No.	Description
1315-EXT-54-LAY-01	Existing Northern Gas Network Services Layout

RText [RText]



Original drawing size A0
Original line length 50mm

THIS DRAWING REFERS TO THE FOLLOWING XREF FILES:
XBSITEOWG

LEGEND

NGN-IP — NORTHERN GAS NETWORKS 'INTERMEDIATE' PRESSURE GAS LINE

NGN-MP — NORTHERN GAS NETWORKS 'MEDIUM' PRESSURE GAS LINE

NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH :
THE PROJECT SPECIFIC M&E SPECIFICATIONS.
THE PROJECT SPECIFIC DESIGNERS RISK ASSESSMENTS.

THIS DRAWING MUST BE PRINTED IN COLOUR.

REV	DATE	BY	DESCRIPTION	CHK/APP
03	15.12.16	R P	UPDATED TO URBED SITE LAYOUT EMAIL 13.12.16	S S
02	05.05.15	R P	EASEMENT TABLE ADDED.	S S
01	27.03.15	A B	PRELIMINARY ISSUE.	S S

desco (design & consultancy) ltd
Azure House, 2 Azure Court,
Doxford International Business Park,
Sunderland. SR3 3BE
Tel: 0191 5222 070 Fax: 0191 5222 071
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DRAWING STATUS: PRELIMINARY
SCALE: 1:5000
SIZE: A0

CLIENT: SUNDERLAND CITY COUNCIL

ARCHITECT: JMP CONSULTANTS LTD

PROJECT: INTERNATIONAL ADVANCED MANUFACTURING PLANT

TITLE: UTILITY SERVICES
SITE LAYOUT
EXISTING NORTHERN GAS NETWORK SERVICES

DRAWING NUMBER: 1315-EXT-54-LAY-01
REV: 03

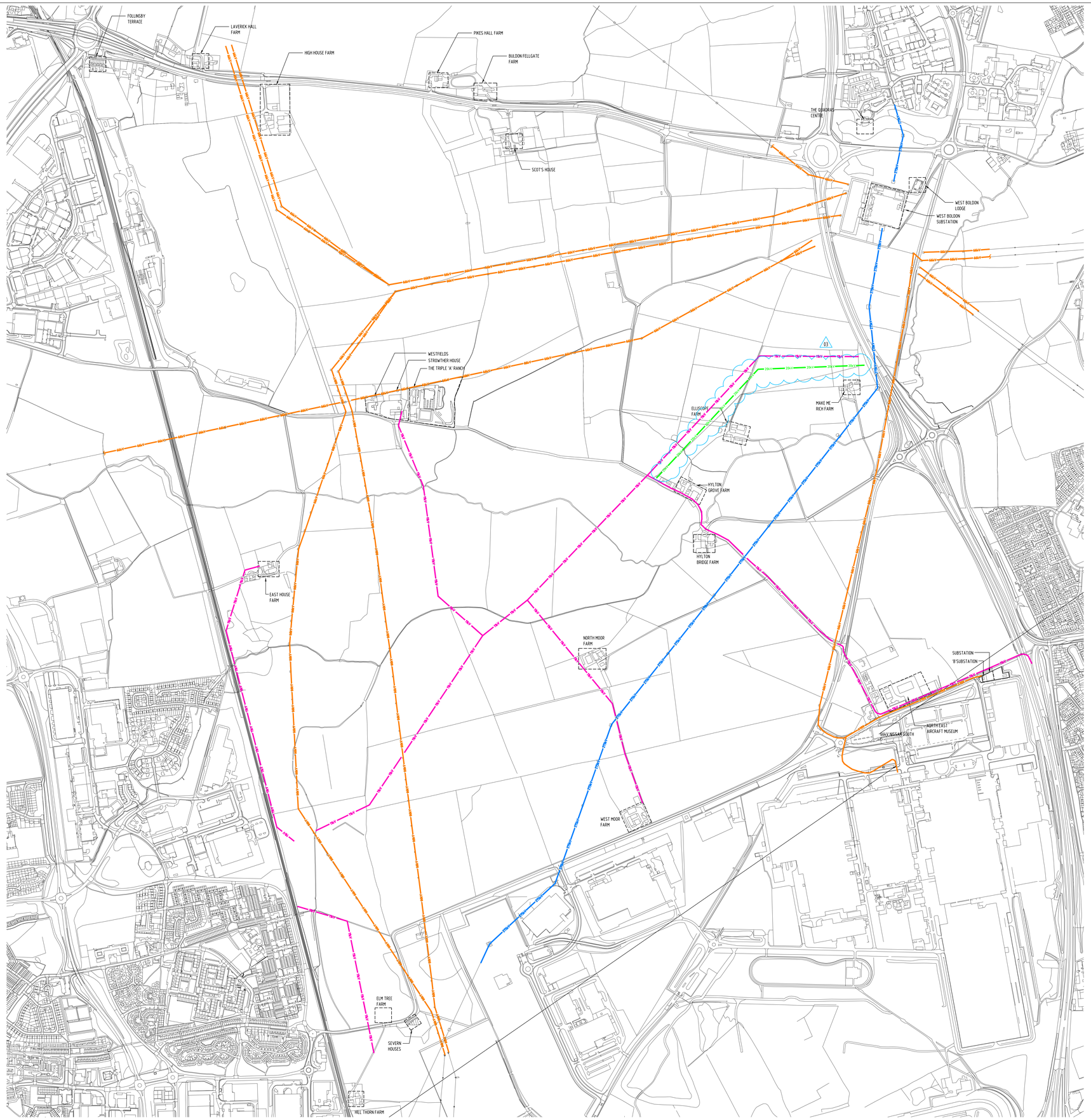
NORTHERN GAS NETWORKS

UNDERGROUND GAS APPARATUS

SYSTEM	NO WORK TO BE WITHIN
MEDIUM PRESSURE	2m
INTERMEDIATE PRESSURE	3m

Appendix C – Drawings

Drawing No.	Description
1315-EXT-62-LAY-01	Existing Northern PowerGrid Services Layout



Original drawing size A0
Original line length 50mm

THIS DRAWING REFERS TO THE FOLLOWING XREF FILES:
XBSITE.DWG

LEGEND

- 275kV — NATIONAL GRID 275kV OVERHEAD LINE
- 66kV — NORTHERN POWER GRID 66kV OVERHEAD LINE.
- 20kV — NORTHERN POWER GRID 11kV OVERHEAD LINE.
- 11kV — NORTHERN POWER GRID 20kV OVERHEAD LINE.

NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH :
   THE PROJECT SPECIFIC M&E SPECIFICATIONS.
   THE PROJECT SPECIFIC DESIGNERS RISK ASSESSMENTS.

THIS DRAWING MUST BE PRINTED IN COLOUR.

REV	DATE	BY	DESCRIPTION	CHK/APP
01	27.03.15	A.B	PRELIMINARY ISSUE	S.S

desco (design & consultancy) ltd
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DRAWING STATUS: PRELIMINARY
SCALE: 1:5000
SIZE: A0

CLIENT: SUNDERLAND CITY COUNCIL

ARCHITECT: JMP CONSULTANTS LTD

PROJECT: INTERNATIONAL ADVANCED MANUFACTURING PLANT

TITLE: UTILITY SERVICES
SITE LAYOUT
SITE SERVICES NEDL (NPG)
NETWORK SERVICES - OVERHEAD

DRAWING NUMBER: 1315-EXT-60-LAY-01
REV: 01

APPENDIX THREE

SYSTRA REPORT ON DRAINAGE AND FLOODING

IAMP AAP

DRAINAGE AND FLOOD RISK ASSESSMENT FOR 150HA ALLOCATION FOR EMPLOYMENT AND RELATED USES

SYSTRA

IAMP AAP

DRAINAGE AND FLOOD RISK ASSESSMENT FOR 150HA ALLOCATION FOR EMPLOYMENT AND RELATED USES

IDENTIFICATION TABLE	
Client/Project owner	Sunderland City Council & South Tyneside Council
Project	IAMP AAP
Study	Drainage and Flood Risk assessment for 150ha allocation for employment and related uses
Type of document	Report
Date	03/07/2017
Reference number	NEA3165

APPROVAL				
Version	**Name**		**Date**	**Modifications**
3	Author	DH	10/07/2017	
	Checked by	SE	10/07/2017	
	Approved by	KR	10/07/2017	

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Foreword

1.1.1 This report relates to the Area Action Plan ("AAP") for the International Advanced Manufacturing Park ("IAMP") being promoted jointly by Sunderland City Council and South Tyneside Council as Local Planning Authorities ("the Councils").

1.1.2 The Publication Draft AAP included 100ha of land for development and a further 50ha of land 'safeguarded' to be removed from the Green Belt for future development.

1.1.3 During the AAP examination hearings held between 3 and 6 April 2017, the Inspector asked questions about objectively assessed need, the amount of land required for IAMP, and the development constraints imposed by designating land as 'safeguarded'. The Inspector requested that the Councils consider modifying Policy S1 so that 150 ha (rather than 100 ha) was designated as employment land.

1.1.4 The Councils are therefore reviewing the options available regarding the treatment of safeguarded / future development land within the IAMP AAP.

1.1.5 The purpose of this report is to explain how surface water drainage, foul water drainage and flood risk can be managed for a potential allocation of 150ha for IAMP development.

2. SURFACE WATER DRAINAGE DESIGN

2.1 Background and Current Proposal

2.1.1 Surface water drainage from the majority of the land to the north of the River Don discharges to the River Don. The majority of the land to the south of the River Don discharges to a culverted watercourse, which runs west to east along Washington Road.

2.1.2 Maintaining the existing catchment areas of these two outfall points is an integral part of the proposed strategy of the 100ha allocation to ensure that offsite flood risk is not increased. This strategy incorporates ponds, swales and below ground tanks to ensure that surface water does not leave site any quicker than it does at the moment.

2.2 North Western Area of a 150ha Allocation

2.2.1 The north western area of a 150ha allocation (see Appendix A for Site plan) slopes towards the River Don. In keeping with the principle of discharging catchment areas to their existing discharge points without increasing flow rates, this area should continue to discharge to the River Don with the possible inclusion of another pond within the IAMP boundary to hold back flows.

2.3 South Western Area of a 150ha Allocation

2.3.1 The majority of the development area to the south west of a 150ha IAMP allocation (see Appendix A for Site plan) currently discharges to the culverted watercourse. The surface

water infrastructure planned for the 100ha site would be capable of handling the extra controlled flows from the portion of this south western area which currently discharges to the culvert. The remainder of this allocation area falls towards the River Don and therefore development in that area will need to discharge to the river.

3. FOUL WATER DRAINAGE DESIGN

3.1 Background and Current Proposal

3.1.1 The IAMP site currently has very little foul water drainage and the only buildings which connect into the combined water sewer which runs west to east along Washington Road are the Museum, Usworth Cottages and the Public House.

3.1.2 The foul water drainage design that is proposed for the 100ha allocation incorporates a new foul water drainage network with two pumping stations. A rising main will carry flows from the south of the allocation westwards along the A1290 to the junction with Cherry Blossom Way, where the new drainage system will head south until it can connect into a small diameter foul water public sewer at Manhole 9003, as shown below in Figure 3.1. This route will be entirely within the public highway with no need to cross third party land. Northumbrian Water have confirmed that there is sufficient spare capacity in their network to accommodate flows from a 100ha allocation at this connection point and also into Manhole 2701 which is further west.

Figure 3.1 - Possible Foul Water Connection Points

3.2 North Western & South Western Area of a 150ha Allocation

3.2.1 Northumbrian Water have confirmed that there is sufficient capacity in their network at Manhole 2701 to allow the foul flows that would be generated from the 150ha allocation but not at Manhole 9003. Connection can be made into Manhole 2701 via the public highway with no requirement to cross third party land.

4. FLOOD RISK

4.1 Existing Flood Risk

4.1.1 Detailed river modelling of the River Don has been undertaken by JBA Consulting in May 2016 and revised in June 2017. The areas of flooding are shown below in Figure 4.1. Flooding extends across the southern part of the allocation and mitigation measures will need to be in place to protect new buildings in this area from flooding. This can be achieved by elevating building floor levels above a particular flood level and by creating flood compensation areas in the land adjacent to the River Don. Compensation areas could also be used as wetland areas, which are required as part of the ecological mitigation measures.

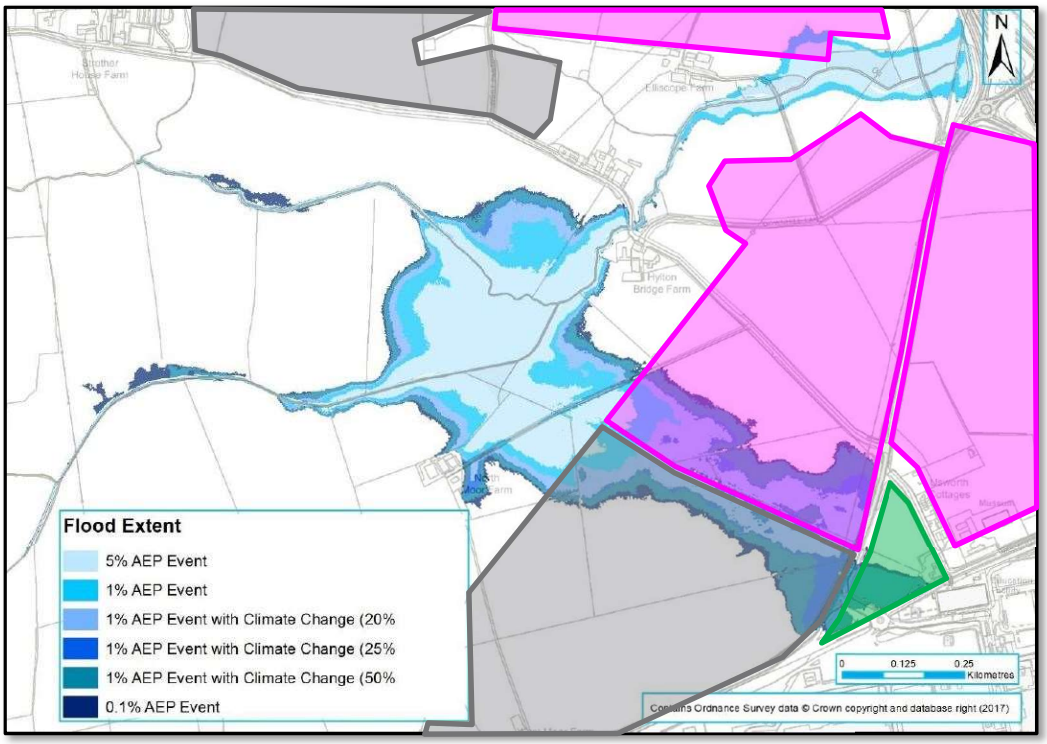

Figure 4.1 - Flood Plan in Relation to Policies Map in Appendix A

4.2 North Western Area of a 150ha Allocation

4.2.1 All of this area is outside of the existing flood zone. In addition, the surface water drainage that will serve this area will be designed in accordance with best practise and will therefore be adequately protected from flooding.

4.3 South Western Area of a 150ha Allocation

4.3.1 The north eastern edge of this area is within an existing flood zone. However, as outlined in section 4.1.1, building levels will be elevated as required and flood compensation areas will be used to store flood water away from the developed area. Surface water drainage that will serve this area will be designed in accordance with best practise and will therefore be adequately protected from flooding.

5. SUMMARY & CONCLUSIONS

5.1 Summary

5.1.1 This report has been produced to present the drainage strategy and flood risk of a 150ha IAMP allocation.

5.1.2 The drainage requirements for a 150ha IAMP allocation has been considered against the requirements of a 100ha IAMP allocation site. Surface water, foul water and flood risk have all been considered.

5.1.3 The assessment demonstrates that whilst additional outfalls and attenuation will be required for the surface water drainage, a 150ha IAMP allocation can be drained in accordance with current best practice.

5.1.4 Northumbrian Water have confirmed that foul water that will be generated from a 150ha allocation can be connected into Manhole 2701. Connection to this manhole can be made via the public highway with no requirement to cross third party land.

5.1.5 Areas of the IAMP allocation in existing flood areas can be protected with mitigation measures such as elevated building floor levels and providing flood compensation.

5.2 Conclusion

5.2.1 Based on the findings of this assessment presented within this report, it is considered that a 150ha allocation site can be drained and sufficiently protected from flooding.

Appendix A – Site Plan for 150 hectare Allocation

IAMP AAP Publication Draft
Policies Map
KEY
AAP Boundary
Employment Development Policy S3
Green Belt Policy S2
Safeguarded Land Policy S2
Hub Policy S6
Proposed Key Roads Policy T1
A19 Improvements Policy T1
Proposed Key Cycle Routes Policy T2
Development Edge Landscape Buffer Policy EN1
A19 Landscape Buffer Policy EN1
Local Wildlife Sites Policy EN2
Ecological and Landscape Mitigation Area Policy EN3
South Tyneside/ Sunderland Boundary
River Don
Existing Roads
A19
A1290
TOWN END FARM
HYLTON CASTLE ESTATE
Nissan Motor Manufacturing
Electricity Sub Station
Make-me-rich Farm
Ellscope Farm
Hylton Grove Farm
Hylton Bridge Farm
West Pastures
North Moor Farm
West Moor Farm
Strother House Farm
South Tyneside Council
Sunderland City Council
NORTH WESTERN AREA OF 150ha ALLOCATION
SOUTH WESTERN AREA OF 150ha ALLOCATION

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APPENDIX FOUR

STATEMENTS OF COMMON GROUND

International Advanced Manufacturing Park Area Action Plan (IAMP AAP) Examination

Statement of Common Ground

as agreed between

Sunderland City Council;

South Tyneside Council; and

the Church Commissioners

July 2017

Introduction

1.1 This Statement of Common Ground has been prepared jointly between the parties consisting of Sunderland City Council and South Tyneside Council (**the Councils**); and the Church Commissioners.

1.2 The Statement sets out the confirmed points of agreement between the Councils and the Church Commissioners with regard to the submitted International Advanced Manufacturing Park Area Action Plan (**IAMP AAP**) 2017-2032.

Background

2.1 The Councils have been working jointly to prepare the IAMP AAP which will establish the planning policy framework for the delivery of a new International Advanced Manufacturing Park on land to the north of the existing Nissan manufacturing plant.

2.2 In August 2016, the Councils published the Publication draft of the IAMP AAP for statutory consultation under Regulation 19 of the Town and Country Planning (Local Planning)(England) Regulations 2012. The IAMP AAP was submitted to the Secretary of State on 6 February 2017. The IAMP AAP was examined in hearings which took place between 3 and 6 April 2017.

2.3 During those hearings the Inspector discussed the approach that the Councils had set out in relation to the safeguarding of land in the Publication Draft (PSD01). The Plan included 100ha of land for development and a further 50ha of land 'safeguarded' for future development. The Inspector raised the following matters:

- **Could the Plan meet its Objectively Assessed Needs (OAN) on the allocated 100ha of employment land? -** The OAN is justified by the Strategic Employment Study (SD28) which identified 140-150 ha for a 20 year period whilst the Plan identified 100 ha for a 15 year period.

- **Is the approach to the safeguarding of land consistent with the NPPF, as safeguarded land could be required with the plan period and infrastructure is identified within the safeguarded land? -** Paragraph 85 states *"where necessary, identify in their plans areas of 'safeguarded land' between the urban area and the Green Belt, in order to meet longer-term development needs stretching well beyond the plan period. LPAs should make clear that the safeguarded land is not allocated for development at the present time. Planning permission for the permanent development of safeguarded land should only be granted following a Local Plan review which proposes the development".* During the EIP, the Inspector reflected on the additional information provided through the Matters, Issues and Questions (MIQ) process in relation to commercial demand and the OAN and raised the potential that (i) the land identified as safeguarded would be needed in the short-medium term; and that (ii) the approach to the safeguarding of land could prevent the development of necessary IAMP infrastructure.

- **Is it a 'sound' approach to safeguard land, or would a different mechanism such as phasing be more appropriate?**

- **Is the plan deliverable (in accordance with paragraph 177 and 173 of the NPPF) if the land identified as safeguarded is allocated for employment development?–** are the infrastructure proposals set out in the Infrastructure Delivery Plan (IDP) still appropriate in the context of a 150ha development proposal.

2.5 In relation to the matters identified above, the Councils and the Church Commissioners have engaged constructively, reaching agreement on a number of relevant issues.

Agreed matters

3.1 Having had sight of the Councils Report for the Inspector on Safeguarded Land the Church Commissioners share the Councils' preference for Option 4 described in that Report and agree with the Report's conclusions.

3.2 In agreement with the Church Commissioners, the Councils propose a revised version of policy S1 of the IAMP AAP as set out below:

Policy S1 Comprehensive Development

The Comprehensive development of the IAMP for principal uses associated with the automotive and advanced manufacturing businesses will be delivered by;

1) Revising the Green Belt boundary to release 150ha of land from the Green Belt.

2) Allocating approximately 150ha of land for development of principal uses (defined in Policy S2) in the Employment Areas.

3) Requiring Masterplans, Design Codes and Phasing Plans to be submitted which demonstrates how development;

   i. will meet the objectives of the AAP and will not prejudice comprehensive development of the IAMP

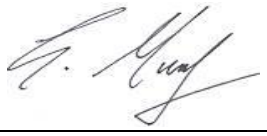
   ii. ensures the proposed development is designed and orientated to relate well to the existing employment area and Enterprise Zone and established infrastructure;

   iii. contributes towards infrastructure identified in the IDP;

   iv. contributes fully, in a proportionate and timely manner, to the mitigation required for the IAMP;

   v. is capable of being implemented without breaching the provisions of the Planning Act 2008.

Signed on behalf of Sunderland City Council		
Name and position	**Signature**	**Date**
Iain Fairlamb **Head of Planning and Regeneration**		**21 July 2017**

Signed on behalf of South Tyneside Council		
Name and position	**Signature**	**Date**
George Mansbridge **Head of Development Services**		**21 July 2017**

Signed on behalf of the Church Commissioners		
Name	**Signature**	**Date**
Name …….. **Position ……..**		

International Advanced Manufacturing Park Area Action Plan (IAMP AAP) Examination

Statement of Common Ground

as agreed between

Sunderland City Council;

South Tyneside Council; and

Gateshead Council

August 2017

Introduction

1.1 This Statement of Common Ground has been prepared jointly between the parties consisting of Sunderland City Council, South Tyneside Council and Gateshead Council.

1.2 The Statement sets out the confirmed points of agreement between all three councils with regard to the submitted International Advanced Manufacturing Park Area Action Plan (IAMP AAP) 2017-2032.

Background

2.1 Sunderland and South Tyneside Councils ('the Councils') have been working jointly to prepare the IAMP AAP which will establish the planning policy framework for the delivery of a new International Advanced Manufacturing Park on land to the north of the existing Nissan manufacturing plant.

2.2 During the hearing sessions, which commenced on 3 April 2017, the Inspector discussed the approach that the Councils had set out in relation to the safeguarding of land in the Publication Draft (PSD01). The Plan included 100ha of land for development and a further 50ha of land 'safeguarded' for future development. The Inspector raised the following matters:

- **Could the Plan meet its Objectively Assessed Needs (OAN) on the allocated 100ha of employment land?** - The OAN is justified by the Strategic Employment Study (SD28) which identified 140-150 ha for a 20 year period whilst the Plan identified 100 ha for a 15 year period.

- **Is the approach to the safeguarding of land consistent with the NPPF, as safeguarded land could be required with the plan period and infrastructure is identified within the safeguarded land?** - Paragraph 85 states *"where necessary, identify in their plans areas of 'safeguarded land' between the urban area and the Green Belt, in order to meet longer-term development needs stretching well beyond the plan period. LPAs should make clear that the safeguarded land is not allocated for development at the present time. Planning permission for the permanent development of safeguarded land should only be granted following a Local Plan review which proposes the development".* During the EIP, the Inspector reflected on the additional information provided through the Matters, Issues and Questions (MIQ) process in relation to commercial demand and the OAN and raised the potential that (i) the land identified as safeguarded would be needed in the short-medium term; and that (ii) the approach to the safeguarding of land could prevent the development of necessary IAMP infrastructure.

- **Is it a 'sound' approach to safeguard land, or would a different mechanism such as phasing be more appropriate?**

- **Is the plan deliverable (in accordance with paragraph 177 and 173 of the NPPF) if the land identified as safeguarded is allocated for employment development?**– are the infrastructure proposals set out in the Infrastructure Delivery Plan (IDP) still appropriate in the context of a 150ha development proposal.

2.3 To demonstrate that the any modifications to the Plan are considered to be 'sound', the Councils through the Duty to Cooperate have worked with Gateshead Council to determine the most appropriate approach to addressing the matters raised by the Inspector.

2.4 In addition, at the hearing session, the Inspector also instructed the Councils to work in partnership with Gateshead Council to address issues regarding public transport.

Agreed matters

3.1 In agreement with Gateshead Council; Sunderland City Council and South Tyneside Council propose a revised version of Policies S1 and T3 of the IAMP AAP as set out below:

Policy S1 Comprehensive Development

The Comprehensive development of the IAMP for principal uses associated with the automotive and advanced manufacturing businesses will be delivered by;

1) Revising the Green Belt boundary to release 150ha of land from the Green Belt.

2) Allocating approximately 150ha of land for development of principal uses (defined in Policy S2) in the Employment Areas.

3) Designating approximately 110ha of land as an Ecological and Landscape Mitigation Area to provide for mitigation and/or compensation of the ecological and landscape impacts of the IAMP development.

4) Requiring Masterplans, Design Codes and Phasing Plans to be submitted which demonstrate how development;

   i. will meet the objectives of the AAP and will not prejudice comprehensive development of the IAMP;

   ii. ensures the proposed development is designed and orientated to relate well to the existing employment area and Enterprise Zone and established infrastructure;

   iii. contributes fully to the delivery of the IAMP as a project of national significance;

   iv. contributes fully, in a proportionate and timely manner, towards providing the infrastructure identified in the IDP;

v. contributes fully, in a proportionate and timely manner, to providing for the mitigation required for the IAMP, including environmental mitigation; and

vi. is capable of being implemented without breaching the provisions of the Planning Act 2008.

Policy T3: Public Transport

To promote sustainable transport, development must include;

i. provision of enhanced bus services between the IAMP and:

   a) surrounding residential areas;

   b) Heworth and Sunderland multi-modal transport interchanges; and

   c) Hebburn, Jarrow, South Shields and Washington centres;

ii. bus priority measures on the key routes entering the IAMP;

iii. adequate provision for buses on the proposed new bridges over the A19 and over the River Don;

iv. new bus stops and improved waiting facilities within the IAMP AAP area; and

v. new traffic signal installations incorporating facilities to enable priority for buses.

3.2 South Tyneside Council, Sunderland City Council and Gateshead Council further agree to work together to further develop the proposals set out in Policy T3i through the consenting process.

Statement of Common Ground

Signed on behalf of Sunderland City Council		
Name and position	**Signature**	**Date**
Les Clark **Chief Operating Officer – Place**		25.8.17

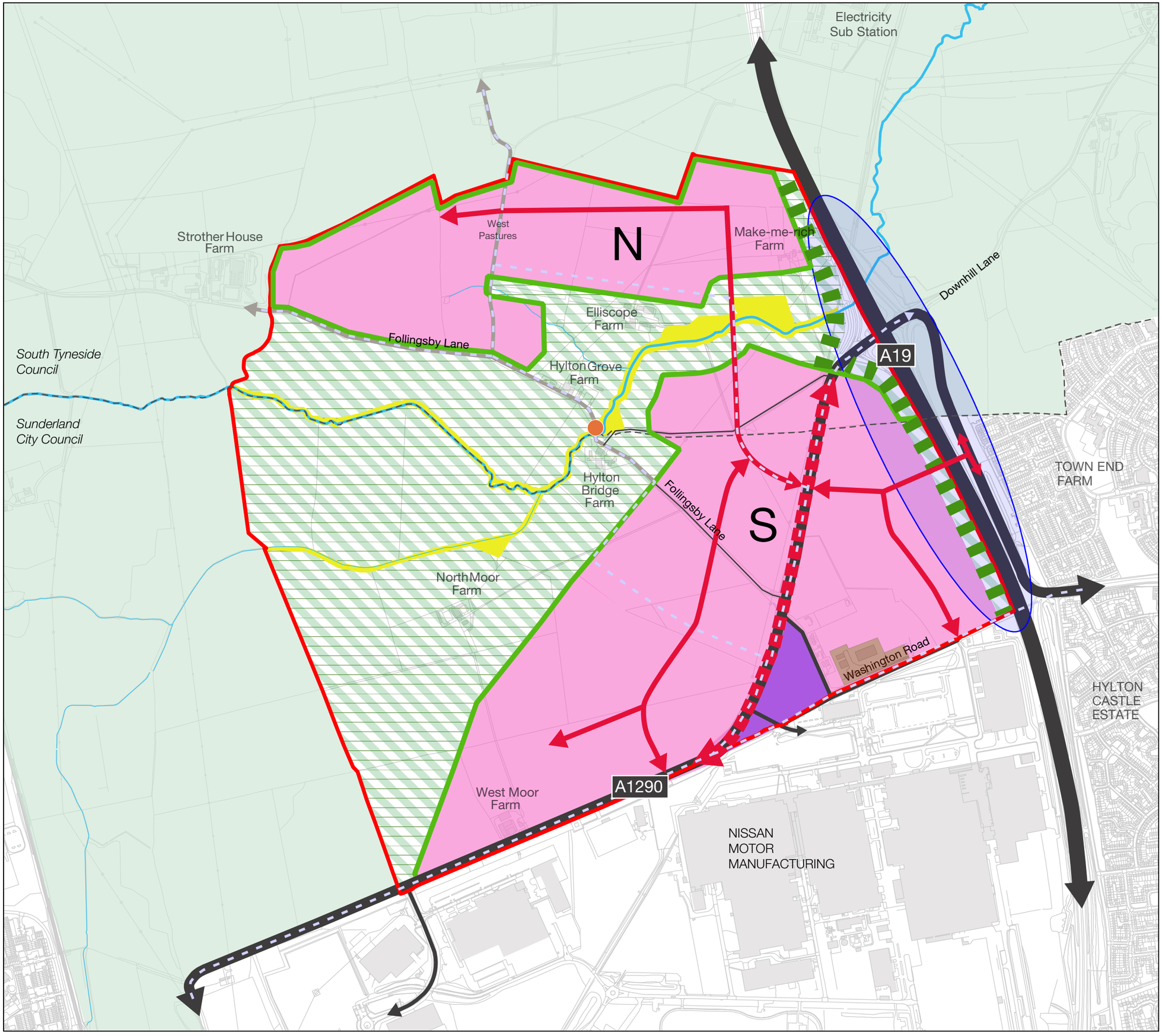
Signed on behalf of South Tyneside Council		
Name and position	**Signature**	**Date**
George Mansbridge **Head of Development Services**		23 August 2017

Signed on behalf of Gateshead Council		
Name and position	**Signature**	**Date**
Paul Dowling **Strategic Director,** **Communities & Environment**		24/8/17

APPENDIX FIVE

UPDATED IAMP AAP POLICIES MAP

Figure 3 - Updated IAMP AAP Policies Map



KEY

Policies

- AAP Boundary
- N — Northern Employment Area
- S — Southern Employment Area
- Green Belt Policy S1
- Green Belt Boundary Policy S1
- Hub Policy S2
- Proposed Key Roads Policy T1
- A19 and Local Road Improvements Policy T1
- Proposed Key Cycle Routes Policy T2
- Proposed Minor Roads Policy T2
- A19 Landscape Buffer Policy EN1
- Local Wildlife Sites Policy EN2
- Ecological and Landscape Mitigation Area (indicative)
- Listed Buildings Policy D1
- North East Land Sea & Air Museums

Context

- South Tyneside/ Sunderland Boundary
- River Don
- Existing Roads
- Tyne and Wear Green Belt

0m 250m 500m 750m

NORTH

APPENDIX SIX

UPDATED INFRASTRUCTURE DELIVERY PLAN

PSD21

Sunderland City Council and South Tyneside Council

International Advanced Manufacturing Park Area Action Plan

Infrastructure Delivery Plan

February 2017 [Updated July 2017]

Sunderland City Council

South Tyneside Council

International Advanced Manufacturing Area Action Plan

Infrastructure Delivery Plan 2017

1 Introduction

1.1 This Infrastructure Delivery Plan (IDP) has been prepared to support the delivery of the IAMP AAP. The IAMP AAP provides the policies to set the framework for the provision of infrastructure; the IDP describes the infrastructure requirements, setting down what is required, when it is required, the likely cost and how it will be funded. This is a strategic document and therefore does not detail every infrastructure project being planned; it does however set out the main infrastructure projects needed to help deliver the Plan.

1.2 Infrastructure is defined by the Cambridge dictionary[1] as:

> "the basic systems and services, such as transport and power supplies, that a country or organisation uses in order to work effectively"

Infrastructure is therefore at the heart of town planning, and is commonly categorised into physical, social and environmental infrastructure. It is commonly understood to include:

- Transport
- Water supply;
- Wastewater;
- Energy;
- Telecommunications;
- Waste;
- Health;
- Social care;
- Education;
- Flood risk; and
- Coastal change management.

1.3 Infrastructure is not limited to the above categories, and other types are discussed within this document. It should be noted that this document is not a comprehensive commentary of all types of potential infrastructure, and instead focuses on those types that are most closely linked to IAMP's development.

1.4 Legislation, national planning policy and guidance describe how Local Authorities should plan for infrastructure provision in England. This IDP has been prepared in accordance with national policy and guidance, more details can be found below and within section two of this document.

1.5 Infrastructure requirements will change during the time taken to develop and adopt the emerging Plan, and over

[1] http://dictionary.cambridge.org/dictionary/english/infrastructure

the Plan period, in line with changing local and national government priorities, and the impact of planned growth as it is delivered. This IDP is therefore a living document and will be updated when necessary.

1.6 The delivery of infrastructure and the new infrastructure requirements will be monitored and updated on a regular basis, in line with the Councils' usual reporting on plan monitoring in their respective Authorities' Monitoring Reports.

2 Context

National Planning Policy Framework

2.1 The National Planning Policy Framework (NPPF) was published on 27 March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. The NPPF must be taken into account in the preparation of local and neighbourhood plans, which in terms of infrastructure, requires that Local Plans should:

> "[...] plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of this Framework" (para 157).

2.2 The NPPF goes on to state that:

> "Local planning authorities should work with other authorities and providers to:
>
> - assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, utilities, waste, health, social care, education, flood risk and coastal change management, and its ability to meet forecast demands; and
> - take account of the need for strategic infrastructure including nationally significant infrastructure within their areas" (para 162).

2.3 The importance of the preparation of an IDP is also highlighted:

> "It is equally important to ensure that there is a reasonable prospect that planned infrastructure is deliverable in a timely fashion. To facilitate this, it is important that local planning authorities understand district-wide development costs at the time Local Plans are drawn up. For this reason, infrastructure and development policies should be planned at the same time, in the Local Plan. Any affordable housing or local standards requirements that may be applied to development should be assessed at the plan-making stage, where possible, and kept under review" (para 177).

Planning Practice Guidance

2.4 This web-based resource is published by the Department for Communities and Local Government (DCLG) and provides more detail on the policies provided in the NPPF, giving an indication of the Secretary of State's views on how to implement those policies. Paragraph 18 usefully

emphasises the role and importance of infrastructure planning, providing very detailed guidance on the matter:

> "[...] The Local Plan should make clear, for at least the first five years, what infrastructure is required, who is going to fund and provide it, and how it relates to the anticipated rate and phasing of development. This may help in reviewing the plan and in development management decisions. For the later stages of the plan period less detail may be provided as the position regarding the provision of infrastructure is likely to be less certain. If it is known that a development is unlikely to come forward until after the plan period due, for example, to uncertainty over deliverability of key infrastructure, then this should be clearly stated in the draft plan.
>
> Where the deliverability of critical infrastructure is uncertain then the plan should address the consequences of this, including possible contingency arrangements and alternative strategies. The detail concerning planned infrastructure provision can be set out in a supporting document such as an infrastructure delivery programme that can be updated regularly. However the key infrastructure requirements on which delivery of the plan depends should be contained in the Local Plan itself [...]" (Ref ID: 12-018-20140306)

The requirements set out in the extract above have been incorporated into the methodology used through the preparation of this document.

3 Infrastructure Requirements and Delivery

Requirements

3.1 Table 1 sets out the infrastructure interventions required to mitigate the impact of development proposals, their estimated costs and the lead delivery organisation. The information has been summarised into several main categories:

Strategic highway network

3.2 This requirement relates to the upgrade programme for the A19 Trunk Road from the Downhill junction sliproads south of the IAMP access point through to the north of the A19 Testos junction. The work includes online widening, remodelling of the Downhill Junction and the grade-separation of the Testos junction. These Highways England schemes are being planned as two inter-linking Nationally Significant Infrastructure Projects (NSIPs) which are proposed to be delivered together and expected to be complete in 2020. They have a combined budget cost of £140m. On 30th June 2017, the Department for Transport and Highways England announced a £6.1bn programme of road improvements, which included the new A19 Downhill Lane junction to serve the IAMP development. The investment required for the Testo's junction has been previously approved and Highways England intend to submit the DCO application for Testos in July 2017.

IAMP internal spine roads, bridges and NMU provision

3.3 Within the development site itself, there is a requirement to provide a network of spine roads to link the site to the surrounding network and ensure that the development plots are accessed appropriately. This includes a new road bridge across the A19 on the eastern boundary of the site, a new bridge across the River Don to access the northern art of the development area, a spine road in the west of the site and the dualling of the A1290. The network also facilitates connectivity to the manufacturing facilities to the south of the site and the adjacent Enterprise Zones. The network will address the issues associated with non-motorised user access across and around the site, enhancing current provision.

Site drainage

3.4 A storm water drainage system is required to ensure that the run-off from the highways and the development areas is controlled and managed to avoid localised flooding and network overload. The site has a varied topography and natural basins and the design of the infrastructure will manage flows from the development areas to both the north and south of the site into existing drainage systems. The storm water drainage system will also support the ecology strategy for the site, enabling areas of wetland to be created and maintained. Foul drainage will be maintained via connection to existing services in the local area without the need for significant upgrade works.

Landscape works and ecological mitigation

3.5 The green infrastructure strategy for the site includes the provision of strategic landscaping alongside the A19, along the River Don wildlife habitats corridor and at several key locations within the IAMP. This will mitigate against local views into the site but also provides important habitat for a

number of species. The ecological mitigation area lies at the heart of the site and will provide a significant area of mitigation land. This will be managed to ensure that the ecological impact of the site is limited and the ecological enhancement opportunities are realised. The mitigation land will include areas for the bird assemblage on the site and also species associated with the River Don.

Utility provision

3.6 The provision of electricity to the site is the main utility infrastructure requirement. This will be delivered either via a new primary sub-station or through the enhancement of the existing High Voltage network, the latter requiring a network of smaller sub-stations around the site. Other utilities – gas, water and telecommunications - are readily available in the local area and networks can be extended to include provision to the IAMP site. Subject to the final form of the masterplan, service diversions will be required. A key design and layout principle for the masterplan is to avoid the need to divert the significant overhead cables and gas mains that traverse the site.

Development plot infrastructure

3.7 The infrastructure described above will provide the strategic network across the site, to the boundary of the individual development areas. Within the individual development areas, the developer will provide the internal estate roads, the on-site landscaping, a controlled drainage solution and construct the buildings, in accordance with the design principles set out within the AAP and approved within the consenting mechanisms.

Funding Mechanism

3.8 Delivery of the IAMP AAP aims and policies requires organisation of various implementation and delivery mechanisms. The Councils have secured £42.2m from the Government's Local Growth Fund for IAMP, which alongside their own committed resources, will deliver the necessary infrastructure for IAMP.

3.9 Where appropriate, planning obligations will be sought to secure developer contribution monies to help fund necessary infrastructure and environmental mitigation works, or by carrying out works. S106 planning obligations can be required of development to make it acceptable in planning and sustainable development terms when granting planning permission, and thus help mitigate the adverse impacts of development.

3.10 Table 1 sets out the anticipated infrastructure costs and funding sources.

Delivery and Phasing

3.11 The IAMP project is proposed to be delivered primarily by IAMP LLP, a joint venture of Sunderland City Council and South Tyneside Council. The LLP proposes to apply for the necessary implementation consent through the Planning Act 2008 Development Consent Order process and other approval processes as required, and is likely to engage a development partner to deliver the infrastructure and construct buildings for end-user requirements. The consenting process will establish the phasing of the development.

Table 1: Infrastructure Delivery Schedule

Ref	Infrastructure	Indicative Cost	Funding Mechanism	Delivery Body	Delivery Phasing
1	**Strategic highway network** – improvements to the A19 at the Testos junction and at the Downhill junction.	£140m	Central Government	Highways England	Start on site 2019, construction complete 2021
2	**IAMP internal spine roads, bridges**, **NMU provision and public transport** – including dualling of the A1290, bridge and associated access roads over the A19, bridge and associated roads to the northern area of IAMP, the strategic public rights of way network and provision of public transport.	£30-35m	Central Government via Local Growth Fund; Sunderland City Council and South Tyneside Council	IAMP LLP	Start on site 2018, implementation over a two year period
3	**Site drainage** – foul and surface water attenuation measures, upgraded land drains and river channel works.	£8-13m	Central Government via Local Growth Fund; Sunderland City Council and South Tyneside Council	IAMP LLP	Start on site 2018, implementation over a two year period
4	**Landscape works and ecological mitigation –**	£5-7m	Central Government via Local Growth	IAMP LLP	Start on site 2018,

	landscape buffer alongside the A19; ecological/environmental zone; Protected species mitigation.		Fund; Sunderland City Council and South Tyneside Council		implementation over a two year period
5	**Utility provision –** upgrade to HV network/new primary substation; gas supply, water provision, telecommunications.	£20-25m	Central Government via Local Growth Fund; Sunderland City Council and South Tyneside Council	IAMP LLP	Start on site 2018, implementation over a two year period
6	**Development plot infrastructure** – associated with the construction of floorspace and internal site roads within the development plots, such as plot drainage, landscaping, estate roads and the buildings.	£300-400m	IAMP LLP and Developer Partner	Developer Partner	Start on site 2018, implementation over a ten – fifteen year period