

## DEVELOPMENT PLAN PANEL

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Meeting to be held in Civic Hall, Leeds, LS1 1UR on  
Monday, 24th June, 2019  
at 10.00 am

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### MEMBERSHIP

#### Councillors

B Anderson  
C Campbell  
A Carter  
C Gruen  
J McKenna  
N Walshaw (Chair)  
S Arif  
D Collins  
R Finnigan  
L Mulherin  
K Ritchie

# A G E N D A

Item No	Ward	Item Not Open		Page No
1			<p><b>APPEALS AGAINST REFUSAL OF INSPECTION OF DOCUMENTS</b></p> <p>To consider any appeals in accordance with Procedure Rule 15.2 of the Access to Information Rules (in the event of an Appeal the press and public will be excluded)</p> <p>(*In accordance with Procedure Rule 15.2, written notice of an appeal must be received by the Head of Governance Services at least 24 hours before the meeting)</p>	
2			<p><b>EXEMPT INFORMATION - POSSIBLE EXCLUSION OF THE PRESS AND PUBLIC</b></p> <p>1 To highlight reports or appendices which officers have identified as containing exempt information, and where officers consider that the public interest in maintaining the exemption outweighs the public interest in disclosing the information, for the reasons outlined in the report.</p> <p>2 To consider whether or not to accept the officers recommendation in respect of the above information.</p> <p>3 If so, to formally pass the following resolution:-</p> <p><b>RESOLVED</b> – That the press and public be excluded from the meeting during consideration of the following parts of the agenda designated as containing exempt information on the grounds that it is likely, in view of the nature of the business to be transacted or the nature of the proceedings, that if members of the press and public were present there would be disclosure to them of exempt information, as follows:</p>	

Item No	Ward	Item Not Open		Page No
3			<b>LATE ITEMS</b>  To identify items which have been admitted to the agenda by the Chair for consideration.  (The special circumstance shall be specified in the minutes).	
4			<b>DECLARATION OF DISCLOSABLE PECUNIARY INTERESTS</b>  To disclose or draw attention to any disclosable pecuniary interests for the purposes of Section 31 of the Localism Act 2011 and paragraphs 13-16 of the Members' Code of Conduct	
5			<b>APOLOGIES FOR ABSENCE</b>	
6			<b>MINUTES</b>  To agree the minutes of the meeting held 15 <sup>th</sup> May 2019.	1 - 4
7			<b>SITE ALLOCATIONS PLAN UPDATE</b>  The report of the Chief Officer provides Members with an update on the Site Allocations Plan prior to the Executive Board meeting on 26th June 2019.  (Report attached)  (Appendices to follow)	5 - 6
8			<b>STATEMENT OF COMMUNITY INVOLVEMENT (SCI) - SCOPING REPORT</b>  The report of the Chief Planning Officer advises Members of the proposed scope of the SCI and the opportunities to make planning more accessible, easier to understand with early and meaningful engagement embedded in the system.  (Report attached)	7 - 16

Item No	Ward	Item Not Open		Page No
9			<p><b>REVISED TALL BUILDINGS DESIGN GUIDE: SUPPLEMENTARY PLANNING DOCUMENT (SPD)</b></p> <p>The report of the Chief Planning Officer requests Members consideration, in endorsing the undertaking of public consultation on the Draft Tall Buildings Design Guide Supplementary Planning Document (SPD) (Appendix 1).</p> <p>(Report attached)</p>	17 - 64
10			<p><b>DATE AND TIME OF NEXT MEETING</b></p> <p>To note the date and time of the next meeting as 16<sup>th</sup> July 2019 at 13:30.</p> <p><b><u>Third Party Recording</u></b></p> <p>Recording of this meeting is allowed to enable those not present to see or hear the proceedings either as they take place (or later) and to enable the reporting of those proceedings. A copy of the recording protocol is available from the contacts named on the front of this agenda.</p> <p>Use of Recordings by Third Parties– code of practice</p> <ul style="list-style-type: none"> <li>a) Any published recording should be accompanied by a statement of when and where the recording was made, the context of the discussion that took place, and a clear identification of the main speakers and their role or title.</li> <li>b) Those making recordings must not edit the recording in a way that could lead to misinterpretation or misrepresentation of the proceedings or comments made by attendees. In particular there should be no internal editing of published extracts; recordings may start at any point and end at any point but the material between those points must be complete.</li> </ul>	

**Third Party Recording**

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Use of Recordings by Third Parties– code of practice

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## Development Plan Panel

Wednesday, 15th May, 2019

**PRESENT:** Councillor P Gruen in the Chair

Councillors B Anderson, J McKenna,  
M Shazad, F Venner, N Walshaw and  
K Ritchie

### **CHAIRS COMMENT**

Following the local elections, the Panel expressed their thanks to Councillors R Lewis and T Leadley for their contributions to DPP.

#### **79 Appeals Against Refusal of Inspection of Documents**

There were no appeals against refusal.

#### **80 Exempt Information - Possible Exclusion of the Press and Public**

There was no exempt information.

#### **81 Late Items**

There were no late items.

#### **82 Declaration of Disclosable Pecuniary Interests**

There were no declarations of disclosable pecuniary interests.

#### **83 Apologies for Absence**

Apologies for absence were received from Councillors Carter and Campbell.

#### **84 Minutes**

**RESOLVED-** That the minutes of the Development Plan Panel meeting held on 16 April 2019 be approved as a correct record.

#### **85 Matters Arising**

Minute 76 Local Plan Update – The Panel received assurance that officers are pressing the Planning Inspector, in order to move quickly towards adoption of the Site Allocations Plan (SAP). Officers expect to receive the SAP report by the end of May 2019, and upon final checks before being released into the public domain, the Adoption of the Plan is expected to be considered at a Full Council meeting in July 2019.

Minute 75 Neighbourhood Plans (NPs) – In relation to a previous request from Panel Members, to receive clarity on the weight that can be afforded to NPs, the Panel were informed the Legal Officer had drafted a note which had been considered appropriate from the Chair, and will be circulated to Panel Members in due course.

#### **86 Leeds Core Strategy Selective Review (CSSR) Modifications**

Further to minute 65 of the meeting held 19<sup>th</sup> March 2019, the report of the Director of City Development provided the Panel with a summary of the overall scope of the

Draft minutes to be approved at the meeting  
to be held on Monday, 24th June, 2019

CSSR Inspector's recommended Main Modifications (MMs). The Panel are asked to recommend Executive Board approve the Inspector's MMs, which would be subject to a 6 week consultation period.

The Planning Strategy Team Leader, presented the report and provided an update on the CSSR process.

The Panel were informed of an amendment on page 7 of the report which should read '17<sup>th</sup> May 2019' as a start date for the consultation period. Members noted the CSSR would be considered by Executive Board on 16<sup>th</sup> May 2019 with a Recommendation to agree public consultation on the Main Modifications. Members heard the public consultation would run from Friday 17<sup>th</sup> May 2019 – Friday 28<sup>th</sup> June 2019.

Prior to the meeting, the panel received supplementary information due to be considered at Executive Board on 16<sup>th</sup> May 2019, which included:

- Executive Board Report
- Appendix 1 – Inspector's recommended Main Modifications
- Appendix 2 – Sustainability Appraisal Addendum

The Panel discussed the following key issues with officers:

#### Revised Housing Distributions SP7

A Member queried whether a table showing the revised distribution with actual numbers of dwellings could be made available on the council website. Officers explained in making the CSSR document streamlined, it wasn't necessary to input numbers which may change. Members noted the offer for officers to report back and provide an update note upon adoption of the SAP and CSSR. The Chair suggested that upon adoption of those policies, there will be a need for Ward Member briefings, and this will provide an opportunity for new/existing Members and officers, to be updated on changes.

#### Climate Change EN1

A Member requested clarity on how the proposed modification allowed decision makers to assess the '20% better than' energy efficiency standards, and queried the information available. Officers confirmed an implementation note is being produced, and will be useful specifically for Plans Panel Chairs and officers.

Officers clarified:

- Parts of EN1 are out of date and there is still a need for clarity on how the policy is implemented;
- Government are looking at how to reintroduce a policy around sustainable construction;
- A change to building regulations is proposed to tighten environmental standards;
- At application stage (Reserved Matters and Outline), there will be details on how developments are to be built to energy efficiency standards and an addition of conditions will be introduced.

#### Sustainability Appraisal (SA)

Draft minutes to be approved at the meeting  
to be held on Monday, 24th June, 2019

A Member requested more information in regard to SA scoring. Officers explained the process of a matrix included within the database and that for each 23 objectives, there are a number of sub objectives. Officers explained the scoring process looks at how proposals work in terms of sustainability and how technology has been used to compile the SA electronically. Members noted an offer from officers, to provide training and an overall summary on how SA scoring is carried out.

### CSSR timescales

Officers provided the Panel with an update on the expected receipt of the Inspector's report. The Inspector is aware of the intention of full adoption in September and in the meantime, significant weight can be attached to policies in the CSSR.

In recognition on the importance of keeping all planning officers up to date on emerging policies, the Head of Development Management updated the Panel on a meeting which had taken place between Policy and Planning colleagues, which provided officers with an update on CSSR changes and briefing notes would be made available on the changes, subject to Members consideration.

The Chair suggested that upon receipt of the Inspector's report, a meeting with DPP Members be arranged, before a Full Council meeting in September.

### **RESOLVED-**

- A. To note the contents of the report, including the Executive Board report and its appendices (at Appendix 1) and the comments made during the discussions on the progression of the CSSR and;
- B. To unanimously agree the contents of the Report enclosing Inspectors schedule of Main Modifications (Appendix 1 of the Executive Board report) and Sustainability Appraisal addendum (Appendix 2 of the Executive Board report) in order for Executive Board to consider at its forthcoming Special Meeting to approve the same and enter into a 6 week public consultation period.

## **87 Work Programme**

The Group Manager Policy and Plans, presented the report and highlighted following areas considered 'core' business for Development Plan Panel in the coming year.

The Panel were provided with an update of work in addition to the Work Programme and highlighted:

- A Tall Buildings Supplementary Planning Document (SPD) refresh is expected to come before Panel Members in the new Municipal Year. The Chief Planning Officer informed the Panel, work has been undertaken with planning colleagues, on creating technical guidance in relation to wind assessments; the guidance would be attached as a technical appendix alongside the SPD.
- The Neighbourhoods for Living Document is being reviewed, to identify how this can be streamlined and linked with existing SPDs.

The Chair requested that actions arising from a previous Member training session in regard to Student Housing, be picked up in the new Municipal Year.

In response to a Member question about accessibility of homes, officers confirmed an implementation note had been drafted and is currently with the access officer for comment. The Panel had also been informed a training session had taken place with colleagues and the access officer providing an update on Accessible Housing Standards Policy H10.

**RESOLVED-** To:

- a) Note the work programme as set out in the report.
- b) Note the comments for action at today's Panel meeting to be incorporated.

Councillor Gruen made the Panel aware this would be his final DPP meeting, as a Panel Member and as Chair; the Panel took their time to thank Councillor Gruen for his guidance and support throughout the year.

**88      Date and Time of Next Meeting**

**RESOLVED-** To note the date and time of the next meeting as Tuesday 18<sup>th</sup> June 2019 at 1.30pm.





Report author: Martin Elliot  
(0113 3787649)

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## Report of the Chief Planning Officer

### Report to Development Plan Panel

**Date: 24<sup>th</sup> June 2019**

### Subject: Site Allocations Plan Update

Are specific electoral Wards affected? If relevant, name(s) of Ward(s): All	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Is the decision eligible for Call-In?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, Access to Information Procedure Rule number: Appendix number:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

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## Summary of main issues

1. The Leeds' Site Allocations Plan (the SAP) was submitted to the Secretary of State for independent examination on the 5<sup>th</sup> May 2017 with public hearing sessions held at stage 1 during October 2017 and stage 2 hearings between during July and August 2018. The Inspectors' published Main Modifications to the Plan in January 2019 and consultation was held on these changes between 21<sup>st</sup> January and 4<sup>th</sup> March 2019.
2. Having taken account of the latest consultation, the Inspectors' have prepared their report that finalises the Main Modifications, which the Inspectors' consider necessary to make the Plan sound. At this stage the Council can Adopt the Plan at Full Council subject to the endorsement of Executive Board.

## Recommendation

3. Development Plan Panel is invited to note the progression of the SAP and consider the Executive Board report at **Appendix 1** (to follow).

## **1 Purpose of this Report**

- 1.1 The purpose of this report is to provide members of the Development Plan Panel, with an update on the Site Allocations Plan prior to the Executive Board meeting on 26<sup>th</sup> June 2019. The Executive Board papers will be released on 18<sup>th</sup> June 2019 and the report and appendices provided to DPP members as a late item at that time.

## **2 Background Information**

- 2.1 See **Appendix 1** Report to Executive Board (to follow).

## **3 Main Issues**

- 3.1 See **Appendix 1** Report to Executive Board (to follow).

## **4 Next steps**

- 4.1 See **Appendix 1** Report to Executive Board (to follow).

## **5 Corporate Considerations**

- 5.1 See **Appendix 1** Report to Executive Board (to follow).

## **6 Conclusion**

- 6.1 See **Appendix 1** Report to Executive Board (to follow).

## **7 Recommendation**

- 7.1 Development Plan Panel is invited to note the progression of the SAP and consider the Executive Board report at **Appendix 1** (to follow).



Report author: Ian Mackay (0113 378 7653)

## Report of the Chief Planning Officer

## Report to Development Plans Panel

**Date: 24 June 2019**

## **Subject: Statement of Community Involvement (SCI) - Scoping Report**

Are specific electoral Wards affected?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If relevant, name(s) of Ward(s): All		
Are there implications for equality and diversity and cohesion and integration?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Is the decision eligible for Call-In?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If relevant, Access to Information Procedure Rule number:		
Appendix number:		

## Summary of main issues

1. Community engagement is integral to good planning decisions as the planning system operates in the public interest. A local authority's duty to carry this out is enshrined within a Statement of Community Involvement (SCI).
2. The SCI is a statutory document (required under the Planning and Compulsory Purchase Act 2004) and sets out how residents and other stakeholders can get involved in the preparation of planning policies, frameworks and the neighbourhood planning process in Leeds and how comments can be made on planning applications.
3. The Council is seeking to revise the current SCI (adopted 2007) to take account of legislative changes, national planning reforms and the experience of community involvement in Leeds. Despite the SCI the Council has often exceeded what is required in terms of engagement and consultation, although there are areas that require further attention.
4. The overall aim is to make the planning system easier to understand, more accessible and to provide a commitment to involving all who are interested in early and meaningful engagement and collaboration.
5. There is a mixed level of engagement in planning in Leeds depending on the issues being considered e.g. 21,000 local people engaged with the Leeds Site

Allocations Plan and 75% of them were from only 3 HMCAs with only 1% commenting on sites in the city centre and inner area.

6. It is important to engage and involve the communities themselves in shaping the SCI, to help understand what communities actually want. Through dialogue with communities it is also important to understand what their “legitimate expectations” are.
7. Once adopted, the SCI will become binding and the Council must comply with it. As a statutory document which is also a legal requirement of any plan-making or decision taking process it is important to formalise an approach which is achievable. So whilst it will be right for the revised SCI to be ambitious the Council will need to ensure that the requirements of the SCI are not unattainable given available resources and practicalities.
8. ‘Soft-market testing’ of the strengths and weaknesses of the current SCI and the opportunities for improvement is already underway. This has identified that the statement is considered to be out of date, with some ideas for how it can be improved and what should be included and why. The initial feedback is summarised in **Appendix 1**.
9. Revising the SCI presents a significant opportunity for the Council to adapt and improve engagement and consultation to meet changing needs and requirements and to build on the collaboration that has taken place across the city with neighbourhood planning groups and others in recent years.
10. Initial consultation on the SCI will take place during the Summer with further consultation on the final draft SCI likely to take place in Autumn 2019.

## **Recommendation**

11. Consider the report and advise on the scope of the revised SCI.

## **1 Purpose of this Report**

- 1.1 To advise Members of the proposed scope of the SCI and the opportunities to make planning more accessible, easier to understand with early and meaningful engagement embedded in the system.
- 1.2 The proposal is to revise the current version of the SCI adopted in 2007<sup>1</sup>. This will be informed by three stages of community involvement. The first stage, involves 'soft-market testing' and this is already underway (engagement with neighbourhood planning forums, community groups and other stakeholders) and the second, will involve at least a 6 week period of formal consultation on the scope of the SCI during the Summer with a further opportunity to comment on a final Draft starting Autumn 2019.

## **2 Background Information**

- 2.1 The SCI is a statutory document under the Planning and Compulsory Purchase Act 2004. The SCI does not itself contain any planning policies but sets out the Council's commitments as to how it will consult when preparing planning documents and determining planning applications. It will set out opportunities to improve consultation and engagement and how to provide a greater sense of understanding and ownership over local planning.
- 2.2 The Town and Country Planning (Local Planning) Regulations 2012 have been amended and now formally requires the SCI to be reviewed at least every 5 years and to set out the support that the Council will provide to neighbourhood planning groups. These are significant new changes.
- 2.3 Since the adoption of the Leeds SCI there has been fundamental reforms to the planning system, including the Localism Act (2011) and the introduction of neighbourhood planning and the publication of the National Planning Policy Framework (NPPF) in 2012. The NPPF was revised in 2018 and stresses the importance of a plan-led system and re-iterates the importance of early and meaningful engagement in the planning process that reflects the vision and aspiration of local communities.

## **3 Main Issues**

- 3.1 The SCI needs to be a document that is fit for purpose given the scale, character and complexity of Leeds. It needs to strike a balance between opportunities for comment and reaching a timely outcome for development proposals.
- 3.2 The overall aim is that the time and energy invested into engagement and consulting with a community at the outset outcomes further down the line. It is often important to hear first-hand about the day-to-day needs of local communities at an early stage of the process.
- 3.3 'Soft-market testing' has taken place during May 2019 with neighbourhood planning groups and others. **Appendix 1** provides a summary of the feedback received to date. The comments made have been particularly helpful in

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<sup>1</sup> Available at [https://www.leeds.gov.uk/docs/FPI\\_SCI\\_001%20Adopted%20SCI.pdf](https://www.leeds.gov.uk/docs/FPI_SCI_001%20Adopted%20SCI.pdf)

scoping the opportunities for improvement. These include:

- Improve clarity and readability
- Address changes in policy and legislation since 2007
- Set out how the Council will involve the community in planning policy documents and making decisions on planning applications
- Consider the introduction of consultation and engagement ‘champions’ across the city, made up of key stakeholders
- Set out opportunities for training to allow communities to more meaningfully engage
- Give greater prominence to encouraging developers to carry out effective pre-application involvement
- Outline the support that will be given to neighbourhood planning groups
- Set out how the Council will make it easier for people to engage with the planning system via digital technology and other means
- Provide updates on the Data Protection Act and the General Data Protection Regulations.
- Set out ‘good practice’ consultation and engagement principles and how these will be implemented and monitored.
- Learn from good practice in Leeds and elsewhere

3.4 The review of the document presents an opportunity to not only seek to improve service delivery, but is also an opportunity to reduce costs and save officer time wherever possible without compromising on quality engagement and consultation. Digital technology and techniques are particularly important in this regard and these will be explored further. It is noteworthy in this regard that the Town and Country Planning Regulations accept a need to move away from paper copies and towards electronic communication.

3.5 **Appendix 2** sets out a draft structure of the SCI so that Members can see the sorts of issues intended to be addressed. In preparing a scoping document for consultation the Council will need to address the following headline issues:

- What the council **must do** in terms of community engagement
- What the council **may do** subject to proportionality of issue / resources
- How the local community **can get the most out of** consultation and engagement
- Examples of engagement and consultation **good practice**
- The language used in engagement and consultation
- The roles of current Council systems of engagement e.g. community committees

## 4 Next Steps

4.1 On the basis of the ‘soft market testing’ and responses and discussion at panel with members, a draft scoping document will be prepared which will be subject to consultation. This document will be circulated for comment amongst Panel members prior to consultation.

4.2 Consultation on the draft document will involve all key stakeholders and will

include community committee attendance. Following receipt of comments a final draft version of the SCI will be prepared and considered by Members at the DPP meeting in November. A key element of this will be a clear understanding of how suggestions from all key stakeholders have been considered and dealt with.

## **5 Corporate Considerations**

### **5.1 Consultation and engagement**

5.1.1 Early engagement has already started with neighbourhood planning groups and others. Further engagement will take place with others who regularly input in the city's planning process, including consultants and architects during the summer, prior to formal consultation in Autumn 2019. There will be a need to align the SCI with the Council's Planning Protocol (<https://www.leeds.gov.uk/planning/delivering-growth-working-together>) which sets a commitment to working together with developers.

5.1.2 During the summer consultation period the Council will engage with local groups in gathering feedback. Specific groups e.g. older people, BME groups, younger people, disabled groups, Gypsies and Travellers etc will be approached in order to gather their particular views.

### **5.2 Equality and Diversity / Cohesion and Integration**

5.2.1 Equality will be an integral part of the preparation of the revised SCI. Due regard will be given to diversity, cohesion and integration. An equality Impact Assessment will be undertaken to ensure that services detailed in the SCI are fully accessible and will continue to be for both policy planning and development management.

### **5.3 Council Policies and Best Council Plan**

5.3.1 The revised SCI will play an important part in the Council's aspiration to be the 'the Best City in the UK'. Related to this, the revised SCI will seek to implement key City Council priorities. These include the Best Council Plan (2018/19 – 2020/21) (in particular priorities relating to Inclusive Growth and Safe Strong Communities) and the Leeds Inclusive Growth Strategy 2018 – 2023.

### **5.4 Climate change emergency**

5.4.1 A climate emergency was declared at Council meeting 27<sup>th</sup> March 2019. This has significantly raised the interest in planning and development issues in communities across the city so it is imperative that engagement and consultation is 'fit for purpose' to ensure that communities can engage, help shape and feel a sense of ownership about what is happening in their neighbourhood and the city more generally.

### **5.5 Resources and value for money**

5.5.1 The revised SCI does not commit the Council to additional expenditure, but any additional consultation activities may lead to pressure on resources and

existing staff. A key consideration will be how digital technology and electronic communication can be used to reduce costs. It is anticipated that any costs to the Council associated with community involvement will be met from within agreed budgets.

## **5.6 Legal Implications, Access to Information and Call In**

5.6.1 Section 18 of the Planning and Compulsory Purchase Act 2004 requires that a Local Planning Authority must prepare a Statement of Community Involvement.

5.6.2 The SCI was originally a document that was required to be approved by Full Council and subjected to an independent examination. The law has now changed and Development Plans Panel is now responsible for the adoption of the statement.

## **5.7 Risk Management**

5.7.1 The revised SCI will seek to balance the increased expectations of local communities with the need for an efficient and effective planning system. This will mean ensuring that once adopted, the Council complies with the commitments made.

## **6 Conclusions**

6.1 The overriding aim of revising the SCI will be to maximise the public's involvement in planning in Leeds by making it easier to engage with the Local Planning Authority. This can be achieved by ensuring that there is a better understanding of the planning process and by ensuring that the process is more responsive to the issues of interest and concern to communities across Leeds. The revised document will clearly and succinctly set out how the Council will achieve this, strongly influenced by user experiences of the current document and interactions with the planning service more generally.

## **7 Recommendation**

7.1 DPP is requested to consider the report and provide comments on the scope of the revised SCI.



## **Appendix 1**

### **Summary of community feedback on current SCI (2007 version)**

#### **What is working well**

- The document is clear as to how communities should be involved in planning applications
- The SCI sets a high bar for the Council in liaising with communities.
- Neighbourhood Planning support has been a positive and welcome move.
- The Neighbourhood Planning team have been very good at supplying data and information when requested.
- Support and advice from specialist officers across the planning service has been good
- Neighbourhood forums receiving notification of planning applications is well received.
- On line availability of data and ability to respond is good.
- The mapping system put together for the SAP consultation was very good.
- Partnerships on planning education have been valued and helpful.

#### **What is not working well**

- The standards in the current SCI are not adhered to all the time
- The complexity of planning terminology and development plans has got worse as the Core Strategy and SAP processes have developed.
- Members of the public do not understand concepts such as 'soundness', 'justification', or indeed what legal implications of being material etc are.
- Many people are not involved in development plan consultations as the content and the process is off-putting.
- Neighbourhood forums are commenting on planning applications but their concerns are unanswered
- Lamp post only notifications are only read and noticed by a small number of people
- The Council's website is not good for consultation and engagement generally. It is difficult to navigate and contact details for planning officers are unobtainable
- There are concerns that consultation responses are ignored

#### **Ideas for improvement**

- Neighbourhood planning groups should be more closely involved with ongoing planning applications and plans panels
- Consultation should be made easy for local people rather than convenient for the processing of responses.
- The consultation requirements for the preparation of development plans must be fully incorporated in the revised document
- The provisions of the Town and Parish Charter must be incorporated in the revised document

- There should be a separate section in the SCI on neighbourhood planning
- Neighbourhood forums should have the same rights as parish councils
- Clarity needed on signing off arrangements and involvement in Construction Method Statements
- The Council's website should have the capacity to list the name of the community group responding to a planning application rather than an individual
- Improvements and clarity on the pre-app process would be helpful, including clarity on the role of councillors in the pre-app process
- All planning applications should be required to include a narrative of what is proposed. It is time-consuming and difficult to sometimes work out what is being proposed. This does not encourage engagement.
- Engagement is a process and it might be helpful to have a workshop looking at the stages of that process and the best modern media and methods for each stage.
- What can the Council learn from what other local authorities are doing?
- The revised SCI will likely make much more of digital communication, but must not forget fact to face involvement and events – this is where a partnership approach comes into its own.
- The Council needs to incorporate neighbourhood planning evidence produced by groups into its own library of on-line evidence to show people that their input has helped in planning and in providing evidence.
- Training and awareness events with both Councillors and NP groups to raise the general standard of planning knowledge. Maybe an annual programme of events. These could also be open to members of the community who are interested.
- Request that panel site visits are undertaken during peak periods so Members can see high levels of congestion
- Clarity needed on technical language, for example what is meant by material consideration
- If the SCI is to be meaningful then all information and policy interpretations need to be transparent
- In non-parished areas, the library should have notice boards for planning information
- Introduction of consultation and engagement champions

## **Appendix 2**

### **Initial Draft Scope of the SCI**

#### **Section 1: Introduction**

- What is the Statement of Community Involvement (SCI)?
- Review & update of the SCI
- How will the SCI be kept up to date?
- What do we mean by consultation?

#### **Section 2: Getting involved with planning**

- Why should you get involved in planning?
- Who do we consult on planning matters?
- How and when will we consult and engage on planning matters?
- How will we engage with groups that may be more difficult to reach?
- How will we utilise existing local partnerships?
- How will we use your personal data?

#### **Section 3: Getting involved with the Local Plan**

**[This section will include all legislative changes and will include]**

- What is the Leeds Local Plan?
- How is a Local Plan Document prepared?
- How is a Supplementary Planning Document prepared?
- What is Sustainability Appraisal?
- What is the Community Infrastructure Levy?
- What is a Habitats Regulation Assessment?
- What is the Duty to Cooperate?
- What we will do?
- What may we do?
- What would we encourage you to do?

#### **Section 4: Getting involved in planning applications**

- What are planning applications?
- What is validation?
- How do I find out what is going on in my area?
- What are statutory and non-statutory consultees?
- What is a minor / major planning application?
- How are consultations on planning applications carried out?
- How do I comment on a planning application?
- Changes to proposals after an application is submitted?
- What we will do?
- What may we do?
- What would we encourage you to do?

#### **Section 5: Decision taking**

- What are Plans Panels?
- Can I attend / speak at a Plans Panel meeting?

#### **Section 6: Enforcement**

- How are planning permissions enforced?

- How do I find out if something in my area needs planning permission?

## **Section 7: Getting involved in Neighbourhood Planning**

**[This section will include all legislative changes and will include]**

- What is Neighbourhood Planning?
- Who is responsible for Neighbourhood Planning?
- What is a Neighbourhood Area?
- How are Neighbourhood Plans prepared?
- What is the Council's role in the Neighbourhood Planning process?

## **Section 8: Consultation and engagement methods**

- This section will update the 2007 version and set out appropriate consultation and engagement methods.

Report author: Stephen Varley

Tel: x87620



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## Report of the Chief Planning Officer

### Report to Development Plan Panel

**Date: 24<sup>th</sup> June 2019**

### **Subject: Revised Tall Buildings Design Guide: Supplementary Planning Document (SPD)**

Are specific electoral Wards affected? If relevant, name(s) of Ward(s): All	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Is the decision eligible for Call-In?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, Access to Information Procedure Rule number: Appendix number:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

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### **Summary of main issues**

1. In providing a planning framework for Tall Buildings across the District, in 2010 the City Council adopted a Supplementary Planning Document (SPD). This guidance has been subject to a review and the purpose of this report is to seek consideration and approval for the revised Tall Buildings Design Guide (see Appendix 1) for public consultation.

### **Recommendation**

2. Development Plan Panel is recommended to endorse the undertaking of public consultation on the Draft Tall Buildings Design Guide Supplementary Planning Document (SPD).

## **1 Purpose of this Report**

- 1.1 The City Council adopted a Tall Buildings Design Guide Supplementary Planning Document (SPD) in 2010. The focus of this document is to amplify planning policies in relation to the overall location and design of tall buildings across Leeds. This guidance has been subject to a review and the purpose of this report, is to seek consideration and approval for the revised Tall Building Guide (SPD) (see Appendix 1) for public consultation.

## **2 Background Information**

- 2.1 Initially adopted by the City Council in 2010, the Tall Buildings Design Guide SPD, provides a positive framework for considering the location and design of Tall Buildings across the District. In reflecting the continued interest in Tall Buildings and to ensure that planning guidance remains 'fit for purpose', the guidance has been reviewed.

## **3 Main Issues**

- 3.1 Economic growth and investment in Leeds, has resulted in continued interest in tall buildings across the District. In seeking to help direct and manage this growth, the aim of the Tall Buildings Design Guide SPD, is to provide a short, clear design guide on the location, form and appearance of tall buildings so that they can be successfully integrated into the economy and townscape of Leeds. In reflecting this approach, the original SPD has been revised into a more concise document to provide clear and legible guidance to applicants considering tall buildings in Leeds. The document is structured as follows:
- Introduction
  - Strategic Design Issues 1. (Locations). Where can Tall Buildings Go?
  - Strategic Design Issues 2. (Detail Design). What Design Criteria should Tall Buildings meet?
  - Policy Context
  - Conclusion
  - Supplementary Information.
- 3.2 Integral to the overall approach are a series of General Design Principles regarding the location and form of tall buildings. These include the location of proposed tall buildings and their relationship to skylines and views, the relationship of the buildings with the streets and movements around them, legibility and sense of place, environmentally sustainable and operational (taking into account the consequences of climate change and wind mitigation measures), be of the highest design quality and safe (taking into account any recommendations arising from the Grenfell Tower Inquiry).
- 3.3 Whilst the majority of applications for tall buildings are expected to be in the City Centre the document is for guidance throughout the Leeds Metropolitan District.

#### **4. Next steps**

- 4.1 Subject to Development Plan Panel's consideration of this report, it is proposed to undertake a 6 week period of public consultation on the draft revised guide, consistent with the Town and Country Planning (Local Planning) (England) Regulations 2012.

#### **5. Corporate Considerations**

##### **5.1 Consultation and Engagement**

- 5.1.1 The emerging revised draft document has been subject to internal consultation within the City Council and also with Plans Panel Chairs.
- 5.1.2 As noted above, subject to Development Plan Panel's consideration the document will be subject to a 6 week period public consultation consistent with the Planning Regulations.

##### **5.2 Equality and Diversity / Cohesion and Integration**

- 5.2.1 The revised Tall Buildings Design Guide SPD, is set within the context of adopted development plans in Leeds, with the purpose of SPDs to amplify existing policies. In the preparation of the Leeds Development Plan Documents, due regard has been given to Equality, Diversity, Cohesion and Integration issues. This has included the completion of EDCI Screening and meeting the requirements of the Strategic Environmental Assessment Directive, which has meant that these Plans are subject to the preparation of a Sustainability Appraisal. The purpose of such Appraisals is to assess (and where appropriate strengthen) the document's policies, in relation to a series of social (and health), environmental and economic objectives. As part of this process, issues of Equality, Diversity, Cohesion and Integration, are embedded as part of the Appraisal's objectives. Within this overall context also the Tall Buildings SPD forms part of the wider policy framework set out as part of the Core Strategy and Core Strategy Selective Review and other SPD documents.

##### **5.3 Council Policies and Best Council Plan**

- 5.3.1 The Planning has a key role to play in taking forward the City Council's ambitions and commitments set out as part of the Best Council Plan. These include Inclusive Growth, Housing and Sustainable Infrastructure. In March 2019, the City Council also declared a 'Climate Change Emergency', which has cross cutting implications. The Revised Tall Buildings Design Guide SPD has been prepared within the context of City Council and Best Council Plan priorities. The overall policy approach is embedded within existing adopted plans and policies, with the revised guide seeking to take these priorities forward as part of its principles and detailed policy requirements.
- 5.3.2 With regard to the climate change emergency, it should be emphasised that the proposed SPD, in itself makes a positive contribution to mitigating and adapting to climate changes, whilst also sitting alongside a series of complementary policies. These include EN1, EN2, and EN8, which have a direct impact on

reducing carbon reduction (through high energy efficiency standards – 20% more energy efficient than Building Regulations), 10% of energy needs to be met from renewable sources, efficient water consumption and electric vehicle charging points). The Building for Tomorrow Today SPD, also includes a developer check list to help developers reach better standards of sustainability construction. In terms of the Tall Buildings Design Guide SPD, specific reference is made to: Landscaping, Ecology, Sustainability, Orientation and Climate, setting out policy requirements.

#### **5.4 Resources and value for money**

- 5.4.1 The document has been prepared within existing resources, together with specialist technical advice on the 'Wind Microclimate Toolkit'. The Design Guide is seeking to engage positively and proactively in the issue of tall buildings and to provide a clear framework. This in turn will assist investor confidence and inclusive growth.

#### **5.5 Legal Implications, Access to Information and Call In**

- 5.5.1 The revised draft SPD has been prepared within the context of the Local Plan Regulations, national Planning guidance and adopted Leeds planning policies.
- 5.5.2 This report is not eligible for call in as no decision is being taken.

#### **5.6 Risk Management**

- 5.6.1 Important issues associated with this Design Guide, relate to wind around tall buildings and building safety. These matters are the responsibility of the applicant. The Planning Authority may ask for a 'wind study' with each application, to demonstrate the application meets safe criteria and ensure that wind studies are independently reviewed (by wind consultants).
- 5.6.2 To provide clarity on the wind studies required, a separate 'Wind and Microclimate Toolkit' (WMCTK) has been commissioned from technical specialists in wind effects. This is directly referenced in the Tall Buildings Design Guide and directs the applicants as to the appropriate wind studies that will be required for the particular Planning Application.
- 5.6.3 The document also has general comments as to what will be expected of the applications regarding mitigating wind impact. This has been done in consultation with development management, highways and other colleagues.
- 5.6.4 The focus of the SPD relates to Policy requirements and guidance in relation to the aesthetic townscape design, and location, of Tall Buildings. Other safety issues such as fire safety are beyond the scope of the document and are addressed separately via Building Control regulations. There is an acknowledgement that the Council will support any recommendations coming from the Grenfell Tower Inquiry.

### **6. Conclusion**

- 6.1 The City Council adopted a Tall Buildings Design Guide Supplementary



Planning Document (SPD) in 2010. The focus of the revised draft document is to ensure that the document remains 'fit for purpose' and to amplify planning policies in relation to the overall location and design of tall buildings across Leeds. This guidance has been subject to a review and the purpose of this report, is to seek consideration and approval for the revised Tall Buildings Design Guide (SPD) (see Appendix 1) for public consultation.

## **7. Recommendation**

- 7.1 Development Plan Panel is recommended to endorse the undertaking of public consultation on the Draft Tall Buildings Design Guide Supplementary Planning Document (SPD).

Appendix 1: **Tall Building Guide (SPD)**

## Draft Tall Buildings Design Guide SPD

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# FOR CONSULTATION

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Leeds Local Plan  
Supplementary Planning Document  
June 2019



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## Tall Buildings Design Guide SPD

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# 1.0 Introduction

## Developers and Designers.

To assist in providing more certainty about the appropriateness and location of tall buildings, and to give a guide to providing a high standard of design of tall buildings that successfully integrate into the city context.

## Local Amenity Societies.

To provide a guide for protecting Conservation Areas and important buildings, views and settings.

**Planners.** To establish clear principles and advice criteria against which proposals for tall buildings can be considered and assessed in an objective and consistent manner.

The guide can help provide clarity to:

- Good practice in the location and design of tall buildings.
- An appreciation of the context and local distinctiveness of the Leeds Metropolitan District.
- Provide a reference to national and local policy frameworks.

The SPD is a material consideration and will be used to help determine planning applications.

Section 4.0 of this SPD provides further details of the Planning Policy context for this Guide. The guide applies not only to the City Centre but to all tall buildings across the District.

## 1.4 Structure of the Guide

The SPD is in two parts. The first part is a general overview and guide to policy. The second part is the Background Information, which provides more detailed information on the application of the SPD. This includes mapping information in relation to, a City Centre: Preferred Areas Plan, Sensitivity Zones, Key Views and Heritage and Conservation Areas.

## 1.5 Scope of the SPD

This SPD is to help to determine Planning Applications and give a clear development management tool concerned with the aesthetics of tall buildings. It does not provide any technical advice relating to buildings nor should the advice offered be deemed to influence any technical issues, such as Building Control. The Council wishes to support any safety recommendations that arise from the Grenfell Tower Inquiry and applicants are advised to contact Leeds City Council Building Control for advice on these matters.

The guide also applies to any tall building adjacent to and in the setting of Listed Buildings and Conservation Areas. Any impact on the views and settings of Listed Buildings and Conservation Areas are deemed to be of a sensitive nature.

A climate emergency was declared at the Leeds City Council meeting of 27th March 2019 to support national and local climate change targets. Applicants will need to have regard to this in the context of Planning Applications for tall buildings.

## 1.6 Definition of Tall Buildings

This SPD is for use throughout the District which has a varied character and context.

As each scheme is an individual response to a particular site and context a tall building is one which is taller than its neighbours and/or which significantly changes the skyline, context or character of an area

## 1.7 Analysis

The Council sees sound and early urban design analysis as the core of generating sound design proposals. This applies both to the site analysis and the contextual analysis to inform a good architectural response on a specific site. It also enables the City Council to engage assessment of applications in an objective manner as the applicant's analysis should be at the core of informing their proposals. Further information is in the Background Information.

## Principle 1 Investigation and Analysis

Applicants will need to carry out an investigation and analysis of the site, topography, locality, area context and character, urban form, local street pattern and grain, key views - long and short, public realm and space, transport facilities, pedestrian footfall, social/economic profile, densities, sustainability issues, exploring materials, and construction techniques, relationship with historic environments, trends and opportunities.

## 1.1 Why has this guide been produced?

Leeds has seen a huge amount of private sector investment in new development over the last years. The economic growth and success of the city has driven continued growth in the townscape and an unprecedented number of proposals for tall buildings in the city. This document is a new issue of the original Tall Buildings Guide for Leeds. As a Supplementary Planning Document (SPD) the aim of this document is to provide a short, clear design guide on the location, form and appearance of tall buildings so that they can be successfully integrated into the continuing success of the Leeds economy and townscape.

## 1.2 Who is the SPD for and how it can help?

This SPD is for use by all those interested in developing tall buildings in the Leeds Metropolitan District but will be of particular interest to:

## 1.3 Status of the document

This document has the status of a Supplementary Planning Document (SPD). This means that it is part of the Development Plan for Leeds and supports and reinforces the Adopted Leeds City Council Core Strategy and other Local Plans.

The Core Strategy sets out the vision for the future of Leeds over the next decade and provides broad policies to shape development and support its strategic vision. The spatial strategy of the Leeds Local Plan identifies that the City Centre and its fringe will play an important role in delivering significant levels of new development, including housing, throughout the plan period. In order to deliver the capacities envisaged, it is to be expected that this will also be in the form of Tall Buildings.



## 2.0 Strategic Design One. Locations

Where can Tall Buildings go?

### Principle 2 General Design

#### Tall Buildings shall:

- Be located in suitable locations, to integrate them into and make them compatible with their surroundings.
- Enhance skylines, views and settings.
- Protect and preserve areas of special character and interest, principal views across the city and historic skyline.
- Ensure that they have a good relationship with the street, movement patterns and transport facilities, creating high quality public space at the same time.
- Ensure that they assist in the legibility of the city and contribute strongly to a sense of place.
  - Be environmentally sustainable and operational.
  - Promote the highest design quality for tall buildings and their composition resulting in a balanced townscape skyline for Leeds.
- Be safe (in relation to any recommendations made from the Grenfell Tower Inquiry).

2.1 To have a vibrant and balanced townscape is at the heart of the Council's vision for the city. Consequently the Council would welcome early discussion on prospective development schemes throughout the Leeds Metropolitan District and this includes proposals for tall buildings. Tall buildings, though, can have a negative impact on the townscape and communities if they are ill-placed. Consequently the Council does have preferred locations and areas where it is thought Tall Buildings may be more readily supported subject to the proposals meeting set criteria. (See plan and further information in the Background Information Section).

2.2 A supportable solution for specific designs will depend on the location and the visual context and character of the surroundings. The Council is able to offer specific advice on a case by case basis. Some of the general strategic criteria for assessment of applications are as follows:

- The location and heights of proposed tall buildings will be assessed in relation to the prevailing general overall context. Analysing the site context should be done in a holistic manner and not just use selective examples of existing buildings.

- Following an analysis of the prevailing character and context of the area then proposed tall buildings should not exceed the general contextual heights unless there is evidence of strong mitigating circumstances or significant visual reasons and associated aesthetic townscape advantages. Complementing major infrastructure may be an appropriate reason for a taller building.
- Normally near to the City Centre tall buildings should be located close to and relate to other larger buildings particularly where growth around transport interchanges can begin or continue the process of sustainable patterns of urban development.
- Groups of tall buildings, 'clusters', are less obtrusive and are in principle to be preferred to a few dispersed or isolated solutions. Generally the Council would encourage groups of buildings which can be concentrated in a particular location relating to, perhaps, the character as a business or technology quarter.

- They should follow composed rules of scale, massing and alignment in order to appropriately respond to the local context and appropriate grain in the area, particularly at their connection with the ground and in relation to heights.
- Tall buildings affect the required space between them. Generally the taller the building the more space and open distance will be required around the building for spatial relief. The specific open distances required will vary depending on the location, context and built densities. Specific advice can be given on a case by case basis.
- Tall buildings regardless of their individual architectural merit, will not be supported if their relationship to the local context is regarded as having a negative impact on that context, such as affecting key views.

In addition to the general principles applicants should be mindful of the Sensitive Zones and the Key Views within the City Centre and the Conservation Area constraints. The maps of these areas and further information are shown in the Background Information.

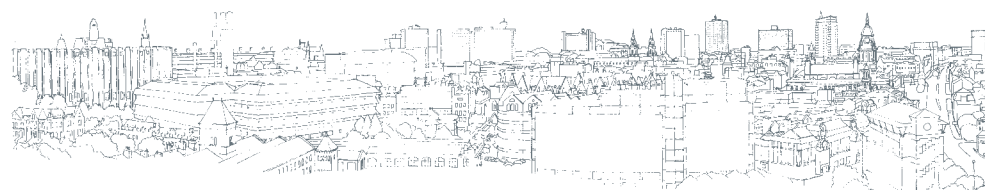
Heights of wind turbines and telecommunications masts shall not be included in any contextual height assessments.

### Principle 3 Considering Visual Impact and Historic Context

**It is unlikely that applicants will receive support for tall buildings which cause visual harm and impact on the following:**

- Listed buildings and Conservation Areas.
- Historic building area roofscape and silhouette.
- Town Hall, Civic Hall, Corn Exchange and Leeds University Parkinson Tower.
- Leeds shopping arcades and historic street scenes.
- Important vistas e.g. The Headrow viewed east and west, vista up Park Row.
- Views from the main historic spaces of Park Square, Woodhouse Square, Hanover Square and urban parks.
- Historic riverside frontages.

▼ 2006 view from west showing that the Parkinson Building, Civic Hall and Town Hall are still recognisable despite all the existing high rise development that has already taken place



▼ Looking westwards above York Road (A64) - a group of tall buildings around the Arena



# 3.0 Strategic Design Two. Detail Design

What Design Criteria should Tall Buildings meet?

## Principle 4 Context, Sustainability and Skylines

### Ensure Tall Buildings:

- Are high quality designs with a cohesive visual design so that the design works as a whole.
- Respond appropriately to the distinctive local character and ensure there is no visual harm to historic buildings and views.
- Should minimise energy use and waste (both during construction and throughout the life of the building) including using renewable energy production where appropriate.
- Should use sustainable materials.
  - Termination of tall buildings at the roof should give an appropriate and balanced interest to the skyline.
- Should create active ground level frontages to the adjacent streets.
  - Should consider recladding of existing tall buildings to provide a sustainable high quality solution before proposing demolition and new build.

- 3.1 Leeds has its own distinctive townscape character. Tall buildings have contributed to that character, and can continue to do so, if they are of the right complement to Leeds unique built ambience.
- 3.2 The previous section identifies where the locations of tall buildings might be right for the Leeds Metropolitan District, but what of the buildings themselves? This section looks at what the City Council would be able to support in the design of proposed tall buildings. The Council will support the following approach to the design of Tall Buildings.

### Analysis and Context

- 3.3 Similar to the location of tall buildings, at the Detail Design stage, the Local Planning Authority would first require evidence of a good analysis of architectural context to drive the concept of the design. Analysis is the key to generating a good poised architectural response to the specific site. Any analysis done, particularly in relation to existing heights, scale of surroundings and prevailing massing should be objective and in an all-inclusive manner. It should fully consider the context of the area as a whole and not selectively highlight specific heights and building scale.

- 3.4 It would be expected that the analysis would include matters such as topography, local urban design frameworks and character analysis in order to avoid repeating the unsuccessful approach of piecemeal tall building design of former years. Analysis will be an essential part of any future submission for planning permission.

### Detail Design of Tall Buildings

- 3.5 Designers will be supported to offer tall buildings with integrity without just following architectural fashions. The appropriate use of form, materials and technology can produce good solutions which will work well and look good day and night. Active engagement at street level will be expected.
- 3.6 Designers should consider some of the primary design elements that go into forming a positive solution. These would include: Form/ Shape, Base of building, Scale, Massing, Architecture and sense of Visual Character and Style. Finally how the building is terminated, the top of the building is important to the finished townscape solution.



Before and after photomontage



- 3.7 Leeds City Council offers the following guidance as to how it would see a supportable solution developing. It should be noted that a supportable solution for specific designs will depend on the location and the visual context and character of the surroundings on a case by case basis.

### Height, Scale and Massing

- 3.8 Height, scale and massing are interrelated, but height itself, taken individually, can be simply a number of storeys or a measured level. An acceptable proposed height for a tall building is important. A balanced height is usually dependent on the general existing prevailing (majority) context and scale. From this an acceptable height can be defined. Generally the initial

overall approach taken would be that a proposed building should not be much beyond the existing context. The proposal might be for a taller 'point element' in a townscape of lower buildings and this would be considered on an individual case basis and in relation to the location, context, views and other relevant factors.

- 3.9 The relationship of scale and massing is also symbiotic. Scale relates not only to height but the 'size' of the proposal which gives the buildings visual impact, the massing. For example, a tall block building with a large plan form can give a high visual impact in the resultant 'slab' form and is usually not supported by the Local Planning Authority. For tall elements in the townscape a more slender approach, with a vertical emphasis, is often more readily supported by the Local Planning Authority.

### Form and Massing

- 3.10 Create a visual form that promotes a balanced aesthetic approach avoiding buildings that appear as 'slabs' or monolithic in the townscape. Tall buildings appear better as more slender point elements in the townscape rather than just big high buildings.

The Civic Hall has a strong form with slender elements and has positive space around it.



## Principle 5 Character of Leeds

Designers are encouraged to create tall buildings that respond to the character of Leeds and are not generic designs that could be anywhere. Proposed tall buildings should contribute to the Leeds skyline.

The Council encourages well designed tall buildings which are inventive in the use of forms and materials to reinforce local distinctiveness.

The image and identity of Leeds can only be improved and maintained by good urban sculpture. Proposed tall buildings should contribute to this ambition.

Proposals should be compatible with the existing Conservation Area Policies, Urban Design frameworks and City Centre Urban Design Guides.



# 3.0 Strategic Design Two. Detail Design

What Design Criteria should Tall Buildings meet?

## Principle 6 Height, Massing and Scale

Consider the height, scale and massing in relation to the context.

In addition to scale and massing, attention should be paid to the form of the building and how the form is moulded and manipulated.

Consideration should also be given to the slenderness of the building to avoid a slab like appearance.

Seek to create a moulded aesthetic form that visually manipulates the mass into readily appreciated visual elements.

## Architectural Design

- 3.11 Designers should endeavour to design in a visual style that responds to the context and complements the Leeds townscape.
- 3.12 If a directly contrasting visual style, or aesthetic, is proposed; then the contrast should have demonstrable design generators that relate to the Leeds townscape and the local context. Buildings that are generic in style, or uncontrolled, erode the important and unique character of the Leeds townscape. Brash aesthetics are usually a short lived attempt to create interest and impact. This is usually not supported as this visual approach usually dates quickly and then erodes the gravitas of the prevailing Leeds character.
- 3.13 Developers need to look to create a visual order and architectural discipline that makes a building that is easily read in visual terms and without being overly complicated.
- 3.14 Developers should try to create an aesthetic that builds easily appreciated visual elements into a holistic cohesive and balanced piece of townscape architecture.
- 3.15 Developers should also consider the night-time aesthetic of proposed tall buildings.

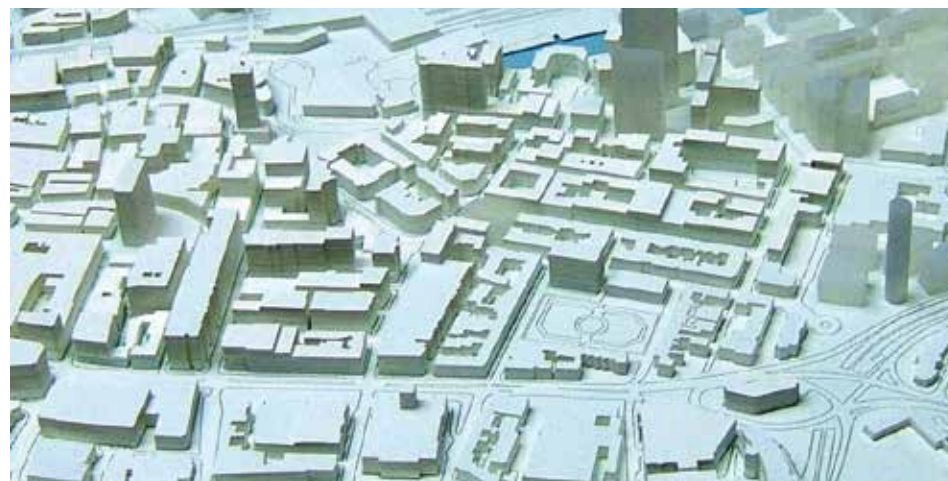
## Materials and Details

- 3.16 The materials will be dependent on the design but the Council would prefer colours that are harmonious with the context and prevailing townscape colours. Muted tones common to the general townscape context are usually more successful. Garish colours should be avoided. Garish colours are usually incompatible with townscape colours and again date quickly.
- 3.17 Flat elevations should be avoided, that is, facades built on a single flat plane. Facades should be designed with deeper recessed windows and openings which add interest. Seek opportunities for using shadows and shade which can add a sculptural quality to the elevations. Detailing to the elevation, such as string lines, also add interest and would be supported. .

## Relationship to the Street

- 3.18 Tall buildings should have a successful human scale interface at street level. It should be active and engaging but with a contextual visual strength to anchor the building to the street.

**V** Use of models (both physical and computer) can indicate the relationship with context, investigate the impact of scale and offer skyline studies.



- 3.19 The City Council requires the provision of high quality public realm, and a good street level architecture. It is also expected that tall buildings will have 'user friendly' legible entrances and approaches, good street legibility and good links with transport and pedestrian routes.
- 3.20 Generally it would be expected that tall building will provide increased adequate open space around the building and especially in front of the building. Tall buildings should also provide good landscaping and amenity space linked, if possible, to the local green infrastructure network. Visual and spatial interaction with surrounding areas is encouraged surrounding areas is encouraged.

## Wind

- 3.21 In all applicable cases the applicant will be expected to provide a quantitative study report to fully ensure safe wind conditions in and around the building and the surrounding highway. The scope of the wind study should extend to the full zone of influence of the building including land within the public highway and cover the impacts on all users of that space (including pedestrians, cyclists and motorists). The wind study should ensure safe conditions all year round for all users. The wind study will be independently verified (at the applicants expense). This verification process will be managed and administered by the Council. Any wind mitigation measures should be wholly within the applicants site boundary and not on the public land or highway. Any wind mitigation measures should be permanent structures and maintained by the applicant at the applicants expense. Wind mitigation measures should not include trees or soft landscape. Full details of the relevant wind

study and methods required can be found in the Leeds City Council Wind and Microclimate Toolkit. Full details of the requirements can be obtained from the Local Planning Authority.

## Building Termination

- 3.22 Tall buildings have a major impact on the city skyline. It is important that this impact is positive with appropriately designed roofs and termination with the skyline. This can also be designed to hide servicing plant and the like. Designers should look for a contextual and aesthetically balanced termination of the building.



# 4.0 Policy Context

4.1 There are a series of national and local policies which need to be considered when planning for and designing tall buildings.

## National Policy

4.2 The National Planning Policy Framework (NPPF) sets out the government’s planning policies for England and how these are expected to be applied. The purpose of the planning system is to contribute to the achievement of sustainable development, with planning policies and decisions playing an active role in in guiding development towards sustainable solutions. These solutions need to take local circumstances into account, to reflect the character, needs and opportunities of each area. In terms of tall buildings, the most relevant aspects of the NPPF are those around the importance of ‘achieving well-designed places’ (Section 12) and ‘conserving and enhancing the historic environment (Section 16). These are important issues in Leeds given the aspirations for high standards of design quality and the local character distinctiveness of the City Centre and the District as a whole.

## Local Policy

- 4.3 The Core Strategy and Core Strategy Selective Review sets out the strategic policy framework for Leeds. Key policies include **P10: Design, P11: Conservation and P12: Landscape**. However, there are other policies which could be of significance. They include City Centre policies, Green Space policies and policies relating to transport. The most relevant are listed below;
- 4.4 Core Strategy Policies on Leeds City Centre:-  
**Spatial Policy 3: Role of Leeds City Centre**  
**CC1: City Centre Development**  
**CC2: City Centre South**  
**CC3: Improving connectivity between the city centre and neighbouring communities**
- 4.5 Core Strategy Policies on Housing:-  
**H9: Minimum Space Standards**  
**H10: Accessible Housing Standards**
- 4.6 Core Strategy Policies on Green Space:-  
**G3: Standards for open space, sport and recreation**  
**G4: New Green Space provision**  
**G5: Open space provision in the city centre**
- 4.7 Core Strategy Policies on transport:-  
**T2: Accessibility Requirements and new development**

4.8 Core Strategy policies on Sustainability include: **EN1, EN2, EN3, EN4 and EN8**.

4.9 As well as Core Strategy policies, there are also several saved UDP policies relating to building design. They include;

- BD2: Design and siting of new buildings**
- BD4: Plant equipment and service areas**
- BD5: Amenity and new buildings**
- BD14: Floodlighting**

4.10 The focus of this SPD is therefore intended to help amplify these policies in relation to the design and delivery of tall buildings in Leeds.

## Further guidance

4.11 A guidance note, ‘Tall Buildings: Historic England Advice Note 4’ has been produced by Historic England to help people involved in planning for and designing tall buildings so that they may be delivered in a sustainable and successful way.

# 5.0 Conclusion

- 5.1 The aim of this SPD is to provide some clear detailed advice around which the City Council could support proposals for tall buildings. Generally, tall buildings should preferably be compatible with their locality and not unbalance the settled heritage townscape of Leeds Metropolitan District. The Council is seeking, in principle, to support suitable tall buildings in Leeds in line with the Council’s objectives for continued city growth. The situation and style of suitable tall buildings can, if done well, enhance the city streetscape and skyline. It is with this in mind that this document seeks to aid the design and development of tall buildings for the District.
- 5.2 Should you have any specific queries regarding particular sites or proposals then the Local Planning Authority would be pleased to offer advice. A Pre-Application advice service is available and Developers are requested to seek Pre-Application advice on all tall building proposals.

# Contacts

## Useful Contacts

**Leeds City Council Planning and Sustainable Development**  
9E Merrion House  
110 Merrion Centre  
LEEDS LS2 8BB  
tel - 0113 222 4409  
www.leeds.gov.uk

**Ministry of Housing, Communities and Local Government's (formerly DCLG)**  
2 Marsham Street  
LONDON SW1P 4DS  
tel - 030 3444 0000  
www.communities.gov.uk

**Institution of Civil Engineers (ICE)**  
1 Great George Street  
LONDON SW1P 3AA  
tel - 020 7222 7722  
www.ice.org.uk

**Chartered Institute of Highways & Transportation (CIHT)**  
119 Britannia Walk  
LONDON N1 7JE  
tel - 020 7336 1555  
www.ciht.org.uk

**Landscape Institute (LI)**  
107 Grays Inn  
LONDON WC1X 8TZ  
tel - 020 7685 2640  
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10 Victoria Street  
Westminster  
LONDON SW1H 0EX  
tel - 020 3276 3803  
www.npcc.police.uk  
**Secured by Design (SBD)**  
tel - 020 3862 3999  
www.securedbydesign.com

## Appendices Background Information



# Background Information

1.0	<b>Background Information</b>
1.1	The following information is offered as background information supporting the Tall Buildings Guide 2017. It contains further information on what the City Council would consider as important to the successful delivery of tall buildings in Leeds.
2.0	<b>Analysis</b>
2.1	The sound analysis of context is traditionally the first step in the development of a sound contextual townscape response for new development. The Council will require that this process is properly demonstrated. This requires a critical objective assessment of the context by the applicant. This also gives the Council a meaningful approach by which it can objectively assess proposals in the planning balance. The design then is not subjective but based on objective criteria.
2.2	Applicants will need to show an iterative process common to architectural design, which is based around analysis and a subsequent design which typically follows a process that can be phrased;  <b>‘Analysis, Concept, Scheme &amp; Detail’</b>
2.3	Also used successfully in the Council’s adopted ‘Neighbourhoods for Living’ SPG this method is a formula that, if followed, engenders a good design process and therefore irons out unclear processes and poor design solutions.  <b>Analysis.</b> Prepare a sound contextual urban and architectural analysis of the existing situation. <b>Concept.</b> Develop a concept that responds sensitively and appropriately. <b>Scheme.</b> Develop a scheme for the application which follows the earlier principles. <b>Detail.</b> High quality detail development finalises the scheme.
2.4	Tall building proposals will not be supported unless it can be demonstrated through a fully justified and worked up analysis and proposal that they are of excellent architectural quality and in the appropriate location.

3.0	<b>Tall Building Locations</b> (see plan at back of document)
3.1	The A3 Plan at the end of the document shows the preferred areas in the city centre where Tall Buildings may be more readily supported subject to them meeting assessment criteria. The areas preferred are shown within the red line shaded areas. Within the Preferred Areas not all sites may be suitable for the location of Tall Buildings. On some sites it may not be possible to deliver Tall Buildings depending on site specific factors and the immediate context.  The Council will consider Tall Buildings outside of the suggested ‘red line’ zones but the assessment criteria will be more stringent.
4.0	<b>Key Views</b> (see plan at back of document)
4.1	Approaching the city the Leeds City Centre skyline offers up a number of panoramas some of which appear quite dramatic for those living nearby and for visitors to the city. This is due to the local topography which generally rises up in most directions away from the city which is situated on a gentle incline that meets the River Aire. Land spurs within this topography occasionally obstruct long distance views of the city but this helps to create visual drama for travellers as the city unfolds close to their city centre destinations. From various directions coming into the city, the views of buildings such as the University’s Parkinson Building Tower and adjacent church spires remain important. Depending on the location and design of proposals the Local Planning Authority will expect applicants to demonstrate the possible impact on these distant views into the city. The particular views in relation to the specific application should be agreed with the Local Planning Authority on a case by case basis.
5.0	<b>Sensitive Development Zones</b> (see plan at end of document)
5.1	In addition to specific key views within the city and longer distance views, the Council considers some areas of the city need special consideration when proposals are put forward. These are to protect sensitive settings to historic areas around the city. They are also to preserve the important context of key character areas and the unique townscape assets important to the character of Leeds.

5.2	New tall buildings can intrude into important street vistas and skylines viewed within the city. It is important then to ensure that they do not have a negative impact on historic buildings settings and other significant visual character areas. Therefore existing views and settings of certain buildings and landmarks are seen to warrant protection. Some examples are the need to preserve the prominence of the Town Hall, Civic Hall, Leeds Parish Church, the University’s Parkinson Tower and adjacent church spires. Public spaces and squares such as Park Square and other important settings such as the river frontages are also seen as important assets. Conservation Area key views and street scenes also need protecting from visually intrusive forms.
5.3	These Sensitive Development zones are shown on the enclosed plan at end of the document. The Council expects the highest standards of design for proposals in these areas. In some cases the zones overlap and interact with each other. The zones have been identified to protect important silhouettes, skylines, buildings, street scenes, vistas and public spaces from the visual impact and physical proximity of ill proposed tall buildings.
6.0	<b>Heritage</b>
6.1	The preservation of the heritage townscape is of paramount importance to Leeds City Council and this will be expected to be considered in any application for a tall building proposal. In this context heritage assets encompass three areas; Listed Buildings, Conservation Areas and Non Designated Heritage Assets. The preservation including setting of these assets is important, and not just for the city core areas. Any proposals in the suburbs should meet the same criteria.
6.2	The protection of Listed Buildings and the setting to Listed Buildings is seen as a vital aspect of the Leeds Townscape. Any application for a tall building should consider associated Listed Buildings and the setting to listed buildings carefully. Demolition of listed buildings or proposals negatively affecting the setting of listed buildings will not normally be considered appropriate unless the significant public and aesthetic benefits would outweigh the harm.

6.3	In Conservation Areas any proposals should preserve or enhance the character and context of the Conservation Area. There are Conservation Areas within the city centre with significant views that need to be protected. The plan at the end of the document shows the Conservation Areas relating to the City Centre.
6.4	Non Designated Heritage Assets are buildings with significance but which are not designated. However, just because they are not listed does not mean that they can be ignored as relevant buildings to be protected. Particular advice can be given by the Local Planning Authority on a case by case basis.
6.5	The Council may require the applicant to provide a Heritage Statement as to how the applicant proposes to deal with Heritage issues and this will be expected to be submitted with the application prior. Advice can be given by the Local Planning Authority on a case by case basis as to the requirements for providing Heritage Statements.
6.6	The Local Planning Authority is able to offer advice to pre-application to applicants considering proposals. Early engagement with the Council is encouraged so that salient issues can be dealt with from the outset.
7.0	<b>Landscape</b>
	<b>Existing trees</b>
7.1	Existing trees should be retained and incorporated into any layout in accordance with Council policy. Young and mature trees are generally decades ahead of any new trees in terms of size and functionality so they are irreplaceable except with a long period of time. Existing trees offer immediate impact, public amenity and place making. They give a sense of maturity to any development and help to assimilate development into its surroundings.
7.2	The national code of practice for trees is encompassed in the British Standard BS5837. These guidelines state that a tree survey is a minimum requirement even at pre-application stage.



# Background Information

- 7.3

To safely retain an established tree the building line shall be set back 5m from the edge of the canopy or edge of the Root Protection Area (RPA) whichever is the greater. This allows for construction processes (including access, scaffolding etc.) and for drainage etc. This also allows for future growth of the tree with the avoidance of conflict with the building and provides for a maintenance gap.
- Amenity**
- 7.4

Roof gardens require good irrigation. Rather than using mains potable water, irrigation can be provided through rain water harvesting. This can count towards sustainability features. Roof gardens can contribute to bio-diversity.
- 7.5

Ground level amenity space must be positively located close to the building and fit for purpose, it must be usable for meaningful amenity. Residual areas of grass do not count towards amenity provision nor do areas in and around car parking. Air quality and proximity to traffic is a consideration for amenity space. Shadow effects from any surrounding blocks should also be considered at an early stage and not left as an afterthought because the correct orientation to catch the sun is critical. The opportunity “to go for a walk” around the place is also very important.
- Connectivity**
- 7.6

Outdoor space provision can be enhanced by ensuring good visitor/cycling connectivity to local features. Cycle parking must be positively located with good surveillance.
- Landscape Treatments and the Public Realm.**
- 7.7

Apart from the provision of amenity space the public realm must also be carefully considered. The streets surrounding tall buildings can be austere and uncomfortable for pedestrians due to the vast scales. The objective is to soften the experience on the ground level and make it more pleasant.
- 7.8

Active frontages can offer a positive way in which people can interact with the building. More intimate paving materials/ detailing and importantly street trees will also contribute to a human scale. The paving must be much wider than the standard 2.0m footway to have any affect especially when combined with active frontages. This is even more so if trees are to be incorporated. These are first principle considerations.

- 7.9

The Council provides guidance on Urban Tree Planting under Landscape Planning and Development. Trees perform best in natural ground with adequate soil and space dimensions. Trees in hard surfacing are more challenging. Underground load bearing soil cells must be used to provide the growing medium in such cases.
- 7.10

It is the policy of the Council to achieve the largest canopy trees possible in any given situation as they provide the best value in respect of Council policies for amenity, bio-diversity, air quality and climate change etc. Columnar type trees are therefore not supported unless there is some considerable overriding justification. Space must be given to provide for spreading canopy type trees.
- 7.11

Trees should be set back from the side of the highway in the region of 1.5m but every situation is different and this needs to be checked on a case by case basis. Services must be considered early in the project as this can be a major constraint. The standoff from the tree stem to the building line must be at least 6m to achieve the provision of medium sized trees whilst allowing a 2m gap between building and tree canopy for maintenance. These dimensions can vary according to the particular circumstances and the type of trees intended. The applicant will be required to enter into a section 38 agreement for the works as necessary to protect trees and landscape in adopted highways, such as verges.
- Services**
- 7.12

Conflicts between tree roots and services (such as drainage runs/tanks, water supply, electrical supply etc.) in a scheme often results in the elimination of trees and landscape features late in a scheme due to the lack of co-ordination between the design consultants. In order to avoid this then details of service routes (existing and proposed) must be provided in tandem with the details of landscape proposals for the application.
- 7.13

The Council is able to offer advice to applicants considering proposals. Early engagement is encouraged so that salient issues can be dealt with from the outset.

- 8.0 Ecology**
- 8.1

Tall buildings adjacent to rivers and canals may cast shade which will have an adverse impact on aquatic plants and other aquatic organisms (such as freshwater algae and sponges). Through the centre of Leeds is the River Aire and the Leeds-Liverpool Canal, which is an important part of the Leeds Habitat Network and partly a SSSI (Site of Special Scientific Interest) designated mainly for its aquatic plant assemblage. Buildings should be assessed for their contribution to shading on water features and set back sufficiently from rivers and canals to avoid adverse impacts.
- 8.2

Features for urban nesting birds such as Peregrine Falcon, Swifts and House Martins will be encouraged.
- 8.3

Buildings must avoid creating a negative impact on local flora and fauna especially if adjacent to a wildlife corridor as these are used by many species as a habitat and movement resource.
- 8.4

The Council may also require separate ecological analysis and reports and the requirements should be discussed with the Local Planning Authority.
- 9.0 Transport and Highways**
- 9.1

Applicants should refer to the Council's Transport SPD's for guidance.
- 9.2

Applicants may be required to submit a Transport Assessment and a Travel Plan to demonstrate mitigation of impact on the highway network and promote more sustainable modes of travel.
- 9.3

Any parking for tall buildings will be expected to be within the building, usually in the basement. Safe and controlled access to basement parking will be required and this should not lead to queuing traffic on the highway.
- 9.4

Applicants should ensure easy access by non-car modes of travel, such as walking, cycling and public transport.
- 9.5

Applicants and their contractors will also be expected to submit their proposals regarding construction traffic activity and limiting its impact on the local infrastructure. This should be submitted with the application. Applicants and developers will need to pay the full costs of relocating bus stops during construction and back to their original position.

- 9.6

Depending on location for tall buildings then suitable car parking needs will have to be provided for. The quantity required will be agreed with the Council prior to commencement of the works.
- 9.7

Suitable space should be provided around the building for the buildings servicing requirements. This will include short term parking for waste collection and short stay visitors.
- 9.8

The Council prefers that high density development is near to major transport routes and interchanges. Developers may be requested to fund new infrastructure and other local transport and parking objectives.
- 9.9

The Local Planning Authority can offer advice regarding specific proposals.
- 10.0 Sustainability and Climate**
- Wind**
- 10.1

Appropriate mitigation in the form of wind diffusers, podium buildings, large canopies and appropriate building massing should be considered to prevent excessive wind speeds. Design for wind mitigation is a specialist area and advice should be sought from experienced practitioners.
- 10.2

Any permanent structures and measures to mitigate wind issues should be located outside the highway boundary, wholly within the applicants land and maintained by the applicant.
- 10.3

In nearly all cases the applicant will be expected to provide a quantitative wind study report to fully ensure safe wind conditions in and around the building. Wind conditions need to be suitable for the expected purpose all year round and safe for all users and passers-by (including elderly, infirm and cyclists / motorcyclists). The scope of the wind study should extend to the full zone of influence of the building including land within the public highway and cover the impacts on all users of that space (including pedestrians, cyclists and motorists). This will be independently verified (at the applicants' expense).

- 10.4

Wind mitigation measures should not include trees or soft landscape. Full details of the relevant wind study and methods required can be found in the Leeds City Council Wind and Microclimate Toolkit. Full details of the requirements can be obtained from the Local Planning Authority.
- 10.5

Energy conservation and sensitivity to environmental issues are primary concerns for the Council. Tall buildings present opportunities for implementing sustainable principles and practices. Well-designed tall buildings can be more sustainable than other buildings because of a more efficient use of limited land. Technological advances can also make tall buildings environmentally sustainable and operational.
- 10.6

The Council will always encourage a sustainable approach to design. Some of the factors that would be supported are:
- Location

10.7

The Council would encourage the use of existing brownfield sites. Use of available land in prestigious locations and brownfield sites will assist in maintaining a compact city. It will also encourage efficient land use.
- Orientation of Proposals

10.8

With sustainability the Council would expect that tall buildings are first located close to good public transport. Sustainable principles also encourage having groups of tall buildings sited around public transport nodes as this will improve the efficiency and sustainability of public transport as well as reducing car journeys and congestion.
- Relationship with other tall buildings

10.9

Individual tall buildings can be ideally suited to capturing wind, heat and light energy from the sun and the aim should be to create low energy footprints
- 10.10

Second and third towers in groups are always liable to be in the shadow of the each other. This can affect some sustainable issues and could have adverse effects if not considered at the outset.

11.0 Safety and Servicing

- 11.1

The applicant and the developer must ensure they have adequate measures in place in respect of safety and security. The Council offers advice only insofar as it wishes to encourage designers and developers to consider the safety issues at an early stage so that any design can incorporate security measures, such as cameras, at the outset. The Local Authority Police Architectural Liaison Officer, through the Local Planning Authority, should be contacted early in the design stage as they are able to offer advice to help mitigate any probable issues.
- 11.2

Controlled access to buildings and the safety of the users of all buildings is important. This is especially true for tall buildings be they commercial or residential buildings. There may be many users and the safety of knowing familiar people is not applicable due to the high numbers of transient users. The Council’s Police Architectural Liaison Officer can help with advice on specific proposals. Some general advice is as follows:
- 11.3

The Police and Secured by Design require a robust security plan in place which is also constantly monitored to mitigate possible criminality in high rise living accommodation.
- 11.4

A tall building is exposed to all the normal security risks of a street-level structure including crime, vandalism, and disturbances. But, the uniqueness of its physical stature calls for a different protection approach. Tall buildings house a high population in a concentrated area. Movement is restricted to elevators and stairwells. Limited entrances and exits cause another safety concern. The amount of people and numerous corridors provide anonymity for criminals. From underground garages to the roof, a successful tall building security plan tackles challenges literally from the ground up.
- 11.5

The security plan for these tall buildings should include the following:
- Onsite security and encourage resident guardianship

•

‘Air lock’ type security door access to stop/reduce tailgating. Provision of video and intercom facilities to control access.

•

External secure bin storage areas that are locked and secure covered by CCTV and well illuminated.

- Internal cycle storage area with SR 2 rated door with the equivalent locking system-CCTV covered and secure anchor points.

•

Removal of all areas that would encourage anti-social gathering.

•

CCTV covering all entrances. This would include all lifts and all lift exits on all floors. There should be extensive coverage to external areas and around parking bays.

•

Higher artificial lighting levels where required and consistency of coverage to ensure no dark shadowed areas. Higher levels of lighting should always be used over access footpaths.

•

Provide active ground floor frontages and a good defensible space around the perimeter of the site.

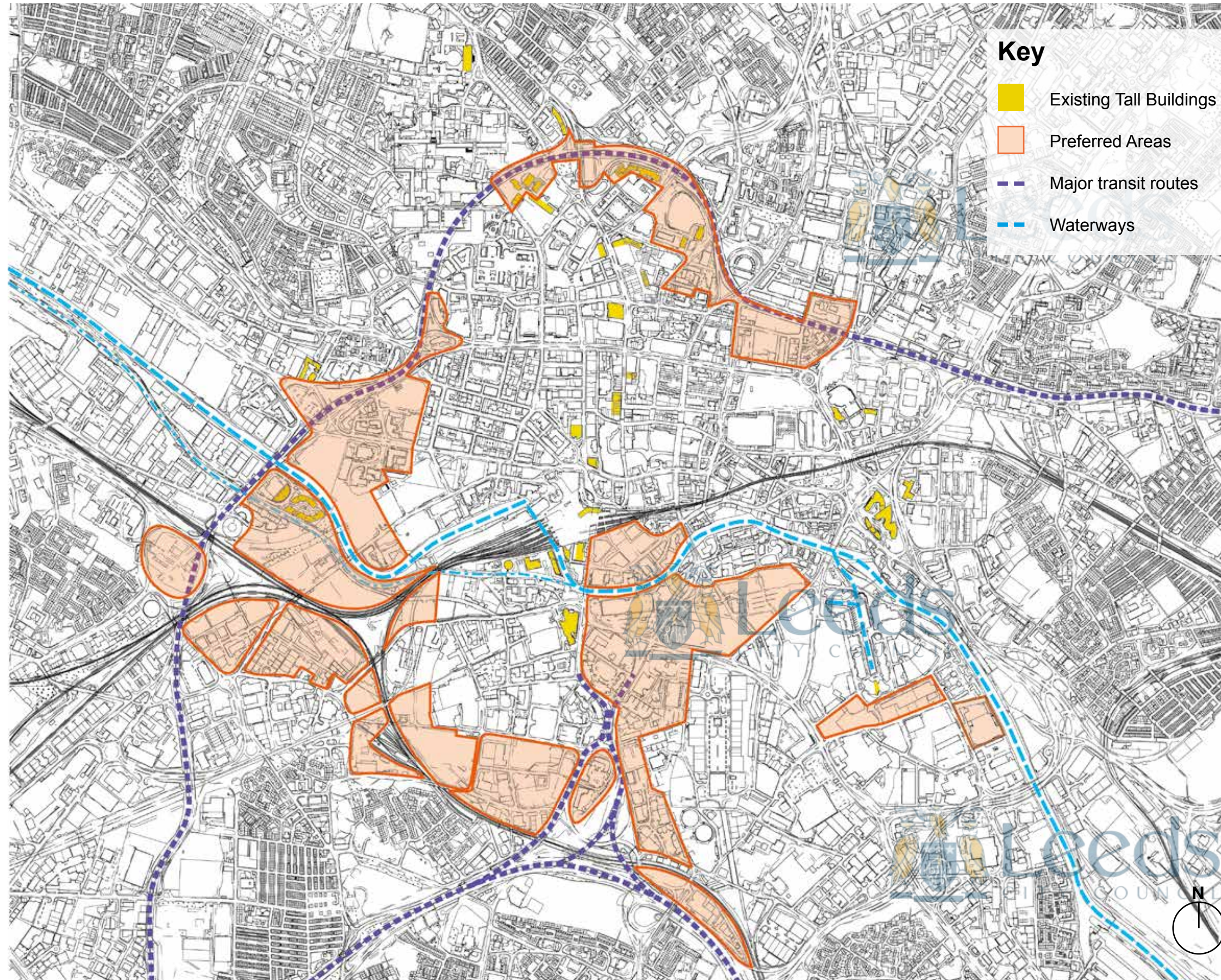
•

Signage should be clear and concise around the whole site both externally and internally.
- 11.6

For commercial tall buildings then many of the same issues of security arise. Controlling access and protecting users’ also needs a robust security plan and constant monitoring of the plan. Tall commercial buildings may contain multiple commercial tenants and each with different unrelated staffing requirements. Each building may well have its own particular requirements depending on numbers and usage. The security plan for each building should consider the same issues as indicated above for residential buildings. It is recommended that the applicants contact the Council’s Police Architectural Liaison Officer who can help with advice on specific proposals. This should be done initially through the Local Planning Authority. During the course of the application the Local Planning Authority may well consult the Police Architectural Liaison Officer for their comments.



# City Centre Preferred Areas Plan

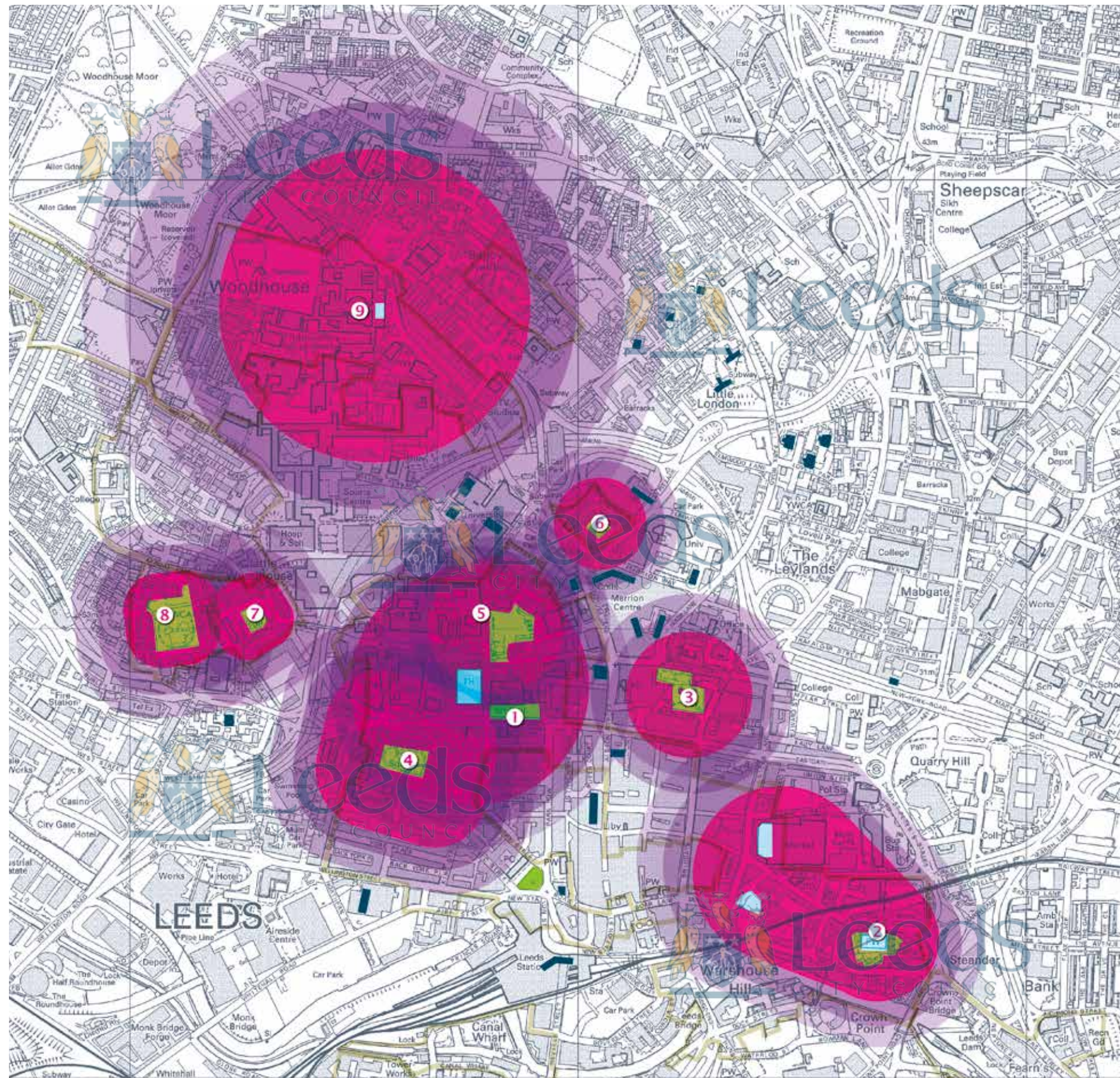


## Notes

Within the Preferred Areas not all sites may be suitable for the location of Tall Buildings. On some sites it may not be possible to deliver Tall Buildings depending on site specific factors and the immediate context.



# Sensitive Zones



The following composite plan shows the zones and sectors which have been identified for special consideration in order to protect important silhouettes, skylines, buildings, street scenes, vistas and public spaces from the visual impact and physical proximity of tall buildings. These zones are:

1. Leeds Town Hall and Victoria Square including The Garden of Rest
2. Leeds Parish Church of St. Peter, Corn Exchange and Leeds Market
3. St. John's Gardens and St. John's Church
4. Park Square
5. Millennium Square
6. Queens Square
7. Hanover Square
8. Woodhouse Square
9. Leeds University Parkinson Building 1936

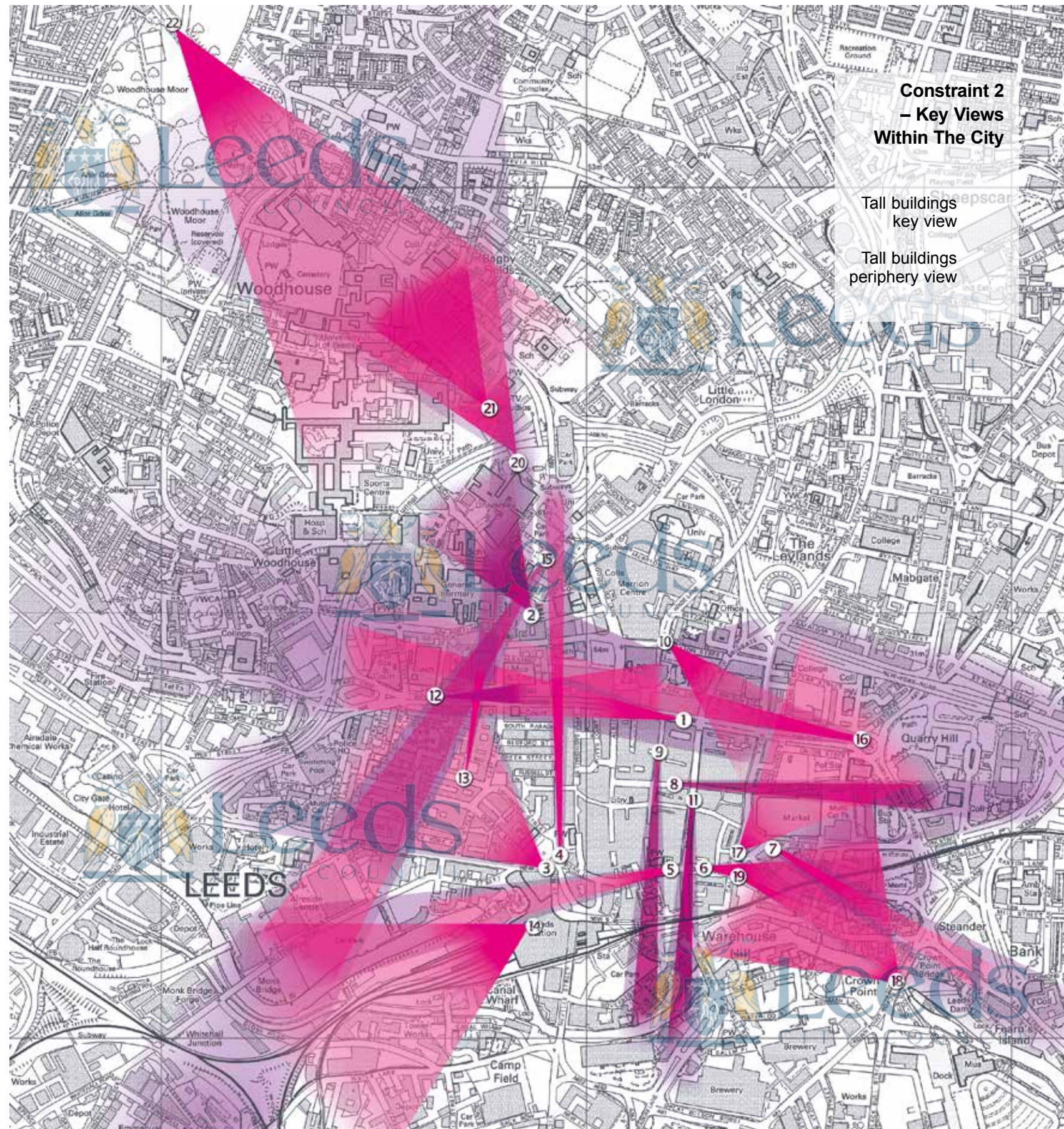
## Sensitivity Zones

### Key Strategic Principles

- Locate tall buildings in the right place, to integrate them into and make them compatible with their surroundings.
- Enhance skylines, views and settings.
- Protect and preserve areas of special character and interest, principal views across the city and historic skyline.
- Ensure that new tall buildings have a good relationship with the street, movement patterns and transport facilities, creating high quality public space at the same time.
- Ensure that tall buildings assist in the legibility of the city and contribute strongly to a sense of place.
- Promote the highest design quality for tall buildings and their composition resulting in a distinctive, recognisable, "this could only be Leeds" skyline.



# Key Views



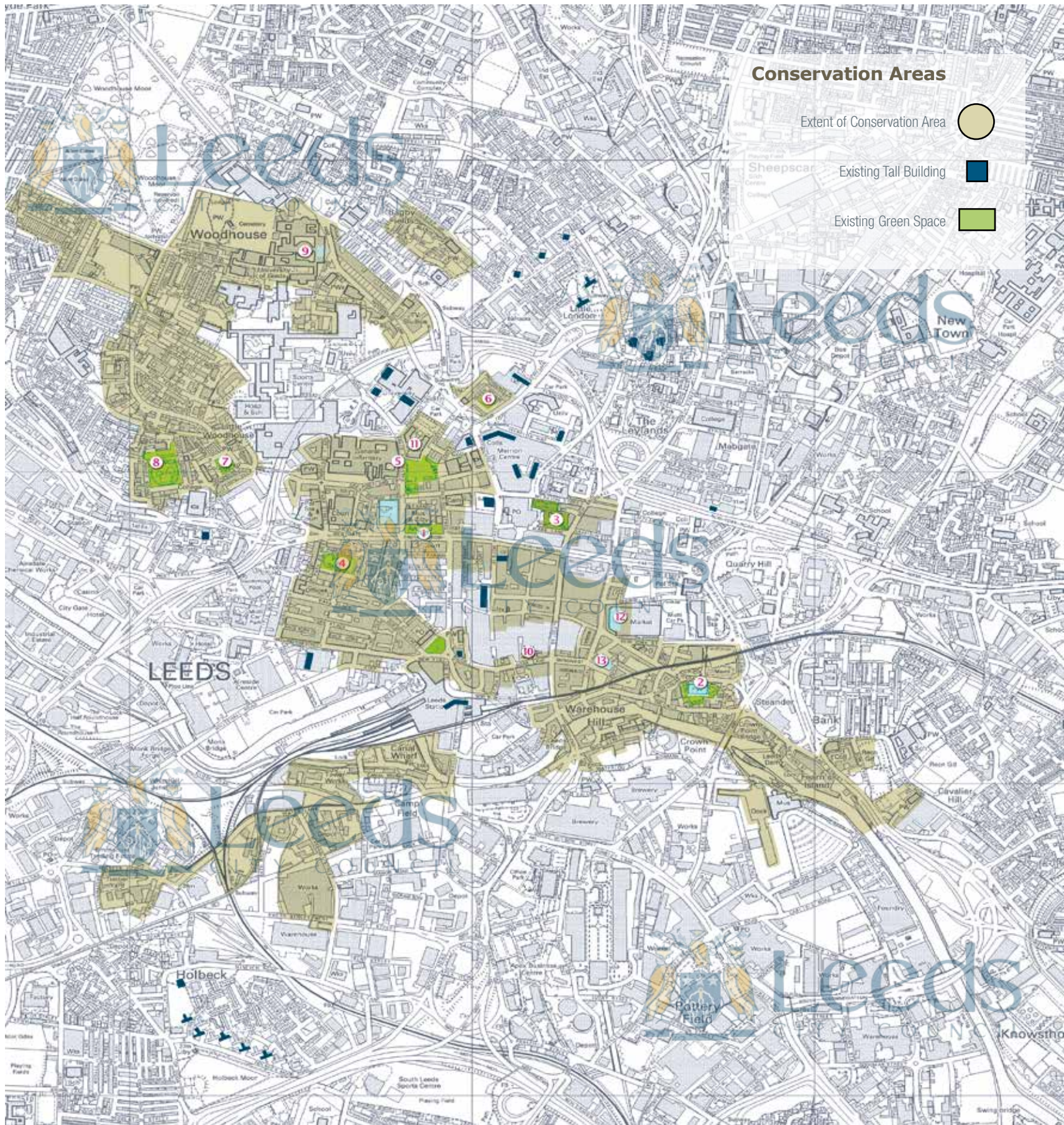
## Key Views Criteria

The following key views will be considered when processing applications. The sky background will be critical to the visual quality of these views. Consequentially the introduction of tall buildings within the sky background of these views is likely to have a negative townscape impact. Applicants with proposals for tall buildings within these views will be required to produce visuals of the proposals from verified camera views agreed with the Planning Service.

- 1 The Headrow - View West from Briggate
- 2 The Civic Hall - view from Millennium Square
- 3 City Square - view North East
- 4 Park Row - Looking North towards St. Anne's Cathedral
- 5 Boar Lane - Looking West from Holy Trinity Church
- 6 Boar Lane - Looking East towards Corn Exchange
- 7 Kirkgate - Looking East towards Leeds Parish Church
- 8 Albion Place / Commercial Street - Looking East towards Leeds Market
- 9 Lands Lane - Looking South towards Holy Trinity Church
- 10 Merrion Street - Looking towards St John's Church
- 11 Briggate - Looking South
- 12 Westgate - Looking east towards The Headrow
- 13 Park Cross Street - Looking north towards Town Hall
- 14 Leeds Station Concourse - Looking towards Tower Works
- 15 View of Town Hall - Looking down Portland Crescent
- 16 Eastgate - Looking West
- 17 Vicar Lane - Looking towards Leeds Market Buildings
- 18 Crown Point Bridge - River View West
- 19 View down Cloth Hall Street
- 20 Parkinson Tower - View north along Woodhouse Lane
- 21 Woodhouse Lane - View of spires
- 22 Hyde Park Corner - View of Parkinson Tower



# Heritage and Conservation Areas



## Heritage Criteria

Much of Leeds City Centre has designated Listed Buildings of significant historical value. The preservation of these buildings and their respective settings is paramount to the Authorities townscape objectives. Leeds has also many designated Conservation Areas and these too are of importance. The Authority will always seek to preserve and enhance these Conservation Areas. Tall buildings designed inappropriately without due regard to the surrounding context make bad neighbours in the historic and traditional townscape. Tall buildings, for example, do not usually sit comfortably in areas with a fine urban grain and historic street pattern. Leeds City Council will demand the highest design standards, considerations and sensitivity to safeguarding the Listed Buildings, settings to Listed Buildings and the preservation and enhancement of Conservation Areas where any proposal is put forward. This is especially the case when Tall Buildings are proposed.

Any new buildings in the Conservation Area should be within approximately a storey height of their neighbours. Proposals which are higher than existing buildings will be treated on their merits. Proposals should ensure that no detrimental effect occurs on the street scene and roof line/silhouette and key views are not undermined. Any new development should respect the Listed Buildings and Conservation Area context in terms of scale, massing and choice of materials. Leeds City Council regards the historic skyline as an important visual asset exhibiting a special character and distinctiveness. Proposals for tall buildings should respect this skyline.

The relevant Conservation Areas are shown on the enclosed map.

## Landmark buildings and important settings

- 1 Town Hall
- 2 Parish Church
- 3 St John's Gardens
- 4 Park Square
- 5 Millennium Square
- 6 Queen Square
- 7 Woodhouse Square
- 8 Hanover Square
- 9 Parkinson Tower
- 10 Holy Trinity Church
- 11 Civic Hall
- 12 Leeds Market
- 13 Corn Exchange





**For more information, please contact:**

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**Draft Tall Buildings Design Guide SPD**

Leeds Local Plan Supplementary  
Planning Document  
**June 2019**

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# Draft Wind & Micro-climate Toolkit for Leeds

June 2019



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Prepared by RWDI exclusively for Leeds City Council

December 2018

# WIND MICROCLIMATE TOOLKIT

## 1. INTRODUCTION

- 1.1. This document provides general guidelines for wind microclimate studies required as part of the planning applications of new development proposals within the Development Plan bounds of Leeds City Council (LCC).
- 1.2. Good wind microclimate conditions are necessary for creating outstanding public spaces. Adverse wind effects can reduce the quality and usability of outdoor areas, and lead to safety concerns in extreme cases.
- 1.3. These guidelines focus on the primary factors that affect the quality and consistency of wind microclimate studies. The guidelines cannot cover every eventuality that may arise in such studies. Therefore, expert judgement from an experienced wind engineer will always be required in wind microclimate studies, particularly for issues that are not explicitly covered by these guidelines.
- 1.4. Developers are encouraged to address wind microclimate matters at an early stage before their designs are finalized. Using these guidelines, appointing experienced consultants, having dialogue with officers of LCC and commissioning early-stage studies to quantify the wind microclimate conditions will help ensure good pedestrian comfort conditions around proposed development sites.
- 1.5. It is noted that these guidelines are provided for information only. Developers and design teams should use their experience, know-how and judgement in the most appropriate use of these guidelines for their schemes.
- 1.6. These guidelines may be updated from time to time, so readers should check the LCC web site (<https://www.leeds.gov.uk/>) to ensure that the latest version of the guidelines are used.

## 2. RECOMMENDED APPROACH FOR WIND MICROCLIMATE STUDIES

- 2.1. The table below outlines the general expectations for the types of wind microclimate studies required for various building heights.
- 2.2. The table does not apply to all developments. For example, developments that feature highly sensitive pedestrian activities (e.g. transport hubs, hospitals, etc.) or those that are located near known windy or exposed areas (e.g. edge of River Aire, or edge of a large park) may require more detailed checks. The wind consultant should use his/her judgement to determine whether the project they are working on has features that require extra care and attention.
- 2.3. Leeds has clusters of medium-rise and high-rise buildings spread around the city at various locations. The Leeds Tall Building Design Guide provides more information about these and potential future tall building cluster areas. In general, the taller blocks are (or will be) surrounded by 4-5 storey (12-20m high) buildings, apart from edge-of-city zones where the surrounding building stock can be 2-3 storeys (6-12m).

Building Height	Recommended Approach to Wind Microclimate Studies
Up to 15m in Leeds	Wind studies are not required, unless sensitive pedestrian activities are intended (e.g. around hospitals, transport hubs, etc.) or the project is located on an exposed location (edge of a large park) or near another tall building
15m to 30m in Leeds	Computational (CFD) Simulations <b>OR</b> Wind Tunnel Testing
30m to 60m for Leeds	Computational (CFD) Simulations <b>AND</b> Wind Tunnel Testing
Above 100m	<b>Early Stage Massing Optimization:</b> Wind Tunnel Testing <b>AND</b> Computational (CFD) Simulations  <b>Detailed Design:</b> Wind Tunnel Testing <b>AND</b> Computational (CFD) Simulations to demonstrate the performance of the final building design



### **3. GENERAL TECHNICAL REQUIREMENTS**

- 3.1. The wind study should include the evaluation of pedestrian-level wind conditions for following scenarios;
- Existing site,
  - Proposed scheme with existing surroundings,
  - Proposed scheme with planning consented schemes,
  - Existing site with planning consented schemes, should the wind conditions for the previous case (3.1.3) exceed the required Lawson comfort categories (see section 7.1 of this document for more information regarding the Lawson Criteria),
  - (If mitigation measures are deemed to be required by the wind consultant), The cases above (3.1.2 and 3.1.3) with wind mitigation or improvement features,
  - (If applicable or requested by LCC) Proposed scheme with a likely future scenario, including buildings that may not be consented but are being designed at the time of planning submission. Discussion with planning officers can help identifying such future buildings.
  - (If applicable or requested by LCC) The construction scenario with a demolished (vacant) site, especially if the existing building is taller than 30m in height.
- 3.2. When choosing which schemes to include in the wind studies, the planning consultants should liaise with LCC officers, and use the following guidelines;
- Consented/future buildings that are immediately around the proposed development must be included, regardless of their height,
  - Consented/future buildings that are taller than the average height of surrounding buildings and are within 300m of the site need to be included.
- 3.3. Information for consented buildings is publicly available at LCC planning portal. LCC planning officers can provide guidance on future schemes and assist in obtaining information for such schemes (if any).
- 3.4. There are four key steps to a successful wind microclimate study;
- Selecting appropriate wind statistics for the site (see Annex A),
  - Determining the impact of the proposed development, through computational fluid dynamics (CFD) tools or wind tunnel testing, to obtain a set of 'speed-up' ratios in a

wide area around the site, including the highways and public walkways around the site,

- Combination of speed-up ratios with wind statistics, to obtain comfort ratings,
- Comparison of comfort ratings with intended pedestrian activities using appropriate criteria (see section 7.1 of this document for more information on the Lawson criteria), interpretation and presentation of results, which is covered separately in Chapter 7 of this document.

3.5. **WIND CHARACTERISTICS:** Statistical properties of wind climate are typically characterized by a Weibull probability density function. Annex A provides seasonal Weibull coefficients that can be used for projects in Leeds City Centre (i.e. terrain corrected for Leeds). For projects on more exposed parts of Leeds – e.g. next to large open spaces – an adjustment to these coefficients is required to take account of the site exposure, as described in Annex A. These climate properties have been calibrated for Leeds.

3.5.1. **NUMBER OF WIND DIRECTIONS:** All wind studies should be carried out for a minimum of 18 equally spaced wind directions. Consultants may wish to consider more wind directions if in their expert opinion there could be particular wind directions that could give rise to adverse wind effects.

3.5.2. **WIND PROFILE:** The variation of mean and gust wind speed with height should be modelled based on the wind profiles given in Annex A. Plots of simulated (wind tunnel or CFD) and targeted profile (Annex A) should be provided as part of the planning application.

3.6. **DETERMINATION OF SPEED-UPS:** Computational fluid dynamics (CFD) tools or wind tunnel tests should be used to determine speed-up ratios for each individual wind direction. Speed-ups are defined as the ratio of local wind speed at pedestrian-level locations to the undisturbed reference wind speed. The pedestrian-level wind speeds should be measured at a height of 1.5m above the local ground level (or terrace/balcony level), and the reference wind speed should be determined at a height and location where the building models do not affect the reference speed measurement.

- 3.7. **MEASUREMENT LOCATIONS:** Critical pedestrian-level locations include building entrances, walkways, sitting areas, drop-off locations, bus stops, disabled parking bays, queuing areas, upper-level terraces, balconies, and other frequently used locations. The consultant should use expert judgement to ascertain the extent of the area to instrument and report.
- 3.8. **COMBINATION OF SPEED-UPS WITH WIND STATISTICS:** Using CFD or wind tunnel testing, a set of speed-ups will be determined for each wind direction simulated. These need to be combined with the Weibull probability distribution of the wind climate given in Annex A, to calculate the probability of exceedance of a given wind speed for each wind direction. Adding the probability of exceedance for all directions gives the total probability of exceedance of a given wind speed.
- 3.9. The estimation of comfort or safety speed usually requires a goal-seek calculation, where a certain wind speed is selected, the total probability of exceedance is calculated, and the wind speed is continually altered until the probability of exceedance reaches the desired exceedance value. Note that the Lawson criteria – described in section 7.1 of this document - uses 5% exceedance for comfort and 0.022% exceedance for safety limits, as described subsequently.

## **4. WIND TUNNEL TEST REQUIREMENTS**

- 4.1. Wind tunnel testing has been used to assess pedestrian microclimate conditions for the past several decades. However, significant variability in methodology can exist between different test facilities, and care should be taken to ensure the quality and consistency of wind tunnel tests.
- 4.2. Wind tunnel models should accurately represent the three-dimensional geometry of the proposed development. It is noted that building features that project more than 0.5m near pedestrian areas can affect the localized wind conditions, and must therefore be modelled for the proposed building and existing buildings immediately around the site. Also, building geometry near entrances and key pedestrian areas could affect the results and must be included in the models.
- 4.3. It is prudent to ignore landscape features in the baseline wind studies, especially when the landscape elements are smaller than 8m in height. Larger mature trees can be included, but limited published guidance exists for modelling such landscape features, so care should be taken to provide appropriately conservative interpretation of their impacts.
- 4.4. The wind tunnel models should represent all surrounding buildings that are within 300m from the centre of the site. Other taller buildings outside of this zone that could have an influence on wind conditions within the project site – based on the expert opinion of the wind consultant – should be included for wind directions where they are upwind of the project site.
- 4.5. The overall blockage in the wind tunnel (percent of tunnel area occupied by models) should be kept below 5% for closed-circuit wind tunnels and 8% for open-jet or blockage tolerant wind tunnels (in accordance of published wind tunnel testing guidelines such as ASCE SEI and AWES QAM).
- 4.6. The instrumentation used in the wind tunnel should be capable of capturing both the mean (typically 10-15 minute averaged) and gust speeds, with gust values divided by 1.85 to make them comparable to mean values (also referred to as Gust Equivalent Mean value). Instrumentation should not be blocked or impeded by the models.
- 4.7. Care should be taken to ensure that in areas with significant localized variation of wind speed (e.g. near corners) that there are sufficient number of probes to be able to

capture the windiest conditions. This typically requires 3 probes at each corner of the proposed development, in areas of increased windiness, and increased probe densities in passageways, between closely spaced buildings, and near key pedestrian areas. Furthermore, probes should be placed on the roadways surrounding the site, to capture possible impacts on cyclists and pedestrians at road crossings.

- 4.8. Probes should also be placed in areas away from the site where cumulative effects of a cluster of tall buildings could lead to adverse wind conditions. The wind consultant should be aware of the wind conditions expected around other cumulative or existing high-rise buildings, by reviewing the publicly available planning applications for major projects near the site, available on the LCC planning portal.

## 5. CFD REQUIREMENTS

- 5.1. Computational fluid dynamics (CFD) tools can create high quality output that provide a good understanding of fundamental flow features. However, significant variability in methodology can exist between different CFD methods and care should be taken to ensure that appropriate modelling approaches are used.
- 5.2. The CFD models must include a detailed three-dimensional representation of the proposed development. It is noted that building features that project more than 0.5m near pedestrian areas can affect the localized wind conditions, and must therefore be modelled for the proposed building and existing buildings immediately around the site. Also, building geometry near entrances and key pedestrian areas could affect the results and must be included in the models.
- 5.3. It is prudent to ignore landscape features in the baseline wind studies, especially when the landscape elements are smaller than 8m in height. Large mature trees can be included, but limited published guidance exists for modelling such landscape features, so care should be taken to provide appropriately conservative interpretation of their impacts.
- 5.4. Maximum cell sizes near critical locations (e.g. entrances, corners, etc.) must be 0.3m or smaller. It is also expected that sufficient cells are used between buildings with a minimum of 10 across a street canyon. However, the cell size of buildings away from the target can be larger to allow for modelling efficiency.
- 5.5. The CFD models should represent all surrounding buildings that are within 300m from the centre of the site. Other taller buildings outside of this zone that could have an influence on wind conditions within the project site – based on the expert opinion of the wind consultant - should be included for wind directions where they are upwind of the project site.
- 5.6. The models must contain at least 3 prism layers below 1.5m height, to capture near-ground effects.
- 5.7. The standard k-epsilon model, or 0 or 1 equation models, should be avoided. The realisable k-epsilon model is currently a robust industry standard, and other turbulence models - such as k-omega SST - can be used if the user can demonstrate that the mesh is suitable for that model.

- 5.8. CFD analysis should report conditions in areas away from the site where cumulative effects of a cluster of tall buildings could lead to adverse wind conditions. The wind consultant should be aware of the wind conditions expected around other cumulative or existing high-rise buildings, by reviewing the publicly available planning applications on the LCC planning portal.

## 6. USING WIND TUNNEL and CFD IN COMBINATION

- 6.1. On some projects (as set out in the table in section 2.4 of this document) wind tunnel testing and CFD are both required for a more comprehensive evaluation. In these situations, two aspects need to be considered;
- It is possible to use the two tools to get a more comprehensive understanding of wind effects around a site. For example, CFD results can guide the placement of wind tunnel probes, or highlight the mechanisms of the fundamental wind patterns which can then be further studied in the wind tunnel. Similarly, the transient data collection provided by the wind tunnel tests may identify areas of high turbulence (gusts) which could inform the type of detail of CFD modelling.
  - Where there are differences between wind tunnel and CFD results, an experienced wind engineer should carry out sensitivity checks (e.g. grid sensitivity, surround extend sensitivity, turbulence generation in the wind tunnel, etc.) to better understand the likely reasons for the differences and summarize the most representative set of wind conditions around the proposed scheme.

## 7. PRESENTATION OF RESULTS AND REPORTING

- 7.1. **WIND COMFORT CRITERIA:** A modified version of the Lawson LDDC criteria is to be used for all wind studies as summarized table below;

Category	Mean and GEM wind speed (5% exceedance)	Description
Frequent Sitting	2.5m/s	Acceptable for frequent outdoor sitting use, e.g. restaurant, café.
Occasional Sitting	4m/s	Acceptable for occasional outdoor seating, e.g. general public outdoor spaces, balconies/terraces intended for occasional use, etc.
Standing	6m/s	Acceptable for entrances, bus stops, covered walkways or passageways beneath buildings.
Walking	8m/s	Acceptable for external pavements, walkways.
Uncomfortable	>8m/s	Not comfortable for regular pedestrian access.



- 7.2. The table above deviates from the original Lawson criteria in a couple of areas,
- The 'Frequent Sitting' category is based on review of other sitting-type criteria in literature, and a desire to create much more 'active' public spaces with more cafes/restaurants in the future.
  - The 'Uncomfortable' category is based on experience that Lawson Business Walking conditions often lead to complaints. Therefore, this category is now re-named as 'uncomfortable'. This category is only suitable for areas that are not expected to receive regular public footfall, like service areas, back-of-house areas, etc.
  - Discussions with LCC planning officers about the categorisation of sensitive areas would be highly recommended.

7.3. **WIND SAFETY CRITERIA:** A separate safety criteria is to be applied to ascertain the safety risks to pedestrians and cyclists as follows;

Category	Mean and GEM wind speed (0.022% exceedance)	Description
Unsafe	15m/s	Presents a safety risk, especially to more vulnerable members of the public and cyclists.

- 7.4. The criteria do not cover wind effects on other activities such as recreation (e.g. concerts, sports, water sports, etc.) or impact on vehicles.
- 7.5. **SEASONAL RESULTS:** A 'worst season' scenario should be presented, where the worst comfort conditions at each location are provided regardless of the season. Separately a summer season (June-July-August) results should be presented, for areas that are to be used mainly in warmer months of the year. Other seasonal results can be provided at the discretion of the wind consultant.
- 7.6. Safety conditions should be reported using annual wind statistics.
- 7.7. **PRESENTATION OF RESULTS:** The comfort conditions should be presented using a colour-coded diagram using the colour coding below. A separate plot showing the safety conditions must be provided, in addition to the comfort plot.

Comfort Category	Colour
Frequent Sitting	Grey
Occasional Sitting	Blue
Standing	Green
Walking	Yellow
Uncomfortable and/or Unsafe	Red

- 7.8. **Acceptability of Wind Conditions:** A detailed review of the intended pedestrian activities around the site should be carried out, and graphically presented and described in the planning submission. This should include the expected pedestrian activities around the proposed development, as well as the pedestrian activities experienced or proposed around existing buildings in the area. If the conditions at any location exceed the levels required for the intended pedestrian activities - or are unsafe - because of the impact of the proposed development, mitigation measures will be required.
- 7.9. **Existing Wind Problems:** If the existing site or the consented schemes give rise to exceedances of the comfort or safety criteria for the intended pedestrian uses, this should be clearly demonstrated by testing these configurations (i.e. without proposed scheme). The proposed development should not increase the comfort or safety conditions beyond the levels observed for these scenarios. Also new pedestrian uses should not be put in existing locations which exceed the comfort criteria for that new pedestrian use.
- 7.10. **Presentation of the Test Configurations:** The report should contain detailed photographs or images of the 3D CFD or wind tunnel used in the analysis. This is expected to include;
- 7.10.1. Far-field views of the entire model from north, south, east and west as a minimum,
- 7.10.2. Plan view of the entire model,

- 7.10.3. Close-up images of the proposed scheme and surrounding buildings within 50m from the site,
- 7.10.4. Close-up views of key pedestrian areas, such as entrances, key pedestrian walkways, outdoor seating areas, etc.,
- 7.10.5. Other building details or appendages that are relevant for wind conditions.

**7.11. Presentation of Mitigation Measures:** The following details of each mitigation measure or improvement feature should be provided;

- 7.11.1. Plan showing the location of each mitigation measure, with each measure given an identifier number,
- 7.11.2. Images of each mitigation measure as tested in the wind tunnel or CFD model (preferably accompanied by an architectural diagram/interpretation),
- 7.11.3. Table containing the size (height, width, depth), porosity and other relevant aerodynamic parameters.
- 7.11.4. These requirements apply even if the design feature is not materially categorized as a mitigation measure, but helps improve the wind conditions. It is intended that all features that improve the wind conditions become an intrinsic part of the building design and are fully implemented on-site and cannot be removed without consideration of the wind issues.

## 8. Annex A : Wind Climate Properties

### Introduction

The parameters in the tables below should be used to generate a statistical model of the wind frequency (by speed and direction) for Leeds. Please note that these parameters have been scaled specifically to account for the terrain in Leeds City Centre, and are not valid for use in edge-of-town areas or sites near large open areas (edge of park, edge of River Aire, etc.).

### Usage

Parameters  $c$  and  $k$  are the scale and shape factors respectively for use in calculating a Weibull probability distribution. Parameter  $p$  is the probability that wind will approach from a given direction. These parameters can be used in combination with the measured local wind speeds from a wind tunnel test or CFD simulation to determine the probability of exceeding a given wind speed at a given measurement location during a given season.

Probability of exceedance at a given location (for comparison against the modified Lawson criteria) is calculated as follows. For each measurement location:

- 1) Measure the local wind speed for each wind angle using wind tunnel testing or CFD simulation, and express this speed as a ratio over the wind speed at a known reference height upwind of the site;
  - a. Note: the reference height should ideally be greater than 100m above the ground, and should be sufficiently far upwind so as not to be directly influenced by the modelled surrounding buildings.
- 2) Multiply the wind speed ratio by the factor in **Table 1** corresponding to the chosen reference height.
  - a. Note: the probability distributions have been scaled to reference height of 120m above ground, hence the factor in **Table 1** for 120m is equal to 1.
  - b. Note: for reference heights not specified in **Table 1**, you may interpolate between the specified values.
- 3) Multiply the factored wind speed ratio for each angle by the corresponding parameter  $c$  in **Table 2** (or use Table 3 if using more than 18 wind directions). Repeat for each season and annually.
- 4) For each angle, calculate the probability of exceedance of each threshold in the criteria (using the parameters for each season for comfort, and using the annual parameters for the safety threshold) using the following formula:

$$f(x) = p \cdot e^{-\left(\frac{x}{c}\right)^k}$$

And sum across all angles to arrive at the total probability of exceedance for that season.

- a. Note: alternatively, you may choose to calculate the wind speed  $x$  exceeded for 5% and 0.022% of the time. In this case please note that the wind speed should be calculated for a total probability across all wind angles, and not for individual angles. This would likely require a “goal seek” or “solver”-type method, depending on how and in what programming language the calculation is implemented.
- 5) Compare the seasonal results against the comfort criteria to determine the suitability of the location in terms of comfort, and the annual result against the safety criterion to determine whether the location is safe or not.
- a. Note: if both mean and gust-equivalent mean velocities have been measured (as in the methodology for wind tunnel testing, set out in the main document), then this process should be repeated for both sets of velocities. The worse category of the two assessments should be taken to determine comfort and safety.

## **Background**

These probability distributions have been developed based on an amalgamation of historical data from Church Fenton and Leeds Bradford Airports. Both data sets have been checked for data quality, with erroneous data points being removed from the set prior to fitting a Weibull distribution curve.

It is important to note that the directionality of the wind speed data from the two airports varies, possibly due to the large-scale effects of the hills and higher ground to the southwest of Leeds. Discussion with major wind consultants in the UK indicated that majority of consultants use both sets of airport data and choose the worst-case results. Amalgamation of the two airport data sets will provide a similar approach.

LCC may update the wind statistics in the future if reliable City Centre data can be used to correlate the airport data sets.

Data from each airport has been corrected to “open country” conditions at 10m height, to account for the effects of nearby terrain, using the methodology set out in ESDU 01008. The terrain-corrected data has subsequently been scaled again to represent specific terrain conditions in Leeds City Centre (again using the methodology set out in ESDU 01008).

Table 1: Reference height scale factors

Reference height [m]	Scale factor
100	0.96
120	1.00
160	1.07
200	1.13
250	1.19
300	1.24
450	1.37
600	1.48

**Table 2: Weibull Parameters (c scaled to reference height of 120m above ground)****18 Wind Directions (20° Increments)**

Season	Annual																	
Direction [°]	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340
p	0.041	0.048	0.046	0.041	0.045	0.042	0.026	0.026	0.032	0.052	0.085	0.113	0.111	0.093	0.070	0.051	0.041	0.037
c [ms <sup>-1</sup> ]	4.63	5.40	5.85	6.29	6.77	6.38	5.36	5.21	5.50	5.98	6.67	6.91	7.06	6.58	5.67	5.13	4.86	4.72
k	1.70	1.87	1.99	2.08	2.09	2.20	2.11	2.03	1.83	1.81	1.92	1.99	2.01	1.78	1.58	1.63	1.73	1.65

Season	Spring																	
Direction [°]	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340
p	0.048	0.068	0.068	0.056	0.058	0.046	0.024	0.024	0.030	0.049	0.076	0.092	0.085	0.084	0.063	0.048	0.041	0.040
c [ms <sup>-1</sup> ]	5.02	5.94	6.46	6.79	7.08	6.65	5.63	5.48	5.55	6.01	6.65	6.92	7.08	6.97	6.20	5.50	5.01	5.04
k	1.83	2.01	2.14	2.23	2.22	2.30	2.15	2.14	1.93	1.91	2.02	2.04	2.09	1.90	1.69	1.66	1.77	1.82

Season	Summer																	
Direction [°]	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340
p	0.039	0.040	0.040	0.032	0.041	0.042	0.021	0.018	0.023	0.043	0.086	0.126	0.120	0.106	0.080	0.058	0.047	0.039
c [ms <sup>-1</sup> ]	4.42	5.16	5.60	5.90	6.57	6.66	5.44	4.96	5.08	5.41	6.15	6.49	6.55	6.34	5.67	5.08	4.64	4.43
k	1.98	2.18	2.21	2.14	2.28	2.40	2.21	2.10	2.04	2.13	2.30	2.24	2.23	2.15	2.07	1.93	1.93	1.96

Season	Autumn																	
Direction [°]	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340
p	0.042	0.040	0.034	0.034	0.041	0.043	0.033	0.033	0.039	0.056	0.089	0.117	0.113	0.086	0.068	0.053	0.041	0.037
c [ms <sup>-1</sup> ]	4.41	4.90	4.87	5.39	6.20	5.96	5.25	5.17	5.30	5.66	6.33	6.49	6.88	6.26	5.51	4.88	4.74	4.60
k	1.67	1.74	1.86	2.02	2.08	2.14	2.02	2.10	1.89	1.86	1.91	1.99	2.03	1.79	1.66	1.67	1.70	1.63

Season	Winter																	
Hours	2166																	
Direction [°]	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340
p	0.035	0.042	0.043	0.040	0.039	0.037	0.026	0.029	0.035	0.058	0.090	0.119	0.126	0.097	0.071	0.047	0.035	0.031
c [ms <sup>-1</sup> ]	4.49	5.07	5.82	6.60	6.89	6.20	5.06	5.11	6.01	6.60	7.32	7.52	7.77	7.21	6.29	5.53	5.08	4.79
k	1.51	1.68	1.91	2.07	1.93	2.07	2.11	1.91	1.82	1.80	1.90	1.99	2.05	1.78	1.63	1.62	1.64	1.49

**Table 3: Weibull Parameters (c scaled to reference height of 120m above ground)**

**36 Wind Directions (10° Increments)**

Season	Annual											
Direction	0	10	20	30	40	50	60	70	80	90	100	110
p	0.021	0.020	0.024	0.026	0.023	0.021	0.020	0.020	0.021	0.028	0.021	0.015
c [ms <sup>-1</sup> ]	4.63	5.06	5.40	5.65	5.85	6.07	6.29	6.45	6.77	6.66	6.38	5.71
k	1.70	1.80	1.87	1.92	1.99	2.07	2.08	2.06	2.09	2.16	2.20	2.18

120	130	140	150	160	170	180	190	200	210	220	230
0.013	0.013	0.013	0.014	0.015	0.020	0.025	0.033	0.041	0.056	0.057	0.053
5.36	5.26	5.21	5.27	5.50	5.72	5.98	6.34	6.67	6.89	6.91	7.03
2.11	2.08	2.03	1.92	1.83	1.79	1.81	1.87	1.92	1.96	1.99	2.04
240	250	260	270	280	290	300	310	320	330	340	350
0.055	0.058	0.044	0.043	0.034	0.030	0.025	0.023	0.020	0.020	0.018	0.020
7.06	6.90	6.58	6.02	5.67	5.37	5.13	5.02	4.86	4.79	4.72	4.64
2.01	1.88	1.78	1.64	1.58	1.57	1.63	1.69	1.73	1.70	1.65	1.64

Season	Spring											
Direction	0	10	20	30	40	50	60	70	80	90	100	110
p	0.024	0.026	0.035	0.038	0.034	0.030	0.028	0.027	0.028	0.033	0.022	0.014
c [ms <sup>-1</sup> ]	5.02	5.47	5.94	6.24	6.46	6.62	6.79	6.84	7.08	6.94	6.65	6.00
k	1.83	1.92	2.01	2.06	2.14	2.20	2.23	2.21	2.22	2.28	2.30	2.25

120	130	140	150	160	170	180	190	200	210	220	230
0.011	0.012	0.012	0.013	0.014	0.019	0.024	0.030	0.037	0.048	0.046	0.041
5.63	5.53	5.48	5.44	5.55	5.80	6.01	6.28	6.65	6.92	6.92	6.98
2.15	2.13	2.14	2.03	1.93	1.89	1.91	1.96	2.02	2.05	2.04	2.06
240	250	260	270	280	290	300	310	320	330	340	350
0.041	0.049	0.040	0.039	0.030	0.027	0.023	0.022	0.020	0.020	0.020	0.022
7.08	7.19	6.97	6.52	6.20	5.89	5.50	5.23	5.00	4.97	5.04	5.02
2.09	2.04	1.90	1.78	1.69	1.64	1.66	1.71	1.77	1.78	1.82	1.82



Season	Summer											
Direction	0	10	20	30	40	50	60	70	80	90	100	110
p	0.020	0.018	0.020	0.022	0.020	0.017	0.016	0.015	0.019	0.028	0.021	0.014
c [ms <sup>-1</sup> ]	4.42	4.85	5.16	5.41	5.60	5.81	5.90	6.05	6.57	6.76	6.66	5.94
k	1.98	2.08	2.18	2.21	2.21	2.19	2.14	2.17	2.28	2.38	2.40	2.34

120	130	140	150	160	170	180	190	200	210	220	230
0.010	0.009	0.008	0.010	0.011	0.015	0.021	0.029	0.041	0.063	0.064	0.056
5.44	5.18	4.96	4.94	5.08	5.22	5.41	5.74	6.15	6.47	6.49	6.51
2.21	2.10	2.10	2.06	2.04	2.05	2.13	2.24	2.30	2.26	2.24	2.25
240	250	260	270	280	290	300	310	320	330	340	350
0.059	0.064	0.050	0.050	0.039	0.033	0.029	0.025	0.023	0.022	0.019	0.019
6.55	6.54	6.34	6.02	5.67	5.37	5.08	4.86	4.64	4.49	4.42	4.38
2.23	2.20	2.15	2.10	2.07	2.00	1.92	1.90	1.93	1.97	1.96	1.95

Season	Autumn											
Direction	0	10	20	30	40	50	60	70	80	90	100	110
p	0.021	0.020	0.020	0.020	0.017	0.016	0.017	0.018	0.019	0.027	0.021	0.017
c [ms <sup>-1</sup> ]	4.42	4.79	4.90	4.86	4.87	5.07	5.39	5.76	6.20	6.18	5.96	5.43
k	1.67	1.75	1.74	1.78	1.86	1.98	2.02	2.04	2.08	2.15	2.14	2.08

120	130	140	150	160	170	180	190	200	210	220	230
0.016	0.017	0.016	0.018	0.019	0.023	0.028	0.035	0.043	0.058	0.059	0.055
5.25	5.24	5.17	5.13	5.30	5.43	5.66	6.00	6.33	6.48	6.49	6.72
2.02	2.07	2.10	1.98	1.89	1.85	1.86	1.87	1.91	1.94	1.99	2.03
240	250	260	270	280	290	300	310	320	330	340	350
0.056	0.057	0.040	0.039	0.033	0.030	0.026	0.024	0.020	0.019	0.017	0.021
6.88	6.75	6.26	5.82	5.51	5.16	4.87	4.76	4.74	4.73	4.60	4.46
2.03	1.93	1.79	1.68	1.66	1.64	1.67	1.68	1.70	1.69	1.63	1.63

Season	Winter											
Direction	0	10	20	30	40	50	60	70	80	90	100	110
p	0.018	0.018	0.022	0.023	0.021	0.020	0.020	0.019	0.019	0.023	0.019	0.014
c [ms <sup>-1</sup> ]	4.50	4.82	5.07	5.45	5.82	6.20	6.60	6.76	6.89	6.56	6.20	5.44
k	1.51	1.62	1.68	1.77	1.91	2.04	2.07	1.98	1.93	1.97	2.07	2.15

120	130	140	150	160	170	180	190	200	210	220	230
0.013	0.014	0.014	0.015	0.017	0.023	0.028	0.037	0.044	0.057	0.060	0.059
5.06	5.00	5.11	5.49	6.01	6.27	6.60	7.04	7.32	7.53	7.52	7.65
2.11	2.04	1.91	1.83	1.82	1.78	1.80	1.86	1.90	1.95	1.99	2.05
240	250	260	270	280	290	300	310	320	330	340	350
0.062	0.065	0.045	0.042	0.035	0.029	0.023	0.020	0.017	0.016	0.015	0.017
7.77	7.67	7.21	6.71	6.29	5.89	5.53	5.34	5.08	4.98	4.79	4.55
2.05	1.93	1.78	1.67	1.63	1.61	1.62	1.65	1.64	1.58	1.49	1.44

**For more information, please contact:**

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**Draft Wind & Micro-climate Toolkit for Leeds**

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