Planning for Floods: An Analysis of Planning Law and Planning Practice in Flood Risk Management

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Thesis submitted for the degree of Doctor of Philosophy

Newcastle Law School

July 2021

Abstract

Flooding has considerable detrimental economic, social and environmental impacts. These impacts are already being felt in England and the rest of the UK and will further increase in the future with the projected increase in flood risk attributable to climate change and socioeconomic growth. It is widely agreed that urgent steps are needed to more effectively manage flood risk, and these may include changes in the regulatory and planning policy frameworks currently applied to shape development in the built environment. Using a combination of doctrinal and empirical research, this thesis examines the role of the town and country planning system in the management of flood risk, focusing on local planning authorities (LPAs) and an examination of the extent to which they can - and do - manage flood risk effectively. The doctrinal research examines the obligations on LPAs to manage flood risk and the legal planning tools they have at their disposal to do so. The empirical research uses four case studies to collate and present quantitative and qualitative data that has been used to interrogate in each case the relevant LPAs' management of flood risk in practice. Based on the findings of the doctrinal and empirical research, the thesis makes a number of recommendations for reforms to the planning system and the legal planning tools available to LPAs that would enable them to more effectively manage flood risk.

Acknowledgements

I would like to thank everyone who has helped and supported me throughout my PhD. I am particularly grateful to Professor Christopher Rodgers and Professor Ole Pedersen for inspiring me during my LLM and encouraging me to pursue a PhD. Their assistance and guidance throughout by PhD has been invaluable, and I am particularly grateful for their continued positivity and the motivation that this provided. I am also grateful for the additional opportunities that they have helped facilitate throughout my time at Newcastle Law School.

I am grateful to the Economic and Social Research for funding this research and conference attendance. I would also like to thank the ever-patient librarians at Newcastle Law School, who have always had the time to help with finding and accessing materials, as well as with any IT issues.

I am grateful to everyone who agreed to be interviewed for this research, without which this research would not have been possible. I hope that the outcomes of this research prove to be beneficial to them.

Finally, thank you to family, particularly my husband Keith, for their continued support and ensuring that I never lost perspective.

Table of Contents

Abstract ……..…….. ii

Acknowledgements ...…….…… iii

Table of Contents…….…… iv

Tables ……...…….…….... xxvii

Figures ...…….……... xxviii

List of Abbreviations …….…….…… xxix

PART 1. INTRODUCTION ……... 1

Chapter 1. Introduction and Research Context…… 2

1.1 What is Flooding? ……. 2

1.2 Flood Risk ……..… 2

1.2.1 Probability of flooding ……...… 2

1.2.2 Consequences of flooding ……..... 3

1.2.3 Conclusion ……..… 5

1.3 Flood Events in the UK ……. 6

1.3.1 Summer 2007 floods ……. 6

1.3.2 Winter 2013/14 floods ……... 7

1.3.3 Winter 2015/16 floods ……... 8

1.3.4 Comparison of 2007, 2013/14 and 2015/16 floods ……...… 8

1.3.5 Autumn and winter 2019/20 floods ……...… 9

1.4 Climate Change ……... 10

1.5 Flood Risk Management ……. 10

1.5.1 Role of the planning system in flood risk management …….. 11

1.5.2 Importance of local planning authorities in flood risk management ... 12

1.6 Objectives and Research Questions ……...……..... 13

1.7 Research Methods and Methodology ……...…….….. 14

1.7.1 Research paradigm and theoretical perspective ……...……...… 14

1.7.2 Research methods ……...…… 15

1.7.2.1 Doctrinal research ……...…… 15

1.7.2.2 Empirical research……..... 15

1.7.3 Case study methodology ……..… 16

1.7.3.1 Choosing and contacting the case study Local Planning Authorities ……..…… 16
1.7.3.2 Quantitative data collection ……. 17
1.7.3.2.1 Development plans …… 18
1.7.3.2.2 Permitted development rights …… 18
1.7.3.2.3 Refusal of planning permission ……. 19
1.7.3.2.4 Conditions ……. 19
1.7.3.2.5 Planning obligations …….. 20
1.7.3.2.6 Community Infrastructure Levy …… 20
1.7.3.3 Qualitative data collection ……... 21
1.7.4 Limitations of methodology …… 22

Chapter 2. Literature Review ……...… 24

2.1 Flood Risk …….. 24
2.1.1 Flood risk assessment ……. 24
2.1.1.1 Uncertainty …….. 24
2.1.1.2 Increase in flood risk …….. 25
2.1.1.3 Surface water flooding …… 26
2.1.2 Flood risk management ……..…… 27
2.1.2.1 Mitigation, resistance, adaptation, and resilience ……...27
2.1.2.2 Flood defences …… 31
2.1.2.3 Surface water flood management …… 34
2.1.2.4 Flood insurance …….. 36
2.1.3 Flooding and environmental justice ……..…. 38
2.2 The Planning System ……. 41
2.2.1 Link between flood risk management and the planning system ……. 41
2.2.2 Flood risk management by Local Planning Authorities …….. 42
2.2.2.1 Flooding as a local issue ……. 42
2.2.2.2 Dealing with the key issues ……. 43
2.2.2.3 Limitations of flood risk management by Local Planning Authorities ….…….. 44

2.3 Environmental Principles …… 45

2.3.1 The principle of sustainable development …….. 46

2.3.2 The preventative principle …….. 46

2.3.3 The precautionary principle …… 46

2.3.4 The polluter pays principle ……. 47

2.4 Gaps in the Literature ……. 47

PART 2. THE DOCTRINAL RESEARCH …… 50

Chapter 3. Local Planning Authorities' Legal Duties and Policy Requirements Regarding Flood Risk Management …… 51

3.1 Introduction to the Planning System ……..…….. 51

3.2 The Duties Examined …….. 52

3.2.1 Climate change……. 53

3.2.2 Sustainable development ……. 53

3.2.3 Housing, communities, and settlement management ……..… 53

3.2.4 Environmental protection …… 54

3.3 Local Planning Authority Duties in Relation to Development Plans ..…...… 54

3.3.1 Direct flood risk management duties …….. 54

3.3.1.1 Statutory duties ……..……...… 54

3.3.1.2 National Planning Policy Framework ……..…… 54

3.3.1.2.1 Strategic flood risk assessment ……..……..... 55

3.3.1.2.2 Sequential Test ……. 55

3.3.1.2.3 Flood risk management infrastructure ……. 57

3.3.1.2.4 Safeguarding land from development …….. 57

3.3.1.2.5 Reducing the causes and impacts of flooding …….. 57

3.3.1.2.6 Relocation of unsustainable development …… 57

3.3.1.2.7 Long-term implications of flood risk ……... 58

3.3.2 Indirect flood risk management duties …… 58

3.3.2.1 Climate change …… 58

3.3.2.2 Sustainable development ……. 59

3.3.2.2.1 Planning and Compulsory Purchase Act 2004 ……. 59

3.3.2.2.1.1 Contribute to the achievement of sustainable development ……..…….. 59

3.3.2.1.1.2 Sustainability appraisal …….……... 59

3.3.2.2.1.3 Duty to co-operate …….……... 60

3.3.2.2.2 National Planning Policy Framework ……..… 61

3.3.2.3 Housing, communities, and settlement management …….. 62

3.3.2.4 Environmental protection …… 64

3.3.2.4.1 Environmental assessment ……... 64

3.3.2.4.2 Statutory duties to have regard to environmental interests ……..… 65

3.3.2.4.3 National Planning Policy Framework ……. 66

3.4 Local Planning Authority Duties in Relation to Determination of Planning Applications …….…… 66

3.4.1 Direct flood risk management duties …….. 66

3.4.1.1 Statutory duties ……... 66

3.4.1.2 National Planning Policy Framework ……. 67

3.4.1.2.1 Sequential Test ……. 67

3.4.1.2.2 Development within flood risk areas ……... 68

3.4.1.2.3 Not increase flood risk elsewhere …… 68

3.4.1.2.4 Sustainable drainage systems ……... 69

3.4.2 Indirect flood risk management duties …… 71

3.4.2.1 Have regard to the development plan ……. 71

3.4.2.2 Climate change …… 72

3.4.2.3 Sustainable development ……. 71

3.4.2.3.1 Planning and Compulsory Purchase Act 2004 ……. 72

3.4.2.3.2 National Planning Policy Framework …….. 72

3.4.2.4 Housing, communities, and settlement management …….. 74

3.4.2.5 Environmental protection …… 75

3.4.2.5.1 Wildlife and Countryside Act 1981 ……. 75

3.4.2.5.2 Environmental assessment ……... 76

3.4.2.5.3 Statutory duties to have regard to environmental interests ……..…….. 76

3.4.2.5.4 National Planning Policy Framework ……. 77

3.5 Enforcement of Local Planning Authority Duties to Manage Flood Risk 77

3.5.1 Challenging a Local Planning Authority's development plan ……..... 77

3.5.2 Challenging a Local Planning Authority's development control decision ……..……. 78

3.5.3 Judicial review …… 80

3.5.3.1 Standing ……..….. 80

3.5.3.2 Grounds …….…….. 81

3.5.3.3 Time limit ……..… 82

3.5.3.4 Permission ……... 82

3.5.3.5 Remedies ……. 82

3.5.3.6 Costs …… 83

3.5.3.7 Proposed reforms …… 83

3.6 Conclusion ……...…….…….. 83

Chapter 4. Legal and Planning Flood Risk Management Tools ……... 86

4.1 Development Plans …… 86

4.1.1 Use of development plans to manage flood risk ……. 86

4.1.1.1 Strategic flood risk management ……. 87

4.1.1.1.1 Development in flood risk areas …….. 87

4.1.1.1.2 Development in low-risk areas …… 87

4.1.1.1.3 Protection of land for flood risk management purposes …….. 88
4.1.1.1.4 Emergency planning …… 88
4.1.1.1.5 Flood risk management infrastructure funding …… 88
4.1.1.1.6 Opportunities presented by flooding …… 88
4.1.1.2 Flood risk management in relation to individual developments ……..…… 88
4.1.1.2.1 Prohibition on development …….. 88
4.1.1.2.2 Development requirements …….. 88
4.1.1.3 Monitoring and review …… 89
4.1.2 Advantages and benefits of use of development plans ……... 89
4.1.2.1 Integration of policy areas ……... 89
4.1.2.2 Long-term approach …… 90
4.1.2.3 Application of the environmental principles ……... 90
4.1.2.4 Take account of local circumstances …….. 90
4.1.2.5 Third party participation ……. 91
4.1.2.6 Certainty …….. 91
4.1.2.7 Review …… 92
4.1.3 Disadvantages and limitations of use of development plans …….. 92
4.1.3.1 Evidence base …….. 92
4.1.3.2 Viability …….. 92
4.1.3.3 Short-term approach …… 93
4.1.3.4 Resource limitations …… 93
4.1.3.5 Implementation ……... 93
4.1.3.6 Public participation ……. 94
4.1.3.7 Central government control …… 94
4.1.3.7.1 Rules on central government control ……... 94

4.1.3.7.2 Central government control in practice …… 95

4.1.4 Conclusion on use of development plans for flood risk management …… 97

4.2 Permitted Development ……... 97

4.2.1 Article 4 Directions ……. 99

4.2.1.1 Use of Article 4 Directions to manage flood risk ……... 99

4.2.1.2 Advantages and benefits of the use of Article 4 Directions … 99

4.2.1.3 Disadvantages and limitations of the use of Article 4 Directions ……100

4.2.1.3.1 National Planning Policy Framework restrictions . 100

4.2.1.3.2 Central government control ……100

4.2.1.3.3 Public consultation ……..100

4.2.1.3.4 Resource limitations ……... 101

4.2.1.3.5 Liability to pay compensation …… 101

4.2.2 Conditions removing permitted development rights ……. 101

4.2.2.1 Use of conditions removing permitted development rights to manage flood risk …….. 101

4.2.2.2 Advantages and benefits of conditions removing permitted development rights …… 102

4.2.2.3 Disadvantages and limitations of conditions removing permitted development rights …… 102

4.2.3 Local and Neighbourhood Development Orders …….. 102

4.2.3.1 Use of Local and Neighbourhood Development Orders to manage flood risk …….. 103

4.2.3.2 Advantages and benefits of use of Local and Neighbourhood Development Orders ……. 103

4.2.3.2.1 Flexibility ……... 103

4.2.3.2.2 Public consultation ……. 103

4.2.3.3 Disadvantages and limitations of the use of Local and Neighbourhood Development Orders ……... 103

4.2.3.3.1 Link to development plan objectives ……. 103

4.2.3.3.2 Central government control …… 104

4.2.3.3.3 Resource limitations ……... 104

4.2.4 Conclusion on adjustment of permitted development rights for flood risk management ……... 104

4.3 Refusal of planning permission ……. 105

4.3.1 Use of refusal of planning permission to manage flood risk …… 105

4.3.2 Advantages and benefits of use of refusals of planning permission . 106

4.3.3 Disadvantages and limitations of refusals of planning permission ... 106

4.3.3.1 Duty to meet development need ……..... 106

4.3.3.2 Central government control …….. 106

4.3.4 Conclusion on refusal of planning permission for flood risk management …….. 107

4.4 Conditions ……. 107

4.4.1 Use of conditions to manage flood risk …… 108

4.4.1.1 Incorporation of resistance and resilience measures ……. 108

4.4.1.2 Provision of flood risk management infrastructure ……... 108

4.4.1.3 Enable the flood risk implications of development to be assessed ……. 109

4.4.1.4 Ensure appropriate use …….. 109

4.4.1.5 Exclusion of high-risk areas …….. 110

4.4.2 Advantages and benefits of the use of condition …….. 110

4.4.2.1 Enable development ……. 110

4.4.2.2 Enforcement …….. 110

4.4.3 Disadvantages and limitations to conditions ……. 110

4.4.3.1 Developer capture ……. 111

4.4.3.2 Legal restrictions on use of conditions ……. 111

4.4.3.2.1 *Newbury* test ……... 111

4.4.3.2.1.1 Imposed for a planning purpose …….. 111

4.4.3.2.1.2 Fairly and reasonably relate to the permitted development …….. 112

4.4.3.2.1.3 Not be unreasonable …… 112

4.4.3.2.2 Uncertain or unenforceable …… 113

4.4.3.2.3 Challenging the validity of a planning conditions . 113

4.4.3.3 Policy restrictions on use of conditions …… 114

4.4.4 Conclusion on conditions for flood risk management …….. 115

4.5 Planning Obligations ……. 116

4.5.1 Use of planning obligations to manage flood risk …… 116

4.5.2 Advantages and benefits of the use of planning obligations ……..… 117

4.5.2.1 Impact and needs of multiple developments ……. 117

4.5.2.2 Enable development …….. 118

4.5.2.3 Internalisation of flood risk costs …….. 118

4.5.2.4 Cross-boundary flood risk management ……... 119

4.5.2.5 Flexibility ……..… 119

4.5.2.6 Enforcement …….. 120

4.5.3 Disadvantages and limitations of planning obligations …… 120

4.5.3.1 Legal restrictions on use of planning obligations ……..… 120

4.5.3.2 Policy restrictions on use of planning obligations …… 122

4.5.3.3 Viability …… 122

4.5.3.4 Resource limitations …….. 123

4.5.3.5 Delivery of infrastructure …….. 123

4.5.4 Conclusion on planning obligations for the management of flood

risk ……..……..……. 123

4.6 Community Infrastructure Levy ……124

4.6.1 Use of the Community Infrastructure Levy to manage flood risk … 125

4.6.2 Advantages and benefits of use of the Community Infrastructure Levy …….. 125

4.6.2.1 Cross-boundary flood risk management ……... 126

4.6.2.2 Enforcement …….. 126

4.6.3 Disadvantages and limitations of the Community Infrastructure Levy …….. 126

4.6.3.1 Viability …… 126

4.6.3.2 Does not incentivise low-risk development ……..… 127

4.6.3.3 Local Planning Authority discretion ……. 127

4.6.3.4 Inability to forward fund infrastructure …… 128

4.6.3.5 Basis of levy calculation ……...… 128

4.6.4 Conclusion on the Community Infrastructure Levy for flood risk management ……...…….…….. 128

4.7 Conclusion …… 129

PART 3: THE CASE STUDIES …… 132

Chapter 5. Allerdale Borough Council (Case Study 1) …… 133

5.1 The Data …… 133

5.1.1 Development plan ……. 133

5.1.1.1 Flood risk and surface water management policy ……. 133

5.1.1.2 Other relevant policies …….. 135

5.1.1.2.1 Climate change ……... 135

5.1.1.2.2 Sustainable development …… 135

5.1.1.2.3 Housing, communities, and settlement management ……..… 136

5.1.1.2.4 Environmental protection ……... 137

5.1.1.2.5 Development design …….. 139

5.1.1.2.6 Infrastructure ……..… 139

5.1.1.2.7 Third parties and cross-boundary issues …… 139

5.1.1.3 Conclusion on development plan …….. 140

5.1.2 Permitted development rights ……... 140

5.1.2.1 Article 4 Directions ……... 140

5.1.2.2. Local and Neighbourhood Development Orders ……. 141

5.1.3 Refusal of planning permission ……. 141

5.1.4 Conditions ……. 143

5.1.4.1 Temporary permission …….. 143

5.1.4.2 Environmental protection …….. 143

5.1.4.3 Materials …… 143

5.1.4.4 Surfacing and ground levels ……..… 144

5.1.4.5 Removal of permitted development rights/restrictions on use ……. 144

5.1.4.6 Surface water management ……... 144

5.1.4.7 Other flood risk management conditions ……..… 145

5.1.4.8 Conclusion on conditions …….. 145

5.1.5 Planning obligations …….. 146

5.1.6 Community Infrastructure Levy ……... 148

5.2 Compliance with Flood Risk Management Obligations ……... 148

5.2.1 Development plan ……..… 149

5.2.1.1 Strategic flood risk assessment ...……..… 149

5.2.1.2 Sequential Test …….. 149

5.2.1.3 Flood risk management infrastructure ……..… 149

5.2.1.4 Safeguard land from development ……... 149

5.2.1.5 Reducing the causes and impacts of flooding ……... 150

5.2.1.6 Relocation of unsustainable development ……..… 150

5.2.1.7 Long-term implications of flood risk ……..... 150

5.2.1.8 Climate change …….. 150

5.2.1.9 Sustainable development ……... 151

5.2.1.10 Housing, communities, and settlement management …….. 152

5.2.1.11 Environmental protection …… 152

5.2.2 Determination of planning applications ……..... 153

5.2.2.1 Environment Agency consultation ……..... 153

5.2.2.2 Sequential Test ……..… 153

5.2.2.3 Sustainable drainage systems …… 154

5.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan …….…… 154

5.2.2.5 Climate change …….. 155

5.2.2.6 Sustainable development ……... 155

5.2.2.7 Housing, communities, and settlement management …… 155

5.2.2.8 Environmental protection …….. 155

5.2.3 Conclusion on compliance with flood risk management obligations 156

5.3 Use of the Flood Risk Management Tools ……..…. 157

Chapter 6. Birmingham City Council (Case Study 2) ……..… 160

6.1 The Data ……..... 160

6.1.1 Development plan ……. 160

6.1.1.1 Flood risk and surface water management policy ……. 160

6.1.1.2 Other relevant policies ……..… 162

6.1.1.2.1 Climate change ……...… 162

6.1.1.2.2 Sustainable development …… 162

6.1.1.2.3 Housing, communities, and settlement

management …….. 163

6.1.1.2.4 Environmental protection ……..…… 164

6.1.1.2.5 Development design ……... 165

6.1.1.2.6 Infrastructure …….. 166

6.1.1.2.7 Third party and cross-boundary issues ……... 166

6.1.1.3 Conclusion on development plan …….. 167

6.1.2 Permitted development rights ……... 167

6.1.2.1 Article 4 Directions ……... 167

6.1.2.2 Local and Neighbourhood Development Orders ……..… 169

6.1.3 Refusal of planning permission ……. 169

6.1.4 Conditions ……. 171

6.1.4.1 Temporary permission …….. 171

6.1.4.2 Environmental protection ……..… 171

6.1.4.3 Materials ……..... 171

6.1.4.4 Surfacing and ground levels …….. 171

6.1.4.5 Removal of permitted development rights/restrictions on use ……. 172

6.1.4.6 Surface water management ……... 172

6.1.4.7 Other flood risk management conditions …….. 172

6.1.4.8 Conclusion on conditions …….. 173

6.1.5 Planning obligations ……..… 173

6.1.6 Community Infrastructure Levy …… 176

6.2 Compliance with Flood Risk Management Obligations ……... 177

6.2.1 Development plan ……..… 177

6.2.1.1 Strategic flood risk assessment ……...…….. 177

6.2.1.2 Sequential Test …….. 178

6.2.1.3 Flood risk management infrastructure …….. 178

6.2.1.4 Safeguard land from development …… 179

6.2.1.5 Reducing the causes and impacts of flooding ……... 179

6.2.1.6 Relocation of unsustainable development ……..… 179

6.2.1.7 Long-term implications of flood risk ……..... 179

6.2.1.8 Climate change …….. 179

6.2.1.9 Sustainable development ……... 179

6.2.1.10 Housing, communities, and settlement management …..… 180

6.2.1.11 Environmental protection ……..... 180

6.2.2 Determination of planning applications ……... 181

6.2.2.1 Environment Agency consultation ……..... 181

6.2.2.2 Sequential Test …….. 182

6.2.2.3 Sustainable drainage systems …… 182

6.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan …….. 183

6.2.2.5 Climate change …….. 183

6.2.2.6 Sustainable development ……...… 183

6.2.2.7 Housing, communities, and settlement management ……..... 183

6.2.2.8 Environmental protection …….. 184

6.2.3 Conclusion …… 184

6.3 Use of the Flood Risk Management Tools …… 185

Chapter 7. Worcester City Council (Case Study 3) ……. 188

7.1 The Data ……..... 188

7.1.1 Development plan ……. 188

7.1.1.1 Flood risk and surface water management policy ……. 188

7.1.1.2 Other relevant policies …….. 191

7.1.1.2.1 Climate change ……... 191

7.1.1.2.2 Sustainable development …… 192

7.1.1.2.3 Housing, communities, and settlement Management …….. 192
7.1.1.2.4 Environmental protection ……...… 193
7.1.1.2.5 Development design ……...… 194
7.1.1.2.6 Infrastructure …….. 195
7.1.1.2.7 Third parties and cross-boundary issues …… 195
7.1.1.3 Conclusion on development plan …….. 196
7.1.2 Permitted development rights ……... 197
7.1.2.1 Article 4 Directions ……... 197
7.1.2.2 Local and Neighbourhood Development Orders …….. 197
7.1.2.3 Conclusion on permitted development rights ……..…. 198
7.1.3 Refusal of planning permission …… 198
7.1.4 Conditions ……. 199
7.1.4.1 Temporary permission …….. 199
7.1.4.2 Environmental protection …….. 200
7.1.4.3 Materials …… 200
7.1.4.4 Surfacing and ground levels …….. 200
7.1.4.5 Removal of permitted development rights/ restrictions on use ……..…… 200
7.1.4.6 Surface water management ……... 200
7.1.4.7 Other flood risk management conditions …….. 201
7.1.4.8 Conclusion on conditions …….. 201
7.1.5 Planning obligations …….. 201
7.1.6 Community Infrastructure Levy …… 203
7.2 Compliance with Flood Risk Management Obligations ……... 204
7.2.1 Development plan ……. 204
7.2.1.1 Strategic flood risk assessment ……...…….. 204

7.2.1.2 Sequential Test …….. 205
7.2.1.3 Flood risk management infrastructure …….. 205
7.2.1.4 Safeguard land from development …… 205
7.2.1.5 Reduce the causes and impacts of flooding …….. 205
7.2.1.6 Relocation of unsustainable development ……. 206
7.2.1.7 Long-term implications of flood risk …… 206
7.2.1.8 Climate change …….. 206
7.2.1.9 Sustainable development ……...… 206
7.2.1.10 Housing, communities, and settlement management …….. 207
7.2.1.11 Environmental protection ……..... 208
7.2.2 Determination of planning applications …… 208
7.2.2.1 Environment Agency consultation …… 208
7.2.2.2 Sequential Test …….. 208
7.2.2.3 Sustainable drainage systems …… 209
7.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan …….. 210
7.2.2.5 Climate change …….. 210
7.2.2.6 Sustainable development ……... 210
7.2.2.7 Housing, communities, and settlement management …… 210
7.2.2.8 Environmental protection ……...… 210
7.2.3 Conclusion …… 211
7.3 Use of the Flood Risk Management Tools …… 211
Chapter 8. City of York Council (Case Study 4) …….. 213
8.1 The Data …… 213
8.1.1 Development plan ……. 213
8.1.1.1 Flood risk and surface water management policy …… 214
8.1.1.2 Other relevant policies ……..…. 215

8.1.1.2.1 Climate change ……... 217

8.1.1.2.2 Sustainable development …… 217

8.1.1.2.3 Housing, communities, and settlement management …….. 218

8.1.1.2.4 Environmental protection ……...… 219

8.1.1.2.5 Development design ……... 222

8.1.1.2.6 Infrastructure …….. 222

8.1.1.2.7 Third parties and cross-boundary issues …… 223

8.1.1.3 Conclusion on development plan …….. 224

8.1.2 Permitted development rights ……... 226

8.1.2.1 Article 4 Directions ……... 226

8.1.2.2 Local and Neighbourhood Development Orders ……..… 227

8.1.3 Refusal of planning permission …… 227

8.1.4 Conditions ……. 228

8.1.4.1 Temporary permission …….. 229

8.1.4.2 Environmental protection ……..…. 229

8.1.4.3 Materials ……..... 230

8.1.4.4 Surfacing and ground levels …….. 230

8.1.4.5 Removal of permitted development rights/restrictions on use ……..…… 230

8.1.4.6 Surface water management ……... 231

8.1.4.7 Other flood risk management conditions ……..… 231

8.1.4.8 Conclusion on conditions …….. 232

8.1.5 Planning obligations …….. 232

8.1.6 Community Infrastructure Levy …… 234

8.2 Compliance with the Flood Risk Management Requirements …….. 235

8.2.1 Development plan ……. 235

8.2.1.1 Strategic flood risk assessment ……..…….…. 235

8.2.1.2 Sequential Test …….. 235

8.2.1.3 Flood risk management infrastructure …….. 235

8.2.1.4 Safeguard land from development …… 236

8.2.1.5 Reduce the causes and impacts of flooding ……..…. 236

8.2.1.6 Relocation of unsustainable development ……. 236

8.2.1.7 Long-term implications of flood risk …… 237

8.2.1.8 Climate change …….. 237

8.2.1.9 Sustainable development ……... 238

8.2.1.10 Housing, communities, and settlement management …….. 239

8.2.1.11 Environmental protection …… 239

8.2.2 Determination of planning applications …… 240

8.2.2.1 Environment Agency consultation …… 240

8.2.2.2 Sequential Test ……..…. 241

8.2.2.3 Sustainable drainage systems ……... 241

8.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan …….. 241

8.2.2.5 Climate change ……..…. 241

8.2.2.6 Sustainable development ……... 242

8.2.2.7 Housing, communities, and settlement management …… 242

8.2.2.8 Environmental protection …….. 242

8.2.3 Conclusion …… 243

8.3 Use of the Flood Risk Management Tools ……... 243

Chapter 9. Case Study Comparisons and Conclusions ……... 246

9.1 The Data …… 246

9.1.1 Development plans …… 246

9.1.1.1 Flood risk and surface water management policy ……. 246

9.1.1.2 Other relevant policies ……..… 247
9.1.1.2.1 Climate change……... 247
9.1.1.2.2 Sustainable development ……... 248
9.1.1.2.3 Housing, communities, and settlement management …….. 249
9.1.1.2.4 Environmental protection ……... 249
9.1.1.2.5 Development design ……...… 250
9.1.1.2.6 Infrastructure …….. 250
9.1.1.2.7 Third parties and cross-boundary co-operation …. 251
9.1.1.3 Conclusion on development plans …… 252
9.1.2 Permitted development rights ……...…… 253
9.1.2.1 Article 4 Directions ……... 253
9.1.2.2 Local and Neighbourhood Development Orders ……..… 254
9.1.3 Refusal of planning permission ……. 254
9.1.4 Conditions ……. 255
9.1.4.1 Temporary permission ……...… 255
9.1.4.2 Environmental protection …….. 256
9.1.4.3 Materials …… 256
9.1.4.4 Surfacing and ground levels ……..… 257
9.1.4.5 Removal of permitted development rights/restrictions on use ……. 257
9.1.4.6 Surface water management ……... 258
9.1.4.7 Other flood risk management conditions …….. 259
9.1.4.8 Conclusion on conditions …….. 260
9.1.5 Planning obligations …….. 260
9.1.6 Community Infrastructure Levy …… 262
9.2 Compliance with the Flood Risk Management Requirements …….. 262

9.2.1 Development plan ……. 262
9.2.1.1 Strategic flood risk assessment …..……..… 262
9.2.1.2 Sequential Test …….. 262
9.2.1.3 Flood risk management infrastructure …….. 263
9.2.1.4 Safeguard land from development …… 263
9.2.1.5 Reduce the causes and impacts of flooding …….. 264
9.2.1.6 Relocation of unsustainable development …… 264
9.2.1.7 Long-term implications of flood risk ……..... 265
9.2.1.8 Climate change …….. 265
9.2.1.9 Sustainable development ……... 265
9.2.1.10 Housing, communities, and settlement management …….. 266
9.2.1.11 Environmental protection ……..... 267
9.2.2 Determination of planning applications ……..... 267
9.2.2.1 Environment Agency consultation …… 267
9.2.2.2 Sequential Test …….. 268
9.2.2.3 Sustainable drainage systems …… 268
9.2.2.4 Have regard to the provisions of the development plan …… 269
9.2.2.5 Climate change …….. 270
9.2.2.6 Sustainable development ……... 270
9.2.2.7 Housing, communities, and settlement management …… 271
9.2.2.8 Environmental protection …….. 271
9.2.3 Conclusion …… 272
9.3 Use of the Flood Risk Management Tools …… 273
9.3.1 General reasons for limited use of the flood risk management tools .273
9.3.1.1 Vague and discretionary statutory and policy requirements . 273
9.3.1.2 LPA reliance on statutory and policy requirements …….. 274

9.3.1.3 Planning regime emphasis in meeting short-term development need ……... 274

9.3.1.4 Lack of expertise ……..……. 274

9.3.1.5 Lack of access to expert advice ……. 275

9.3.1.6 Public opinion ……... 275

9.3.2 Reasons for limited use of specific flood risk management tools …. 275

9.3.2.1 Development plans …… 276

9.3.2.2 Permitted development rights ……... 276

9.3.2.3 Refusal of planning permission ……. 277

9.3.2.4 Conditions ……. 277

9.3.2.5 Planning obligations …….. 278

9.3.2.6 Community Infrastructure Levy ……..... 279

PART 4 – CONCLUSION …….. 280

Chapter 10. Conclusion …….. 281

10.1 Research Questions ……... 282

10.1.1 RQ1: What legal duties and policy requirements are there on LPAs to manage flood risk in their areas? …….. 282

10.1.1.1 Duties in relation to development plans …….. 282

10.1.1.2 Duties in relation to determination of planning Applications …….. 284

10.1.2 RQ2: What legal planning tools are available to LPAs to manage flood risk? ……. 285

10.1.2.1 Development plans …….. 285

10.1.2.2 Permitted development rights ……. 285

10.1.2.3 Refusal of planning permission ……...… 285

10.1.2.4 Conditions ……... 285

10.1.2.5 Planning obligations …… 286

10.1.2.6 Community Infrastructure Levy ……..… 286

10.1.3 RQ3: To what extent and in what ways are LPAs making use of the legal planning tools available to them, and are they fulfilling their legal and policy requirements to manage flood risk?...…….. 286

10.1.3.1 Development plans …….. 286

10.1.3.2 Permitted development rights ……. 287

10.1.3.3 Refusal of planning permission ……... 288

10.1.3.4 Conditions ……... 288

10.1.3.5 Planning obligations …… 288

10.1.3.6 Community Infrastructure Levy …….. 288

10.1.3.7 Fulfillment of flood risk management obligations …….. 289

10.1.4 RQ4: What are the barriers to LPAs' use of the legal planning tools available to them for the effective management of flood risk and are there ways in which LPAs could make better use of the legal planning tools available to them to manage flood risk? ...……..... 290

10.1.4.1 Development plans …….. 291

10.1.4.2 Permitted development rights ……. 293

10.1.4.3 Refusal of planning permission ……... 294

10.1.4.4 Conditions ……... 295

10.1.4.5 Planning obligations …… 296

10.1.4.6 Community Infrastructure Levy …….. 297

10.1.5 RQ5: What reforms could be made to the planning system to enable LPAs to better manage flood risk? …… 298

10.1.5.1 Policy reforms ……. 298

10.1.5.1.1 Specific, measurable, and achievable policies …. 298

10.1.5.1.2 Guidance on how to balance interests …….. 298

10.1.5.1.3 Viability calculation ……. 298

10.1.5.1.4 Sequential Test ……. 299

10.1.5.1.5 Sustainable development …….. 299

10.1.5.2 Reform of legal planning tools regime …… 300

10.1.5.2.1 Development plan reforms ……... 300

10.1.5.2.2 Permitted development rights …….. 301

10.1.5.2.3 Conditions …… 301

10.1.5.2.4 Planning obligations ……. 302

10.1.5.2.5 Community Infrastructure Levy ……... 303

10.1.5.3 Additional reforms/recommendations ……. 303

10.1.5.3.1 Raising Local Planning Authority awareness 303

10.1.5.3.2 Increasing Local Planning Authority resources …303

10.1.5.3.3 Ensuring access to adequate third party advice ... 304

10.2 Limitations of Current Research and Questions for Future Research 304

10.3 Conclusion ……. 306

Appendix A …….. 309

Appendix B …….. 311

Appendix C …….. 313

Appendix D ……..…. 315

Bibliography …… 317

Tables

Table 1.1 Summary of the impacts of 2007, 2013/14 and 2015/16 flood events ……..… 9

Table 5.1 Showing the total number of planning obligations entered into by Allerdale Borough Council and number relating to flood risk management …… 145

Table 6.1 Showing the total number of planning obligations entered into by Birmingham City Council and number relating to flood risk management .. 173

Table 7.1 Showing the total number of planning obligations entered into by Worcester City Council and number relating to flood risk management …. 200

Table 7.2 Showing the financial developer contributions received by, spent by, and overdue to Worcester City Council ……... 201

Table 9.1 Showing the percentage of planning decisions that are refusals and the percentage of those refusals that are on flood risk grounds for each case study …….. 253

Table 9.2 Showing the percentage of planning permissions that contained a condition relating to materials in each case study …….. 254

Table 9.3 Showing the percentage of surface water management conditions that required the use of SUDS in each case study …… 257

Figures

Figure 2.1 Diagram summarising relationship between mitigation, resistance, adaptation, and resilience ……... 29

Figure 5.1 Graph showing number of planning decisions and refusals of planning permission made by Allerdale Borough Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019 ……... 140

Figure 6.1 Graph showing number of planning decisions and refusals of planning permission made by Birmingham City Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019 ……... 168

Figure 7.1 Graph showing number of planning decisions and refusals of planning permission made by Worcester City Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019 ……..… 197

Figure 8.1 Graph showing number of planning decisions and refusals of planning permission made by City of York Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019 ……. 226

List of Abbreviations

AONB	Area of Outstanding Natural Beauty
CCC	Committee on Climate Change
CIL	Community Infrastructure Levy
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EIA	Environmental Impact Assessment
FRA	flood risk assessment
HMO	house in multiple occupation
LDO	Local Development Order
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
NAP	National Adaptation Programme
NDO	Neighbourhood Development Order
NPPF	National Planning Policy Framework
ODPM	Office of Deputy Prime Minister
PI	Planning Inspector
SA	sustainability appraisal
SEA	Strategic environmental assessment
SFRA	strategic flood risk assessment
SSSI	Site of Special Scientific Interest
SUDS	sustainable drainage systems

PART 1 – INTRODUCTION

Part 1 of this thesis contains an introduction to the research project. Chapter 1 includes an overview of flooding in England and the context within which the research has been carried out and sets out in detail the aims and objectives of the project. Chapter 2 contains a review of the relevant government and academic literature and publications on flooding and flood risk management.

Chapter 1. Introduction and Research Context

Flooding is a major contemporary concern, and the effects of flooding are likely to increase as the frequency, severity and extent of flooding continue to rise. In 2016, Rory Stewart (then Parliamentary Under-Secretary of State for Environment, Food and Rural Affairs) declared flooding to be 'one of the most serious crises of our generation',[1] and, as Emma Howard Boyd (Chair of the Environment Agency) highlighted, '[t]he world is currently managing the impacts of the coronavirus pandemic, but that doesn't stop rain from falling or the sea level from rising.'[2]

1.1 What is Flooding?

Flood events take place whenever and wherever the volume of water that enters an area of land exceeds the amount that the area can absorb or discharge.[3] There are different types of flooding, and these can be categorised as follows:

- Surface water (pluvial) flooding, which occurs when the capacity of drainage systems is overwhelmed by the volume of rainfall.
- River (fluvial) flooding, which occurs when rivers overflow.
- Groundwater flooding, which occurs when the level of the water table rises to such an extent that water emerges above the ground.
- Coastal flooding, which occurs when the level of the sea rises to the extent that it is above the level of coastal land.[4]

1.2 Flood Risk

Flood risk is determined by combining the probability of flooding occurring with its consequences for people, the natural environment, and the built environment.[5]

1.2.1 Probability of flooding

The 2004 research paper 'Future Flooding', which aimed to give 'an independent scientific look at the future' in order to inform the Government's policy for flood and coastal defence, reported that there were over 2 million properties in the UK at risk of river, coastal or surface water flooding, with over 4 million people and more than £200 billion worth of assets being at

[1] HC Deb 6 January 2016, col 398.
[2] Environment Agency, *National Flood and Coastal Erosion Risk Management Strategy for England* (Environment Agency 2020).
[3] William Howarth, *Flood Defence Law* (Shaw & Sons 2002) 7.
[4] Sir Michael Pitt, *Learning Lessons From the 2007 Floods: Interim Report* (Cabinet Office 2007) 13-15.
[5] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (Government Office for Science 2004) 8.

risk in England and Wales alone.[6] Subsequent statistics have indicated that the number of properties and assets at risk of flooding is now much higher, and continuing to rise. Following the floods of 2007, the Environment Agency (EA) carried out a national assessment of flood risk for England, and this found that around 5.2 million (one in six) properties in England were at risk of flooding.[7] The 2017 House of Commons Library Briefing Paper, 'Flood Risk Management and Funding', stated that there are now 5.4 million properties in England at risk of flooding from rivers and the sea or surface water (or both). As this figure does not include those properties at risk of flooding from groundwater, the total number of properties at risk of flooding will be even higher.[8] Indeed, it has been claimed that the average UK household is now more likely to be flooded than burgled.[9] In addition to the homes and businesses that are directly at risk of being flooded, it has been reported that two-thirds of the properties in England are served by infrastructure sites and networks that are located in, or dependent on others that are located in, areas at risk of flooding.[10] Indeed, 41% of transport and utility infrastructure and 55% of water and sewerage pumping stations are in areas at risk of flooding.[11]

1.2.2 Consequences of flooding

The impacts of flooding can be extensive and diverse. It can affect individuals, businesses and communities within the flooded area, but the consequences of disruption to services and infrastructure, the economic repercussions, and the environmental implications can reach far beyond the area flooded.[12] The impacts of flooding also often continue to be felt well after the floodwater has receded as the recovery process can take months, or even years.[13]

Flooding can have serious economic consequences, not just through damage to property, but also through the many ways it can disrupt businesses and livelihoods, including premises closure, loss of or damage to stock and equipment, loss of paperwork, loss of customers (particularly for tourism and the service industry), and crop damage and loss of animal feed

[6] ibid 2 and 12.
[7] Environment Agency, *Flooding in England: A National Assessment of Flood Risk* (2009).
[8] Sarah Priestley, *Flood Risk Management and Funding* (House of Commons Briefing Paper, CBP07514, 2017) 4-5.
[9] Royal Life Saving Society UK <www.rlss.org.uk/News/did-you-know-you-are-more-likely-to-get-flooded-than-burgled > accessed 5th June 2020; Reach and Rescue, 'Flood Statistics' <https://reachandrescue.com/flood-statistics/> accessed 5th June 2020.
[10] National Audit Office, *Department for Environment and Rural Affairs: Managing Flood Risk* (NAO 2020) 5.
[11] Ibid para 1.3.
[12] Pitt, *The Pitt Review: Interim Report* (n 4) 18.
[13] ibid 26.

for farmers.[14] It has also been found that extreme rainfall has a negative effect on GDP growth in the area and that repeatedly experiencing the impacts of climate change (including flooding) both increases risk aversion and decreases investment.[15] The 2004 Future Flooding research paper stated that £1,400 million was spent each year on repairing flood damage.[16] More recent reports have sought to include in their assessment of the costs of flooding, not just the cost of repairing flood damage, but an estimate of the economic impact of all the effects of flooding, such as disruption to infrastructure and public services and loss of education days. Taking such costs into account, the 2017 Commons Briefing Paper referred to in section 1.2.1 stated that annual flood damage costs for the UK are around £1.1 billion (excluding damage from groundwater flooding).[17] In addition to the annual flood damage costs, there is the cost of managing flood risk. Figures published by the Department for Environment, Food and Rural Affairs (DEFRA) show that government spending on flood and coastal erosion risk management in England has 'risen steadily in real terms' from £663.3 million in 2005/2006 to £808.2 million in 2018/2019, with the budgeted sum for 2019/20 being £815.4 million.[18]

Furthermore, the consequences are not just economic. Disruption to infrastructure and services, such as road and rail infrastructure and electricity supply, can have social as well as economic impacts. Significant social impacts also result from disruption to homes, schools and health services. The mental and physical health of flood victims can be negatively affected by families being split up and having to live in damp or temporary housing whilst also having the stress of dealing with reinstatement of their homes.[19] Whilst many of these impacts cannot be easily quantified, the magnitude of the 'human misery' caused by flooding is well recognised.[20] (The advantages of developing a means of quantifying the impacts of flooding and evaluating the benefits of taking flood risk management measures is considered in this research and is a key recommendation (see Chapter 10, section 10.1.5)).

[14] ibid para 2.16-2.18; Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change* (Committee on Climate Change 2017) 185.
[15] Royal Town Planning Institute, *Planning Horizons No2: Future-Proofing Society: Why Planners Need to be at the Forefront of Responses to Climate Change and Demographic Change* (RTPI 2014) 12.
[16] Office of Science and Technology, *Foresight Report: Executive Summary* (n 5) 4-5.
[17] Priestley, *Flood Risk Management and Funding* (n 8) 4.
[18] Department for Environment, Food and Rural Affairs, *Central Government Funding for Flood and Coastal Erosion Risk Management in England* (2019) 4-6.
[19] Sir Michael Pitt, *The Pitt Review: Learning Lessons From the 2007 Floods* (Cabinet Office 2008) para 25.1-25.10.
[20] Howarth (n 3) xv.

Flooding can also have significant environmental impacts. It can cause damage to flora,[21] as well as result in the death of animals throughout food chains due to drowning, lack of food, or habitat disruption.[22] It has been reported that the rate of increase in the extent, severity, and frequency of flood events is not giving nature time to adapt, with devastating effects on wildlife and ecosystems. Indeed, the ecosystems that rivers and flooded areas support are said to already be at risk of collapsing.[23] Flooding can also lead to the contamination of land and water, which in turn can have an adverse effect on flora and fauna. Indeed, floods have been described as 'especially effective agents of contaminant dispersal',[24] meaning that once contamination has been carried into watercourses, it can then be transported hundreds of miles before being washed back on land, thus enabling the environmental impacts of flooding to reach well beyond the area flooded.[25]

The impacts of flooding also raise issues of environmental and climate justice. It is recognised that lower socio-economic groups tend to suffer the worst from flooding due to a lower level of preparedness and a lack of resources available for resistance and resilience measures, insurance and repairs. It has also been established that the health impacts are more severe amongst the elderly, the very young, and those who already suffer from poor health.[26]

1.2.3 Conclusion

The ability of flooding to impact on so many aspects of life, even for people living outside of the flooded areas, and the substantial financial burden that it puts on the nation as a whole, means that it is a problem that affects everyone. Furthermore, although the published figures are not always consistent with regard to what they include, making it difficult to make clear comparisons between them, it is clear is that the level of flood risk in the UK in terms of numbers of people at risk, the damage caused, and the cost of flood risk management is increasing and is expected to continue to increase.[27]

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[21] Sarah Shailes, How flooding affects plants (Plant Scientist, 2014) <How flooding affects plants | Plant Scientist (wordpress.com)> accessed 30th November 2020.
[22] Tom Bawden, 'UK Weather: Floods Could Have Devastating Environmental Impact - As Animals Drown or Die From Lack of Food' *Independent* (London, 17 February 2014).
[23] Phoebe Weston, ''The Losses Could be Profound': How Floods are Wreaking Havoc on Wildlife' *The Guardian* (thegaurdian.com, 1 April 2020).
[24] S A Foulds and others, 'Flood-Related Contamination in Catchments Affected by Historical Metal Mining: An Unexpected and Emerging Hazard of Climate Change' (2014) 476-477 Science of The Total Environment 165
[25] Bawden (n 22) .
[26] Office of Science and Technology, *Foresight Report: Executive Summary* (n 4) 20; Gordon Walker and others, *Addressing Environmental Inequalities: Flood Risk* (Environment Agency Science Report, SC020061/SR1, 2006) 31-40; Pitt, *The Pitt Review* (n 19) para ES.6.
[27] Office for Science and Technology, *Foresight Report: Executive Summary* (n 5) 14; Pitt, *The Pitt Review* (n 19) vii; Environment Agency, *National Assessment of Flood Risk* (n 7) 3; Cabinet Office, *National Flood Resilience Review* (Cabinet Office 2016) 2.

1.3 Flood Events in the UK

The UK experienced serious flooding in summer 2007. These floods were significant not just because of their severity and the gravity of their impacts, but because they compelled the Government to recognise the need to improve understanding of flood risk and ensure that the nation was better prepared to deal with future risks.[28] For this reason, this thesis regards 2007 as a key date in the consideration of approaches to flood risk management in the UK. Met Office records show that the UK has experienced at least one flood event in almost every year since the 2007 floods, the most serious of which occurred in the winters of 2013/14 and 2015/16.[29] A summary of the 2007, 2013/14, and 2015/16 flood events and their impacts is set out below.

1.3.1 Summer 2007 floods

The summer of 2007 was remarkably wet, with rainfall for May to July being 178% of the average rainfall for this period, making it the wettest May to July period in the UK since Met Office records began in 1914.[30] This resulted in severe flooding in northern and western England in June and across the south Midlands in July.[31] The Pitt Review, a Government commissioned review into the summer 2007 floods and the lessons to be learned from them, described the situation caused by the floods as 'the country's largest peacetime emergency since World War II',[32] and the floods were subsequently classified as a national disaster.[33]

As a consequence of the summer 2007 floods, thirteen people lost their lives, and 48,000 homes and 7,000 businesses were flooded.[34] At the time of writing the final Pitt Review in June 2008, a year after the initial floods, thousands of families were still living in temporary accommodation and unable to return to their homes.[35] Schools were flooded, resulting to damage to property and school closures,[36] and the extensive and, in some cases prolonged, loss of services (water and electricity) constituted the largest scale loss of essential services since World War II.[37] Some 10,000 people were left stranded overnight on the M5 motorway

[28] Environment Agency, *National Assessment of Flood Risk* (n 7) 3.
[29] Met Office, 'Past Weather Events' (2017) <www.metoffice.gov.uk/climate/uk/interesting> accessed 8th December 2017.
[30] Met Office, 'Record rainfall June -July & May - July 2007' <www.metoffice.gov.uk/climate/uk/interesting/may_july2007> accessed 24th May 2018.
[31] Met Office, 'Heavy rainfall/flooding - July 2007' <www.metoffice.gov.uk/climate/uk/interesting/july2007> accessed 24th May 2018.
[32] Pitt, *The Pitt Review* (n 19) vii.
[33] John Chatterton and others, *The Cost of the Summer 2007 Floods in England* (Environment Agency 2010) vi.
[34] Pitt, *The Pitt Review: Interim Report* (n 4) 9.
[35] ibid vii and 9.
[36] John Chatterton and others (n 33) 6.
[37] Pitt, *The Pitt Review: Interim Report* (n 4) 17,18, 78, 94, para 5.42; Pitt, *The Pitt Review* (n 19) para ES.17.

and 500 people at Gloucester Railway Station. Several railway lines and stations were closed for up to a week and 25 London Underground stations had to shut.[38] More extensive danger to life, loss of essential services and disruption to travel networks was narrowly avoided when further infrastructure assets came close to being flooded and a number of flood defences came close to failing.[39]

At least 180,000 insurance claims were made as a result of the 2007 floods - the equivalent of 4 years' worth of normal insurance claims.[40] The total economic cost of the 2007 floods has been estimated at around £3.2 billion in 2007 prices,[41] which, according to the Pitt Review, made them the most expensive out of 200 major flooding events worldwide that year.[42]

1.3.2 Winter 2013/14 floods

Heavy rainfall over the Christmas and New Year period of winter 2013/14 was followed by the wettest January on record in some parts of England. This led to flooding across the UK, including prolonged flooding of the Somerset levels.[43] There was significant disruption to transport infrastructure, with the village of Muchelney in Somerset remaining accessible only by boat for approximately 10 weeks.[44] The power network was also affected, with an estimated 28,321 people experiencing power cuts.[45]

The winter 2013/14 flood events were unusual in that they included all the different types of flooding (coastal, river, surface water and groundwater). It has been reported that a significant proportion of the flooding, including 40% of flooded residential properties, was caused by coastal flooding,[46] and that the collapse of the railway to Cornwall, which was regarded as one of the most significant consequences of the winter 2013/14 floods,[47] was caused by erosion, rather than flooding specifically.[48] Whilst this thesis does not seek to address coastal flooding for the reasons set out in section 1.5.1, river, surface water and groundwater flooding

[38] Pitt, *The Pitt Review: Interim Report* (n 4) 94.
[39] ibid 5 and para 6.10.
[40] Pitt, *The Pitt Review* (n 19) xxi and para ES.55.
[41] John Chatterton and others (n 33) v, vi, 21 and para 2.1.
[42] Pitt, *The Pitt Review* (n 19) ix and para ES.3.
[43] Sarah Hartwell-Naguib and Nerys Roberts, *Winter Floods 2013/14* (House of Commons Standard Note, SN/SC/06809, 2014) 4, 5 and para 2.5, 2.6.
[44] BBC News, 'Muchelney main road raised to stop it flooding' (*BBC*, 2015) <www.bbc.co.uk/news/uk-england-somerset-31547640 > accessed 4th June 2020.
[45] Environment Agency, *The Cost and Impacts of the Winter 2013 to 2014 Floods* (2016) 108.
[46] ibid 45, 54.
[47] Sarah Hartwell-Naguib and Roberts (n 43) 12.
[48] Environment Agency, *The Cost and Impacts of the Winter 2013 to 2014 Floods* (n 45) 144.

comprised a significant proportion of the flooding and approximately £565.93 million (43.5%) of the total £1,300 million pounds cost of these floods.[49]

1.3.3 Winter 2015/16 floods

Further major flooding occurred in winter 2015/16 as a result of a series of severe storms throughout December 2015 and January 2016. These storms brought exceptionally high rainfall to parts of Cumbria after an exceedingly wet November in which many parts of North West England had twice the monthly average rainfall for November. This led to severe flooding in Cumbria and other parts of Northern England,[50] causing at least three deaths and the flooding of 16,000 properties. Residents were evacuated from their homes over the Christmas period, including hundreds of people who were evacuated the day after Boxing Day when the Foss Barrier protecting York was overwhelmed at the height of Storm Eva. The floods also caused disruption to infrastructure with the closure of roads and railways across England, including the West Coast Mainline, as well as the loss of power to homes and businesses due to flood damage to a substation in Lancaster. Routine NHS business and appointments were cancelled, and Lancaster University and approximately 40 schools had to close.[51]

The Government response to these floods included the mobilisation of 200 military personnel together with supporting resources, including a Chinook helicopter, and the provision of temporary flood defences and pumps.[52] The total economic cost of the floods of winter 2015/2016 has been estimated at approximately £1.6 billion.[53]

1.3.4 Comparison of 2007, 2013/14 and 2015/16 floods

A brief summary of the estimates of the impacts of the flood events in 2007, 2013/14 and 2015/16 discussed above is set out in Table 1.1 below.

[49] ibid 24.
[50] Met Office, 'Flooding in Cumbria December 2015' <www.metoffice.gov.uk/climate/uk/interesting/december2015> accessed 24th May 2018.
[51] Sara Priestley, *Winter Floods 2015-2016* (House of Commons Briefing Paper, CBP7427, 2016) 2-8.
[52] Priestley, *Flood Risk Management and Funding* (n 8) 5.
[53] Environment Agency, *Estimating the Economic Costs of the 2015 to 2016 Winter Floods* (2018) 3.

	Summer 2007 floods	Winter 2013/14 floods	Winter 2015/16 floods
Total cost	£3.9 billion	£1.3 billion	£1.6 billion
Number of residential properties flooded	48,000	10,500	16,000
Number of business properties flooded	7,000	3,100	5,000
Loss of life	13	0	3
Education days lost	400,000	No major or prolonged school closures	120,000
Local authority costs (excluding road damages)	£170 million	£57 million	£73 million[54]

Table 1.1 Summary of the impacts of 2007, 2013/14 and 2015/16 flood events

1.3.5 Autumn and winter 2019/20 floods

A very wet summer in 2019 was followed by heavy rainfall in November in South Yorkshire, Nottinghamshire, Lincolnshire and Derbyshire. This is resulted in ground saturation, overtopped rivers and the flooding of low-lying areas. Further rainfall in December 2019 caused flooding in Kent, Surrey and Sussex, and in February and March 2020, more flooding occurred in the Yorkshire Dales, South Wales, Herefordshire, Worcestershire and Shropshire when Storms Ciara and Dennis brought a month's worth of rainfall in one day to some places. At the time of carrying out this research, a full assessment of the impacts of these floods had yet to be carried out, but two deaths were reported, and initial assessments estimate the number of properties flooded in November 2019 as having been somewhere between 830 and 1,758, with at least a further 1,400 properties flooded in February and March 2020.[55] Whilst these flood events were not on the same scale as those that occurred in 2007, 2013/14 or

[54] ibid.

[55] Jonathan Finley, *Autumn and Winter Floods 2019-2020* (House of Commons Library Briefing Paper, CBP8803, 2020) 9 and para 1.1 – 1.5.

2015-2016, they nonetheless caused significant damage and destruction, and the flooding of the 'highly valued' Lugg and Hampton meadows Site of Special Scientific Interest served as a reminder of the environmental damage that flooding can cause.[56]

1.4 Climate Change

It is generally accepted that there is a link between climate change and flood risk due to increases in precipitation and rising sea levels caused by climate change, which means that there is a significant degree of overlap between the issues of flood risk and climate change.[57] The Committee on Climate Change (CCC) is an independent statutory body established under the Climate Change Act 2008 to advise the UK and devolved administration governments on setting and meeting carbon budgets, preparing for climate change, and the risks and opportunities of climate change.[58] It has predicted that climate change is expected to result in an increase in the impacts of flooding to the extent that it will challenge the viability of some communities.[59] It also forecast that, even in the best-case scenario, a further 45,000 properties will fall within the highest flood risk category by the middle of the century.[60] The CCC has consequently put flooding and coastal change risk to communities, businesses and infrastructure at the top of the list of areas of climate change risk which the UK needs to prioritise.[61] However, even if steps are being taken to reduce climate change at local, national and global levels, the time delay in the climate system means that irrespective of the effectiveness of those steps, the impacts of climate change will still be felt well into the future.[62] For this reason, and the fact that climate change is not the only driver of flood risk, addressing climate change overlaps with flood risk mitigation but it is only part of the solution.

1.5 Flood Risk Management

There are a number of public bodies that have responsibility for the management of flood risk:

- DEFRA is responsible for development of flooding policy.

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[56] Weston (n 22).
[57] Intergovernmental Panel on Climate Change, *Special Report on Climate Change and Land* (IPCC 2019), ch 2; Climate Change Committee, *Independent Assessment of UK Climate Risk* (CCC 2021).
[58] Committee on Climate Change Adaptation Sub-Committee, *UK Climate Change Risk Assessment 2017, Synthesis Report: Priorities for the Next 5 Years* (Committee on Climate Change 2016) 1.
[59] ibid 2-4.
[60] Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change, 2015 Report to Parliament* (Committee on Climate Change 2015) 18.
[61] Committee on Climate Change Adaptation Sub-Committee, *UK Climate Change Risk Assessment 2017, Synthesis Report* (n 58) 2.
[62] Pitt, *The Pitt Review: Interim Report* (n 3) 31, para 3.3; Committee on Climate Change Adaptation Sub-Committee (n 58) 17.

- The Environment Agency (EA) is a non-departmental public body sponsored by DEFRA. It has responsibility for taking a strategic overview of flooding, has powers to manage flood risk from main rivers, estuaries, reservoirs and the sea, responsibility for the majority of flood defences in England, and has an advisory role.
- Regional Flood and Coastal Committees help the Environment Agency understand local issues and balance local and national priorities.
- Internal drainage boards have operational responsibilities regarding drainage.
- Highways authorities are responsible for providing and managing highways drainage
- Water companies are responsible for ensuring that public sewers effectively drain the areas they serve.[63]
- The Flood and Water Management Act 2010 established upper tier local authorities (county council and unitary authorities) as Lead Local Flood Authorities (LLFAs) and gave them responsibility for developing, maintaining, applying and monitoring a strategy for managing the risk of surface and ground water flooding from watercourses that are not main rivers in their areas.[64] Whilst the LLFA will often be the same authority as the local planning authority, the LLFA regime operates outside the planning system.
- Local planning authorities (LPAs) work with the other flood risk management bodies to ensure that their development plans and development control provide for the effective management of flood risk.

This research focuses on the role of LPAs in the management of flood risk. To explain why it does so, set out below is a summary of the role that the planning system in general plays in the management of flood risk, followed by an explanation of the importance of the role of LPAs.

1.5.1 Role of the planning system in flood risk management

Whilst discussion of flood risk has tended to emphasise the role of climate change, human activity has increased flood risk in other ways, with development and land-use affecting the frequency, severity and impacts of floods. The continual growth in development and land coverage is not only putting ever-increasing pressure on drainage systems, but also reducing the ability of the ground to absorb rainfall and thereby increasing the volume and velocity of run-off. In addition to this, building continues to take place in high-risk areas, including

[63] National Audit Office (n 10) 5.
[64] Flood and Water Management Act 2010, s 9(1).

floodplains.[65] As the planning system is the regime that regulates present and future development and land-use, it is regarded by some as having increased susceptibility to inland flooding due to the amount, location and type of development and land-use that it has allowed. However, it is also recognised as having the potential to play a key role in reducing that susceptibility[66] as it can not only prevent development from taking place in areas at risk of flooding, but also ensure the mitigation of the flood risk to or resulting from development that does take place[67] and that any additional costs associated with development are borne by the developer and not by the wider public.[68] It can therefore reduce flood risk by addressing both the causes and impacts of flooding. Furthermore, the planning system is in the advantageous position of being able to make connections between flood risk management and other issues such as housing, transport and public services, providing an opportunity for integration of the various issues and a means of balancing the competing interests in an accountable and transparent way.[69]

Climate change is the main driver of coastal flooding and the planning system plays a less significant role: coastal flooding is a result of rising sea levels and therefore largely beyond the control of local planning authorities (although the discussion of the location of development within flood risk areas is applicable to the issue of the location of development within areas vulnerable to coastal flooding). For this reason, this research focuses on inland flooding and does not address coastal flooding.

1.5.2 Importance of local planning authorities in flood risk management

Within the planning system, central government is responsible for establishing planning legislation and guidance, but it is LPAs that interpret and apply this legislation and guidance when they carry out their functions of preparing strategic plans for future development of the area and determining individual planning applications.[70] In doing so, they can utilise local knowledge, take into account local circumstances and needs,[71] and engage and work with communities, individuals and other interested parties.[72] LPAs are therefore ideally placed to

[65] Environment Food and Rural Affairs Committee, *Future Flood Prevention* (Environment, Food and Rural Affairs Committee 2016) 7.
[66] Iain White and Joe Howe, 'Flooding and the Role of Planning in England and Wales: A Critical Review' (2002) 45(5) Journal of Environmental Planning and Management 735, 736 and 744.
[67] Pitt, *The Pitt Review* (n 19) para ES.25.
[68] ibid para 5.23-5.26.
[69] Royal Town Planning Institute, *Planning Horizons No 2* (n 15) 6.
[70] Gareth E Bruff and Adrain P Wood, 'Local Sustainable Development: Land-Use Planning's Contribution to Modern Local Government' (2000) 43(4) Journal of Environmental Planning and Management 519, 520.
[71] Justine Bell and Tiffany Morrison, 'A Comparative Analysis of the Tranformation of Governance Systems: Land Use Planning for Flood Risk' (2015) 17(4) Journal of Environmental Planning and Policy 516, 520.
[72] Royal Town Planning Institute, *Planning Horizons No 2* (n 15) 14.

take a key role in the management of flood risk, and it is therefore flood risk management at the local authority of the planning system that is the focus of this research project.

Furthermore, it is in LPAs' own financial interests to carry out their functions in a way that reduces flood risk as flood events result in substantial financial costs to local authorities. For example, the 2013/14 floods discussed above were estimated to have cost local authorities £58 million as a result of damage to local authority assets, the cost of dealing with incidents, provision of housing and other services, and support provided by council employees. This was in addition to costs incurred in relation to roads, flood risk infrastructure, and educational and recreational facilities.[73]

1.6 Objectives and Research Questions

The central thesis of this research project is that LPAs could manage flood risk more effectively. The general objective is therefore to evaluate the potential and actual use by LPAs of the legal planning tools available to them to manage flood risk and identify any barriers that are preventing them from making effective use of these tools. In order to achieve this general objective, it has been broken down into three sub-objectives with related research questions.

O1. To identify the legal planning tools that LPAs can use to manage flood risk when carrying out their functions in relation to the preparation of development plans and determination of planning applications.

O2. To determine how effectively these tools are being used in practice by LPAs.

O3. To identify the barriers that are preventing LPAs from making effective use of the tools available to them and make recommendations as to how to remove these barriers and improve LPAs' management of flood risk.

These objectives will be addressed by answering five research questions:

RQ1. What legal duties and policy requirements are there on LPAs to manage flood risk in their areas? This will be addressed in Chapter 3.

RQ2. What legal planning tools are available to LPAs to manage flood risk? This will be addressed in Chapter 4.

[73] Environment Agency, *The Costs and Impacts of the Winter 2013 to 2014 Floods* (n 45) 78.

RQ3. To what extent and in what ways are LPAs making use of the legal planning tools available to them, and are they fulfilling their legal and policy requirements to manage flood risk? This will be addressed in Chapters 5 to 9.

RQ4. What are the barriers to LPAs' use of the legal planning tools available to them for the effective management of flood risk and are there any ways in which LPAs could make better use of the legal planning tools available to them to manage flood risk? This will be addressed in Chapters 4 to 10.

RQ5. What reforms could be made to the planning system to enable LPAs to better manage flood risk? This will be addressed in Chapter 10.

1.7 Research Methods and Methodology

1.7.1 Research paradigm and theoretical perspective

The definition of a flood is a large volume of water covering an area that is normally dry[74] and there are many historical records documenting such inundations of land by water in the UK.[75] It is only recently, as these inundations of water have increasingly affected human life and caused damage to our built environment and property, that flooding has become seen as a problem,[76] and it can therefore be seen as a social construct. The law too, is socially constructed as it exists as an institution created by society,[77] absorbing, reflecting and expressing society's ideas about who and what is of value.[78] However, this research seeks to use doctrinal research and case study data to identify three things: what makes effective flood risk management legal planning tools and legal and policy obligations; what is causing LPAs to manage flood risk in the way they do; and what is causing them to interpret and apply the law in the way they do. The ontological approach of this research is therefore one of positivism.[79]

[74] Collins Online Dictionary <(collinsdictionary.com)> accessed 14th June 2020.
[75] Met Office, *The Recent Storms and Floods in the UK* (Met Office 2014) 24.
[76] Howarth (n 3) xv, 6.
[77] Aulius Aarnio, 'On the Ontology of Law' in Aulius Aarnio (ed), *The Foundations of Legal Thinking* (Springer 2011) 50.
[78] Ngaire Naffine, *Law's Meaning of Life: Philosophy, Religion, Darwin and the Legal Person* (Hart Publishing 2009) 11.
[79] J H Turner, 'Positivism: Sociological' (2001) International Encyclopedia of the Social and Behavioral Sciences 11827

1.7.2 Research methods

1.7.2.1 Doctrinal research

Doctrinal research is 'research into the law and legal concepts',[80] and it involves locating the sources of the law and then examining, interpreting, and analysing the text.[81] This research method will be applied in answering RQ1and RQ2. In order to address RQ1, the research identifies the law that establishes the obligations LPAs have regarding flood risk management. In order to avoid complications arising from differences between devolved administrations, the research is limited to the law that applies to LPAs in England. It includes obligations that relate directly to the management of flood risk, as well as those that relate to it indirectly, such as obligations relating to climate change, sustainable development, housing, communities and settlement management, and environmental protection. The relevant legislation, case law, policy and academic literature is then examined to analyse those obligations and establish precisely what the obligations entail and how extensive they are. In order to address RQ2, the legal planning tools available to LPAs in England to manage flood risk are identified. These tools are then analysed by means of an examination of the relevant legislation, case law, policy and academic literature in order to determine how and the extent to which they could be used to help manage flood risk, as well as to establish the limitations of their use for flood risk management.

1.7.2.2 Empirical research

Case studies were used to collect data to answer RQ3 and RQ4. Quantitative data was collected to answer RQ3. However, answering RQ4 involves investigation into the perceptions, understandings, interpretations and motives behind LPA decision-making. As the quantitative data are not capable of taking account of these perceptions, understandings, interpretations and motives,[82] semi-structured interviews were used to obtain the necessary qualitative data. The interview data will also give insight into the social, cultural and political context within which LPA decisions are made and within which the quantitative data have been produced.[83] Semi-structured interviews (rather than closed question structured interviews or questionnaires) were used to produce detailed and in-depth knowledge as they do not restrict the interviewees' responses and enable unforeseen interesting points that arise

[80] Terry Hutchinson and Nigel Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin Law Review 83, 85.
[81] ibid 110.
[82] Jonathan Grix, *The Foundations of Research* (2nd edn, Palgrave Macmillan 2010) 119.
[83] ibid.

during the interviews to be pursued.[84] The purpose of the interviews was not therefore to produce results that can be coded and analysed in a quantitative manner. However, because the interviews all followed a basic structure and discussed certain themes, the results and findings are capable of being compared and contrasted (which would not be possible if the interviews were entirely unstructured).[85] Using this combination of quantitative and qualitative data in the research improves the reliability and validity of the findings and reduces the risk of biased results.[86]

1.7.3 Case study methodology

Four case studies have been used to answer RQ3 and RQ4. The case studies involved the collection of quantitative data from publicly available planning documents to examine if, how, and to what extent the LPAs have used the tools identified in answering RQ2 to manage flood risk. This data is then analysed to answer RQ3. In order to address RQ4, the case studies also involved the collection of qualitative data from interviews with individual decision makers within each LPA to examine the perceptions and understandings of the role of LPAs in flood risk management and the tools available to them to manage flood risk. Ethics approval for the interviews was obtained from Newcastle University Faculty of Humanities and Social Sciences Ethics Committee.

1.7.3.1 Choosing and contacting the case study LPAs

Four case studies were chosen to interrogate the project's research questions. It was felt that four case studies would give sufficient information to enable generalizable research conclusions to be made regarding the outcomes of the data analysis and allow for comparison between the case studies, whilst also being manageable within the time constraints of the research.

As this research focuses on the law and planning system in England, the LPAs selected needed to be in England rather than any other part of the UK. In order to ensure that they would provide data that would illuminate the research questions, the four LPAs were chosen from areas that had experienced significant inland flooding in recent years. It was also necessary to ensure that the LPA areas were self-contained areas of a size suitable for the time constraints of the research project, although it was also considered desirable to have a mix of sizes and characteristics. The LPAs chosen were Allerdale Borough Council, Birmingham City Council, Worcester City Council, and City of York Council. Allerdale is located in the

[84] ibid 128.
[85] ibid.
[86] ibid 131-35.

northwestern part of Cumbria in an area of mountains and lake filled valleys that also has a coastal section. It has a mainly rural population. Birmingham is a large city in the West Midlands that stands on the River Rea and has a largely urban population. Worcester is another city in the West Midlands, but of a significantly smaller geographic and population size than Birmingham. It is flanked by the River Severn and has a largely urban population. York is a city in North Yorkshire situated at the confluence of the River Ouse and River Floss and has a largely urban population.[87] Whilst the legal planning tools available to these LPAs are the same irrespective of their size and characteristic, these factors may have an impact upon the strategic approach to flood risk management and the resources/expertise available.

A contact name for an individual within each LPA was obtained from planning documents available on the relevant local authority websites. The four LPAs were initially contacted by an email to the identified contact explaining the nature and aims of the research and asking whether any planning officers would be prepared to be interviewed. The email also contained a copy of the Participant Information Sheet (a copy of which is in Appendix A). Responses were obtained from Allerdale Borough Council, Birmingham City Council and City of York Council, and interviews were set up to take place between February and May 2019. A chase-up email was sent to Worcester City Council, and it then agreed to take part in the research but requested that they be able to answer the interview questions by email rather than in a face-to-face interview, with the possibility of a follow up interview taking place at a later date.

1.7.3.2 Quantitative data collection

As discussed above, the floods of summer 2007 forced the Government to recognise the need to take steps to manage flood risk and led to the publication, in 2008, of the Pitt Review on lessons to be learnt from the 2007 floods. It was therefore decided to collect quantitative data from 2007 to 2019 in order to enable an examination of whether there has been any change in the LPAs' approach to the management of flood risk over that period. Quantitative data were collected on development plans, adaptation of permitted development rights, refusals of planning applications, conditions, planning obligations, and the Community Infrastructure Levy, as detailed below.

[87] Department for Environment, Food and Rural Affairs, *Local Authority Districts Ranked by Rural and Hub Town (Rural-related) Populations 2011, Using 2011 Rural Urban Classification* (DEFRA 2014).

1.7.3.2.1 Development plans

The current development plan and all earlier development plans that had been in place since 2007 were examined for each of the four LPAs. Copies of all the relevant development plans were available from the LPAs' websites. Categories for the data collection and analysis in respect of development plan policies were as follows:

i) Flood risk management as a strategic objective. Is flood risk management part of the strategic goals?
ii) Flood risk management policy. Is there a specific policy regarding the management of flood risk, and what does it require?
iii) Surface water drainage policy. Is there a specific policy regarding the management of surface water drainage? What does it require? How does it link to the flood risk management policy?
iv) Other relevant policies. What is the relationship made in the development plan between flood risk management and policies on sustainable development, climate change, environmental protection, housing, communities and settlement management, development design, and infrastructure?
v) Planning tools. What planning tools does the development plan identify for use in the management of flood risk?
vi) Other third parties. Which third parties are identified as being instrumental in the implementation of the policies on flood risk management?
vii) Cross-boundary working. How and to what extent does the development plan address the cross-boundary nature of flooding?

1.7.3.2.2 Permitted development rights

The development plan policies regarding permitted development were examined for each of the four LPAs. This included policies on the use of Article 4 Directions, Local Development Orders and Neighbourhood Development Orders to adjust nationally applicable permitted development rights to account for local circumstances. Data were then collected on the Article 4 Directions that had been imposed by the four LPAs from 2007 to 2019. These data consisted of the number of Article 4 Directions imposed and which permitted development rights they had removed and why, as well as the dates on which they had been implemented. Allerdale Borough Council's website does not a have a list of Article 4 Directions but has a map which identifies which properties have Article 4 Directions affecting them. There is no link enabling the viewer to view the Article 4 Direction. An email was sent to Allerdale Borough Council requesting details of the Article 4 Directions in place since 2007 in

Allerdale and this information was provided by email. The websites for Birmingham City Council, Worcester City Council and City of York Council contained information on the Article 4 Directions in place, including copies of the Directions themselves. Data were also collected on the LPAs' use of Local and Neighbourhood Development Orders, including the number of Orders entered into, the permitted development rights granted by them, and the dates on which they were made. These data were obtained from copies of the Orders which were available from the LPAs' websites.

1.7.3.2.3 Refusal of planning permission

The development plans were examined so see if they contained policy on if and when a proposed development would be refused planning permission on flood risk related grounds. Data were then collected on applications for planning permission that had been refused on grounds relating to flood risk. All decisions made regarding applications for full planning permission made in the month of March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019 were examined. This consisted of between 267 and 1101 decisions for each case study. It was felt that this was a sufficient number of decisions to give an indication of if and how often planning permission was being refused on grounds relating to flood risk whilst also being reasonable within the time constraints of this research project. The month of March was chosen as it was considered likely to represent a 'normal' month, without the number of applications or decisions being affected by Christmas or holidays.

1.7.3.2.4 Conditions

The development plans were examined so see if they contained policy on if and when conditions can and/or should be used to manage flood risk. Data were then collected from the same planning decisions as were examined to collect the data on refusals of planning permission. For each decision, a note was made of any condition that was imposed for the specific purpose of managing flood risk or surface water drainage. Data were also collected on the following types of condition which, as discussed in Chapter 4 (section 4.4), have the potential to be used to manage flood risk:

- conditions to make the planning permission temporary
- conditions to protect the environment
- conditions regarding the materials to be used
- conditions relating to surfacing and ground levels
- conditions removing permitted development rights relating to extensions/enlargements and change of use or restricting use.

1.7.3.2.5 Planning obligations

The development plans for the four LPAs were examined to determine what their policies are on the use of planning obligations. Quantitative data were then collected on the actual use of planning obligations by the four LPAs, initially from the LPAs' websites. LPAs are currently required to publish an annual report on their websites in the form of an 'annual infrastructure funding statement' that includes details of planning obligations, what infrastructure/work they relate to and whether they have been delivered. These reports are also required to include details of non-monetary contributions (although there is no requirement to include details of any planning obligations that constitute restrictions on use rather that financial or non-financial contributions to infrastructure).[88] However, these requirements have only recently come into effect and LPAs were not required to publish their first annual infrastructure spending statement until 31st December 2020. Prior to the introduction of these requirements, LPAs were not required to produce annual reports regarding their planning obligations.[89] Consequently, the information available from the four LPAs' websites on their use of planning obligations was very variable, in terms the amount and type of information provided and the format that it has been provided in. It was therefore necessary to contact each of the LPAs by email to request information that was not available on their websites. So far as was possible, data were collected on the number of planning obligations entered into in each year from 2007 to 2019, the infrastructure it concerned, the nature or amount of the obligations, and whether it had been fulfilled.

1.7.3.2.6 Community Infrastructure Levy

The development plan policies relating to the Community Infrastructure Levy (CIL) were examined for each LPA. Information on whether the LPAs had adopted a CIL schedule was available from the LPAs' websites. For those LPAs that had introduced the CIL, the Regulation 123 list (which sets out the infrastructure projects and types that the LPA intends to use the CIL to fund) [90] was examined to ascertain the extent to which it includes flood risk management projects and infrastructure. Those LPAs that have adopted a CIL charging schedule have been required to publish annual reports on their websites which set out details of their CIL income, as well how much has been spent and what on.[91] These reports were

[88] The Community Infrastructure Levy (Amendment) (England) (No 2) Regulations 2019, SI 2019/1103, reg 9 and para 3, sch 2.
[89] Town and Country Planning (Local Planning) (England) Regulations 2012, SI 2012/2613, reg 34.
[90] The Community Infrastructure Levy Regulations 2010, SI 2010/948, reg 123.
[91] ibid regs 62 and 121A.

examined in order to determine the extent to which the LPAs are making use of the CIL to fund the provision of flood risk management infrastructure.

1.7.3.3 Qualitative data collection

A copy of the interview questions was sent to each LPA prior to the interviews taking place (a copy of which is in Appendix D), together with a copy of the Participant Informed Consent Form, Data Management Plan, and a further copy of the Participant Information Sheet (copies of which can be found in Appendices B, C and A). It had been hoped that four planning officers from each LPA would be interviewed in separate interviews. Four planning officers from Allerdale Borough Council took part in the interviews, but, at their request, they were interviewed together in one meeting. One planning officer from Birmingham City Council was interviewed and two members of the planning department from the City of York City. A combined email response to the interview questions was provided by three planning officers from Worcester City Council.

Before commencing the interviews, each interviewee signed a Participant Informed Consent Form. The interview questions were used as a guide for the structure of the interviews, but it was not felt necessary to adhere strictly to them. The purpose of the interviews was to enable the interviewees to express their views and experiences regarding the planning system in general and flood risk management in particular, and it was therefore important to have the flexibility to enable the interviewees to respond freely and the interviewer to pursue unexpected points that arose during the interviews. Each interview was recorded on a Dictaphone, with the consent of the interviewees, and subsequently transcribed by the interviewer. Details of the steps taken to protect the anonymity of the interviews and the storage and retention of the interview data can be found in the Data Management Plan. Each interview lasting between 45 and 75 minutes.

During the interviews, qualitative data were collected on the interviewees' opinions and thoughts on:

- The role of the planning system and what its priorities are.
- The LPA's general priorities.
- The extent to which flood risk management is an issue in the area.
- The LPA's role in the management of flood risk.
- The tools that the LPA uses to manage flood risk.
- Any changes required to the tools or planning system to enable better management of flood risk.

1.7.4 Limitations of methodology

It is necessary to recognise that there are there are some limitations of the chosen methodology. In particular, it must be acknowledged that as the qualitative data and analysis are created from the shared experience of the interview, a different researcher carrying out this research would be likely to have not only produced different responses, but also generated different data from them.[92] Comprehensive transcripts of the interviews will be retained so that there is detailed retrievable data available for reanalysis,[93] but it is recognised that this cannot prevent the implications of the interview being a shared experience, and this has to be accepted as an inevitable limitation of interviews as a data collection method.

It is also important to recognise the limitations on the ability of case studies to produce findings that can be generalised.[94] This is particularly the case with regard to research into local planning where generalisations are of limited application due to the different physical, social and economic contexts of different local authority areas, and therefore care needs to be taken with transporting any generalisations arising out of this research across space, as well as between different periods of time. What applies to one area or at one point in time will not necessarily apply to another area or at a different point in time.[95] However, whilst it has not been possible to establish precise quantitative rules and predictions, as four case studies were carried out rather than just one, it has been possible to generalise the findings to some degree.[96] It has been possible to identify a number of similarities between the LPAs in relation to their approach to the management of flood risk, as well as identify some differences, and examine why these similarities and differences have arisen. This can be used to make predictions regarding other LPAs where the context is sufficiently similar to the case studies. It is also the case that one of the objectives of the case studies was to develop an understanding of the values and perspectives that lie behind flood risk management decision-making by LPAs, and it has been recognised that although carrying out qualitative research that uses only a small number of cases may produce a limited amount of generalizable findings it tends to produce a substantial amount of relevant information for such research.[97] It has therefore been possible to use the data to make some generalisations and predictions of a

[92] Elizabeth L Juppenlatz, 'Rural Regeneration and Localism: A Case Study of Northumberland' (DPhil thesis, University of Newcastle 2015); Alan Bryman, *Quantity and Quality in Social Research* (Routledge 1988) 18.
[93] Bryman (n 92) 78.
[94] Grix (n 82) 88.
[95] Peter Naess, 'Critical Realism, Urban Planning and Urban Research' (2015) 23(6) European Planning Studies 1288, 1239.
[96] Grix (n 82) 88.
[97] Gary King, Robert Owen Keohane and Sidney Verba, *Designing Social Inquiry: Scientific Inference in Qualitative Research* (Princeton University Press 1994) 4.

qualitative nature regarding the factors that influence decision-making and how they influence it.[98]

[98] Naess (n 95) 1239.

Chapter 2. Literature Review

This chapter reviews the discussion of flood risk management in policy documents, advisory reports, and academic literature in order to establish the context within which the planning regime operates and Local Planning Authority (LPA) decisions are made. It will look first at the general areas of discussion surrounding flood risk in England, examining some of the key aspects of flood risk assessment and management, including the environmental and climate justice issues that arise in relation to both the assessment and management of flood risk and which will be picked up on in the discussion of LPA flood risk management obligations in Chapter 3, how LPAs can and do manage flood risk in Chapters 4 to 9, and the recommendations for how LPAs could better manage flood risk in Chapter 10. It will then discuss the role that the planning systems plays in the management of flood risk before setting out a summary of the environmental principles that are potentially relevant to the approach that the planning system takes to the management of flood risk. The chapter will conclude by setting out the gaps in the discussion and study of the management of flood risk by Local Planning Authorities (LPAs) that this thesis will seek to address.

The Foresight Future Flooding Report (the Foresight Report) is an Office of Science and Technology commissioned report that was published in 2004. It reviewed the new and emerging science regarding the risk to the UK from flood and coastal erosion in order to inform policy for a long-term strategy for dealing with flooding and coastal defence from 2030 to 2100.[1] The report was hailed as the most extensive investigation and assessment of flood risk in the UK,[2] and will therefore serve as the starting point for the review of the discussion regarding flood risk management in the UK in this chapter.

2.1 Flood Risk

2.1.1 Flood risk assessment

2.1.1.1 Uncertainty

The uncertainty regarding future projections of flood risk was a key message of the Foresight Report. It is widely accepted that it is not always possible to accurately predict where and when flooding will occur.[3] Furthermore, calculating the impacts that flooding will have is even more challenging as the impacts depend on the nature of the land flooded and the extent,

[1] Office for Science, *Foresight Future Flooding: Executive Summary* (Government Office for Science 2004) 6.
[2] ibid 2.
[3] Department for Food and Rural Affairs, *Flood and Coastal Erosion Risk Management: Policy Statement* (DEFRA 2020).

depth, and intensity of flow.[4] Flood risk management strategies therefore need to go beyond a reliance on flood risk modelling. This lack of predictability arises not just as a result of limitations in scientific knowledge and understanding regarding the key drivers of flooding, but also because there are new and evolving factors that affect current and future risk, such as climate change and changes to land-use, so that flood risk cannot be assessed simply by looking at historical events.[5] Although efforts are continually being made to reduce the scientific uncertainty by increasing understand regarding the drivers of flood risk and improving flood modelling and mapping, it is widely recognised that a significant degree of uncertainty will remain no matter what advances are made in our scientific knowledge. The Foresight Report acknowledged this, concluding that the uncertainty regarding future flood risk is a 'major challenge' to managing flood risk.[6]

There is therefore an understanding that this uncertainty needs to be clearly and openly acknowledged and incorporated into flood risk management strategies[7] so that they have the flexibility to respond to 'an evolving future',[8] and application of the precautionary principle (as discussed in section 2.3.3) can play an important role in addressing this. It is, however, also recognised that care needs to be taken in the way that this uncertainty is presented to the public in order not to undermine public support for and confidence in those strategies and that it needs to be made clear that the uncertainty arises not as a result of inadequate scientific investigation but due to inherent uncertainties in the components necessary to produce accurate models.[9]

2.1.1.2 Increase in flood risk

Whilst there is as a lack of certainty in relation to the ability to predict when, where, and the extent to which flooding will occur and the impacts that it will have, this uncertainty does not apply to the trajectory of flood risk. There is widespread scientific agreement that flood risk is increasing and will continue to increase into the future with regard both the probability of flooding and its consequences, irrespective of the measures taken to mitigate flood risk.[10] It

[4] William Howarth, *Flood Defence Law* (Shaw & Sons 2002) 7.
[5] ibid 13.
[6] Office for Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 40.
[7] Sara Priestley, *Flood Risk Management and Funding* (2017) 6.
[8] Office for Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 43.
[9] Cabinet Office and Department for Environment, Food and Rural Affairs, *National Flood Resilience Review* (Cabinet Office 2016) 86-87.
[10] Sir Michael Pitt, *The Pitt Review: Learning Lessons From the 2007 Floods* (Cabinet Office 2008); Environment Agency, *Flooding in England: A National Assessment of Flood Risk* (Environemnt Agency 2009); Committee on Climate Change, *Reducing Emissions and Preparing for Climate Change: 2017 Report to Parliament: Summary and Recommendations* (Committee on Climate Change 2017).

has been reported that, no matter what steps are taken to reduce greenhouse gas emissions or how well future planning decisions and policy changes account for flooding, inertia in both the climate system and the built environment mean that any effects of reducing greenhouse gas emissions and ensuring that planning decisions and policies account for greenhouse gas emissions on the frequency, intensity, and impacts of flooding would not be felt for decades.[11] In any event, the general trend for the value of assets that are at risk of flooding to increase over time means that the economic impacts of flooding will continue to increase even if the probability and intensity of flooding does not.[12] Indeed, the Foresight Report analysed four different flood risk future scenarios based on different climate change trajectories combined with different socio-economic scenarios arising out of different social, economic and technological changes and their different effects on the drivers and impacts of flooding,[13] and concluded that 'all scenarios point to substantial increases' in flood risk.[14]

2.1.1.3 Surface water flooding

Surface water flooding occurs when the capacity of the drainage system, which includes the natural drainage and absorption capacity of the area as well as engineered drainage systems, is overwhelmed by the volume of water. Like all types of flooding, surface water flooding can cause significant damage, but additional issues can arise in relation to the pollution of rivers[15] and the mixing of flood water with sewerage.[16]

The Foresight Review found that the risk of surface water flooding was increasing. It stated that this was due to additional run-off caused by the increase in impermeable surfaces, as well as the limited capacity of drainage and sewerage systems that are being put under mounting pressure by development. It predicted that the number of properties at high risk of surface water flooding would increase four-fold by the 2080s[17] and a recent report by the National Audit Office stated that more properties are now at risk of surface water flooding (3.2 million) than are at risk of flooding from rivers and seas (2.5 million).[18] Surface water flooding has, however, historically been treated as a separate issue from river and coastal flooding, and the

[11] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 7, 32, 42.
[12] Office of Science and Technology, *Foresight Future Flooding Scentific Summary: Volume 1 - Future Risks and their Drivers* (Office of Science and Technology 2004) 10.
[13] ibid 21.
[14] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 14.
[15] Department for Environment Food and Rural Affairs, *Future Water - The Government's Water Strategy for England* (DEFRA 2008).
[16] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 16.
[17] ibid.
[18] National Audit Office, *Department for Environment and Rural Affairs: Managing Flood Risk* (National Audit Office 2020) para 1.7.

Foresight Review drew attention to the need to include surface water flooding in the assessment of and strategies for the management of flood risk.[19] Despite this, surface water flooding is neither included in the Environment Agency's flood risk assessment nor taken into account in its Flood Zone classifications.[20]

2.1.2 Flood risk management

2.1.2.1 Mitigation, resistance, adaptation, and resilience

Mitigation, resistance, adaptation, and resilience are all types of ways in which flood risk can be managed. Although the terms are closely linked and their meanings overlap to a significant degree, they do mean different things. Flood mitigation involves the taking of measures to reduce flood risk by reducing the probability of flooding occurring (such as ensuring that there is adequate drainage to enable rainfall to be absorbed or otherwise discharged) and/or the impacts that it will have (such as the use of property level resistance measures to prevent/reduce the ingress of floodwater into properties), and therefore constitutes an essential aspect of flood risk management. However, as discussed in section 2.1.1.2, it is widely acknowledged that even with the use of highly effective mitigation measures flood risk will continue to rise for some time and even in the long-term it is not possible for flood risk to be completely eliminated.[21] It is therefore the case that flood risk management strategies need to include resistance, adaptation, and resilience measures as means of managing the residual flood risk that remains after mitigation steps have been taken. Furthermore, resistance, adaptation, and resilience measures are means of mitigating flood risk by reducing the impacts that flooding has. Resistance is about the taking of measures that aim to keep water out of buildings and areas where it is not wanted or to minimise the amount that does enter. Adaptation is concerned with the taking steps or making of adjustments to be prepared for and able to cope with flooding or to moderate the harm caused by it, as well as exploiting any beneficial opportunities which flooding may present.

The definition of resilience is a little more complex and there is a spectrum of meanings that can be attributed to it. At one end of the spectrum, resilience is seen as being concerned with minimising the damage caused by flooding and increasing the speed with which recovery

[19] Office of Science and Technology, *Foresight Flooding Scentific Summary: Volume 1* (n 12) para 3.1; Office for Science and Technology, *Foresight Future Flooding Scientific Summary: Volume 2 - Managing Future Risks* (Office for Science and Technology 2004) para 3.1.
[20] Environment Agency, *A National Assessment of Flood Risk* (n 10) 29.
[21] HM Treasury and Sir N H Stern, *The Economics of Climate Change: the Stern Review* (CUP 2007) xxi.

takes place and things return to how they were.[22] At the other end of the spectrum, there is the approach that sees resilience as being about moving forward and developing strategies by which the community can adapt to and evolve alongside or ahead of the increasing challenges posed by flooding. The purpose of this approach to resilience is to develop a community that is not disrupted by flooding in the first place,[23] and it therefore goes beyond simply keeping the water out and takes a more holistic and long-term approach that has the objective of learning to live with water and creating a society that is able to transform in response to the challenge of flood risk (including the uncertainties), without being thrown into crises.[24] This interpretation of resilience may require some fundamental societal changes, such as moving to 'alternative development trajectories' that are more sustainable. [25]

It is difficult to establish the precise boundaries of what constitutes mitigation, resistance, adaptation, and resilience, and the overlap between them is somewhat blurred, but the diagram below gives an idea of the relationship between them.

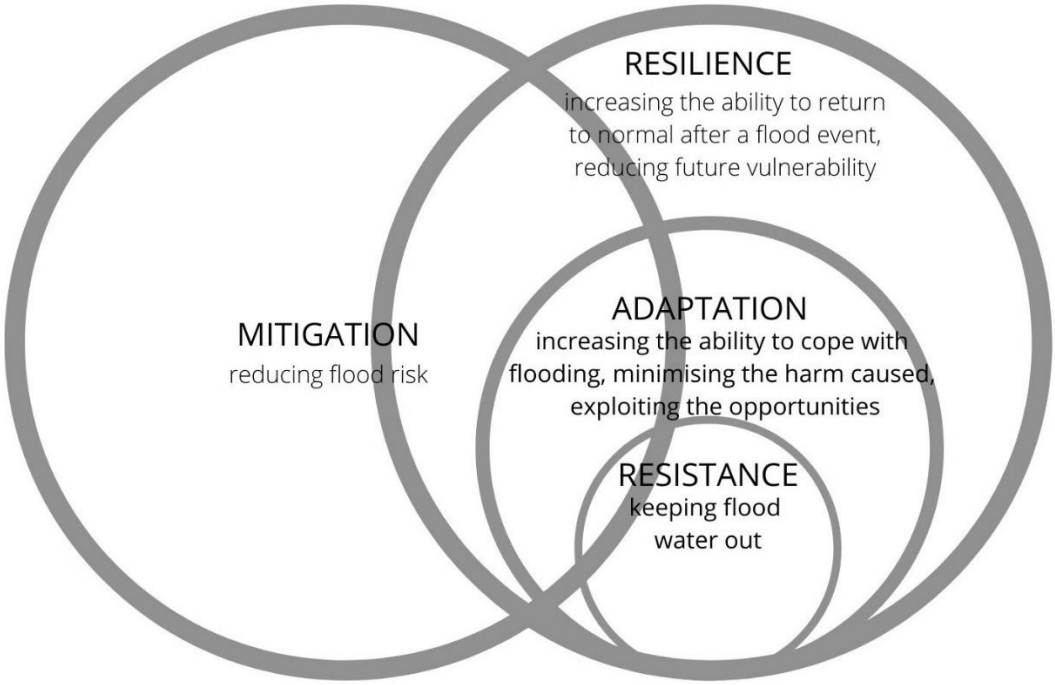

Figure 2.1 Diagram summarising relationship between mitigation, resistance, adaptation, and resilience

[22] Simin Davoudi, 'Resilience: A Bridging Concept or a Dead End?' (2012) 13(1) Planning Theory and Practice 299, 300.
[23] Jon Coaffee, 'Towards Next-Generation Urban Resilience in Planning Practice: From Securitization to Integrated Place Making' (2013) 28(3) Planning Practice and Research 323, 323-324.
[24] Mark Scott, 'Living With Flood Risk' (2013) 14(1) Planning Theory and Practice 103, 103-107; Davoudi (n 22) 302.
[25] Scott (n 24) 104.

The benefits of taking resistance, adaptation, and resilience measures can be considerable. The Bonfield Report, a Government commissioned review of how best to enable and encourage the use of property level flood resilience measures, claimed that resilience measures can have a cost-benefit of more than £5 for every £1 invested,[26] and that it would be cost beneficial to make resilient all properties in areas with a 3.3% or greater annual chance of flooding.[27] The Environment Agency has suggested that the costs of installing property level resilience measures are likely to be recouped after a single flood incident.[28] In addition to improving the resilience of properties, ensuring that critical infrastructure is resilient can also reduce the economic consequences of flooding.[29] Furthermore, resistance, adaptation, and resilience measures can have social as well as economic benefits. The installation of flood level resistance and resilience measures has been found to reduce homeowners' stress and sense of vulnerability,[30] and resilient infrastructure reduces the social and health impacts of flooding and enables effective emergency responses to flooding.[31] It is also the case that resistance, adaptation and resilience measure are a valuable way of providing local benefits – the effects are felt in the places where the measures are taken, with those benefits tending to be realised quickly, without the long-term leads that other mitigation measures can have.[32]

Numerous other policy documents and other government publications have considered the issues of resistance, adaptation, and resilience to flooding (either specifically, or as an impact of climate change). These include the Pitt Review,[33] the National Adaptation Programme (NAP),[34] and the National Flood Resilience Review (which is discussed further in section 2.1.2.3).[35] Whilst they all recognise the key role that resistance, adaptation, and resilience have to play in the management of flood risk, they all take an approach that focuses on the use of engineered measures, in particular property level flood resistance and resilience measures, and on improving the response to flooding once it has already occurred. These documents all see the objective of the resistance, adaptation, and resilience measures as being to facilitate returning to the pre-flood state of affairs as quickly as possible with, at best, the addition of some property level resistance measures to reduce the impact of future flood events on

[26] Dr Peter Bonfield, *The Property Flood Resilience Action Plan* (DEFRA 2016) 8.
[27] ibid 113.
[28] Environment Agency, *A National Assessment of Flood Risk* (n 10) 79.
[29] Pitt, *The Pitt Review* (n 10) paras 14.2, 14.14 and 14.19.
[30] Bonfield, *The Bonfield Review* (n 26) 8.
[31] Pitt, *The Pitt Review* (n 10) paras 14.2, 14.14 and 14.19.
[32] HM Treasury and Stern, *The Stern Review* (n 21) xxi.
[33] Pitt, *The Pitt Review* (n 10).
[34] Department for Environment Food and Rural Affairs and Department of Health and Social Care, *National Adaptation Programme* (The Stationery Office 2013).
[35] Cabinet Office, *National Flood Resilience Review* (n 9).

individual properties, rather than seeking to make adaptations to achieve a community or society that is not disrupted by flooding. The same approach is taken in the 25 Year Environment Plan, which was published in 2018 and sets out the Government's plan 'to help the natural world regain and retain good health', including through its approach to land-use.[36] It states that the Government will focus on '[i]mproving the resilience of properties at risk of flooding and the time it takes them to recover should flooding occur', but refers to flood barriers, non-return valves to wastewater pipes, airbrick cover, and flood-resistant coatings on walls as being measures by which resilience can be increased.[37] Furthermore, the commitments, recommendations and advice in the 25 Year Environment Plan, the Bonfield Report, Pitt Review, NAP, and National Flood Resilience Review are neither time-limited nor measurable and include no quantification of the level of resilience or flood risk reduction that is expected. With regard to resistance, adaptation, and resilience in practice, the Bonfield Report stated that the use of property level resilience measures has been low[38] and, according to the Committee on Climate Change, it is no way near the level required to manage residual flood risk.[39]

Therefore, whilst it has been suggested that resilience has replaced sustainability as the 'buzzword of the moment'[40] and is becoming a 'central organizing metaphor' in policy-making regarding flooding and many other risks,[41] the Government's approach to resilience has, to date, focused on 'short term damage reduction' (for example, the use of measures to reduce the impact that flood events have on individual properties) rather than 'long term adaptive capacity building' to prevent communities from being thrown into crisis by flooding ,[42] and therefore does not encourage the fundamental societal changes that are required to achieve true, long-term resilience. The Environment Agency has, however, recently published a new flood risk management strategy, and this sets out long-term objectives based on improving resilience. This, like its previous strategy, contains no quantification of the level of resilience it expects to achieve, but it does set out 56 measures to achieve its objectives, 63% of which have a clear time-limit and 55% of which are measurable.[43] It also interprets

[36] Department for Environment, Food and Rural Affairs, *A Green Future: Our 25 Year Plan to Improve the Environment* (DEFRA 2018) 9.
[37] ibid 52 and 55.
[38] Bonfield, *The Bonfield Review* (n 26) 8.
[39] Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change* (Committee on Cimate Change 2017) 114-116.
[40] Libby Porter and Simin Davoudi, 'The Politics of Resilience for Planning: A Cautionary Note' (2012) 13(2) Planning Theory and Practice 329, 329.
[41] Coaffee (n 23) 323.
[42] Davoudi (n 22) 302.
[43] National Audit Office (n 18) para 3.7.

resilience more broadly, referring to it terms of 'the capacity of people and places to plan for, better protect, respond to, and recover from flooding', including the need for 'building back better' to ensure that properties and infrastructure are more resilient to future events and the need to 'mainstream property resilience measures'.[44] This may, therefore, be an indication of the beginning of a move towards a broader interpretation of resilience as being about preventing communities from being thrown into crisis by flood events.

2.1.2.2 Flood defences

Flood defences are a key means of mitigating and adapting to flood risk and improving resistance and resilience. The term 'flood defences' is often used to refer to hard, engineered defences, such as traditional structural defences/barriers, that on the whole have the objective of keeping floodwater out of an area or directing it off the land concerned as quickly as possible.[45] The term 'flood defences' can, however, also include soft, green flood management infrastructure which uses the natural environment to help reduce flooding, sometimes referred to as soft defences or green (or blue) infrastructure.

Traditional hard flood defences are an important means of reducing flood risk to existing properties and infrastructure,[46] as well as to future development that will inevitably take place in flood risk areas.[47] Indeed, hard flood defences, such as pumping, structural defences, flood warnings, evacuations, drain clearing, and sandbags helped prevent the flooding of hundreds of thousands of properties during the winter 2013/14/ floods, and reduced the damage caused by the flooding that did occur. However, there are a number of limitations and shortfalls that restrict the extent to which they can provide the solution to the problem of flooding. In the first place, they are often reactive rather than preventative.[48] The Foresight Report also identified that issues can arise regarding the funding of the installation and the continued maintenance of hard flood defences,[49] and it is clear that there are questions regarding their sustainability and cost-effectiveness. The Committee on Climate Change has advised the Government that not only is it not cost-effective to build new structural defences to protect all the properties that are at risk of flooding,[50] but also that over time it will stop being cost-

[44] Environment Agency, *National Flood and Coastal Erosion Risk Management Strategy for England* (Environment Agency 2020) 25, 46, 61 and 71.
[45] William Howarth, 'Integrated Water Resources Management and Reform of Flood Risk Management in England' (2017) 29(2) Journal of Environmental Law 355, 360.
[46] Pitt, *The Pitt Review* (n 10) para 7.52.
[47] Committee on Climate Change Adaptation Sub-Committee (n 39) 140.
[48] Environment Agency, *The Cost and Impacts of the Winter 2013 to 2014 Floods* (Environment Agency 2016) 35-41.
[49] Office for Science, *Future Flooding Scientific Summary: Volume 2* (n 19) paras 5.1.3-5.1.4.
[50] Committee on Climate Change Adaptation Sub-Committee (n 39) 100.

effective to maintain some existing structural defences.[51] Whilst basing decisions about the provision and maintenance of flood defences on a cost-benefit analysis raises environmental and climate justice issues (which are discussed further in section 2.1.3),[52] it is also arguable that that such decisions need to be justifiable on economic grounds[53] as the alternative approach of building defences to protect those areas that are most at risk creates a 'perverse incentive' to develop on floodplains.[54]

It is also the case that every hard flood defence has the potential to fail, and, in the case of flood barriers, the higher the barrier, the more devastating the failure will be.[55] This is a particular issue in light of the fact that water levels that would at one time have been considered to be once in a generation are now being seen far more frequently than this in some parts of the UK.[56] Indeed, during the winter 2015/16 floods, recently constructed defences in Carlisle were overwhelmed, resulting in the flooding of 2,000 homes.[57] Furthermore, this potential for defence barriers to fail is not well recognised by those that benefit from their protection. This has led to a false sense of security that has increased vulnerability by not only encouraging development in high-risk areas,[58] but also discouraging residents from taking their own measures to reduce their flood risk.[59] Hard flood defences can also increase flood risk are by reducing the storage capacity of the catchment area[60] or directing the water to somewhere else that is has even less capacity to cope with it or is even more vulnerable to its impacts.[61]

Another drawback to the use of hard flood defences is that they can have a negative effect on the environment. Their construction can have detrimental environmental and ecological impacts by way of damage to and disturbance of flora and fauna and their habitat,[62] and their operation can have a negative impact on the environment as they interfere with natural

[51] ibid 95.
[52] Mark Stallworthy, 'Sustainability, Coastal Erosion and Climate Change: An Environmental Analysis' (2016) 18(3) Journal of Environmental Law 357, 373.
[53] Howarth, *Flood Defence Law* (n 4) 6-7.
[54] Dieter Helm, 'Flood Defence: Time for a Radical Rethink' <www.dieterhelm.co.uk/node/1414> accessed 29th March 2018, paras 6 and 10.
[55] Iain White and Joe Howe, 'Flooding and the Role of Planning in England and Wales: A Critical Review' (2002) 45(5) Journal of Environmental Planning and Management 735, 738.
[56] BBC News, 'Severn flood defences 'may not be enough' in the future' (*BBC,* 2021) <Severn flood defences 'may not be enough' in the future - BBC News> accessed 17 December 2021.
[57] Committee on Climate Change Adaptation Sub-Committee (n 39) 98.
[58] Office for Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 42.
[59] Committee on Climate Change Adaptation Sub-Committee (n 39) 138 and 227.
[60] White and Howe (n 55) 738.
[61] Office of Science and Technology, *Foresight Flooding Scentific Summary: Volume 1* (n 12) 15.
[62] Howarth, *Flood Defence Law* (n 4) 408.

processes.[63] Those that operate by directing water off the land as quickly as possible may result in run-off that contaminates watercourses and reduces the water quality by disturbing sediment, and by preventing infiltration of floodwater into the ground they can also cause a reduction in the groundwater levels.[64] The negative impact of flooding and flood defences on the environment tends to receive significantly less attention than the social and economic impacts.

It is therefore widely agreed that relying solely on hard flood defences is not a sustainable long-term solution to the problem of flooding[65] and there have been calls for greater use of softer flood defences. In its 2004 in its consultation document, 'Making Space for Water', the Department for Environment, Food and Rural Affairs (DEFRA) proposed taking an approach to flood risk management that involves use of the natural environment to provide more space for water so that it does not encroach upon areas where we do not want it to.[66] Arguments have continued to be made for the use more sustainable approaches to flood defence, such as the use of wetlands, on-farm reservoirs and improving the infiltration capacity of soil. These aim to slow water down as well as keep it out of areas where it will cause problems and often have wider benefits to the environment,[67] such as helping floodplains and river corridors return to their natural condition.[68] Using green spaces for the storage and infiltration of water also has societal benefits due to the amenity and leisure value of these spaces.[69]

In addition to the environmental and social benefits, soft defences can be significantly more cost-effective than hard flood defences. The Natural Capital Committee is an independent advisory committee that advises the Government on the sustainable use of the UK's natural assets (natural capital), including land and rivers. It calculated that the creation of around 100,000 hectares of wetland, particularly upstream from major towns and cities, would have a typical cost benefit of a 3:1 ratio, and up to 9:1 in some cases in terms of avoidance of flood damage.[70] The Government's 25 Environment Plan subsequently set out plans to increase the use of natural processes for flood risk management purposes,[71] and of the Government's £2.6

[63] Stallworthy (n 52) 363.
[64] Howarth, 'Integrated Water Resources Management and Reform of Flood Risk Management in England' (n 45) 361.
[65] White and Howe (n 55) 737.
[66] Department for Environment Food and Rural Affairs, *Making Space for Water* (DEFRA 2004) 6.
[67] Pitt, *The Pitt Review* (n 10) 7.101 and 7.115; Department for Environment Food and Rural Affairs, *The 25 Year Environment Plan* (n 36) 32.
[68] Environment Agency, *A National Assessment of Flood Risk* (n 10) 6.
[69] Joe Howe and Iain White, 'Like a Fish Out of Water: the Relationship Between Planning and Flood Risk Management in the Uk' (2004) 19(4) Planning Practice and Research 415, 421.
[70] Natural Capital Committee, *Advice to Government on the 25 Year Environment Plan* (Natural Capital Committee 2017) 4 and para 5.1.1.2.
[71] Department for Environment Food and Rural Affairs, *The 25 Year Environment Plan* (n 36) 52.

billion six year capital investment programme to reduce flood and coastal erosion risk, £15 million has been earmarked 'to specifically encourage natural flood management projects.'[72]

It is clear, however, that despite the limitations of hard flood defences and the advantages of softer defences, hard flood defences remain an important means of reducing flood risk to existing properties and infrastructure,[73] as well as to future development that will inevitably take place in flood risk areas.[74] Soft flood defences are more limited in their ability to protect the areas of greatest risk and to offer protection in the face of significant events.[75] Indeed, during the 2013/14 floods, hard flood defences helped prevent the flooding of hundreds of thousands of properties and reduce the damage caused by the flooding that did occur, whilst 'natural flood risk management' prevented the flooding of just 40 plus homes.[76] The Natural Capital Committee consequently advised the Government that its flood risk management strategy should use a combination of hard and soft flood risk management measures.[77]

However, it also recognised that both hard and soft flood defences can only ever be part of any effective and sustainable long-term flood management strategies and they need to be used in combination with other mitigation measures.[78] It is imperative for communities that are currently protected by flood defences to engage with the need to take additional measures to reduce their risk, particularly in the event that any hard defences fail or become unsustainable.[79]

2.1.2.3 Surface water flood management

The measures needed to tackle surface water flooding are those that reduce surface water run-off and prevent drainage systems from being overwhelmed. As discussed in section 2.1.1.3, surface water flooding has historically been treated as separate from river and coastal flooding, and flood risk management strategies have therefore historically not included such measures. The Foresight Report highlighted the need to address this,[80] and the need to widen the scope of previous flood risk management strategies to include surface water flooding subsequently became widely recognised, including in the DEFRA consultation document,

[72] Department for Environment Food and Rural Affairs and Department of Health and Social Care, *National Adaptation Programme* (n 34) 44.
[73] Pitt, *The Pitt Review* (n 10) para 7.52.
[74]Committee on Climate Change Adaptation Sub-Committee (n 39) 140.
[75] Department for Environment Food and Rural Affairs and Department of Health and Social Care, *National Adaptation Programme* (n 34) 22.
[76] Environment Agency, *The Cost and Impacts of the Winter 2013 to 2014 Floods* (n 48) 35-41.
[77] National Adaptation Committee (n 70) 5 and para 5.1.1.2.
[78] Cabinet Office (n 9) 29 .
[79] Committee on Climate Change Adaptation Sub-Committee (n 39) 95.
[80] Office of Science and Technology, *Foresight Future Flooding Scientific Summary: Volume 2* (n 19) 3.1.

'Making Space for Water',[81] and the Pitt Review [82]. However, despite the Flood and Water Management Act 2010, under which upper tier local authorities (county council and unitary authorities) were established as Lead Local Flood Authorities (LLFAs) and required to develop, maintain, apply and monitor a strategy for local flood risk management, including surface water flood risk, in their areas,[83] the management of surface water flood risk is not fully integrated into the management of flood risk. In particular, it is not taken into account in the Environment Agency's Flood Zone classifications,[84] and there is no statutory consultee for development in surface water flood risk areas.[85] Furthermore, the 2016 DEFRA policy paper entitled 'National Flood Resilience Review', the objective of which was to assess how the country can be better protected from future flooding and extreme weather events following the 2015/16 floods, only covered flooding from rivers and seas.[86] In 2017, the Committee on Climate Change expressed concern about the lack of progress that had been made regarding managing surface water flood risk, the fragmented responsibility for managing it, and the fact that 'there is no ownership of the problem'.[87] The Government's response to the 2017 Committee on Climate Change report recognised the growing problem of surface water flooding and committed to addressing it.[88] However, whilst the 2019 Committee on Climate Change report stated that some progress had been made regarding the management of surface water, it found the systems and responsibility for managing surface water remained fragmented.[89]

The Government's strategy for managing surface water flooding has focused on the use of sustainable drainage systems (SUDS), in particular in relation to new developments (as discussed in Chapter 3, section 3.4.2.1.4). The idea of SUDS is to put in place a drainage system that mimics natural drainage systems that control surface water run-off close to its source and has wider sustainability benefits that are lacking from conventional drainage systems.[90]

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[81] Department for Environment, Food and Rural Affairs, *Making Space for Water* (n 66) para 1.13.
[82] Pitt, *The Pitt Review* (n 10) para 3.2.
[83] Flood and Water Management Act 2010, s 9(1).
[84] Environment Agency, *A National Assessment of Flood Risk* (n 10) 29.
[85] Committee on Climate Change, *Progress in Preparing for Climate Change 2019 Report to Parliament* (Committee on Climate Change 2019) 122.
[86] Cabinet Office, *National Flood Resilience Review* (n 9) 27.
[87] Committee on Climate Change Adaptation Sub-Committee (n 39) 106-109.
[88] Department for Business Energy and Industrial Strategy and Department for Environment Food and Rural Affairs, *Government Response to the Committee on Climate Change 2017 Report to Parliament - Progress in Preparing for Climate Change* (HM Stationery Office 2017) paras 3.5-3.6.
[89] Committee on Climate Change (n 85) 117.
[90] Howarth, *Flood Defence Law* (n 4) 490.

The advantages of SUDS over conventional drainage systems are well documented, and include that they:

- Deal with the problem at its source (which is an important aspect of reversing the tendency to concentrate on protection over prevention).[91]
- Reduce the amount of run-off from a site onto neighbouring sites.
- Reduce the volume of run-off which enters the traditional drainage system, thereby reducing the risk of sewer flooding.
- Slow down the run-off, thereby enabling settlement and infiltration.
- Filter the water and trapping contaminants in the surface soil, thereby providing a 'passive level of treatment' and reducing the amount of pollution from run-off.
- Enhance amenity and wildlife habitats.
- Restore groundwater, mitigate low flow in rivers, and prevent loss of wetlands.[92]

However, the limitations of SUDS have also been discussed. In particular, it is recognised that they may not be appropriate for use in all circumstance,[93] depending on the type/permeability of the soil, whether there has been any previous contamination, or whether the groundwater is particularly sensitive to contamination.[94] It is also often the case that greater space is needed for SUDS than traditional drainage systems, which may make them unsuitable for use in intensely developed urban areas.[95]

2.1.2.4 Flood insurance

Insurance is an important aspect of flood risk management. Prior to the Foresight Report, questions had been raised regarding the sustainability of providing flood insurance for all households at risk of flooding and it had been predicted that issues regarding availability and affordability were likely to become 'critical' in the future.[96] The Foresight Report touched on this, recognising that the continued availability of insurance to cover the costs of flood damage could not be guaranteed as it was possible that the insurance market would withdraw cover for some areas or not be able to cover the costs of a major flood incident.[97] Conscious of the undesirable consequences of a failure of the insurance market, the Government negotiated with the insurance industry and the resulting Flood Re scheme was introduced in

[91] White and Howe (n 55) 741.
[92] White and Howe (n 55) 743; Howarth, *Flood Defence Law* (n4) 491-92.
[93] Pitt, *The Pitt Review* (n 10) para 6.53.
[94] Howarth, *Flood Defence Law* (n 4) 491-92.
[95] ibid 493.
[96] ibid 486.
[97] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 45.

2016 with two objectives.[98] The first objective was to promote the availability and affordability of flood insurance for household premises in the short-term, thus enabling the insurance industry to continue in its role of enabling individuals and communities to recover from flood events. The second, long-term, objective was to manage the transition to risk-reflective pricing of flood insurance for household premises that would send strong market signals to encourage individuals to reduce their flood risk by making appropriate location choices and/or taking steps to improve their resistance and resilience.[99]

To achieve the first objective, the scheme spreads the potential cost of flood damage across the insurance sector. All household insurance companies pay an annual levy to the Government which the Government then pools and uses to cover the costs of any 'catastrophic event' (losses from an event with a probability of less than 1 in 200 years).[100] In order to prevent long-term reliance on subsidised insurance and further achievement of the second objective of transitioning to risk-reflective pricing, certain time restrictions were included in the scheme. So as to 'incentivise rigorous and responsible planning decisions', the scheme does not cover properties built after January 2009.[101] It is also the case that the scheme will only run until 2039, on the basis that by 2039 flood defences, spatial planning, and property level resistance and resilience measures will be managing flood risk to the extent necessary to ensure that insurance is both risk-reflective and affordable.[102]

In 2019, a review of the scheme reported that the scheme had been 'highly successful' with regard to its first objective of promoting the availability and affordability of household insurance.[103] This review stated that whilst prior to the introduction of Flood Re no customers could obtain five or more quotes, 93% of customers now could. It also reported that the insurance premiums had gone down by at least 50% for four out of five customers with a prior flood claim.[104] However, it must be noted that the Flood Re scheme excludes commercial properties as well as some residential properties, such as buildings with more than three properties and properties rented out to tenants not closely related to the owners.[105] Its coverage is therefore uneven and arguably discriminatory. The success of the scheme in meeting its first objective was recently scrutinised by the Blanc Review, which investigated

[98] Timothy Edmonds, *Household Flood Insurance* (House of Commons Briefing Paper, 06613, 2016) 3.
[99] Water Act 2014, s 64.
[100] Edmonds (n 98) 12-14.
[101] Flood Re, 'Flood Re' <www.floodre.co.uk/homeowners/faq/#question-10> accessed 27th March 2018.
[102] Edmonds (n 98) 21.
[103] Flood Re, *Flood Re Regulation 27: The Quinquennial Review* (Flood Re 2019) 5.
[104] ibid 19.
[105] The Flood Reinsurance (Scheme Funding and Administration) Regulations 2015, SI 2015/1902, reg 5.

why some of the victims of the 2019 floods in Doncaster did not have sufficient insurance.[106] This review was less positive about the success of Flood Re in meeting its first objective having found there to be a lack of public awareness and understanding regarding the scheme, that Flood Re supported policies are not always being offered to eligible households, and that insurance covering flood risk may still be unaffordable to some even though it is subsidised.[107]

Furthermore, Flood Re has been even less successful with regard to achieving the objective of managing the transition to risk-reflective pricing. In the first instance, as the Flood Re scheme operates 'behind the scenes' in the insurance industry, customers are likely to be unaware of its existence and the need to take measures to reduce their flood risk in advance of the scheme coming to an end.[108] It is also the case that payouts cannot be made under the scheme to cover the cost of the installation of additional resistance and resilience measures during the reinstatement of flooded properties,[109] and it is unclear whether it allows for premiums to be reduced to reflect any such measures that have been installed.[110] It is therefore doubtful whether sufficient levels of resistance and resilience will have been obtained by the time Flood Re is withdrawn to enable a move to risk-reflective pricing. Indeed, it has been reported that, at the current rate of implementation of property level resilience measure, out of the 217,000 properties that require them in order to be insurable, only 12,000 properties will have had them fitted.[111] It is therefore clear that at the moment the insurance industry is not sending out sufficiently strong signals to encourage the behavioural changes necessary to effectively manage flood risk.[112]

2.1.3 Flooding and environmental and climate justice

Environmental justice is concerned with the connection between environment and social difference.[113] It includes any aspect of the environment that affects people's health, well-being and quality of life, as well as their power and participation in environmental decision-making, and covers a range of social dimensions such as race, gender, income, and future

[106] Department for Environment Food and Rural Affairs, 'Terms of Reference: Flood Insurance Review 2020' (2020) <www.gov.uk/government/publications/flood-insurance-review-2020-blanc-review/terms-of-reference-flood-insurance-review-2020> accessed 13th July 2020.
[107] Amanda Blanc, *Independent Review of Flood Insurance in Doncaster* (2020) 44.
[108] Steve Browning, *Household Flood Insurance: Flood Re* (House of Commons Briefing Paper, 8751, 2020) 3.
[109] Flood Re, *The 2019 Quinquennial Review* (n 103) 54-55.
[110] ibid 10.
[111] Committee on Climate Change Adaptation Sub-Committee (n 39) 116.
[112] HM Treasury and Stern, *The Stern Review* (n 21) xxi.
[113] Gordon Walker, *Environmental Justice: Concepts, Evidence and Politics* (Routledge 2012) 14.

generations.[114] Climate justice discourse focuses on the fact that the impacts of climate change are not borne equally or fairly between the rich and poor, men and women, and different generation. As discussed in Chapter 1 (section 1.2.2), flooding can have significant detrimental social, economic and environmental impacts. Studies have found that there is little variation between different social classes in relation to exposure to flood risk from rivers,[115] but have found that in most regions of England and Wales, the non-white populations had a greater chance of flooding than white populations.[116] It is also broadly acknowledged that the impacts of flooding do not affect all sections of society in the same way. The Foresight Report itself identified that it is the 'socially disadvantaged', in particular the poor, those who already suffer from ill health, and people with disabilities, that tend to be hit the hardest by both the economic and health impacts of flooding.[117] This was supported and expanded on by a study by Gordon Walker and Kate Burningham published in 2011 that found that the impacts of flooding were more severe not just for poorer people and people with pre-existing health issues and disabilities, but also for children, the elderly, certain ethnic groups, and women.[118]

There were certain limitations to the depth of the information obtained from these studies as they were not able to fully account for the substantial complexities regarding the issue of how and why some groups of people/communities suffer more from the impacts of flooding, and involved only a simple categorization of social classes and ethnic groups.[119] The studies were also limited by the fact they neither included surface water or ground water flooding nor took account of flood defences when assessing flood risk.[120] However, what they did confirm was that there is at least some substance to the claims of inequality regarding exposure and vulnerability to flooding.[121] Subsequent research has built on this finding and it has recently been reported that not only did a disproportionate amount of new development in flood risk areas between 2008 and 2018 take place in areas with lower socio-economic status, but that future increases in flood risk will be 'disproportionately higher in multi-cultural urban

[114] ibid 2-3.
[115] Gordon Walker and Kate Burningham, 'Flood Risk Vulnerability and Environmental Justice: Evidence and Evaluation of Inequality in a UK Context' (2011) 31(2) Critical Social Policy 216, 221.
[116] Jane L Fielding, 'Flood Risk and Inequalities Between Ethnic Groups in the Flood Plains of England and Wales' (2018) 42(1) Disasters 101, 117.
[117] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 18-20.
[118] Walker and Burningham (n 115) 223-24.
[119] ibid 220-24.
[120] ibid 220; Fielding (n 116) 107-8 and 119.
[121] Walker and Burningham (n 115) 226.

neighbourhoods and areas dominated by increasingly struggling home-owners.'[122] These issues of inequality, and the questions regarding environmental and climate justice that they raise, have implications for both the assessment of flood risk and the way that it is managed. Failure to take them into account can have a detrimental effect on public engagement with flood risk management strategies and measures, and consequently on achievement of the objectives,[123] and in some circumstance will exacerbate existing inequalities.[124]

With regard to the assessment of flood risk, the environmental and climate justice issues discussed above mean that flood risk cannot be assessed simply by using quantitative methods to identify which areas and people are at risk of flooding. Quantitative flood risk assessment has a tendency to prioritise the higher value assets of richer people above the lower value assets of poorer people as those impacts that are most readily quantifiable are those that are measurable in monetary terms.[125] A qualitative methodology that investigates how a person or community perceives flood risk and experiences flood events is required for an assessment of flood risk that takes account of environmental justice issues.[126]

In addition to requiring the assessment of flood risk to look beyond the quantifiable impacts of flooding, environmental and climate justice issues require the management of flood risk to do the same. Indeed, it has been argued that the EA's method of basing its decisions regarding the provision of flood defences on a cost-benefit assessment creates issues of injustice as it favours high value property is based on property values and does not allow for decision-making to take account of other factors.[127] Amongst the suggestions for how to address environmental justice issues in connection with flood risk management is to take steps to redistribute the environmental 'bad', as has been done in connection with the management of the distribution and location of waste facilities. Applying this to flood risk management in combination with a qualitative assessment of flood risk that acknowledges differing vulnerabilities to flood impacts would enable an approach to the management of flood risk that differentiates between locations which could, in some circumstances, be allowed to flood,

[122] Viktor Rozer and Swenja Surminski, 'Current and Future Flood Risk of New Build Homes Across Different Socio-Economic Neighbourhoods in England and Wales' (2021) 16(5) Environmental Research Letters 8.
[123] Stallworthy (n 52) 373.
[124] Department for Environment, Food and Rural Affairs and Department for Health and Social Care (n 34) para 121.
[125] Walker (n 113) 150-51.
[126] Gordon Walker and others, *Addressing Environmental Inequalities: Flood Risk* (Environment Agency 2006) 103-106.
[127] Stallworthy (n 52) 362-63.

and locations where this would not be acceptable.[128] However, the difficulties of measuring, and therefore comparing, qualitative experiences of flooding and of controlling with any degree of precision where, when and to what extent flooding occurs has led others to conclude that redistributing the risk of flooding in order to equalise the impacts can only be part of the solution.[129] Taking steps to equalise resilience is another response that has been proposed, further highlighting the key role that resilience (discussed in section 2.1.2.1) plays in the management of flood risk. Equalising resilience would help to address the fact that poor people have fewer resources available for adaptation measures, live in areas with higher insurance premiums, are more likely to live in homes that are less flood resistant, are less likely to have contents insurance, and have fewer resources available for repairs after a flood event.[130] Ensuring that those who are most affected by flooding participate in decision-making regarding the management of flood risk is another key aspect of environmental and climate justice as it can help safeguard their interests and ensure that their values are protected.[131]

2.2 The Planning System

2.2.1 Link between flood risk management and the planning system

Prior to the Foresight Review, Iain White and Joe Howe made the link between development and flood risk and argued that discussion about the effects of climate change on extreme weather events had deflected attention away from the impact that development and planning policies have had on flood risk. Seeking to address this, they carried out a review of the role of the planning system in flooding in which they specifically addressed two questions: whether the planning system encourages an environment susceptible to flooding and what, if any, remedial steps could the planning system take to counter the threat of flooding. This review concluded that there was some truth to the suggestion that planning policy and practice had helped to increase susceptibility to flooding. It referred, in particular, to the growing pressure being put on antiquated drainage systems by the increase in the amount of housing, as well as to the fact that land coverage and use, and the intensification of impermeable surfaces all reduce the natural storage capacity of land and increase run-off problems. White and Howe's review of the planning system also highlighted the fact that '[e]very single development affects the hydrological behaviour of a river catchment', and that building on

[128] Samuel Hayes, Adam Barker and Carys Jones, 'Flood Management Consideration in Sustainability Appraisal and Strategic Environmental Assessment in England and Scotland' (2014) 16(3) Journal of Environmental Assessment Policy and Management 1450025-5.
[129] Walker (n 113) 150-51.
[130] Walker and Burningham (n 115) 223.
[131] Walker (n 113) 151.

floodplains was adding to the problem of flooding from rivers. It did, however, also conclude, in response to its second question regarding what role the planning system could play in reducing flood risk, that the planning system could potentially play a key role by including policies and guidance that help create an environment that manages the causes and impacts of flooding in a way that contributes to the achievement of long-term sustainability.[132]

Although it focused on climate change as a cause of flooding, the Foresight Report did refer to this link between the planning system and flood risk, recognising that flood risk can be increased by land-use decisions,[133] in particular that increases in land coverage and some land-uses can lead to increases in run-off and the risk of surface water and downstream flooding.[134] Recognition of the link between the planning system and increases in flood risk has continued, with the Pitt Review having made repeated reference to the number of properties that are built in areas with a high risk of flooding.[135] More recently, Prime Minister Boris Johnson, when speaking during a visit to an area badly hit by the floods of winter 2019, acknowledged that the increase in serious flood events may be due to 'building' as well as climate change.[136] It is therefore now widely acknowledged that the planning system can be held at least partly to blame for increases in flood risk, but that it has the ability to play an important part in managing it.[137]

2.2.2 Flood risk management by Local Planning Authorities

2.2.2.1 Flooding as a local issue

As explained in Chapter 1 (section 1.5.2), whilst central government is responsible for establishing planning policy and guidance, LPAs have to interpret and apply it when carrying out their duties in relation to the everyday administration of the control of the use and development of land.[138] It is therefore LPAs that are responsible for the way that central government flood risk management policies and strategies function in practice, and for this reason this research project focuses on the role of LPAs in the management of the flood risk.

Furthermore, whilst the drivers of flood risk are a mixture of local, regional, national, and global factors, the impacts of individual flood events are much greater in the locality of the

[132] White and Howe (n 55) 736-37, 747.
[133] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 23.
[134] Office of Science and Technology, *Foresight Flooding Scentific Summary: Volume 1* (n 12) 51.
[135] Pitt, *The Pitt Review* (n 10) ch 5.
[136] Zoe Tidman, 'Boris Johnson says major flooding in North is 'not a national emergency'' *Independent* (9th November 2019) <https://www.independent.co.uk/news/uk/politics/uk-weather-flooding-boris-johnson-national-emergency-rain-yorkshire-derbyshire-latest-a9196191.html>.
[137] Helm (n 54) para 7.
[138] Ashley Bowes, *A Practical Approach to Planning Law* (14th Edition edn, OUP 2019) para 2.01.

area in which the flooding has occurred. Effective responses to flooding therefore need to include a local level response that takes account of local circumstances and needs. Indeed, many of the resistance, adaptation, and resilience measures (see section 2.1.2.1) that can be taken to respond to flood risk have effects that are felt in the places where those measures are taken.[139] LPAs are well placed to contribute to this local response (as discussed in Chapter 1, section 1.5.2),[140] and in doing so offer a level of public accessibility and accountability above that which is available at central government level of the planning system.[141]

2.2.2.2 Dealing with the key issues

Section 2.1 of this chapter set out the key issue that need to be engaged with in to effectively manage flood risk in the long-term. Some degree of scientific uncertainty regarding flood risk is unavoidable, and flood risk management responses need to be able to incorporate and respond to this inherent uncertainty. It is, nevertheless, clear that flood risk is increasing and will continue to increase into the future and that more needs to be done to manage this by way of mitigation, adaptation, improving resistance to flooding, and building resilience in respect of individual properties, businesses, and communities. There is also a need to address the historic failure to make sufficient provision for surface water flooding. It is widely accepted that simply building ever more and higher flood barriers and insuring against flood risk is not a sustainable solution in the long-term, and there has been an overall move towards encouraging increased use of softer, greener flood defence measures that offer wider environmental and societal benefits than conventional hard flood defences. This is particularly the case in relation to surface water flooding, in respect of which SUDS are generally regarded as the preferred means of management. Flood risk also raises a number of environmental and climate justice issues that need to be addressed in relation to the assessment and management of flood risk. The discussion below will include explanation as to how LPAs are able to engage with and respond to these key issues.

LPAs are responsible for shaping and controlling development at two stages of the planning system and are able to engage with and respond to these key issues at both of these stages. In the first instance, LPAs are responsible for preparing strategies and policies that set out their vision for the future development of the area in general[142] and provide a framework for the

[139] HM Treasury and Stern, *The Stern Review* (n 21).
[140] Justine Bell and Tiffany Morrison, 'A Comparative Analysis of the Tranformation of Governance Systems: Land Use Planning for Flood Risk' (2015) 17(4) Journal of Environmental Planning and Policy 516, 519.
[141] Royal Town Planning Institute, *Planning Horizons No2: Future-Proofing Society: Why Planners Need to be at the Forefront of Responses to Climate Change and Demographic Change* (2014) 6 and 14.
[142] Ministry of Housing Communities and Local Government, *Planning Practice Guidance: Plan-making* (Ministry of Housing, Communities and Local Government 2018) para 026.

type of development that will take place, where, and when. Thus, they can set out strategies and policies for the development of the area that take account of flood risk, including in relation to surface water, and ensure that steps are taken to mitigate and adapt to flood risk and improve the resilience of communities and individual developments. These strategies and policies can make provision for a mixture of hard and soft flood defences based on the particular circumstances and needs of the area. LPAs can respond to the inherent uncertainties regarding flood risk in a way that does not hinder the effective management of it by applying the precautionary principle (see section 2.3.2) to their flood risk management strategies and policies and ensuring that they incorporate the flexibility to respond to developments in understanding. Furthermore, by taking account of local circumstance and need, they can ensure that the flood risk management strategies and policies recognise and respond to issues of environmental and climate justice. In particular, it has been recognised that people's vulnerability to the impacts of extreme weather is largely determined by the built environment, including where they live, the quality and resilience of individual properties, and the amount of permeable surfacing and green spaces,[143] and the development strategies and policies can address these issues. The second stage of the planning system in which LPAs are responsible for controlling and shaping development is in the determination of applications for planning permission in respect of individual developments. This offers them a further opportunity to manage flood risk and address all of these key issues in relation to individual developments. A more detailed discussion of how LPAs use their development strategies and policies and the determination of planning applications to manage flood risk is contained in Chapter 4.

2.2.2.3 Limitations of flood risk management by Local Planning Authorities

There are, however, a number of limitations to the ability of LPAs to manage flood risk. One of the key limitations concerns their ability to effectively deal with flood problems caused by past poor decisions, such as the issue of the existing stock of houses that is in flood risk areas. The planning system focuses on the future, with land-use controls working much more easily with regard to, and most regulation being only applicable to, new developments.[144] It is arguable though that these difficulties in dealing with the problems relating to existing development make it even more important that full account is taken of flood risk in decisions regarding new and future development.[145]

[143] Committee on Climate Change Sub-Committee (n 39) 93.
[144] John Minnery, 'Planning and Retrofitting for Floods: Insights from Australia' (2013) 14(1) Planning Practice and Research 121, 125.
[145] Helm (n 54) para 8.

It is also the case that LPAs have a number of responsibilities and duties that they must fulfill in addition to any role that they may play in the management of food risk. There is potential for the measures needed to manage flood risk to conflict with these other responsibilities and duties and the corresponding interests that are required to be protected and promoted. When such conflict arises LPAs have to carrying out a balancing exercise, the result of which can see flood risk management being outweighed by other interests. For example, it is inarguable that flood losses would be markedly reduced by having a ban on properties on floodplains. Nevertheless, it is recognised that simply prohibiting development in high-risk areas or removing properties that currently occupy them is not the answer and the need to manage flood risk has to be balanced with the other social, economic and environmental needs of the area, including the need to provide housing.[146] Indeed, White and Howe's review of the role of the planning system in flooding found that although LPAs have some powers that they could, in theory, use to restrict and control development in relation to the flood risk associated with it, in practice these powers are not effective for managing flood risk, largely due to the tendency of the planning system to prioritise conventional development needs.[147]

2.3 Environmental Principles

A number of principles have been established that set out general concepts and principles to guide the interpretation of environmental (and environment related) law and policy, and which are therefore relevant to the interpretation and application of the law and policy relating to the planning system.[148] These principles do not constitute free-standing obligations,[149] but represent widely agreed approaches/goals in relation to environmental protection and sustainable development.[150]

The principles of environmental law that are potentially relevant to the issue of flood risk management are sustainable development, the preventative principle, the precautionary principle, and the polluter pays principle. A summary of these principles is set out below, together with examples of how their application can facilitate effective flood risk management by LPAs. There are references to these principles and the extent to which they are applied in the planning regime throughout the thesis.

[146] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (n 1) 41 and 51.
[147] White and Howe (n 69) 743 and 739.
[148] Stuart Bell and others, *Environmental Law* (9th edn, OUP 2017) 57.
[149] Paul Stookes, *A Practical Approach to Planning Law* (2nd Edition edn, OUP 2009) para 2.19.
[150] Elizabeth Fisher, Bettina Lange and Eloise Scotford, *Environmental Law: Text, Cases, and Materials* (OUP 2013) 413.

2.3.1 The principle of sustainable development

Sustainable development is perhaps the most developed of the environmental principles in relation to the planning system.[151] Sustainable development is discussed in more detail throughout Chapter 3, but it is essentially a concept that seeks to ensure that the development is sustainable in the long-term and that the development taking place to meet current need does not compromise the ability of future generations to meet their development needs.[152]

2.3.2 The preventative principle

The preventative principle is the principle that where a decision may have an adverse impact on the environment, the primary aim should be the prevention of that harm (rather than allowing the harm to occur and then taking steps to try to remedy it). Application of this principle can be seen in legal and policy provisions that require the impacts of a development to be assessed before the development is carried out, such as through a Strategic Environmental Assessment and Environmental Impact Assessment (as discussed in Chapter 3, sections 3.3.2.4.1 and 3.4.2.5.2).[153]

2.3.3 The precautionary principle

The most widely used definition of the precautionary principle is set out in Principle 15 of the Rio Declaration, which states that '[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.'[154] This principle is based on the approach that the lack of clear evidence that environmental harm will occur does not mean that it acceptable to do nothing to protect environmental against that harm.[155] Application of this principle is particularly pertinent in the context of flood risk management due to the difficulties in knowing when, where, and to what extent flooding will occur (as discussed in section 2.1.1.1).

[151] Stuart Bell and others (n 148) 57.
[152] Gro Harlem Brundtland, *Our Common Future: Report of the World Commission on Environment and Development* (World Commission on Environment and Development 1987).
[153] Stookes (n 149) para 2.20.
[154] United Nations General Assembly, *Report of the United Nations Conference on Environment and Development* (Conference on Environment and Development, Rio de Janeiro, June 1992).
[155] *R (oao AMVAC Chemical UK Ltd) v The Secretary of State for Environment, Food and Rural Affairs* [2001] EWCH (Admin 1011).

2.3.4 The polluter pays principle

The polluter pays principle is based on the idea that the polluter (the party which caused the environmental harm) should pay for the harm caused.[156] As such, it seeks to ensure that the costs of environmental harm are not borne by society as a whole but are internalised within the costs of the activity producing them.[157] The polluter pays principle can be applied preventatively or retrospectively, so that the potential polluter is required to bear the costs of putting in place measures to prevent the environmental harm from occurring or pay the costs of or make good the environmental harm once it has occurred.[158] Application of this principle in the context of flood risk (which requires a broad interpretation of pollution that includes the detrimental impacts of flooding) would mean that the decisions regarding development ensure that the developer is responsible for the cost of the measures needed to mitigate the flood risk related to the development concerned and the remediation costs of any harm resulting from flooding caused by the development. Not only does this ensure that the costs are fairly borne, but it also acts as a deterrent against the carrying out of development with high flood risk.[159]

2.4 Gaps in the Discussion of Flood Risk

Although there has been some discussion regarding the role that LPAs can play in the management of flood risk, there are a number of points that have not been covered in detail and questions that have been left unanswered. In the first instance, although it has been argued that LPAs are in such a good position to help manage flood risk that they have a moral responsibility to do so, especially given that their past decisions may have contributed to an increase in flood risk,[160] the extent of their legal responsibility to do so has not been clearly established. LPAs have a number of legal duties that relate directly to the management of flood risk, as well as a number of further, indirect duties that arise out of their legal duties regarding related issues such as climate change and environmental protection. These are set out in numerous pieces of legislation and policy documents, with the result that it is not easy to establish the precise extent of their duty to manage flood risk, and this may give rise to a lack of engagement by LPAs, as is the case in respect of climate change.[161] This research project seeks to address this by clearly identifying the legislation and policy that gives rise to the obligations that LPAs have in relation to the management of flood risk, as well as carrying

[156] United Nations General Assembly, *The Rio Declaration* (n 154) principle 16.
[157] Stookes (n 149) para 2.28.
[158] *R v SSETR ex p Standley* C-293/97.
[159] Stookes (n 149) para 2.28.
[160] White and Howe (n 55) 736.
[161] Elizabeth Wilson, 'Adapting to Climate Change at the Local Level: The Spatial Planning Response' (2006) 11(6) Local Environment 609, 620.

out an in-depth analysis of these obligations to establish as precisely as possible what they entail.

As discussed in section 2.2.2, there is a general understanding that LPAs can potentially play a key role in the management of flood risk when fulfilling their functions in connection with both strategic planning and the determination of individual planning applications. However, little consideration has been given to the means by which they can do this. There has been some discussion of the use of development plans to put in place strategic flood risk management policies, but no detailed consideration of the type of policies that this might involve. Similarly, although other planning tools, such as permitted development, planning conditions, planning obligations, and the Community Infrastructure Levy, have been mentioned in flood risk management literature,[162] it has also been recognised that some flood risk management measures, such as raising the height of plug sockets, may be beyond the scope of the planning system and regulation in general.[163] There has been no comprehensive examination of the legal planning tools available to LPAs to determine specifically what they can be used to do so far as flood risk management is concerned. This research project seeks to address this by identifying and analyzing those legal planning tools to establish as precisely as possible their scope and what they can be used to do, as well as identifying their limitations in order to clarify what they cannot be used to do.

The fact that the planning system is based on a balancing of interest and the possibility that this may limit the ability of LPAs to manage flood risk has been recognised in the literature (as discussed in section 2.2.2.3).[164] The analysis of LPAs' duties and responsibilities regarding flood risk management, and the legal planning tools that they have available to do so, will therefore include consideration of the extent to which LPAs' duties in relation to other, potentially competing, interests prevent LPAs from effectively managing flood risk. This will include an examination of the extent to which central government's oversight fetters LPAs' discretion regarding how the different interests are balanced. Furthermore, it has been submitted that flood risk management interests are particularly vulnerable to being outweighed by other competing interests during the balancing exercise due to the significant degree of uncertainty that surrounds flood risk and the fact that both strategic and development specific planning decisions are easier to make and justify if they are based on a

[162] Howarth, *Flood Defence Law* (n 4) 363-6 and 386.
[163] Minnery (n 144) 128.
[164] White and Howe (n 69) 739 and 743.

'solid foundation'.[165] This research will therefore consider the extent to which issues of uncertainty regarding flood risk impact on LPAs' ability to manage flood risk, whether they are required or able to take apply the precautionary principle in response to this uncertainty, and the extent to which the legal planning tools available to them facilitate application of the precautionary principle.

It has been recognised that the measures required to manage flood risk in a way that is sustainable in the long-term require LPAs to take a long-term approach to development. This is particularly evident with regard to taking measures to deal with the problem of the risk of flooding to existing development, where a 'managed retreat' approach may be the best long-term solution, rather than a strategy that focuses on short-term needs and the desire to return to normal as quickly as possible after a flooding incident.[166] Such an approach requires a long-term approach to development that includes strategic planning for the relocation of communities that are located in areas of high flood risk. It has been argued that the planning system takes a short-term approach[167] and questions have therefore been raised as to whether LPAs are able to take the long-term approach needed to effectively manage flood risk.[168] This research project seeks to investigate this further by examining the degree to which LPAs' flood risk management duties require or enable them to take a long-term approach to development and the extent to which the planning tools facilitate this.

In addition to examination of these potential limitations to LPAs' ability to manage flood risk that have already been identified, this research will also investigate whether there are any further barriers to LPAs' use of the legal planning tools available to them to effectively manage flood and identify whether, and how, they could make better, more extensive use of them.

[165] Iain White, 'The More We Know the More We Don't Know: Reflections on a Decade of Planning, Flood Risk Management and False Precision' (2013) 14(1) Planning Theory & Practice 106, 110-1.
[166] Minnery (n 144) 125.
[167] Wilson (n 161) 621.
[168] Helm (n 54) 17.

PART 2 – THE DOCTRINAL RESEARCH

The purpose of this research project is to investigate, assess and critique the management of flood risk by Local Planning Authorities. Having set out the aims and objectives of this thesis, introduced the research context, and reviewed the relevant literature in Part 1 of this thesis, Part 2 contains the doctrinal research. Chapter 3 examines the obligations that LPAs have to manage flood risk (RQ1) and Chapter 4 examines the legal tools that they have at their disposal to enable them to fulfill these obligations and otherwise manage flood risk (O1 and RQ2).

Chapter 3. Local Planning Authorities' Legal Duties and Policy Requirements Regarding Flood Risk Management

The purpose of this chapter is to examine the legal duties and policy requirements that there are on Local Planning Authorities (LPAs) to manage flood risk in order to address RQ1 (as set out in Chapter 1, section 1.6). It begins with an introduction to the planning system then outlines how duties and requirements to manage flood risk can arise indirectly through duties relating to climate change, sustainable development, housing, and environmental protection, as well as through direct requirements to manage flood risk. This chapter then analyses the duties and requirements that LPAs have to use their development plans to manage flood risk, and then does the same in relation to their duties and requirements in relation to the determination of planning applications for individual developments. Finally, it assesses if, how, and to what extent those duties and requirements can be enforced.

3.1 Introduction to the Planning System

Prior to the introduction of the planning system, the only controls and limitations on landowners' use and development of their land were those imposed either through common law (such as negligence) or in connection with the title to the land. The planning system was introduced in order to exercise public control over landowners' use and development of land and ensure that decision-making in respect thereof took account of the wider public good and long-term interests of the community.[169] When it was initially introduced in the early 20th century, this control applied only to housing and focused on addressing a small number of specific concerns. During the first half of the 20th century it sought to deal with the problem of unsanitary and cramped living, the location of incompatible uses, access to amenity land, and urban sprawl.[170] The wake of World War II saw the introduction of the current comprehensive legislative regime under which, with the exception of agricultural development, all development requires planning permission.[171] The planning system now, rather than seeking to address just one or two particular concerns, plays a much more extensive role in determining what kind of development is appropriate, how much is desirable, where it should be located, and what it should look like[172] and is concerned with a wider range of interests,

[169] Victor Moore and Michael Purdue, *A Practical Approach to Planning Law* (13th edn, Oxford University Press 2014) para 1.01.
[170] ibid para 1.02.
[171] Wendy Le-Las, 'Sustaining Biodiversity: The Contribution of the Planning System in Controlling Development' in Nicholas Herbert-Young (ed), *Law, Policy and Development in the Rural Environment* (University of Wales Press 1999) 80 and 106.
[172] Barry Cullingworth and others, *Town and Country Planning in the UK* (15th Edition edn, Routledge 2015) 11.

needs and objectives than just the physical aspects of individual land-uses.[173] The planning system has therefore grown and adapted in response to changing needs and priorities, using land management and development control as a means to further the deliverance of changing socially desirable objectives.

The planning system controls the use and development of land through a set of legal rules and supplementary policy and guidance. The primary planning legislation, such as the Town and Country Planning Act 1990 and the Planning and Compulsory Purchase Act 2004, to a large extent sets out general statements of principle which provide the overall legal framework of the planning system. It is regulations, orders, policy and policy guidance that provide much of the detail regarding how the system operates.[174] The key policy in relation to the planning system is the National Planning Policy Framework (NPPF), which was first published by the Ministry of Housing, Communities and Local Government in 2012 and revised in 2019 and is supplemented by planning practice guidance published online. It is this policy and guidance that sets out which interests, needs and objectives should be prioritised by the planning system in practice, and it is the relative ease and speed with which the policy and guidance can be amended and updated that enables the planning system to adapt to changing needs and priorities, thus making it particularly valuable as a means of furthering the Government's current agenda.

3.2 The Duties Examined

This research seeks to establish the extent to which the planning system recognises flood risk as one of today's major societal challenges and addresses it. As discussed in Chapter 1, (section 1.5) it is local planning authorities (LPAs) that are responsible for the day-to-day administration of the planning system. Therefore, to assess the extent to which the planning system addresses flood risk, it is necessary to analyse the requirements that LPAs have regarding flood risk management in relation to their development plans and the determination of planning applications. This chapter will do this by examining the duties that LPAs have to manage flood risk directly. Further duties to manage flood risk may also arise indirectly through their duties in relation to climate change, sustainable development, the safety and longevity of communities and development, and environmental protection, and these will also be examined.

[173] Yvonne Rydin, *The Purpose of Planning: Creating Sustainable Town and Cities* (The Policy Press 2011) 25.
[174] Ashley Bowes, *A Practical Approach to Planning Law* (14th Edition edn, OUP 2019) para 2.12.

3.2.1 Climate change

As discussed in Chapter 1 (section 1.4), one of the impacts of climate change is an increase in the frequency and severity of flood events. Any obligation on LPAs relating to the mitigation of and adaptation to the impacts of climate change consequently includes an obligation to mitigate and adapt to flooding.

3.2.2 Sustainable development

Sustainable development is a concept that seeks to reconcile economic development with the limits of the world's resources and its ability to cope with human activity. Whilst it is an inherently imprecise concept, it is widely agreed that it concerns the balancing and/or integration of environmental, economic and social interests.[175] As flood risk impacts on all three of these interests, the management of flood risk is an essential constituent of sustainable development, and the planning system, is, as discussed in Chapter 2 (section 2.2.2.3), based upon the balancing of many interests and objectives, and therefore an ideal instrument for the balancing of economic, social and environmental interests required to implement sustainable development objectives.

3.2.3 Housing, communities, and settlement management

Flood risk has implications for the safety and sustainability of housing and communities. Any obligations on LPAs to provide safe and sustainable housing or to ensure that communities are safe and sustainable therefore include a requirement to manage the flood risk relating to the housing or community concerned.

3.2.4 Environmental protection

Flooding is a natural part of freshwater ecosystems and plays an important role in creating and regenerating habitats, and the effects of flooding on the environment are therefore not always negative. However, extreme flooding events on the scale that England has experienced in recent years can cause irrevocable harm to the environment.[176] The detrimental environmental effects of flooding include:

- An increase in water and sediment discharge into watercourses, which can lead to pollution of the water and a reduction of the ecological conditions therein.

[175] Klaus Bosselmann, 'The Concept of Sustainable Development' in Klaus Bosselmann, David Grinlinton and Prue Taylor (eds), *Environmental Law for a Sustainable Society* (2nd edn, New Zealand Centre for Environmental Law 2013) 96.

[176] The British Ecological Society, 'Flooding in the UK: Ecological Impacts and an Ecosystem Approach ' (2016) <www.britishecologicalsociety.org/flooding-in-the-uk-ecological-impacts-and-an-ecosystem-approach/> accessed 4th October 2018.

- The widening and deepening of water channels.
- Risk to species and habitats due to the flooding itself and changes in conditions caused by flooding.
- Risks to ecosystems and biodiversity.
- Soil degradation.
- Changes to landscape character.[177]

LPAs' obligations to protect and enhance environmental interests will therefore include an obligation to ensure that flooding does not have a detrimental impact on the environmental interests concerned.

3.3 Local Planning Authority Duties in Relation to Development Plans

LPAs are required to produce a development plan which sets out its strategic policies regarding development and use of land in the area over the next 15 years.[178] It includes the LPA's vision and framework for that development and addresses the needs of the area and the impacts that development will have. There are many statutory and policy requirements that apply to the preparation and content of development plan, some of which relate to the management of flood risk.

3.3.1 Direct flood risk management duties

3.3.1.1 Statutory duties

There is no direct statutory obligation for LPAs to use their development plans to manage flood risk.

3.3.1.2 National Planning Policy Framework

The NPPF's overall policy regarding the management of flood risk is to steer development away from areas with high flood risk towards lower risk areas and to ensure that where development in high-risk areas does take place it is safe from flooding and does not increase flood risk elsewhere.[179] Its strategy for achieving this includes a number of obligations on LPAs in relation to the preparation and content of their development plans.

[177] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (Government Office for Science 2004) 7-36.
[178] Planning and Compulsory Purchase Act 2004 (PCPA 2004) s 17; Communities and Local Government Ministry of Housing, *National Planning Policy Framework* (MHCLG 2019) para 22.
[179] MHCLG, *NPPF 2019* (n 10) para 155.

3.3.1.2.1 Strategic flood risk assessment

It is a requirement of the NPPF that the development plan policies are informed by a strategic flood risk assessment (SFRA) which assesses the impact that the land-use changes and development policies proposed in the development plan will have on flood risk.[180] The assessment is required to cover current and future flood risk from all sources and the cumulative impacts of development.[181] The intention of the requirement for an SFRA is to ensure that LPAs take full account of flood risk when considering their allocation options and other development plan policies in order to make sure that flood risk is not increased and that opportunities to reduce risk are considered.[182] However, criticisms have been made regarding the effectiveness of SFRAs as a means of managing flood risk. The effect of an SFRA identifying land as being at increased flood risk is that any application for development of that land needs to be subject to a site specific flood risk assessment, and it has been alleged that some LPAs have intentionally misinterpreted the results of their SFRAs in terms of whether there is a reasonably available alternative site for the proposed land allocation in order to avoid the need for site specific flood risk assessments to be carried out on particular sites[183] and their objectivity is therefore questionable.[184] Also, as the NPPF states that the SFRA findings should inform, rather than dictate, strategic policies,[185] the extent to which they actually influence site allocation within development plans is unclear. It has been reported that there is confusion amongst LPAs as to the weight to be given to the SFRA, with different LPAs giving them different weight depending on how recently they have experienced major flooding or whether they have a particular concern regarding the impacts of climate change on flood risk.[186]

3.3.1.2.2 Sequential Test

Having carried out the SFRA, LPAs are then required to apply the 'Sequential Test' in relation to the land allocation policies in their development plans, meaning that development should not be allocated to a site if there are other reasonably available appropriate sites with a

[180] Department for Communities and Local Government, *National Planning Policy Framework* (DCLG 2012) paras 100-101; MHCLG, *NPPF 2019* (n 10) para 156.
[181] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Flood Risk and Coastal Change* (MHCLG 2014) para 009; MHCLG, *NPPF 2019* (n 10) para 156.
[182] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) para 010.
[183] Elizabeth Wilson, 'Use of Scenarios for Climate Change Adaptation in Spatial Planning' in Simin Davoudi, Jenny Crawford and Abid Mehmood (eds), *Planning for Climate Change: Strategies for Mitigation and Adaptation for Spatial Planners* (Earthscan 2009) 71.
[184] James Porter and David Demeritt, 'Flood-Risk Management, Mapping and Planning: The Institutional Politics of Decision Support in England' (2012) 44(10) Environment and Planning 2359, 2374.
[185] MCHLG, *NPPF 2019* (n 10) para 156.
[186] Wilson (n 15) 71.

lower risk of flooding.[187] If it is not possible for development to be allocated to a lower risk area, the LPA must apply the 'Exception Test', which prohibits the allocation of development to the site unless it can be demonstrated that the wider sustainability benefits to the community of the allocation policy outweigh the flood risk, that the development can be made safe for its lifetime, and that it will not increase flood risk elsewhere.[188]

The fact that the Sequential Test only requires development to be allocated to lower risk sites that are' reasonably available' means that LPAs retain a large degree of discretion as to where development can be allocated to, which significantly undermines the effectiveness of the Sequential Test. Furthermore, the Exception Tests allows LPAs to prioritise short-term social and economic interests over flood risk. The vague and discretionary wording of the phrase 'wider sustainability benefits of the community' in the Exception Test means that it is largely left to each LPA to determine whether they consider that this criterion has been met based on their own development priorities and it enables the Exception Test to be satisfied in a wide range of circumstances. Furthermore, the potential for the Exception Test to provide this loop-hole is expanded by planning practice guidance allowing for allocation policies to pass the Exception Test if planning conditions and/or planning obligations could be imposed in relation to individual developments to ensure that their wider sustainability benefits outweigh their flood risk.[189] However, as there is a presumption that planning decisions will be made in accordance with the allocation policies of the development plan, once the site has been allocated for development there will be a presumption that development proposals in accordance with the allocation policies will be granted planning permission, which may reduce the scrutiny of the flood risk issues relating to them when determining the planning applications.[190]

The questionable effectiveness of the application of the Sequential and Exceptions Tests as a means of ensuring that development plan policies direct development away from areas at risk of flooding is demonstrated by research carried out by Greenpeace which found that local planning authorities impacted by the floods of winter 2019/20 were planning to build 11,410 properties in areas at risk (ie those defined by the Environment Agency as having a risk of flooding of 1% or greater).[191]

[187] DCLG, *NPPF 2012* (n 12) para 101; MCHLG, *NPPF 2019* (n 10) paras 157-58.
[188] DCLG, *NPPF 2012* (n 12) para 102; MCHLG, *NPPF 2019* (n 10) paras 160.
[189] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) para 024.
[190] PCPA 2004 (n 10) s 38(6).
[191] Jonathan Finley, *Autumn and Winter Floods 2019-2020* (House of Commons Briefing Paper, CBP 8803, 2020) para 4.4; Unearthed, 'Councils hit by storms plan for thousands of new homes in flood-probe areas' (*Unearthed*

3.3.1.2.3 Flood risk management infrastructure

The current NPPF requires LPAs to make sufficient provision for flood risk management infrastructure in their development plans.[192] However, no explanation is given in either the NPPF or planning practice guidance as to what constitutes 'sufficient provision', leaving LPAs with considerable discretion as to how they fulfill the requirement.

3.3.1.2.4 Safeguarding land from development

The NPPF requires LPAs to use their development plans to safeguard from development land that is require, or is likely to be required, for current or future flood management.[193] This appears to be a duty to set aside land to be used for soakaways, flow-paths etc, and to protect from development land that is currently serving such a function, but it is another vague requirement that lacks explanation in either the NPPF or the planning practice guidance.

3.3.1.2.5 Reducing the causes and impacts of flooding

The NPPF includes requirements regarding the use of development plans as a means of reducing the causes and impacts of flooding.[194] However, LPAs are only required to use opportunities to reduce flood risk should new development provide such an opportunity: they are not required to ensure that new developments provide such opportunities. Whilst planning practice guidance gives some examples of ways that development plans can do this, referring to using the layout and form of development, green infrastructure, off-site flood protection works, and sustainable drainage systems (SUDS),[195] it does not make it clear what LPAs actually need to do in order to comply with this requirement.

3.3.1.2.6 Relocation of unsustainable development

LPAs are required to try to use their development plans as a means of relocating development from areas where flood risk issues mean that its long-term sustainability is questionable.[196] This is a significant provision as it could potentially provide the basis for the inclusion of development plan policies to effect the relocation of communities and economic centres that are in flood risk areas. It is not, however, an absolute obligation to plan for such relocations, simply a requirement to 'seek opportunities' to do so and it is notable that the obligation only covers flood risk caused by climate change. Given the difficulties in making direct causal

2020) <https://unearthed.greenpeace.org/2020/02/23/storm-ciara-dennis-flooding-new-homes/> accessed 20th August 2020.

[192] DCLG, *NPPF 2012* (n 12) para 157; MHCLG, *NPPF 2019* (n 10) para 20.

[193] DCLG, *NPPF 2012* (n 12) para 100; MHCLG, *NPPF 2019* (n 10) para 157b.

[194] DCLG, *NPPF 2012* (n 12) para 100; MHCLG, *NPPF 2019* (n 10) para 157c).

[195] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) paras 050-051.

[196] DCLG, *NPPF 2012* (n 12) para 100; MHCLG, *NPPF 2019* (n 10) para 157d).

links between climate change and individual flood events and the numerous other drivers of flood risk, this provision may be applicable in only a very limited number of situations and open to challenge when it is applied.

3.3.1.2.7 Long-term implications of flood risk

The NPPF requires LPAs to ensure that their development plans take account of the long-term implications of flood risk.[197] However, it is up to LPAs how much weight to give these implications and research has found that where different interests have to be balanced, environmental interests are particularly vulnerable to being sidelined in favour of other interests.[198]

3.3.2 Indirect flood risk management duties

3.3.2.1 Climate change

Section 19(1A) of the Planning and Compulsory Purchase Act 2004 requires development plans to 'include policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change.' However, there is no explanation or guidance as to what is required to fulfill this requirement, and therefore as long as the development plan contains some strategies which seek, however nominally, to mitigate and adapt to climate change, this duty will be fulfilled.

The NPPF repeats and elaborates on this requirement,[199] requiring development plans to:

- Minimise vulnerability and improve resilience to climate change.[200]
- Be proactive in their approach to mitigation and adaptation to climate change.[201]
- Plan new developments in ways that avoid increasing vulnerability to climate change impacts and ensure that suitable adaptation measures are used to manage risk where development does take place in vulnerable areas.[202]

[197] DCLG, *NPPF 2012* (n 12) para 99; MHCLG, *NPPF 2019* (n 10) para 149.
[198] Angus Morrison-Saunders and Thomas Fischer, 'What is Wrong with EIA and SEA Anyway? A Sceptic's Perspective on Sustainability Assessment' (2006) 8(1) Journal of Environmental Assessment Policy and Management 19, 23-24 and 31-32; Samuel Hayes, Adam Barker and Carys Jones, 'Flood Management Consideration in Sustainability Appraisal and Strategic Environmental Assessment in England and Scotland' (2014) 16(1) Journal of Environmental Assessment Policy and Management 1450025-1.
[199] DCLG, *NPPF 2012* (n 12) para 7; MHCLG, *NPPF 2019* (n 10) para 8c).
[200] DCLG, *NPPF 2012* (n 12) para 93; MHCLG, *NPPF 2019* (n 10) para 148.
[201] DCLG, *NPPF 2012* (n 12) para 99; MHCLG, *NPPF 2019* (n 10) para 149.
[202] DCLG, *NPPF 2012* (n 12) para 99; MHCLG, *NPPF 2019* (n 10) para 150.

Although these requirements provide LPAs with grounds to take action to manage flood risk, as they too lack explanation or guidance as to what they actually require LPAs to do, the vague and discretionary wording enables the threshold for fulfillment to be set low.

3.3.2.2 Sustainable development

LPAs have a number of duties relating to sustainable development that apply to their development plans.

3.3.2.2.1 Planning and Compulsory Purchase Act 2004

3.3.2.2.1.1 Contribute to the achievement of sustainable development

Section 39(2) of the Planning and Compulsory Purchase Act 2004 requires LPAs to prepare their development plans 'with the objective of contributing to the achievement of sustainable development'. This is not, however, an obligation to deliver sustainable development, but an obligation to seek to further the delivery of it, and it leaves LPAs with considerable discretion as to how they fulfill it. Section 39(3) also requires that, in seeking to further the delivery of sustainable development, LPAs must have regard to policy and guidance issued by the Secretary of State, although it is up to each LPA how much weight to give this policy and guidance.

3.3.2.2.1.2 Sustainability appraisal

Under Section 19 of the Planning and Compulsory Purchase Act 2004, LPAs are required to carry out a sustainability appraisal (SA) on each of the proposals contained in their proposed development plan. The purpose of the SA is to assess the extent to which the proposed strategies and policies will contribute to the achievement of the environmental, economic, and social objectives of sustainable development in comparison to the alternatives, as well as to identify any adverse impacts they may have and how those impacts may be mitigated.[203]

However, a number of criticisms have been made of SAs and their ability to secure sustainable outcomes. Indeed, the SA process tends to favour socio-economic interests as it is these interests which form the basis of the proposed policy in the first place. The vulnerability of environmental objectives to being sidelined is further exacerbated by the fact that they are more difficult to define and more open to interpretation than socio-economic interests and negative environmental impacts are more difficult to measure.[204] The effect of this, and the general failure to recognise the long-term socio-economic advantages of flood risk

[203] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Strategic Environmental Assessment and Sustainability Appraisal* (MHCLG 2015) para 001.
[204] Morrison-Saunders and Fischer Hayes (n 30) 23-24 and 31-32; Hayes, Barker and Jones (n 30) 1450025-1.

management measures, is that in practice the SA only facilitates the management of flood risk so far as it does not conflict with short-term socio-economic interests.[205] Furthermore, it has been argued that SAs are backward rather than forward-looking, as they are applied to decisions once they have been made rather than informing the making of the decision, with the Town and Country Planning Association alleging that the SA process is such that SAs 'can be adapted to any outcome – sustainable or not'.[206] In any event, although LPAs are required to carry out an SA, they are not required to take the findings into account, let alone give them any particular weight.[207] The effect of this is that development plans prepared after a SA have been found to reflect the pressure from Government regarding the provision of housing and favour social and economic issues,[208] and to have been used only tentatively in the area of flood risk management.[209]

SA have also been criticised for encouraging the practice of ranking the alternatives, with the highest ranked alternative being chosen and accepted by reason of its ranking rather than because it is necessarily sustainable. Ranking also encourages the view that some negative environmental impacts are an inevitable consequence of development,[210] which, in the context of flood risk management, means that a policy that will have a significant effect on flood risk will nevertheless be considered acceptable for inclusion within the development plan if the alternatives would have even greater flood risk consequences.

3.3.2.2.1.3 Duty to co-operate

There is a duty on LPAs to co-operate with other LPAs when preparing their development plans in relation to sustainable development.[211] This duty came into effect in November 2011 and is therefore only applicable to development plans adopted after that date. This duty seeks to ensure that LPAs work together to achieve sustainable development, particularly in relation to strategic issues that cross administrative boundaries.[212] It therefore requires LPAs to engage with neighbouring LPAs in connection with their strategic approach to the management of flood risk. Whilst the duty to co-operate does not amount to a duty to agree, it does require

[205] Alan J Bond and Angus Morrison-Saunders, 'Sustainability Appraisal: Jack of All Trades, Master of None?' (2009) 27(4) Impact Assessment and Project Appraisal 321, 325.
[206] Town and Country Planning Association, *A Crisis of Place: Are We Delivering Sustainable Development Through Local Plans?* (TCPA 2016) para 3.3.
[207] PCPA 2004, s 19(5).
[208] Bond and Morrison-Saunders (n 37) 325.
[209] Jeremy G Carter, Iain White and Juliet Richards, 'Sustainability Appraisal and Flood Risk Management' (2009) 29(1) Environmental Impact Assessment Review 7, 8-10.
[210] Bond and Morrison-Saunders (n 37) 326.
[211] PCPA 2004, s 33A.
[212] MHCLG, *NPPF 2019* (n 10) paras 20 and 24.

LPAs to engage on a constructive basis and in a way that focuses on outcomes and maximizing the effectiveness of their development plans.[213] There is therefore a clear duty on LPAs to co-operate with neighbouring LPAs regarding the strategic management of flood risk.

3.3.2.2.2 National Planning Policy Framework

The NPPF states that the very purpose of the planning system is to contribute to the achievement of sustainable development,[214] and the principal way in which it seeks to ensure that the planning system fulfills this purpose is through the presumption in favour of sustainable development. In respect of development plans, this presumption constitutes a requirement for LPAs to make provision to meet the development needs of the area, in particular the 'objectively assessed needs for housing and other uses'.[215] It provides for just two very limited circumstances in which LPAs are not required to plan for those development needs.

i) The first exception in the 2019 version of the NPPF applies where there are other NPPF policies relating to habitat sites under the Conservation of Habitats and Species Regulations, Sites of Special Scientific Interest (SSSIs), Green Belt land, Local Green Space, Areas of Outstanding Natural Beauty (AONBs), National Parks, Heritage Coast, irreplaceable habitats, designated heritage assets, or areas at risk of flooding or coastal change that provide 'a strong reason for restricting the overall scale, type and distribution of development in the plan area.'[216] This is a more limited exception than that contained in the 2012 NPPF, which applied to any situation where meeting the development needs of the area would be contrary to *any* specific policies within the NPPF. This indicates a desire by the Government to minimise the circumstances in which LPAs are not required to plan to meet the development needs of the area.[217]

ii) The second exception, which is the same in both the 2012 and 2019 versions of the NPPF, applies where the adverse impacts of meeting those needs 'would significantly and demonstrably outweigh the benefits, when assessed against the NPPF policies taken as a whole.' Here the burden of proof is on the LPA seeking

[213] C Howell Williams QC and M Murphy, 'The Call of Duty' (2016) 10 Journal of Planning and Environment Law 960.
[214] DCLG, *NPPF 2012* (n 12) para 6; MHCLG, *NPPF 2019* (n 10) para 7.
[215] DCLG, *NPPF 2012* (n 12) para 14; MHCLG, *NPPF 2019* (n 10) paras 10 and 11.
[216] MHCLG, *NPPF 2019* (n 10) para 11b).
[217] DCLG, *NPPF 2012* (n 12) para 14.

> to rely on this exception to demonstrate that the adverse impact is significant and demonstrative and would outweigh the benefits - a high requirement that will often be difficult to prove in the context of flooding given the inherent uncertainty regarding flood risk prediction and forecasting and the difficulty in evaluating the adverse impacts (as discussed in Chapter 2, section 2.1.1.1). Even where an LPA is able to demonstrate this, if the adverse impact is in relation to something that the NPPF does not give special protection or priority to, then it will not be sufficient to justify a failure to plan to meet the development needs of the areas.[218]

In relation to development plans, the presumption in favour of sustainable development therefore operates as a presumption in favour of the development needed to meet the short-term economic and housing needs of the area that takes little account of environmental interests and contains no requirement to take account of long-term sustainability. This substantially limits LPAs' ability to adopt flood risk management policies that restrict development, particularly housing development due to the shortage of housing to meet the needs of a growing population.[219]

3.3.2.3 Housing, communities, and settlement management

The NPPF states that the provision of sufficient homes is a key element of sustainable development. It recognises that this requires ensuring that housing is safe, supports strong, vibrant and healthy communities and social well-being, and meets the needs of future generations, and not simply ensuring enough homes are built to meet current needs.[220] In order to achieve this, the NPPF requires development plan policies to:

- Aim to achieve healthy and safe places.[221]
- Promote public safety and take account of security issues presented by natural hazards.[222]
- Ensure safe and healthy living conditions.[223]
- Ensure that development will function well over its lifetime.[224]
- Ensure that development creates places that are safe.[225]

[218] DCLG, *NPPF 2012* (n 12) para 14; MHCLG, *NPPF 2019* (n 10) para 11.
[219] Department for Communities and Local Government, *Fixing Our Broken Housing Market* (MHCLG 2017) 10.
[220] DCLG, *NPPF 2012* (n 12) para 7; MHCLG, *NPPF 2019* (n 10) para 8.
[221] DCLG, *NPPF 2012* (n 12) para 69; MHCLG, *NPPF 2019* (n 10) para 91.
[222] DCLG, *NPPF 2012* (n 12) para 121; MHCLG, *NPPF 2019* (n 10) para 95.
[223] MHCLG, *NPPF 2019* (n 10) para 117.
[224] DCLG, *NPPF 2012* (n 12) para 58; MHCLG, *NPPF 2019* (n 10) para 95.
[225] MHCLG, *NPPF 2019* (n 10) para 127f).

Development plan policies that increase flood risk to development, communities and/or individuals in any way, particularly by allocating for housing land that is currently, or will in the future be, at risk of flooding would therefore be contrary to these NPPF requirements.

However, the NPPF also contains onerous obligations on LPAs in relation to their development plan policies on the provision of housing. The current 'housing crisis' caused by decades of under supply of housing has been blamed, at least in part, on the planning system, with LPAs having been criticised for not planning for enough homes.[226] The unwanted social and economic effects of this crisis[227] mean that LPAs are now under considerable pressure from central government to plan for enough houses to meet current and short-term need. The NPPF requires each LPA to calculate the housing need for the area (according to a method set out in planning practice guidance),[228] and then allocate sufficient land to satisfy that need by identifying a deliverable five-year housing land supply (plus a 5% buffer).[229] LPAs have to address any shortfall in available land, with the effect that an LPA will be required to allocate for housing land that is at risk of flooding if exclusion of it would result in a shortage of available land. Indeed, planning practice guidance requires LPAs to take steps to remove flood risk constraints on potential sites either physically or by 'changing the assumptions' upon which they have assessed the risk and deemed the land unsuitable for housing so that the shortfall can be addressed.[230]

The only exceptions to the requirement to have a five-year housing land supply are the exceptions to LPAs' general requirement to plan to meet the development needs of the area discussed in paragraph 3.3.2.2.2 above. These exceptions are potentially applicable to flood risk, but only in very limited circumstances and, in any event, are unlikely to be relied on by LPAs as grounds for failing to have a five-year housing land supply. A development plan that does not have a five-year housing land supply is unlikely to be approved by a Planning Inspector for adoption (see further discussion of this in Chapter 4, section 4.1.3.7), and if it has already been adopted, then it will be deemed to be out of date and any application for planning permission will be determined in accordance with the presumption in favour of

[226] DCLG, *Fixing Our Broken Housing Market* (n 51) 11.
[227] ibid.
[228] Ministry of Housing, Communities and Local Government, *Planning practice guidance: Housing and economic needs assessment* (MHCLG 2015) para 004.
[229] DCLG, *NPPF 2012* (n 12) para 47; MHCLG, *NPPF 2019* (n 10) paras 59 and 67.
[230] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) paras 011, 016, 019, 022, 026.

sustainable development rather than in accordance with the policies and strategies set out by the LPA in its development plan.[231]

In addition to the requirements regarding the allocation of land for housing discussed above, the 2019 NPPF introduced a number of policy changes that encourage polices that provide for higher density development.[232] These provisions have been introduced without any real acknowledgement of the problems regarding flood risk (in terms of both the increase in properties at risk of flooding and the increase in flood risk elsewhere due to run-off and pressure on drainage systems) associated with increasing the density of development. This demonstrates a further increase in pressure from the Government to find ways to accommodate housing need and prioritise it over other policies.

Therefore, whilst there are requirements on LPAs regarding the safety and functionality of development, the lack of clarity as to what is required to comply with these requirements means that they are vulnerable to being overridden by the clear, precise and firm requirement to plan to meet short-term housing needs and the need to comply with density requirements. This limits the ability of LPAs to ensure that flood risk does not impact on the safety and functionality of development if doing so would restrict the amount of housing that can be planned for.

3.3.2.4 Environmental protection

3.3.2.4.1 Environmental assessment

There is a statutory requirement on LPAs to assess the potential environmental implications of their proposed development plan policies, as well as those of the alternative policies, by carrying out a Strategic Environmental Assessment (SEA) which they must then use to inform the form and content of the development plan.[233] The SEA must cover, *inter alia*, the short, medium and long-term effects of the proposed development plan on flood risk, including temporary, permanent, synergistic and cumulative impacts,[234] and as such it has the potential to make development plans an important means of managing flood risk.[235] However, its effectiveness as a means of flood risk management, and protection of environmental interests in general, is limited by the fact that it is only the 'likely significant' effects on the

[231] DCLG, *NPPF 2012* (n 12) para 14; MHCLG, *NPPF 2019* (n 10) para 11d); *R (oao Cheshire East Council) v Secretary of State for Communities and Local Government* [2014] EWHC 2824 (Admin).
[232] MHCLG, *NPPF 2019* (n 10) paras 68-69 and 123.
[233] Environmental Assessment of Plans and Programmes Regulations 2004 (SEA Regs 2004), SI 2004/1633 reg 5.
[234] ibid reg 12 and sch 2.
[235] Carter, White and Richards (n 41); Paula J Posas, 'Exploring Climate Change Criteria for Strategic Environmental Assessment' (2011) 75 Progress in Planning 109, 120; Hayes, Barker and Jones (n 30) 1450025-1

environment which need to be assessed,[236] with both the word 'likely' and 'significant' indicating a high threshold regarding what an SEA needs to cover. Indeed, the absence of objective or precise standards as to what is environmentally acceptable means that the SEA is based upon a subjective qualitative assessment[237] that enables LPAs to exclude from the SEA report unfavourable flood risk information which conflicts with their development proposals on the basis that they do not consider it to be likely and/or significant. Given the lack of certainty regarding flood risk, particularly in terms of predicting where and the extent to which it will occur, lack of likelihood has the potential to be widely used as a reason for not including a comprehensive flood risk assessment in the SEA.

LPAs are also required to assess the impact of their proposed development plan policies on European protected sites (Special Areas of Conservation, sites of Community importance, sites that are host to a priority habitat or species, and Special Protection Areas) and are prohibited from adopting a development plan that would adversely affect the integrity of such a site. This therefore prevents LPAs from adopting a development plan that contains policies that would increase the risk of flooding that would have a detrimental impact on a European protected site. The prohibition is, however, subject to the exception where there is no alternative and the plan must be carried out for 'imperative reasons of overriding public interest', giving LPAs considerable discretion to prioritise other interests.[238]

3.3.2.4.2 Statutory duties to have regard to environmental interests

LPAs are required to have regard to the following considerations when preparing their development plans:

- The desirability of conserving the natural beauty and amenity of the countryside.[239]
- The purpose of National Parks, the Norfolk and Suffolk Broad, and Areas of Outstanding Natural Beauty (which primarily relate to conservation and enhancement of their natural beauty).[240]
- Conserving biodiversity.[241]

[236] SEA Regs 2004, reg 12(2).
[237] William Howarth, 'Substance and Procedure Under the Strategic Environmental Assessment Directive and the Water Framework Directive' in Jane Holder and Donald McGillavray (eds), *Taking Stock of Environmental Assessment* (Routledge Cavendish 2007) 151 and 159.
[238] Conservation of Habitats and Species Regulations 2017, SI 2017/1012, reg 63.
[239] Countryside Act 1968, s 11.
[240] National Parks and Access to Countryside Act 1949, s 11A(2); Norfolk and Suffolk Broads Act 1988, s 17A; Countryside and Rights of Way Act 2000, s 85.
[241] Natural Environment and Rural Communities Act 2006, s 40.

3.3.2.4.3 National Planning Policy Framework

The NPPF contains a number of additional requirements regarding protection of environmental interests that apply to LPAs' preparation of their development plans. It contains an obligation on LPAs to ensure that their development plan policies contribute to and enhance the natural and local environment. This comprises a number of specific requirements but these are vague and discretionary in nature, requiring the LPA to recognise and protect certain environmental interests, rather than requiring them to include specific policies.[242] The NPPF also requires LPAs to make provision for the safeguarding and improvement of biodiversity,[243] but planning practice guidance sees the obligations on LPAs regarding biodiversity as a requirement to look for opportunities to use, rather than obligation to actually use, their development plans to improve biodiversity.[244]

3.4 Local Planning Authority Duties in Relation to Determination of Planning Applications

3.4.1 Direct flood risk management duties

3.4.1.1 Statutory duties

LPAs have a statutory duty to consult the Environment Agency before determining any planning application for development within Flood Zones 2 or 3, or within Flood Zone 1 where there are critical drainage problems.[245] Whilst some see Environment Agency consultation as being of central importance to flood risk management,[246] there are limitations to it. In the first place, the duty to consult does not require LPAs to inform the Environment Agency of any objections to planning applications based on flood risk,[247] and it is not known whether the Environment Agency is consulted on all relevant planning applications.[248] It is also the case that although LPAs must take account of any representations made by the Environment Agency,[249] they must also take account of other factors, such as economic, social and political considerations and are not required to decide in accordance with Environment Agency advice. Whilst this limits the ability of the Environment Agency to

[242] DCLG, *NPPF 2012* (n 12) para 109; MHCLG, *NPPF 2019* (n 10) para 170.
[243] DCLG, *NPPF 2012* (n 12) para 109; MHCLG, *NPPF 2019* (n 10) para 174.
[244] Ministry of Housing Communities and Local Government, *Planning Practice Guidance: Natural Environment* (MHCLG Government 2016) para 008.
[245] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595, art 18.
[246] William Howarth, *Flood Defence Law* (Shaw & Sons 2002) 368.
[247] Alec Samuels, 'Flooding and the Law' (2015) 2015(2) Journal of Planning and Environmental Law 133, 147.
[248] Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change* (Committee on Cimate Change 2017) 105.
[249] Town and Country Planning (Development Management Procedure) Order 2015, SI 2015/595, art 18(7).

constrain inappropriate development,[250] LPAs are required to notify the Environment Agency of the decisions regarding applications that the Environment Agency has objected to on the grounds of flooding and if the Environment Agency does not withdraw its objection then the Secretary of State must be notified, which indirectly enables the Environment Agency to call in a decision and ensures a balance between expert advice and a democratic planning process.[251] It has also been suggested that resource limitations of the Environment Agency prevent it from being able to respond effectively to all consultation[252] and recent reductions in staff will have exacerbated this.[253]

Ultimately, however, the effectiveness of Environment Agency consultation as a means of managing flood risk is limited as it focuses on the location of development and limiting the damage caused by flooding rather than on rainfall management and flood prevention'.[254] Furthermore, the Environment Agency claims that 99% of its advice is accepted by LPAs, yet a significant amount of development continues to take place in flood risk areas. This is partly due to the fact that the consultation requirements do not apply to development in surface water flood risk areas,[255] but the latest figures from the Committee on Climate Change show that 11% percent of new addresses built in 2015/2016 were in Flood Zone 3 (an increase from 7% in 2013/14).[256] It is therefore clear that the effectiveness of Environment Agency consultation as a means of controlling the location of development is limited.

3.4.1.2 National Planning Policy Framework

In seeking to steer development away from areas with high flood risk towards lower risk areas and ensure that development in high-risk areas is safe from flooding and does not increase flood risk elsewhere,[257] the NPPF imposes a number of requirements on LPAs regarding the determination of applications for planning permission.

[250] Iain White and Joe Howe, 'Flooding and the Role of Planning in England and Wales: A Critical Review' (2002) 45(5) Journal of Environmental Planning and Management 735, 739.
[251] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) paras 043-044.
[252] Iain White and Juliet Richards, 'Planning Policy and Flood Risk: The Translation of National Guidance into Local Policy' (2007) 22(4) Planning Practice and Research 513, 517.
[253] BBC Reality Check team, 'General Election 2019: Have Flood and Fire Services Been Cut by the Conservatives' (2019) <www.bbc.co.uk/news/50395117> accessed 8th June 2020.
[254] White and Howe (n 82) 739.
[255] Public Accounts Committee, *Managing Flood Risk* (Public Accounts Committee 2021) para 28.
[256] Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change: 2019 Report to Parliament* (Committee on Climate Change 2019) 115.
[257] DCLG, *NPPF 2012* (n 12) para 100; MHCLG, *NPPF 2019* (n 10) para 155.

3.4.1.2.1 Sequential Test

The Sequential and Exception Tests discussed in relation to development plans in section 3.3.1.2.2 above also apply to the determination of planning applications, meaning that LPAs should not grant planning permission for a development if there are reasonably available sites with lower flood risk.[258] If it is not possible for the development to be located on a lower risk site, the LPA must apply the Exception Test, meaning that it should only grant planning permission where the wider sustainability benefits of the development outweigh the flood risk, and where the development will be safe for its lifetime and not increase flood risk elsewhere (as informed by a site specific flood risk assessment).[259] However, the usefulness of the requirement in the Sequential Test to consider alternative sites is questionable as most of the time any alternative sites will not be available to the applicant as they are owned by someone else.[260] Added to which, the vagueness of what constitutes wider sustainability benefits means that the Exception Test provides a potentially widely applicable loop-hole, which is further widened by planning practice guidance which indicates that planning conditions and planning obligations can be used to ensure that a development has wider sustainability benefits, which arguably enables developers to buy their way through the Exception Test.[261]

3.4.1.2.2 Development within flood risk areas

The NPPF does not prohibit LPAs from granting planning permission for development within flood risk areas, but states that they should only do so if the following requirements are fulfilled:

- Within the site, the most vulnerable development is located in areas of lowest flood risk 'unless there are overriding reasons to prefer a different location'.
- The development is appropriately flood resistant and resilient.
- The development incorporates (or, in the case of the 2012 NPPF, 'gives priority to') sustainable drainage systems (discussed in section 3.4.2.1.4 below).
- Any residual risk can be safely managed.
- Safe access and escape routes are (or, in the case of the 2012 NPPF, 'emergency planning' is) included where appropriate.[262]

[258] DCLG, *NPPF 2012* (n 12) para 101; MHCLG, *NPPF 2019* (n 10) para 158.
[259] DCLG, *NPPF 2012* (n 12) para 102; MHCLG, *NPPF 2019* (n 10) para 160.
[260] Samuels (n 79) 140.
[261] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) para 037.
[262] DCLG, *NPPF 2012* (n 12) para 103; MHCLG, *NPPF 2019* (n 10) para 163.

Fulfillment of these requirements is informed by a site specific flood risk assessment. The effectiveness of these requirement is, however, undermined by their qualified nature and/or the lack of guidance as to what terms such as 'appropriately flood resistant and resilient' and 'safely managed'.

3.4.1.2.3 Not increase flood risk elsewhere

The NPPF contains an unqualified requirement that LPAs ensure that flood risk is not increased elsewhere,[263] meaning that if a proposed development would increase flood risk elsewhere the LPA must either refuse to grant planning permission or ensure that measures are taken to ensure that it does not increase flood risk elsewhere, for example though the use of planning conditions.

3.4.1.2.4 Sustainable drainage systems

The 2007 floods triggered regulatory reform regarding surface water drainage and the use of sustainable drainage systems (SUDS). The Flood and Water Management Act 2010 aimed to simplify the system for the management of surface water and integrate it into flood risk management in a regulatory regime that operated outside the planning system.[264] However, the relevant provisions of the FWMA have never been brought into force, and the Government has opted instead to secure the use of SUDS through a strengthening of planning policy.[265]

The 2012 NPPF did not include any actual requirements regarding the use of SUDS, requiring only that development that takes place in areas at risk of flooding 'gives priority to the use of sustainable drainage systems'.[266] Under the current version of the NPPF, LPAs can only grant planning permission for development in flood risk areas or major development if the development incorporates SUDS.[267] There are, however, a number of limitations to this requirement that undermine its effectiveness at reducing surface water flood risk:

- In order not to over burden business, the requirement does not apply to development consisting of less than ten dwellings or the equivalent non-residential/mixed use if it is not in a flood risk area.[268] However, such development makes up 90% of planning

[263] DCLG, *NPPF 2012* (n 12) para 103; MHCLG, *NPPF 2019* (n 10) para 163.
[264] Tudorel Vilcan and Karen Potter, 'Delivering Sustainable Drainage Systems through the English Planning System: A Proposed Case of Institutional Void' (2020) 13(1) Journal of Flood Risk Management 1-2.
[265] ibid 2.
[266] DCLG, *NPPF 2012* (n 12) para 103.
[267] MHCLG, *NPPF 2019* (n 10) paras 163 and 165.
[268] Secretary of State for Communities and Local Government (Mr Eric Pickles), *House of Commons Written Statement: Sustainable Drainage Systems* (DCLG 2014).

applications and includes a significant amount of development that, in the absence of the use of SUDS, has to connect to already heavily burdened urban drainage systems.[269]

- It is subject to an exception that applies where there is 'clear evidence that [incorporation of SUDS] would be inappropriate'. This is an ambiguously worded and potentially widely applicable exception. Indeed, planning practice guidance makes it clear that the question of what is inappropriate includes economic considerations,[270] and therefore will tend to work in favour of developers at the expense of LPAs, particularly as any assessment of costs only takes account of costs incurred by the developer and not of costs to other parties or the benefits of the use of SUDS.[271]
- There are no statutory requirements regarding the standard of SUDS, only non-statutory technical standards produced by the Department for Environment, Food and Rural Affairs (DEFRA) relating to their design, construction, operation and maintenance,[272] compliance with which is not compulsory.[273]

The inclusion of ambiguous qualifications and non-committal language of the policy means that LPAs lack the backing to impose a consistent hard line on developers to implement SUDS. Implementation of the policy can become a matter of ad hoc negotiations and power relations between the developer and the LPA,[274] with the balance of power tending to be in favour of the developer due to LPAs' lack of resources to assess the merits of a proposal in detail or argue a case with a major developer.[275] Indeed, as the range of SUDS options available is extensive, there should be something that is appropriate for use in most new developments and the failure of new development to deliver high quality SUDS has therefore been blamed on the weakness and lack of enforceability of the NPPF policy rather than site

[269] L Grant, A Chisholm and R Benwell, *A Place for SuDS? Assessing the Effectiveness of Delivering Multifunctional Sustainable Drainage* (Chartered Institution of Water and Environmental Management 2017) 22.
[270] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) paras 082-083.
[271] Grant, Chisholm and Benwell (n 101) 19.
[272] DEFRA, *Sustainable Drainage Solutions: Non-Statutory Technical Standards for Sustainable Drainage Systems* (DEFRA 2015).
[273] MHCLG, *PPG: Flood Risk and Coastal Change* (n 13) para 083.
[274] Vilcan and Potter (n 96) 2-9.
[275] Grant, Chisholm and Benwell (n 101) 24.

constraints.[276] The 25 Year Environment Plan suggested that the Government may look to strengthen NPPF policy regarding SUDS, but did not indicate how it would do this.[277]

3.4.2 Indirect flood risk management duties

3.4.2.1 Have regard to the development plan

It is a statutory requirement that LPAs have regard to the provision of their development plan when determining an application for planning permission,[278] and there is a presumption that they will determine the planning application in accordance with the plan.[279] An LPA is therefore required to determine planning applications in accordance with the flood risk management provisions of the development plan. This is not, however, an absolute requirement as LPAs are also required to have regard to 'any other material consideration'[280] and need not determine an application in accordance with the development plan if these material considerations indicate otherwise.[281] Flood risk management considerations are capable of being material considerations,[282] as are climate change, sustainable development, and environmental considerations,[283] meaning that LPAs are able to go above and beyond the provisions of their development plans when determining planning applications. However, the provisions of the NPPF, some economic considerations, and housing are all capable of being material interests, meaning that they are capable of being given priority over flood risk management policies in the development plan. It is for LPAs to decide whether something is a material consideration in the particular circumstances, and then how much weight to give it.[284] As it is clear from the discussion above that the current emphasis regarding LPAs' responsibilities is on the provision of housing and meeting other short-term development needs,[285] it is doubtful whether flood risk management and other supporting considerations such as climate change, sustainable development and environmental protection have sufficient political weight to win a planning contest.[286]

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[276] Committee on Climate Change Adaptation Sub-Committee, *2017 Progress Report* (n80) 12-13; Grant, Chisholm and Benwell (n 101) 18 and 22.
[277] Department for Environment Food and Rural Affairs, *A Green Future: Our 25 Year Plan to Improve the Environment* (Department for Environment, Food and Rural Affairs 2018) 54..
[278] Town and Country Planning Act 1990 (TCPA 1990), s 70(2)
[279] PCPA 2004, s 38(6).
[280] TCPA 1990, s 70(2).
[281] PCPA 2004, s 38(6).
[282] *George Wimpey & Co Ltd v Secretary of State for the Environment* [1979] AC 144.
[283] Colin T Reid, *Nature Conservation Law* (3rd edn, Thomas Reuters (Legal) Limited 2009) para 8.2.18.
[284] Moore and Purdue (n 1) para 11.97.
[285] Reid (n 115) para 2.1.3.
[286] Le-Las (n 3).

3.4.2.2 Climate change

There are no statutory requirements on LPAs regarding climate change in relation to the determination of planning applications. The NPPF contains only a vague requirement to 'ensure that risks can be managed through suitable adaptation measures' where development is proposed in an area vulnerable to the impacts of climate change.[287] This therefore requires LPAs to ensure that adaptation measures are incorporated into development proposals in areas at risk of flooding.

3.4.2.3 Sustainable development

3.4.2.3.1 Planning and Compulsory Purchase Act 2004

The statutory obligation on LPAs to have the objective of contributing to the achievement of sustainable development (discussed in section 3.3.2.2) is limited to LPAs' functions in relation to the preparation of their development plans and does not extend to their determination of planning applications.[288] The Government considered such an extension of the obligation to be unnecessary on the basis that such decisions are based on the provisions of the development plan, which is covered by the obligation.[289] This argument is, however, somewhat flawed as the obligation on LPAs to determine planning applications in accordance with the development plans is subject to the exception where 'material considerations indicate otherwise', as discussed in section 3.4.2.[290] Therefore, although LPAs must give consideration to ensuring that their development control decisions contribute to the achievement of sustainable development, they are not required to have the objective of doing so.

3.4.2.3.2 National Planning Policy Framework

The NPPF's presumption in favour of sustainable development means that where a proposed development is in accordance with the development plan the LPA must grant it planning permission. This is a similar position to the statutory requirement to determine planning applications in accordance with the development plan,[291] but with an emphasis on the granting of planning permission. The effect of this is that, in circumstances where there is an up to date development plan, it is only possible for the LPA to refuse to grant planning permission on the grounds of the flood risk to or posed by the development if such a refusal is in accordance with the development plan. If there is conflict between the flood risk management policies

[287] DCLG, *NPPF 2012* (n 12) para 99; MHCLG, *NPPF 2019* (n 10) para 150.
[288] PCPA 2004, s 39(2).
[289] House of Commons Standing Committee G, *Pt 1, Column 4* (21 Jan 2003).
[290] PCPA 2004, s 38(6).
[291] ibid.

and other policies in the development, it is those policies that are most aligned to central government policy that will prevail.[292] Given the emphasis of the NPPF (as discussed in section 3.3.2.2.2) flood risk management policy will not be given precedence where it conflicts with development plan policies that support the provision of housing and meeting other short-term development needs.

In situations where there is no development plan, relevant development plan policy, or up to date policy then there is a presumption that permission will be granted (irrespective of the sustainability of the proposed development) unless either of the following exceptions apply:

i) It would have adverse impacts that would significantly outweigh its benefits. In relation to the current version of the NPPF, those adverse impacts must be in conflict with other NPPF policies relating to habitat sites under the Conservation of Habitats and Species Regulations, SSSIs, Green Belt land, Local Green Space, AONBs, National Parks, Heritage Coast, irreplaceable habitats, designated heritage assets, or areas at risk of flooding or coastal change that provide a clear reason for refusing consent. The use of the words 'clear reason' rather than 'strong reason' (which is the wording used in the equivalent provision relating to development plans) suggests a slightly lower threshold for the application of this exception than in relation to the development plan. However, the discretional nature of determining whether it has been met means that any decision not to grant planning permission would be open to challenge by the developer.

ii) Where the adverse impacts of granting consent would significantly and demonstrably outweigh the benefits when assessed against the policies in the NPPF as a whole. As with the exception for development plan-making, this is a high requirement that is particularly difficult to achieve in relation to flood risk as the impact must be significant and demonstrable and be contrary to the overall priorities of the NPPF regarding the meeting of development needs.[293]

In the same way that it operates in connection with the preparation of development plans, the presumption in favour of sustainable development operates in relation to the determination of planning applications as a presumption in favour of development to meet the short-term economic and housing needs of the area, with the exceptions only being applicable to flood risk in extreme cases.

[292] Le-Las (n 3).
[293] DCLG, *NPPF 2012* (n 12) para 14; MHCLG, *NPPF 2019* (n 10) para 11d).

3.4.2.4 Housing, communities, and settlement management

The NPPF's overall objective of ensuring that the housing is safe, supports strong, vibrant and healthy communities and social well-being, and meets the needs of future generations applies to the determination of planning applications.[294] It seeks to achieve this by imposing the same requirements on LPAs regarding the determination of planning applications as apply in relation to the preparation of development plans. LPAs are therefore required to ensure that their development control decisions:

- Aim to achieve healthy and safe places.[295]
- Promote public safety and take account of security issues presented by natural hazards.[296]
- Ensure safe and healthy living conditions.[297]
- Ensure that development will function well over its lifetime.[298]
- Ensure that development creates places that are safe.[299]

Planning decisions that grant permission for housing that increases flood risk to development, communities and/or individuals in any way, particularly by allowing homes to be built in areas that are currently, or will in the future be, at risk of flooding would therefore be contrary to these NPPF requirements.

However, having put significant obligations on LPAs to plan to meet housing need (as discussed in section 3.3.2.3), the Government puts significant requirements on LPAs to grant planning permission for housing by holding LPAs to account for delivery of the housing that they have planned for.[300] The NPPF contains no exceptions to the requirement to deliver the housing required and the current version of the NPPF states that if the delivery of housing falls below 95% of that required, the LPA must investigate the causes of the under-delivery and set out what it will do to increase delivery.[301] Where there is a shortage of housing land, under the current version of the NPPF LPAs are required to refuse planning permission for development the density of which does not make 'efficient use of land' and take a 'flexible approach' to the application of policy and guidance on daylight so that it does not prevent the

[294] MHCLG, *NPPF 2019* (n 10) para 8.
[295] DCLG, *NPPF 2012* (n 12) para 58; MHCLG, *NPPF 2019* (n 10) para 91.
[296] DCLG, *NPPF 2012* (n 12) para 121; MHCLG, *NPPF 2019* (n 10) para 95.
[297] MHCLG, *NPPF 2019* (n 10) para 117.
[298] DCLG, *NPPF 2012* (n 12) para 58; MHCLG, *NPPF 2019* (n 10) para 127a).
[299] MHCLG, *NPPF 2019* (n10) para 127f).
[300] MHCLG, *Fixing Our Broken Housing Market* (n 51) 41 and 2.35.
[301] MHCLG, *NPPF 2019* (n 10) para 75.

'efficient use of a site'.[302] There is therefore no scope for LPAs to refuse planning permission for housing development on flood risk related grounds where doing so would mean that it is unable to deliver the housing needed to meet current need.

3.4.2.5 Environmental protection

3.4.2.5.1 Wildlife and Countryside Act 1981

Land that has been designated as a Site of Special Scientific Interest (SSSI) under Part II of the Wildlife and Countryside Act 1981 is given a higher level of protection from negative environmental impacts than undesignated land, principally through restrictions on the use and development of the land which may damage the special conservation features of the site. Where a developer wishes to carry out development that is likely to have an adverse impact on a SSSI, the LPA is required to 'take reasonable steps, consistent with the proper exercise of the authority's functions, to further the conservation and enhancement of flora, fauna and geological or physiological features by reason of which the site is of special scientific interest.'[303] This therefore requires LPAs to ensure that flood risk is reduced (or at least not increase) where flooding could cause damage to the special features of the SSSI. However, guidance issued by the Office of the Deputy Prime Minister (ODPM) and DEFRA states that it is up to the LPA to decide what it considers to be 'reasonable steps',[304] and whilst the LPA is required to consult Natural England, it is not required to follow its advice.[305] Indeed, the ODPM/DEFRA guidance states that challenging the validity of an LPA's decision will in only be possible in 'exceptional circumstances', even where the proposed development is likely to cause damage to the SSSI feature and Natural England's advice has not been followed.[306]

In addition to the legislative requirements regarding SSSIs, the NPPF states that planning permission should not be granted for development which is likely to have an adverse impact on an SSSI's special interest feature.[307] This therefore strengthens the statutory requirement by effectively requiring LPAs to ensure that the 'reasonable steps' they take actually prevent the SSSI being adversely impacted. However, there is an exception to this where 'the benefits

[302] ibid para 123.
[303] Wildlife and Countryside Act 1981, ss 28G(2) and 28P(4).
[304] Office of the Depury Prime Minister and Department for Environment, Food and Rural Affairs, *Government Circular: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System* (ODPM Circular 06/2005, DEFRA Circular 01/2005) para 60.
[305] Wildlife and Countryside Act 1981, s 28I and sch 4; Town and Country Planning (General Development Procedure) Order 2015, art 18.
[306] ODPM and DEFRA (n 136) para 66.
[307] DCLG, *NPPF 2012* (n 12) para 118; MHCLG, *NPPF 2019* (n 10) para 175.

of the development in the location proposed clearly outweigh both its likely impacts on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest'.[308]

3.4.2.5.2 Environmental assessment

For certain developments, an environmental impact assessment (EIA) must to be carried out before the development can be granted planning permission.[309] Whilst it is the developer, rather than the LPA, that has to carry out the assessment, the LPA is required to take the findings of the assessment into account when determining the planning application.[310] There is, however, no requirement that the LPA refuse planning permission for a development where the EIA shows that it will have an adverse impact on the environment, or even ensure that measures are taken to mitigate those impacts, and therefore the extent to which LPAs' requirements regarding EIAs protects environmental interests is questionable.

In addition to the EIA requirements, it is a statutory requirement that an assessment be carried out on any application for development which is likely to have a significant effect on a European protected site (Special Areas of Conservation, sites of Community importance, sites that are host to a priority habitat or species, and Special Protection Areas) and the general rule is that LPAs should only grant planning permission if the outcome of the assessment is that the proposed development will not adversely affect the integrity of the site.[311] This general rule is, however, subject to an exception which applies, subject to approval of the Secretary of State, if the LPA is satisfied that there are no alternatives and that the development must be carried out for 'imperative reasons of overriding public interest'. The regulations state that such reasons include those of a social or economic nature, meaning that even for European protected sites, economic and social interests can be prioritised over conservation interests.[312]

3.4.2.5.3 Statutory duties to have regard to environmental interests

When determining planning applications, LPAs are required to have regard to:

- The desirability of conserving the natural beauty and amenity of the countryside.[313]
- The purpose of National Parks, the Norfolk and Suffolk Broads, and AONBs.[314]

[308] MHCLG, *NPPF 2019* (n 10) para 175b).
[309] Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regs 2017), SI 2017/571, reg 3.
[310] ibid reg 26.
[311] Conservation of Habitats and Species Regulations 2017, SI 2017/1012, reg 63.
[312] ibid reg 64.
[313] Countryside Act 1968, s11.
[314] National Parks and Access to the Countryside Act 1949, s 11A(2); Norfolk and Suffolk Broads Act 1988, s 17A; Countryside and Rights of Way Act 2000, s 85.

- The conservation of biodiversity.[315]

3.4.2.5.4 National Planning Policy Framework

The NPPF contains a number of additional requirements regarding protection of environmental interests that apply to LPAs in the determination of planning applications. It requires LPAs to ensure that their development control decisions contribute to and enhance the natural and local environment. This comprises a number of specific requirements but these are vague and discretional in nature, requiring the LPA to recognise and protect certain environmental interests, rather than requiring them to include specific policies.[316] The NPPF also requires LPAs to mitigate biodiversity harm and prevent the loss or deterioration of irreplaceable habitats.[317]

3.5 Enforcement of Local Planning Authority Duties to Manage Flood Risk

3.5.1 Challenging a Local Planning Authority's development plan

Under the Planning and Compulsory Purchase Act 2004, it is possible for the validity of a development plan to be challenged if any of the procedural requirements have not been complied with in relation to its preparation.[318] There are however a number of factors which limit the utility of this as a means of ensuring that the LPAs comply with their flood risk management duties:

i) Whilst LPAs are required to take the NPPF into account, they are not required to comply with it. The validity of a development plan cannot therefore be challenged on the grounds that the LPA has failed to comply with the procedural requirements of the NPPF, such as those regarding SFRAs, provided that the LPA has taken those requirements into consideration. Compliance with the NPPF is enforced by the Secretary of State in the requirement for development plans to be submitted to the Secretary of State and approved by the Planning Inspectorate (as discussed in Chapter 4 section 4.1.3.7).

ii) Even where the procedural requirement concerned is statutory, the courts have made it clear that challenges to the adoption of a development plan will rarely succeed as they see role of testing the soundness as being a matter of planning judgment and not something that the court should be involved in.[319] As such, legal

[315] Natural Environment and Rural Communities Act 2006, s 40.
[316] DCLG, *NPPF 2012* (n 12) para 109; MHCLG, *NPPF 2019* (n 10) para 170.
[317] DCLG, *NPPF 2012* (n 12) para 117; MHCLG, *NPPF 2019* (n 10) para 175.
[318] PCPA 2004, s 113(3).
[319] *Oxted Residential Ltd v Tanbridge District Council* [2016] EWCA Civ 414.

challenges to the validity of development plans have been largely confined to cases regarding failure to comply with the requirements regarding SEAs.[320]

iii) This right to challenge a development plan only applies to a 'person aggrieved',[321] which means those who can show that they have been prejudiced by the LPA's failure to comply with the procedural requirement in question.[322] This will be difficult to establish in relation to the flood risk management obligations as the procedural requirements concerned do not relate to the applicant's involvement in the decision-making process, nor would compliance with the procedural requirements in question guarantee a different outcome to the decision.

iv) Any challenge must be made within six weeks of the adoption of the development plan,[323] whereas the effects of the development plan policies on flood risk may not be known until long after the expiration of this six week period.

v) In the event of a successful challenge of the development plan, the court can order either that the development plan (or the relevant part thereof) be quashed, or that it (or the relevant part thereof) be remitted to the LPA.[324] However, the court does not have the power to amend the plan and provided the LPA goes back and follows the correct procedure it can leave the content of the development plan unchanged. The Planning and Compulsory Purchase Act 2004 provides a means of challenging the process by which the development plan has been prepared, not the substance of it.

3.5.2 Challenging a Local Planning Authority's development control decision

Section 78 of the Town and Country Planning Act 1990 (TCPA 1990) contains a right to appeal to the Secretary of State in respect of an LPA's refusal to grant planning permission or the grant of a planning permission subject to conditions. On hearing the appeal, the Secretary of State has the power to deal with the appeal as if he were hearing it in the first instance and can reverse the LPA's decision or vary any part thereof.[325] However, this right to appeal only applies to the planning applicant and cannot be used by a third party to appeal against the granting of a planning permission due to the flood risk associated with the development or the failure to impose planning conditions to manage the flood risk.

[320] Bowes (n 6) para 4.75.
[321] PCPA 2004, s 113(3).
[322] Moore and Purdue (n 1) para 4.50.
[323] PCPA 2004, s 113(3b).
[324] ibid s 113.
[325] TCPA 1990, s 79(1).

A third party may, however, have the right to challenge the Secretary of State's decision on an appeal made under Section 78 of the Town and Country Planning Act 1990.[326] (Where there has been no such appeal to the Secretary of State, then a third party wishing to challenge the decision would have to do so by means by judicial review, as discussed in section 3.5.3). The utility of this in respect of the enforcement of LPAs' flood risk management duties is extremely limited for a number of reasons:

i) The right only applies to an 'aggrieved party', meaning only those that have an interest in the land to which the application relates or that have been substantially involved in the planning application as an objector.[327] It therefore does not include the owner of property that is at greater risk of flooding due to the development having been granted planning permission unless they objected to the initial planning application. The need to have had an active role in the planning process requires the third party to have been aware of the application in the first place, and as the impacts of flooding may be felt some distance from the development site it will often be the case that those who will be affected by the decision were not aware of the planning application.

ii) The only grounds for making such an appeal are that the decision was not within the Secretary of State's powers or that the procedural requirements relating to the appeal have not been complied with.[328] It is a well-established principle of planning law that 'matters of planning judgment are within the exclusive province of the local planning authority or the Secretary of State',[329] and an appeal to the courts cannot be made on grounds that relate to the Secretary of State or LPA's assessment of the merits of the case, interpretation of policy, or weight given to material considerations.[330]

iii) Even where the applicant can make out one of the grounds for appeal, if they cannot show that their interests have been prejudiced the court may decide not to quash the Secretary of State's decision. The large amount of discretion involved in development control decisions makes it difficult to show that had the correct procedure been followed it would have resulted in a different outcome.

[326] ibid s 288.
[327] *Eco-Energy (GB) Ltd v First Secretary of State* [2004] EWCA Civ 1566 (CA).
[328] TCPA 1990, s 288.
[329] *Tesco Stores v Secretary of State for the Environment* [1995] 1 WLR 759 (HL) 780.
[330] *South Cambridgeshire DC v Secretary of State for Communities and Local Government* [2008] EWCA Civ 1010, 15 (Scott Baker LJ).

iv) Even if the applicant is successful in having the Secretary of State's decision quashed, the court cannot replace the Secretary of State's decision with its own. The effect of the decision being quashed is to leave the appeal outstanding, and the Secretary of State is therefore free to make the same decision again provided they follow the correct procedure.[331]

v) The application to challenge the Secretary of State's decision must be made within six weeks of the Secretary of State's decision, but it will often be the case that the effect of the decision on flood risk will not be known or felt until well outside this period.

vi) In the absence of unreasonable behaviour by the Secretary of State, the applicant will be required to pay their own costs.

3.5.3 Judicial review

Judicial review is an alternative means by which an LPA's development plan and planning permission decisions can be challenged. However, the circumstances in which a judicial review claim can be made are limited. The applicant needs to show that they have standing, grounds to bring the claim, and have brought the claim within the requisite time-frame.

3.5.3.1 Standing

The right to bring a judicial review is limited to those who have 'a sufficient interest in the matter to which the application relates'. This includes parties with a direct personal interest, as well as those that can establish 'public interest' standing.[332] Direct personal interests standing covers anyone with an interest in the matter by means of owning property that will be at increased flood risk due to the development plan policies or a development which has been granted planning permission, anyone who has objected to the development plan proposal or planning permission, and anyone who was entitled to be consulted on it.[333] The public interest standing may be available to parties, including environmental organisations and climate change groups, that do not have a direct personal interest in the decision if there is a high degree of public interest in the decision.[334]

[331] *Tesco Stores* (n 161) 780.
[332] Senior Courts Act 1981, s 31(3).
[333] Roger Masterman and Colin Murray, *Constitutional and Administrative Law* (2nd edn, Pearson Education Limited 2018) 527.
[334] *Walton v The Scottish Minister* [2012] UKSC 44.

3.5.3.2 Grounds

A judicial review claim cannot be brought simply on the grounds that the claimant does not agree with the decision. It is only concerned with the lawfulness of the decision.[335] It can therefore be used as a means of ensuring that an LPA has complied with its statutory duties regarding flood risk management and has not made an irrational decision, but not as a means of challenging the merits of a decision. It can therefore be used to challenge:

- A development plan that does not include policies designed to mitigate the flooding impacts of climate change (as required by Section 19(1A) Planning and Compulsory Purchase Act 2004), but it cannot be used to challenge the substance of any such policy.
- A failure to have regard to a consideration that it is required to, such as the EA's advice in respect of an application for planning permission within an area at risk of flooding,[336] but it cannot be used to challenge how much weight the LPA gave to any consideration.[337] As many of an LPA's duties regarding flood risk come from policy (the NPPF) rather than legislation, a judicial review claim cannot be brought against an LPA for failure to comply with the requirement provided that the LPA has had regard to the requirement concerned.
- A development plan policy or development control decision that it is one 'which no reasonable authority, acting within the four corners of their jurisdiction, could have decided',[338] due to the severity of the impacts of the policy/decision on flood risk. In order to counter such a claim the LPA need only show that there was some good reason for it making the decision it did,[339] and it will almost always be able to show that there is an economic benefit to the development in question or that it is required in order to meet housing need.
- It may be possible to use judicial review to challenge a development plan policy or development control decision where there has been a clear misunderstanding fact regarding flood risk.[340]

[335] *Council of Service Unions v Minister for the Civil Service* [1985] AC 374.
[336] Town and Country Planning (Development Management Procedure) (England) Order 2015.
[337] *Tesco Stores* (n 161).
[338] *Associated Provincial Picture Houses v Wednesbury Corporation* [1948] 1 KB 223, 233.
[339] Masterman and Murray (n 165) 560.
[340] *Begum v London Borough of Tower Hamlets* [2003] UKHL 5.

3.5.3.3 Time limit

The time limit for bringing judicial review proceedings is three months in respect of a development plan and six weeks in respect of a planning application decision.[341] However, the court does have discretion as to whether to enforce this time limit, which may enable judicial review proceedings to be brought outside these time limits, for example where the impacts of the development plan or development control decision have not become apparent until sometime after the decision.[342] This is important in relation to flood risk, where the impacts of the development may not be known for some time.

3.5.3.4 Permission

Even where the applicant has met the requirements regarding standing and time limits, in order to obtain permission to bring a judicial review claim the claimant needs to show that the outcome would have been 'substantially different' were it not for the act complained of.[343] Given the high level of discretion that LPAs have, this will be very difficult to establish in many planning cases.[344]

3.5.3.5 Remedies

The remedies available to a claimant are a mandatory order, prohibiting order, quashing order, injunction, declaration, and damages. None of these remedies allows the court to substitute the LPA's decision with its own. Even a quashing order, the most severe of the remedies available, whilst rendering the decision void, allows the LPA to simply recarry out the decision making process this time in a procedurally proper way and reach the same decision.[345] In any event, all the remedies are discretionary, meaning that even if the claimant is successful in their claim, the court may withhold the remedy claimed where it is in the public interest to do so or where a claimant claiming procedural impropriety has not been substantially prejudiced by the impropriety.[346] It is also questionable whether the court would exercise its discretion to issue a quashing order in respect of a development control decision where the developer has already commenced work on the development or otherwise relied upon the decision.

[341] Civil Procedure Rules 1998 (CPR 1998), SI 1998/3132, r 54.5.
[342] Senior Courts Act 1981, s 31(6).
[343] Criminal Justice and Courts Act 2015, s 84.
[344] Stuart Bell and others, *Environmental Law* (9th edn, OUP 2017) 338.
[345] Masterman and Murray (n 171) 508.
[346] *Walton v The Scottish Minister* (n 166).

3.5.3.6 Costs

The general rule for judicial review claims is that the costs are payable by the losing party.[347] Whilst the court does have discretion as to what costs are ordered and against which party and a Protective Costs Order may be available, the time and cost involved in bringing a judicial review action, combined with the discretionary nature of the remedies means that it is questionable how effective it would be as a means of enforcing LPAs' responsibilities and duties regarding the management of flood risk.

3.5.3.7 Proposed reforms

The discussion in sections 3.5.3.1 to 3.5.3.6 demonstrate how difficult it is to bring a successful judicial review claim. The Government is proposing to reform the judicial review regime,[348] and legal commentators are of the opinion that the proposed reforms will make is even more difficult to do so.[349] It is therefore questionable how effective judicial review is as a means of ensuring that LPAs comply with their flood risk management duties and requirements.

3.6 Conclusion

Few LPA duties relating to the management of flood risk are absolute duties and even those that are have significant discretionary elements to them. For instance, the duty to consult the Environment Agency regarding planning applications in flood risk areas is absolute, but LPAs have discretion as to whether to determine planning applications in accordance with the EA's advice and recommendations. Similarly, although the requirements to assess the impacts of development are not discretionary, what LPAs do with the results of SFRAs, SEAs and SAs is discretionary as the results of the assessments inform rather than dictate development plan policies. Whilst the results of a Habitats Assessments are more prescriptive, Habitats Assessments are only required in limited situations and are subject to a highly discretionary and potentially widely applicable exception. Furthermore, the majority of LPA duties relating to the management of flood risk are duties not of outcome but of purpose, to prevent, minimise, and mitigate certain impacts of development, or to have regard to certain interests. As such they are inherently flexible and open to interpretation in how they are to be fulfilled, and this makes them vulnerable to being side-lined in favour of competing outcome-based

[347] CPR 1998, r 44.2(2).
[348] Ministry of Justice and The Rt Hon Robert Buckland QC MP, *Judicial Review consulation launches* (Press release 18 March 2021).
[349] The Law Society, *Judicial Review Reform - Government Must Remain Accountable to the People* (The Law Society 2021).

duties, particularly the precise and mandatory duties regarding meeting short-term housing need. The discretionary and non-measurable nature of these duties also means that it is very difficult, if not impossible, to assess whether they have been fulfilled. It is therefore difficult for LPAs to be held to account for any decisions which are detrimental to the management of flood risk, let alone for any decisions which fail to further it.

In any event, many of the duties come from the NPPF rather than legislation. As LPAs are only required to 'have regard to' the NPPF when preparing their development plan[350] and determining planning applications,[351] they have discretion as to whether to comply with it. The courts have shown a reluctance to involve themselves in decisions made in the exercise of such discretion, particularly where to do so would amount to interference with government priorities or the allocation of public resources.[352] What oversight of LPAs' discretion there is regarding their development plans comes from the Secretary of State examination of development plans, during which process LPAs overzealous to manage flood risk will be brought back into line by the Planning Inspectorate if their flood risk management policies interfere with the LPA's compliance with the requirements regarding planning for housing (as discussed in Chapter 4, section 4.1.3.7). This all leads to the conclusion that LPAs' flood risk management duties may be better described as 'political duties' rather than legal duties enforceable in court.

The Government's proposals for reform of the planning system indicate a desire to reduce the amount of discretion exercised by LPAs and replace it with a rule-based system. It may therefore be that changes to the planning system will be made that remove some of LPAs' discretion as to how they fulfill their flood risk management duties, but the reform proposals lack detail as to what those reforms would involve. The Government also proposes replacing the current sustainable development requirements relating to development plans with one test, to be determined by the Secretary of State, of whether the development plan contributes to the achievement of sustainable development. However, any changes to the requirements regarding sustainable development are unlikely to increase the duty on LPAs to manage flood risk if the Government's approach to what constitutes sustainable development remains unchanged. Moreover, the Government's proposed reforms also indicate that the pressure on

[350] PCPA 2004, s 19(2)(a).
[351] TCPA 1990, s 70(2)(c).
[352] Bowes (n 6) para 4.72.

LPAs to plan for and deliver housing will increase, which will further limit their ability to take measures to manage flood risk where those measures will restrict development.[353]

Having analysed the legal duties and policy requirements that LPAs have to manage flood risk in this chapter, Chapter 4 will analyse the legal planning tools that LPAs have available to them to manage flood risk and the case studies in Chapters 5 to 8 will examine if and how LPAs use those tools to comply with their legal duties and policy requirements.

[353] Ministry of Housing, Communities and Local Government, *Planning for the Future* (White Paper, Aug 2020) 10, 11, 14, 18, 20 and 30.

Chapter 4. Legal Planning Flood Risk Management Tools

This chapter includes a detailed examination of the legal planning tools Local Planning Authorities (LPAs) have at their disposal to manage flood risk, namely development plans, adjustments to permitted development rights, conditions, planning obligations, and the Community Infrastructure Levy. Chapter 3 included some consideration of these tools in relation to the legal and policy requirements that apply to LPAs regarding the management of flood risk. To answer RQ2, this chapter will consider how each of these tools can be used to manage flood risk, as well as their limitations and disadvantages, so as to establish whether they are sufficient to enable LPAs to fulfil the flood risk management obligations identified in Chapter 3 and effectively manage flood risk. The case studies in the Chapters 5 to 8 will examine the extent to and ways in which the tools are being used in practice.

4.1 Development Plans

A development plan is a document, or collection of documents, that each LPA is required to produce setting out its strategies and policies regarding the development and use of land in the area.[1] Those strategies and policies are not limited to matters regarding the physical aspects of land-use and development, but also cover social, economic and environmental issues. As the LPA is required to determine planning applications in accordance with the development plan (unless material considerations indicate otherwise),[2] it forms the framework for development in the area and is a means of directing the amount, type and location of development.

4.1.1 Use of development plans to manage flood risk

Historically, the design and development of many towns and cities failed to take account of flood risk, and risks that subsequently materialised were dealt with by means of engineering works.[3] However, as the risk of flooding increases, engineering works alone are no longer sufficient to address flood risk, and it is necessary for flood risk to be taken into account when planning for the development of an area. Development plans can do this and can be used to manage flood risk across the range of the development scale, from establishing broad development strategies to manage flood risk, to setting out policies that ensure that flood risk is managed in relation to individual developments.[4] Indeed, the Foresight Review recognised

[1] Planning and Compulsory Purchase Act 2004 (PCPA 2004), ss 15 and 17(3).
[2] ibid s 38(6).
[3] Enrique J Calderon and Javier Diez, 'Spatial Planning Measures for the Enhancement of Urban Resilience Against Flood Risk' (2015) 5 Engineering Geology for Society and Territory (2014) 1233, 1233.
[4] Town and Country Planning Association and RTPI, *Planning for Climate Change: A Guide for Local Authorities* (TCPA 2018) 28.

the potential for strategic planning by LPAs to manage flooding sustainably by establishing the layout of cities and conserving open spaces and creating green corridors to act as 'safety valves' by storing and providing routes for the passage of flood waters.[5] LPAs can also ensure that their strategies and policies are aimed at pre-empting and preventing flooding, which is often more cost-effective than focusing on protecting the area from flooding and responding to flood events when they do occur.[6]

4.1.1.1 Strategic flood risk management

4.1.1.1.1 Development in flood risk areas

Development plans can, and should, set out both broad locations and specific site allocations of land for different purposes.[7] They can therefore be used to establish strategies and policies that seek to ensure that the type of development that takes place in a particular area is suitable to the level of flood risk, to direct vulnerable uses, including housing, away from high-risk areas, and to encourage the use of land in high-risk areas for less vulnerable uses such as public open space.

Whilst the forward-looking nature of the planning system limits its ability to address the problem of the substantial amount of development that has already taken place within high-risk areas,[8] development plans provide LPAs with the opportunity to take steps to address this by including strategies and policies for land buy-backs or swaps to remove housing and other vulnerable uses from high-risk areas, improving the layout of development to reinstate flow-paths, and increasing property level resistance and resilience, particularly as part of their regeneration policies.[9]

4.1.1.1.2 Development in low-risk areas

Strategic policies can also be used to actively encourage development in lower risk areas, for examples by allowing for higher density development in those areas.[10]

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[5] Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (Government Office for Science 2004) 29 and 40.
[6] HM Treasury and Sir N H Stern, *The Economics of Climate Change: the Stern Review* (CUP 2007) 421.
[7] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Local Plans* (MHCLG 2016) para 002.
[8] Joe Howe and Iain White, 'Like a Fish Out of Water: the Relationship Between Planning and Flood Risk Management in the Uk' (2004) 19(4) Planning Practice and Research 415, 415.
[9] John Minnery, 'Planning and Retrofitting for Floods: Insights from Australia' (2013) 14 Planning Practice and Research 121, 127; Eoin O'Neill, 'Neighbourhood Design Considerations in Flood Risk Management' (2013) 14 Planning Theory and Practice 129, 131.
[10] Minnery (n 9) 127.

4.1.1.1.3 Protection of land for flood risk management purposes

Strategic policies can be used to allocate land for development in ways that protect natural flood processes and flow-paths, vegetation buffers, natural water storage capacity, and blue and green infrastructure,[11] as well as to set aside further suitable land for the management of flood risk, such as flood water storage ponds, wetlands, flow-paths, flood defences and drainage infrastructure.

4.1.1.1.4 Emergency planning

Development plans policies can be used to plan strategically for the incorporation of emergency management and response into the built environment, for example by identifying safe access and egress routes and refuge areas and providing for potential emergency flow-paths and flood water storage areas.[12]

4.1.1.1.5 Flood risk management infrastructure funding

Development plans can include policies that set out how strategic flood risk management infrastructure is to be funded to ensure that the policies on the provision of flood risk management infrastructure are deliverable.

4.1.1.1.6 Opportunities presented by flooding

Strategic policies can be established that seek to take advantage of the opportunities that flooding may present, such as by encouraging innovative flood risk mitigation and adaptation industry and growth or the use of land in ways that utilise the water for water sports or other leisure activities.[13]

4.1.1.2 Flood risk management in relation to individual developments

4.1.1.2.1 Prohibitions on development

Development plans can include policy that applications for development, or particular types of development, will be refused in flood risk areas.

4.1.1.2.2 Development requirements

Policies can be used to set out requirements that development must comply with in order to be granted planning permission, such as requirements regarding:

[11] O'Neill (n 9) 129.
[12] ibid.
[13] TCPA and RTPI (n 8) 28.

- The management of surface water, for example requiring the use of permeable materials for ground surfacing and imposing surface water run-off limits.[14]
- The use of sustainable drainage systems (SUDS).[15]
- Funding or providing the flood risk management infrastructure needed as a result of the development.
- The incorporation of property level resistance and resilience measures.
- The use of development, such as pushing habitable used onto higher floors.[16]
- The incorporation of access and escape routes and refuge areas.

4.1.1.3 Monitoring and review

Importantly, development plans can also include monitoring and review provisions.[17] If well used, monitoring provisions can provide a valuable mechanism for developing procedures to evaluate the effectiveness of the flood risk management strategies and policies, identify how they can be improved, estimate their cost-effectiveness, and ensure that they are reviewed as necessary.[18]

4.1.2 Advantages and benefits of use of development plans

The advantages and benefits of using development plans to manage flood risk are numerous and wide-ranging.

4.1.2.1 Integration of policy areas

Development plans are an opportunity for LPAs to establish policies that reflect the interaction that flood risk has with other policy areas, such as health and well-being, social inequality, housing, environmental protection, and economic development, and reconcile any conflict which may arise between them.[19] This is in comparison with most other government work which takes place on a sectoral basis with different departments dealing with issues such as business, housing, the environment, and health.[20]

[14] ibid 38.
[15] ibid.
[16] ibid 29.
[17] Green and Blue Space Adaptation for Urban Areas and Eco Towns, *GRaBS Briefing Paper 2: Delivering Green Infrastructure Benefits to Communities and Places Through Planning* (TCPA 2010) para 2.
[18] HM Treasury, *The Green Book (2020)* (HM Treasury 2020) para 8.
[19] RSPB, CIEEM and RTPI, *Planning Naturally: Spatial Planning with Nature in Mind: in the UK and Beyond* (RSPB 2013) 2.
[20] ibid 1.

4.1.2.2 Long-term approach

As discussed in Chapter 2 (sections 2.1.2.1, 2.3.2.1 and 2.5), effectively managing flood risk to the extent needed to achieve genuinely resilient and sustainable communities and development requires a long-term approach and development plans provide LPAs with an opportunity to establish long-term strategies for development.[21] Indeed, the National Planning Policy Framework (NPPF) states that development plans' strategic policies should provide for the long-term development requirements and opportunities over a minimum period of 15 years.[22]

4.1.2.3 Application of the environmental principles

LPAs can apply the environmental principles discussed in Chapter 2 (section 2.2) to their development plan strategies and policies. The preventative principle can be applied through flood risk management policies that are proactive and advocate flood prevention over control and mitigation,[23] making the development plan one of the cheapest options for the management of flood risk[24] and more cost-effective than focusing on protecting the area from flooding and responding to flood events when they do occur.[25] Application of the precautionary principle by including policies that introduce measures where it is unclear if and to what extent those measures will manage flood risk enables LPAs to engage with the uncertainty regarding the drivers and forecasting of flooding and ensure that it does not prevent them from taking steps to manage flood risk.[26] The polluter pays principle can be applied in policies that seek to ensure that developers pay the costs of managing the flood risk relating to their development. The value of this as a means of furthering the management of flood risk is discussed further below in section 4.5.2.3 and in Chapter 10 (section 10.1.5).

4.1.2.4 Take account of local circumstances

Development plan flood risk management policies can take account of local circumstances. LPAs can therefore ensure that they provide for the local geography and particular drivers of

[21] TCPA and RTPI (n 8) 28.
[22] Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 22.
[23] Jeremy G Carter, Iain White and Juliet Richards, 'Sustainability Appraisal and Flood Risk Management' (2009) 29(1) Environmental Impact Assessment Review 7, 8.
[24] Association of British Insurers, *Making Communities Sustainable: Managing Flood Risk in the Government's Growth Areas: Summary Report* (ABI 2005) para 2.4.
[25] HM Treasury and Stern, *The Stern Review* (n 6) 421.
[26] Iain White, 'The More We Know the More We Don't Know: Reflections on a Decade of Planning, Flood Risk Management and False Precision' (2013) 14(1) Planning Theory & Practice 106, 111.

flood risk in the area, as well as the difference in vulnerability within the area, whilst also taking account of the local social and economic circumstances and needs.[27]

4.1.2.5 Third party participation

In addition to LPAs, a number of third parties are also involved in the preparation of development plan, and this can help improve the evidence base and result in better decisions.[28] For example, the Environment Agency is a statutory consultee in the preparation of the development plan,[29] and LPAs also have the opportunity to take advice and obtain evidence from a variety of other experts such as the Committee on Climate Change and Natural England. LPAs can also engage with neighbouring LPAs (and indeed have a duty to do so in some circumstances, as discussed in Chapter 3 section 3.3.2.2.1.3), which is particularly beneficial as flood risk issues can cross local authority boundaries. Indeed, two or more LPAs can prepare a joint development plan, which clearly facilitates the taking of a cross-boundary approach to the management of flood risk.[30]

The public also has the opportunity to participate in the preparation of development plans, which further enables development plans to take account of local knowledge and provides an opportunity for dialogue with the public.[31] This empowers communities to influence decisions that affect them, and increases democracy, transparency, understanding and acceptance of both the process and the decision,[32] giving development plans a democratic legitimacy that many other flood risk management decisions and measures lack.[33]

4.1.2.6 Certainty

Setting out strategies and policies regarding flood risk management in the development plan provides a rational and consistent basis for the determination of planning applications. This gives a degree of certainty for the LPA, developers, and the general public, whilst also retaining sufficient flexibility to take account of individual circumstances.[34]

[27] TCPA and RTPI (n 8) para 1.1.
[28] Jon Lord and Louise Waring, 'Involving Communities at the Earliest Stage of Plans' (2007) 1704 Planning Practice and Research 27, 27.
[29] Town and Country Planning (Local Planning) (England) Regulations, SI 2012/767, reg 18.
[30] PCPA 2004, s 28.
[31] PCPA 2004, s 18.
[32] Lord and Waring (n 28) 27.
[33] Colin Green, 'Competent Authorities for the Flood Risk Management Plan - Reflections on Flood and Spatial Planning in England' (2017) 10(2) Journal of Flood Risk Management 195, 199.
[34] Jonathan Cooper, Mark Adamson and Elizabeth Russell, 'Flood Risk Management - Challenges to the Effective Implemenatation of a Paradigm Shift' (2013) 14(1) Planning Theory and Practice 135, 136.

4.1.2.7 Review

Development plans also have the advantage of being (relatively) easy to amend in response to the dynamic nature of flood risk. Indeed, LPAs are required to assess every five years whether their development plan requires updating.[35] Being easy to amend and update enables development plans to adapt to unforeseen risk and changing circumstances, needs, and priorities, which lends adaptability and flexibility (and therefore resilience) to the planning system.

4.1.3 Disadvantages and limitations of use of development plans

There are, however, a number of disadvantages and limitations to the use of development plans for the management of flood risk.

4.1.3.1 Evidence base

LPAs are required by legislation to include 'a reasoned justification' of the policies in their development plans[36] and the NPPF stipulates that all development plan policies must be 'underpinned by relevant and up-to-date evidence'.[37] Whilst these requirements seek to ensure that development plan policies are supported by evidence, there are some disadvantages to this so far as flood risk management policy is concerned. In the first place, it does not facilitate application of the precautionary principle which, as discussed in section 4.1.2.3, is a valuable means by which LPAs can engage with the uncertainty regarding both the drivers of flood risk and the ability to accurately predict, in even the very short-term, when, where, and to what extent flooding will occur (as discussed in Chapter 2, section 2.4). This may mean that there is not the evidence necessary to justify the flood risk management policies that LPAs want to include, particularly if they would conflict with other policies that are supported by more reliable and easily communicated evidence.[38]

4.1.3.2 Viability

The NPPF states that a development plan must be 'deliverable',[39] which means that its policies are subject to a viability assessment to ensure that the costs they impose on developers do not undermine deliverability of the development plan.[40] With the exception of policies promoting the opportunities presented by flooding, all the flood risk management

[35] Town and Country Planning (Local Planning)(England) Regulations 2012, SI 2012/767, reg 8(2) and reg 10A.
[36] ibid.
[37] MHCLG, *NPPF 2019* (n 22) para 31.
[38] Cooper, Adamson and Russell (n 34) 137.
[39] MHCLG, *NPPF 2019* (n 22) para 16b).
[40] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Viability* (MHCLG 2018) para 002.

policies listed in sections 4.1.1.1 and 4.1.1.2 above involve additional cost to the developer and/or reduce the profitability of the development and, as viability assessments only take into account the cost to the developer of complying with the policies and not the costs of failing to take steps manage flood risk, they work against the inclusion of flood risk management policies.

4.1.3.3 Short-term approach

Whilst development plans offer an opportunity for LPAs to take a long-term approach to development, there is no requirement for them to do so. Consequently, research has found that LPAs tend to take a short-term approach to meeting objectives and fail to make the connection between short-term objectives, such as meeting housing need, and longer-term objectives relating to climate change.[41]

4.1.3.4 Resource limitations

Flood risk management requires considerable technical expertise, for example regarding flood barriers, drainage systems and property level resistance and resilience measures, and it is questionable whether local government has the technical expertise necessary to decide what is required, when and where. Indeed, research has indicated that lack of technical expertise, and resources in general, has had a limiting effect upon the ability of local government to tackle climate change,[42] an issue which overlaps with flood risk management, and this has been exacerbated by the austerity measures of recent years.[43]

4.1.3.5 Implementation

The development plan does not in itself ensure that the in it policies are implemented. The effectiveness of any policy is reliant upon development coming forward through which the policies can be implemented, and it can therefore take a long time for the results to be shown.[44] In addition to this, research has shown that development plan policies are not always diligently applied. A study into policy and practice relating to sustainable drainage systems found there to be an implementation gap between development plan policy and its application

[41] Elizabeth Wilson, 'Adapting to Climate Change at the Local Level: The Spatial Planning Response' (2006) 11(6) Local Environment 609, 621; Collingwood Environmental Planning and Land Use Consultants, *Climate Change Mitigation and Adaptation Implementation Plan for the Draft South East Plan* (Collingwood Environmental Planning 2006).
[42] Wilson (n 41) 610.
[43] Town and Country Planning Association, *A Crisis of Place: Are We Delivering Sustainable Development Through Local Plans?* (TCPA 2016) para 4.17.
[44] Peter De Smedt, 'Legal Instruments in Spatial Planning to Ban Building in Flood Zones: From Water Test to Planological Protection via 'Water Sensitive Open-Air Areas'' (2017) 14(304) Journal of European Environmental and Planning Law 346, 359.

in development control decisions. It also found there to be no correlation between the strength of development plan policy on SUDS and their use in practice and concluded that whether SUDS were used or not was influenced more by the presence (or not) of 'motivated individuals and innovated sustainability policies' than by the strength of the SUDS policy.[45]

4.1.3.6 Public participation

Whilst the advantages of involving the public in the preparation of development plans are discussed above, there can also be disadvantages to it. The public may not be in favour of the proposed flood risk management policies if, for example, it reduces the developability and value of land, appears to impose an unfair burden on the local area,[46] or conflicts with policies relating to more conventional or popular policy objectives.[47] The public can also be particularly resistant to policies that move away from the use of structural flood defence and may be reluctant to accept flood risk evidence that does not accord with their 'multi-generational knowledge of the lack of flooding'.[48] It has been found that public resistance can lead to proposed flood risk management policies being side-lined or discarded altogether.[49]

4.1.3.7 Central government control

4.1.3.7.1 Rules on central government control

Although development plans are prepared by LPAs, central government retains a degree of control over their content. When preparing their development plans, LPAs are under a statutory duty to have regard to national policy,[50] and are therefore required to have regard to the NPPF's watered down approach to sustainable development with its prioritisation of short-term economic needs and presumption in favour of development. After having prepared its development plan, the LPA the must submit it to the Secretary of State for examination and it cannot be adopted until it has been approved by the Planning Inspectorate.[51] The purpose of this examination is to ensure that the development plan complies with the requirement to have regard to national policy and that it is 'sound'.[52] There is no statutory

[45] Iain White and Alexandra Alarcon, 'Planning Policy, Sustainable Drainage and Surface Water Management: A Case Study of Greater Manchester' (2009) 35(4) Built Environment 516, 516, 523 and 534.
[46] J M M Neuvel and W Van Der Knapp, 'A Spatial Planning Perspective for Measures Concerning Flood Risk Management' (2010) 26(2) International Journal of Water Resources Development 283, 289.
[47] Wilson (n 41) 610.
[48] Cooper, Adamson and Russell (n 34) 137-38.
[49] Neuvel and Knapp (n 46) 289.
[50] PCPA 2004, s 19(2).
[51] ibid s 20.
[52] ibid s 20(5).

definition of what constitutes a 'sound' development plan, but the NPPF states that for a development plan to be considered 'sound' it must be:

a) Positively prepared;
b) Justified;
c) Effective; and
d) Consistent with national policy.[53]

This impacts on LPAs' ability to include flood risk management strategies and policies in a number of ways. Being 'positively prepared' requires the development plan to plan for the development needed to meet housing need, and the impact that this has on development plan's ability to manage flood risk are discussed in Chapter 3 (section 3.3.2.3). For the development plan to be 'justified', it must be based on proportionate evidence, which restricts LPAs' ability to effectively provide for the management of flood risk for the reasons discussed in section 4.1.3.1. A development plan will not be considered 'effective' if its flood risk management strategies and policies undermine its viability and deliverability, and the impact of this on development plan flood risk management policies is discussed in section 4.1.3.2. The requirement for development plans to be 'consistent with national policy' limits LPA discretion (and inhibits local initiative) and enables the Government to promote its own agenda.[54]

4.1.3.7.2 Central government control in practice

To get an indication of how central government influence is being exerted in practice, eight Planning Inspector (PI) reports were reviewed, being those identified in a 2017 report by Nathaniel Lichfield and Partners on the deliverance of development plans as being development plans for which the date for early review had passed without the review having taken place.[55] (These development plans were chosen for the review because they represent a pre-determined group of a size big enough to give an indication of the PI's approach but manageable within the time and word constraints of this research project).

This review revealed that in each examination the PI carried out a comprehensive review of the development plan. The PI reports all put significant emphasis on housing need and dedicating a large proportion of the report to a detailed examination of the policy on housing,

[53] Ministry of Housing Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 35.
[54] Wilson (n 41) 618.
[55] Lichfields, *Planned and Delivered: Local Plan Making Under the NPPF: A Five Year Progress Report* (Lichfields 2017).

scrutinising the evidence supporting those policies and the calculations of housing need, and carefully considering the allocation of land and distribution of housing between different areas. However, in one report, the PI was prepared to allow policy that limited housing provision and disapplied the presumption in favour of sustainable development due to exceptional circumstances relating to the impact on European protected sites (and as permitted by the NPPF).[56] Furthermore, another PI report stated that the NPPF requirement to include a 20% buffer in the five-year housing land supply in cases where there had been under-performance was guidance only. It went on to state that the NPPF requirement to take of account of local circumstances and of any adverse impacts of meeting the objectively assessed needs which 'would significantly and demonstrably outweigh the benefits' of planning to meet the assessed housing need meant that in this case the application of the 20% buffer was unsound and should not be applied.[57]

Only three out of the eight reports addressed the development plans' flood risk management policies. One report recommended modifications that not only ensured compliance with the NPPF requirements regarding flood risk management, but also incorporated policy requiring resilience through development design and layout and the use of 'sensitively designed mitigation measures' such as on or off-site flood defence works.[58] Another report similarly modified the flood risk management policy, strengthening its wording to ensure its effectiveness and consistency with national policy. It also included further modifications to the requirements regarding SUDS to include fluvial flood risk management infrastructure, incorporated a requirement to consult with the Fire and Rescue Service regarding rescue and recovery, and included specific restrictions on where development can take place.[59] The third report that addressed the flood risk management policies looked more closely at these policies and recommended modification to the policy regarding SUDS to ensure compliance with the Local Flood Risk Management Strategy applicable to the area. It also identified that concerns regarding flood risk had been raised in the consultation, such as that the policy did not encourage the building of houses designed for flood risk areas. However, the PI agreed with the LPA's response to these concerns, which was that it did not want policy to be 'over-

[56] Mike Moore, *Report to Wealden District Council and the South Downs National Park Authority* (The Planning Inspectorate 2012) paras 9, 32, 36 and 39.
[57] Partick T Whitehead, *Report on the Examination into Staffordshire Moorlands Core Strategy Local Plan* (The Planning Inspectorate 2014) paras 5, 30, 31, 81, 82, 95-97.
[58] Robert Yuille, *Report to Mendip District Council* (The Planning Inspectorate 2014) paras 62-63.
[59] David Spencer, *Report on the Examination of Plan:MK* (The Planning Inspectorate 2019) paras 44-71, 131-54, 217.

cumbersome' and 'it came down to what was considered to be an appropriate level of detail', and therefore did not recommend that the policy be amended in response to these concerns.[60]

It can therefore be seen that whilst there are some areas of conformity in the approach of PIs, there are some significant inconsistencies, and this is a reminder that the examination is a subjective and discretionary process. It is difficult to identify a coherent pattern or rationale for the recommendations made in relation to flood risk management, making it difficult for LPAs to know what flood risk management provisions the Planning Inspectorate will allow or require. It is also the case that each of the nine PI reports emphasised the need for development plan policies to be supported by robust evidence and demonstrated a reluctance to allow policies that restrict development, which limits the extent to which development plans can be used to manage for flood risk for the reasons discussed in section 4.1.3.1 and 4.1.3.2.

4.1.4 Conclusions on use of development plans for flood risk management

Development plans offer an opportunity for LPAs to take a proactive and long-term approach to flood risk management whilst also working towards achievement of their other development objectives. LPAs can use their development plan policies to try to prevent, control, mitigate, and respond to flooding on both a strategic and individual development level, and can do this in a way that takes account of local circumstance and opinion. They can also use them to develop strategies to take advantage of the opportunities presented by flooding. However, the need to comply with their obligations regarding sustainable development and planning to meet short-term development need significantly limits the extent to which LPAs can use their development plans to manage flood risk. Other limiting factors include the need for policies to be supported by evidence and the lack of resources within LPAs to develop effective flood risk management strategies.

4.2 Permitted Development

Permitted development is a regime under which certain types of development are granted planning permission by virtue of a development order made by the Secretary of State rather than as the result of an express application to an LPA.[61] This reduces the bureaucratic burden on both LPAs and developers and is therefore a means of encouraging development to take place and improving the speed and predictability of the planning system.[62] The main

[60] Mike Fox, *Report on the Examination into the Swindon Borough Local Plan* (The Planning Inspectorate 2015) paras 34-38, 108-11.
[61] Town and Country Planning Act 1990 (TCPA 1990), ss 57(1) and 59.
[62] Nathaniel Lichfield, *Review of Permitted Development Rights* (ODPM 2003) para 1.2.

development order under which planning permission is granted in this way is the Town and Country Planning (General Permitted Development) Order 2015 (GDPO), which grants planning permission to 43 different classes of development, such as extensions, additional buildings and hard-surfacing in connection with dwelling houses, agricultural operations, and industrial and warehouse development.

There is an underlying assumption that many of the types of development covered by the order are of such a size and nature as to present no planning issues.[63] This assumption may, however, be unsound.[64] Indeed, in the context of flood risk, permitted development can increase flood risk in two ways. In the first instance, the cumulative effect of the additional land coverage and burden on drainage systems resulting from the additional development carried out under the GPDO increases surface water run-off and the risk of drainage systems being overwhelmed. Research by the Royal Horticultural Society into the cumulative impacts of paving over front gardens described how paving over of one front garden may seem inconsequential, but the impact of neighbours on both sides of the road doing the same is to effectively triple the width of the road, and that replacing gardens which soak up the rain with less porous tarmac and concrete can increase rainwater run-off by up to 50%. This additional water then flows into drains which may not have the capacity to cope with the additional water, causing the excess water to either go back up driveways/paved gardens and flood their homes or flow downhill and flood other homes.[65] The permitted development regime also increases flood risk by removing the opportunity for LPAs to either refuse permission for the development concerned on the grounds of the flood risk associated with it or ensure that measures are taken to manage that risk. Furthermore, the frequent and numerous amendments by the Government to permitted development rights may have increased the amount of development taking place and made securing flood resistance and resilience measures more difficult.[66]

There are, however, a number of means by which LPAs can adjust permitted development rights to reduce the impact of permitted development and take account of local flood risk

[63] Alan Prior and Jeremy Raemakers, 'Does Planning Deregulation Threaten the Environment? The Effect of 'Permitted Development' on the Natural Heritage of Scotland' (2006) 49(2) Journal of Environmental Planning and Management 241, 241.
[64] ibid 242.
[65] Royal Horticultural Society, *Greening Grey Britain* (Royal Horticultural Society 2015) 3 and 5.
[66] TCPA and RTPI (n 8) para 2.1.

concerns, namely Article 4 Directions, conditions removing permitted development rights, and Local and Neighbourhood Development Order.[67]

4.2.1 Article 4 Directions

Article 4 Directions are a means by which LPAs can reverse some of the effects of the GPDO in specific circumstances. Under Article 4 of the GPDO, an LPA can, if it considers it 'expedient' to do so, give a direction (an 'Article 4 Direction') that the permitted development rights given by the GPDO shall not apply to a particular type of development either in respect of the whole of the LPA's area or a specific part thereof. The Article 4 regime thus enables LPAs to bring back under LPA control selected types or classes of development which are otherwise permitted by the GPDO.

4.2.1.1 Use of Article 4 Directions to manage flood risk

The removal of permitted development rights altogether may be disproportionate to the flood risk that they present. Alternatively, if LPAs were to carry out a comprehensive appraisal of the different classes of permitted development and their appropriateness to specific areas, they could use this as the basis for decisions regarding which classes of development should be brought back under LPA control. This would provide legitimacy to decisions regarding Article 4 Directions and make them quicker and easier to make. The type of permitted development rights that an LPA could remove to manage flood risk include those relating to the erection or extension of buildings or the laying or hard-surfaces in relation to an area where there are, or would be, run-off issues. This would discourage inappropriate development, as well as enable the LPA to have more control over the location of development, the amount of land coverage, and the measures taken to mitigate the impacts of development on flood risk.

4.2.1.2 Advantages and benefits of the use of Article 4 Directions

LPAs are required to publicise and carry out a consultation on proposed Article 4 Directions and must take account of any representations made during the consultation. This helps to ensure their legitimacy and acceptance. [68] There is also some evidence to suggest a general acceptance of Article 4 Directions by residents as they become aware of their implications for the protection of property values (although developers are likely to be less positive about them).[69]

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[67] P J Larkham and D W Chapman, 'Article 4 Directions and Development Control: Planning Myths, Present Uses and Future Possibilities' (1996) 39(1) Journal of Environmental Planning and Management 5, 18.
[68] Town and Country Planning (General Permitted Development) Order, SI 1995/418, art 5.
[69] Larkham and Chapman (n 67) 11.

4.2.1.3 Disadvantages and limitations of the use of Article 4 Directions

There are a number of disadvantages and limitations to the use of Article 4 Directions for the management of flood risk.

4.2.1.3.1 National Planning Policy Framework restrictions

Whilst the GPDO states that Article 4 Directions are to be used where an LPA considers it 'expedient' to do so, the NPPF states that they should be limited to situations where they are 'necessary to protect local amenity or the well-being of the area'.[70] This appears to require evidence that permitted development concerned will have a detrimental impact on the area, and whilst LPAs are not bound to comply with the NPPF (as discussed in Chapter 3, section 3.5.1) they are required to take account of it. This requirement may therefore discourage LPAs' from using Article 4 Directions as a precautionary measure where there is no clear evidence as to whether and to what extent they will prevent an increase in flood risk.

4.2.1.3.2 Central government control

Although the Secretary of State's approval of Article 4 Directions is no longer required, central government retains some control over the use of Article 4 Directions as the Secretary of State must still be notified of all Directions made and has the power to modify or cancel them.[71] There is evidence that the Secretary of State will use this power where LPAs have introduced Article 4 Directions that cover large areas. For example, following the 2013 extension of permitted development rights to cover the change of use from office (Class B1a) to residential (Class C3), London Borough of Islington Council's Article 4 Direction removing these rights in relation to specific areas was cancelled by the Secretary of State on the grounds that it was disproportionate, but the Council was subsequently allowed to introduce an Article 4 Direction which covered a smaller area.[72] It is therefore doubtful whether the Secretary of State would allow Article 4 Directions to be used over areas large enough to have a significant impact on flood risk.

4.2.1.3.3 Public consultation

A disadvantage to the requirements to publicise and carry out a consultation on proposed Article 4 Directions is that the period of consultation can act as a warning to residents that

[70] MHCLG, *NPPF 2019* (n 53) para 53.
[71] Town and Country Planning (General Permitted Development) Order 1995, SI 1995/418, art 5(13).
[72] London Borough of Islington Borough Council, 'Permitted Development' <www.islington.gov.uk/planning/permitted-development> accessed 3rd May 2019.

control of certain development is imminent and thereby encourage them to carry out the work that the Direction would cover before the control comes into effect.[73]

4.2.1.3.4 Resource limitations

It has been reported that Article 4 Directions are (or as at least perceived by LPAs to be) staff and resource intensive.[74] The requirement to regularly review any Article 4 Directions that are in place imposes an additional burden on LPAs.[75] The resources involved in the use of Article 4 Directions may therefore discourage LPAs from using them to manage flood risk.

4.2.1.3.5 Liability to pay compensation

Perhaps the most significant disadvantage to the use of Article 4 Directions is the potential liability of the LPA to pay compensation to applicants where planning permission is refused or conditions are imposed in respect of development that was formerly permitted by the GPDO. Compensation is payable to cover abortive expenditure or loss attributable to the withdrawal of permitted development rights,[76] and although the incidences of such compensation are not particularly high they have the potential to involve substantial amounts of money.[77] This, and the difficulty in calculating in advance the financial implications of a particular Article 4 Direction, has discouraged LPAs from using them.[78] Legislation was introduced in 2008 to limit the right to compensation to those applications for planning permission made within 12 months of the Article 4 Direction coming into operation.[79] However, the risk is that this will encouraged LPAs to implement Article 4 Directions with a 12 months' delay between coming into operation and the removal of rights coming into effect to ensure that no claims for compensation can be made, thus encouraging in the short-term exactly the type of development the Direction seeks to limit and control.

4.2.2 Conditions removing permitted development rights

4.2.2.1 Use of conditions removing permitted development rights to manage flood risk

Another means by which LPAs can limit the effect of permitted development rights is through planning conditions. When an LPA grants planning permission for a development it can

[73] Larkham and Chapman (n 67) 11.
[74] Lichfield (n 62) para 3.21-3.22.
[75] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: When is permission required?* (MHCLG 2014) para 049.
[76] TCPA 1990, ss 107 and 108.
[77] Victor Moore and Michael Purdue, *A Practical Approach to Planning Law* (13th edn, Oxford University Press 2014) para 7.11.
[78] Larkham and Chapman (n 67) 7.
[79] TCPA 1990, s 108(2).

attach a condition which removes or limits the permitted development rights that apply to the development. This enables LPAs to retain control over future extensions and changes of use and is a useful tool in situations where an LPA considers that the impacts of any additional development on the site on flood risk needs to be considered before deciding whether the development should go ahead.

4.2.2.2 Advantages and benefits of conditions removing permitted development rights

The advantage of using conditions rather than Article 4 Directions to remove permitted development is that they can be targeted at individual developments. They can therefore be adapted to the specific flood risk concerns of the particular development, meaning that they can be used effectively and without going any further than is necessary to address those concerns.

4.2.2.3 Disadvantages and limitations of conditions removing permitted development rights

The NPPF seeks to limit the use of planning conditions that remove permitted development rights, stating that they should not be used 'unless there is clear justification to do so'.[80] This limits their use to situations where there is clear evidence that the permitted development rights concerned would lead to an increase in flood risk. Furthermore, planning practice guidance discourages the widespread use of planning conditions to remove permitted development rights. This limits their utility as a means of managing flood risk as the more widespread their use is the more effective they will be at addressing the cumulative impacts of small-scale development on flood risk.[81]

4.2.3 Local and Neighbourhood Development Orders

As well as having powers to remove permitted development rights, LPAs also have powers to extend them. An LPA can make a Local Development Order (LDO) or Neighbourhood Development Order (NDO) which grants additional permitted development rights in respect of the whole of the LPA's area or a specific part thereof.[82] This enables LPAs to encourage certain types of development in general or in certain areas in pursuance of specific policy objectives, such as regeneration of a particular employment area.[83] The NPPF expressly encourages LPAs to use LDOs where it would promote economic, social and environmental gain.[84]

[80] MHCLG, *NPPF 2019* (n 53) para 53.
[81] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Use of Planning Conditions* (MHCLG 2014) para 017.
[82] TCPA 1990, s 61A and 61E .
[83] Moore and Purdue (n 77) para 7.49.
[84] MHCLG, *NPPF 2019* (n 53) para 51.

4.2.3.1 Use of Local and Neighbourhood Development Order to manage flood risk

In the context of flood risk management, LDOs and NDOs can be used to encourage development which is appropriate to the level of flood risk of an area. This can be achieved by, for example, granting permitted development rights for water compatible uses within high-risk areas and for more vulnerable uses within lower risk areas. In doing so, they can play an important role in encouraging location appropriate development and investment, which is particularly important in light of the failure of insurance premiums and other development costs to accurately reflect flood risk costs.[85] All this works to mitigate flood risk and improve resilience, and is arguably the most sustainable way to manage flood risk.[86]

4.2.3.2 Advantages and benefits of use of Local and Neighbourhood Development Orders

4.2.3.2.1 Flexibility

LDOs and NDOs have the advantage of being flexible tools that can be granted subject to conditions or for a limited time and be revoked or modified by the LPA at any time.[87]

4.2.3.2.2 Public consultation

LPAs are required to publicise and carry out a consultation on their proposed LDOs[88] and NDOs,[89] which helps to ensure their legitimacy and acceptance.

4.2.3.3 Disadvantages and limitations of use of Local and Neighbourhood Development Orders

There are, however, a number of statutory restrictions on the use of LDOs that limits their utility as a means of managing flood risk.

4.2.3.3.1 Link to development plan objectives

It is necessary to be able to link the LDO to the implementation of a development plan policy,[90] which means that an LDO that, for example, encourages residential development in the areas with the lowest flood risk would only be possible if it could be linked to a development plan objective. They can therefore be used as a means of implementing the

[85] HM Treasury and Stern (n 6) 416-421.
[86] Iain White and Juliet Richards, 'Planning Policy and Flood Risk: The Translation of National Guidance into Local Policy' (2007) 22(4) Planning Practice and Research 513, 513 .
[87] TCPA 1990, ss 61A, 61C and 61E.
[88] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595, art 38(4).
[89] Neighbourhood Planning (General) Regulations 2012, SI 2012/637, reg 21.
[90] TCPA 1990, s 61A(1).

development plan's flood risk management policy, but they cannot be used make up for deficient flood risk management policy.

4.2.3.3.2 Central government control

LPAs are required to submit to the Secretary of State a copy of any LDO and NDO which they implement. Whilst the Secretary of State's approval is not required, it has the power to direct the LPA to revise or revoke an LDO and NDO if it considers it expedient to do so.[91] This limits LPAs' discretion, particularly if the LDO or NDO does not accord with the Government's agenda.

4.2.3.3.3 Resource limitations

The implementation of LDOs and NDOs can require significant resources, particularly if specialist support, such as a flood risk assessment and/or technical advice, is required. It is also the case that lack of awareness within the relevant public can undermine the effectiveness of LDOs and NDOs. Regular communication is needed to maintain public awareness of their existence and the benefits they provide to those they are targeted at, and this requires additional resources. Added to which, LDOs and NDOs can also result in the loss of income from planning applications, meaning that they are seen by some LPAs as an expensive means of managing development.[92]

4.2.4 Conclusion on adjustment of permitted development rights for flood risk management

Removing permitted development rights may be a valuable means of helping to discourage inappropriate development and manage the cumulative impacts of small-scale development on flood risk. However, the need for LPAs to be able to demonstrate that removing the permitted development rights will manage flood risk significant limits the utility of removal of permitted development rights in this way as there is a significant degree of uncertainty regarding the drivers of flooding and knowing when and where it will occur. Central government's reluctance for both conditions and Article 4 Directions to be used to remove permitted development rights over large areas and LPAs' liability for compensation for removal of permitted development rights also significantly restrict LPAs' ability to use Article 4 Directions and conditions on the scale needed to effectively manage flood risk. Indeed, Article 4 Directions are not meant to be a means of resolving extensive everyday

[91] ibid ss 61B and 61M.

[92] Local Government Association, *Local Development Orders: Case Study Research and Analysis* (LGA 2018) paras 2.0, 2.3, 3.4 and 3.6.

problems, but rather are for use in limited situations.[93] In any event, where permitted development rights have been removed, the LPA may not be able to refuse to grant permission or impose planning conditions to manage flood risk in the event of an application for planning permission being made. This is because the flood risk implications of each individual development are likely to be very small – it is the cumulative effect of such development and its contribution to overall ground covering and surface water run-off that will contribute to increasing flood risk.

Whilst the removal of permitted development rights can be used to discourage inappropriate development, LDOs and NDOs are potentially a valuable means of encouraging appropriate development and ensuring efficient use of both low and high-risk land. However, their ability to be used on the scale necessary to contribute to the management of flood risk is limited by the significant investment of time and resources that they require. For LPAs to make more effective use of them they need improved access to resources and technical expertise.

4.2 Refusal of planning permission

Upon receiving an application for planning permission, LPAs have a significant degree of discretion as to whether to grant or refuse planning permission.[94] In exercising this discretion, LPAs are required to take account of the provisions of their development plans.[95] Whilst there is a presumption in favour of determination in accordance with the provisions of the development plan, LPAs are not required to do so where 'material consideration indicate otherwise'.[96]

4.3.1 Use of refusal of planning permission to manage flood risk

LPAs are able to refuse planning permission for development to ensure compliance with the flood risk management provisions of their development plans. Furthermore, flood risk can be a material consideration,[97] and it is up to LPAs to decide in relation to each development whether flood risk is a material consideration and how much weight to give it.[98] LPAs are therefore able to refuse a planning application due to flood risk concerns raised by the proposed development even if doing so would not be accordance with the development plan.

[93] Larkham and Chapman (n 67) 13.
[94] TCPA 1990, s 70(1).
[95] ibid s 70(2).
[96] PCPA 2004, s 38(6).
[97] *Stringer v Minister of Housing and Local Government* [1970] 1 WLR 1281; *George Wimpy & Co Ltd v Secretary of State for the Environment* [1978] JPL 776.
[98] *City of Edinburgh Council v Secretary of State for Scotland* [1998] JPL 224.

4.3.2 Advantages and benefits of use of refusals of planning permission

Refusing to grant planning permission for a proposed development due to the flood risk associated with it prevents inappropriate development from taking place. It also sends out a clear message to the public about the flood risk issues that the LPAs considers make development unacceptable.

4.3.3 Disadvantages and limitations of refusals of planning permission

4.3.3.1 Duty to meet development need

As discussed in Chapter 3 (sections 3.3.2 and 3.4.2), LPAs are under considerable pressure to facilitate rather than restrict development. Their duties to meet short-term development needs, particularly those relating to the provision of housing, make it difficult to justify a refusal of planning permission other than in extreme cases as usually it will be possible for the LPA to ensure that measures are taken to mitigate the flood risk. Indeed, the courts have held that where there is a housing shortage, the LPA is to have regard to that shortage as a significant material consideration that tilts the balance in favour of granting planning permission.[99]

4.3.3.2 Central government control

If an LPA refuses to grant planning permission for a proposed development, the developer has the right to appeal to the Secretary of State (and from there to the courts).[100] Upon an appeal to the Secretary of State, the Secretary of State can generally deal with the appeal as if they were making the decision in the first instance and they are unlikely to determine the planning application in a way that is not in accordance with national policy without clear justification. This ability of the Secretary of State to substitute the LPA's decision with its own means that central government retains some control over the determination of planning applications, restricting LPAs' discretion to refuse planning applications on flood risk grounds and allowing the Government to ensure that development control decisions further its agenda. Whilst an aggrieved developer who does not get the outcome they are seeking from the Secretary of State can appeal to the court, they can only do so on the grounds that the Secretary of State acted *ultra vires*.[101] Furthermore, even if the appeal is successful, the court is not able to substitute its own judgment[102] as the extent of the court's intervention is limited to quashing the Secretary of State's decision, which effectively requires the Secretary of State

[99] *Suffolk Coastal District Council v Hopkins Homes Ltd and Another* [2017] UKSC 37.
[100] TCPA 1990, ss 78-79.
[101] ibid s 288.
[102] *Tesco Stores v Secretary of State for the Environment* [1995] 1 WLR 759 (HL).

to make a fresh decision.[103] This means that ultimately, the Secretary of State has unfettered discretion to determine planning appeals and, in doing so, to decide whether flood risk is material consideration and how much weight to give it.

Furthermore, the Secretary of State has the power to 'call in' applications for planning permission, rather than allowing LPAs to determine them.[104] The guidelines for when the Secretary of State can call in a decision include where they 'may conflict with national policies on important matters' and where they 'may have significant long-term impact on economic growth and meeting housing needs across a wider area that a single local authority'.[105] This furthers central government's control over the determination of planning applications and limits their LPAs ability to determine them in a way that seeks to manage flood risk in way that restricts development, particularly where it would interfere with meeting short-term housing need.

4.3.4 Conclusion on refusal of planning permission for flood risk management

LPAs' ability to refuse planning permission due to flood risk concerns, whether or not those concerns make the development contrary to the flood risk management policies in the development plan, is a powerful tool for preventing inappropriate development from taking place and discouraging further applications for inappropriate development being made. LPAs' obligations to meet development need, particularly short-term housing need, and central government's ability to ensure that planning application decisions comply with these obligations, are significant constraints on LPAs' ability to refuse planning applications on flood risk grounds. However, whilst this means that LPAs may only be able to refuse planning permission in extreme cases where the flood risk concerns cannot be managed through conditions and planning obligations, refusals of planning permission are an essential means of ensuring that wholly inappropriate development does not take place.

4.4 Conditions

When LPAs are determining planning applications, they have the highly discretionary power to grant planning permission 'subject to such conditions as they think fit'.[106] Conditions are an important means of setting out the terms on which the development is permitted and are imposed in almost all planning permission.

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[103] TCPA 1990, s 88(5).
[104] ibid s 77.
[105] Parliamentary Under Secretary of State for Communities and Local Government, *Written Ministerial Statements,* 26 October 2012, cols 71WS -72WS.
[106] TCPA 1990, s 70.

4.4.1 Use of conditions to manage flood risk

The ability of conditions to set out the terms on which the development is permitted means that they can be used to mitigate any adverse impact that individual developments may have on flood risk. There are a number of means by which they can do this.

4.4.1.1 Incorporation of resistance and resilience measures

Conditions can be used to require the developer to incorporate property level resistance and resilience measures to reduce both the chance of the development flooding and the damage caused if it does flood. For example, they can specify that flood resistant materials, door guards and air bricks be used.

4.4.1.2 Provision of flood risk management infrastructure

Conditions can be used to require the developer to provide flood mitigation infrastructure, such as a soakaways and flood water storage ponds, on the development site. This can mitigate the flood risk to the development itself and elsewhere. Furthermore, conditions can be used to some extent to require the provision of flood risk management infrastructure off-site. Where a developer controls other land that would be more suitable for the provision of the infrastructure than the development site, provided the developer has sufficient control of that other land, a condition can be used to require the developer to provide the infrastructure on that other land.[107] Alternatively, where the developer does not have sufficient control of the other land, whilst the LPA cannot use a condition to require the developer to provide infrastructure on that land, a pre-commencement condition can be used to prevent the developer from carrying out the development until the necessary flood risk management infrastructure has been provided.[108] Although the Government has sought to restrict the use of pre-commencement conditions to circumstances where their requirements are so fundamental that the LPA would otherwise have to refuse planning permission,[109] it is thought that a pre-commencement condition prohibiting the developer from carrying out the development until a flood protection wall has been constructed may well be considered to be 'wholly proper and lawful'.[110] Moreover, pre-commencement conditions are commonly used to prevent development from taking place until highway works necessary to serve the development have

[107] ibid s 72(1)(a).
[108] *Grampian Regional Council v City of Aberdeen DC* (1984) 47 P&CR 633.
[109] MHCLG, *PPG: Use of Planning Conditions* (n 81) para 007; Communities and Local Government Ministry of Housing, *Fixing Our Broken Housing Market* (DCLG 2017) 40 and para 2.26; MCHLG, *NPPF 2019* (n 53) para 55.
[110] Alec Samuels, 'Planning Conditions and Planning Obligations: the Legal Framework' (2018) 7 Planning and Environmental Law 753, 759.

been carried out by the Highways Agency on other land,[111] and therefore, by analogy, it would appear that a condition could prohibit the development from taking place until the LPA or Environment Agency has put in place suitable flood risk management infrastructure elsewhere to serve the development land. It is important to note, however, that planning practice guidance states that such conditions will only be appropriate in 'exceptional circumstances' and in relation to 'more complex and strategically important development where there is clear evidence that the delivery of the development would otherwise be at serious risk'.[112] Indeed, planning obligations (discussed in section 4.5) are generally a more suitable means of ensuring the provision of off-site flood risk management infrastructure.

4.4.1.3 Enable the flood risk implications of development to be assessed

Conditions can limit the permitted use/development to a stated time-period. They can therefore be used to have a trial run of a particular development to test its impact on flood risk or to grant planning permission for a limited period where the site's flood risk is expected to increase in the future.[113] Indeed, planning practice guidance supports the use of temporary conditions for both these purposes.[114] However, the time-frames involved in flooding, and the fact that the impacts of a particular development on, or its vulnerability to, flood risk may not become apparent for some time, may limit the ability of conditions to be used effectively in this way.

4.4.1.4 Ensure appropriate use

A condition can be used to restrict the use of any new building to use appropriate to the level of flood risk on the site and/or that mitigate the impact of the development on flood risk.[115] This can be done by reference to broad categories, such as the use classes established by the Town and Country Planning (Use Classes) Order 1987, or by putting more specific use restrictions in place, such as a restriction on the density of the development/occupation of the development (in order to limit the burden on drainage infrastructure) or a restriction on the use ground floor premises to non-living spaces such as storage or garage use (in order to minimise the impact of any flooding which may occur).

[111] Moore and Purdue (n 77) para 14.44.
[112] MHCLG, *PPG: Use of Planning Conditions* (n 53) paras 009-010.
[113] TCPA 1990, s 72(1)(b).
[114] MCHLG, *PPG: Use of Planning Conditions* (n 53) para 014.
[115] TCPA 1990, s 75(2).

4.4.1.5 Exclusion of high-risk areas

In exceptional circumstances, subject to the applicant's consent, planning conditions can be used to grant planning permission to only a part of the development proposed in the application.[116] Therefore in the event of a proposed development including areas of land with different levels of flood risk, with one part of the site having an unacceptable level of flood risk, a condition could be used to exclude from the planning permission that part of the site with the unacceptable level of flood risk. Use of conditions in this way is potentially a valuable means of enabling development where only parts of the development site are at high flood risk and could be used to ensure the provision or protection of buffer zones.

4.4.2 Advantages and benefits of the use of conditions

As well as the extensive and varied nature of the terms that conditions can be used to impose, there are further advantages to the use of conditions to manage flood risk.

4.4.2.1 Enable development

Importantly, conditions can be used to enable development which might otherwise not be acceptable due to the flood risk associated with it. They are therefore a means of helping LPAs to manage flood risk and also meet their development obligations.

4.4.2.2 Enforcement

There is a detailed enforcement regime which will operate if a developer fails to comply with a condition of their planning permission. LPAs can issue an Enforcement Notice, Breach of Condition Notice, or Stop Notice, failure to comply with which constitutes a criminal offence.[117] As an alternative to or in addition to the issuing of one of these Notices, the LPA can apply to the court for an injunction to stop or prevent a breach of condition.[118] LPAs have ten years from the breach of condition to bring enforcement action,[119] and, unless specifically stated otherwise, planning conditions will run with the land and can therefore be enforced against future purchasers of the land.[120]

4.4.3 Disadvantages and limitations to conditions

There are a number of disadvantages and limitations to the use of conditions as a means of managing flood risk.

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[116] MHCLG, *PPG: Use of Planning Conditions* (n 81) para 013.
[117] TCPA 1990, ss 171, 171, 179, 183, 187.
[118] ibid s 187B.
[119] ibid s 171B.
[120] MHCLG, *PPG: Use of Planning Conditions* (n 81) para 030.

4.4.3.1 Developer capture

Regulatory capture occurs when the regulated subvert the regulator, and one of the situations in which this can happen is where the interests of the regulator merge with those of the regulated.[121] As LPAs have an interest in development taking place due, for example, to the income that it generates and the implications of not meeting development need (as discussed in Chapter 3, sections 3.3.2.2 and 3.3.2.3), they share many of the same values as developers.[122] The planning application process is therefore vulnerable to capture by developers and this may result in a practice of LPAs making requirements of developers that are acceptable, or even favourable, to them rather than ensuring that developers adequately manage flood risk. Furthermore, the fact that planning conditions are often the result of negotiation between the developer and the LPA[123] gives developers considerable opportunity to influence the conditions that are imposed and exploit LPAs' limited expertise and resources.

4.4.3.2 Legal restrictions on use of conditions

For a condition to be valid it needs to meet a number of requirements. It must comply with the three part test set out in the case of *Newbury DC v Secretary of State for the Environment,*[124] as well as be certain and enforceable.

4.4.3.2.1 Newbury test

In *Newbury*, the House of Lords stated that for a condition to be valid it must:

a) Be imposed for a planning purpose and not an ulterior one;
b) Fairly and reasonably relate to the development permitted; and
c) Not be so unreasonable that no reasonable authority could have imposed it.

Each part of this test restricts when and how conditions can be used and therefore limits their ability to be used to manage flood risk.

4.4.3.2.1.1 Imposed for a planning purpose

The requirement that conditions be imposed for a planning purpose and not an ulterior one means that they can only be used to manage flood risk concerns that relate to the planning

[121] Richard A Posner, 'The Concept of Regulatory Capture: A Short, Inglorious History' in Daniel Carpenter and David A Moss (eds), *Preventing Regulatory Capture: Special Interest Influence and How to Limit It* (CUP 2014) 49.
[122] Royce Hanson, *Suburb: Planning Politics and the Public Interest* (Cornell University Press 2017) 12.
[123] Department for Communities and Local Government, *Circular 11/95: Use of Conditions in Planning Permission* (DCLG 1995) para 7.
[124] *Newbury DC v Secretary of State for the Environment* [1981] AC 578.

aspects of a development. A condition could not be used to, for example, transfer onto the developer any responsibility regarding the welfare and support of victims of flooding,[125] or require the occupier to have a 'flood kit' comprised of personal documents, insurance documents and emergency contact details. (Ensuring that occupiers have a 'flood kit' was one of the recommendations in the Pitt Review).[126]

4.4.3.2.1.2 Fairly and reasonably relate to the permitted development

The requirement that conditions fairly and reasonably relate to the permitted development means that there must be a close link between the development concerned and the condition. This is to ensure that LPAs do not use conditions to obtain a benefit unrelated to the development[127] and therefore a condition cannot require the developer to take steps to manage flood risk which is not related to the proposed development.[128] This was confirmed by the court in the case of *R (oao Menston Action Group) v Bradford MBC*, in which it was held that the LPA could not impose a condition that required the developer to put in place a drainage system that would alleviate existing flooding problems outside of the development site.[129]

4.4.3.2.1.3 Not be unreasonable

There is significant overlap between the requirement not to be unreasonable and the first two requirements of the *Newbury* test. However, it is clear that a condition requiring the developer to construct or improve drainage facilities or flood risk management infrastructure which are maintainable at the public expense would fail the reasonableness test.[130] (Such arrangements may, however, be able to be made through the use of a planning obligation instead, as discussed in section 4.5).

Furthermore, notwithstanding Section 72(1)(a) of the Town and Country Planning Act 1990 and the *Grampian* case (as discussed in section 4.4.1.2), planning practice guidance states that conditions that require works on land which is not controlled by the developer often fail the tests of reasonableness.[131] As it will frequently be the case that the appropriate location for the erection of the requisite flood risk management infrastructure will be on land outside of the developer's control, this will limits the ability of conditions to be used to ensure the provision

[125] *R v Hilingdon LBC, ex parte Royco Homes Ltd* [1970] QB 720; *R v Bristol City Council, ex parte Anderson* [2000] PLCR 104.
[126] Sir Michael Pitt, *The Pitt Review: Learning Lessons From the 2007 Floods* (2008) para 24.6-24.7.
[127] Samuels, (n 110) 756.
[128] Moore and Purdue (n 77) para 14.16.
[129] *R (oao Menston Action Group) v Bradford MBC* [2016] EWCA Civ 796.
[130] *City of Bradford Metropolitan Council v Secretary of State for the Environment* [1986] JPL 598 CA.
[131] MHCLG, *PPG: Use of Planning Conditions* (n 81) para 009.

of flood risk infrastructure. (Although, again, such arrangements may be made through planning obligations, as discussed in section 4.4.1.2).

4.4.3.2.2 Uncertain or unenforceable

As well as needing to fulfil the *Newbury* test, in order to be valid a condition also needs to be sufficiently certain and enforceable. Some vagueness or ambiguity in the wording of the condition will not cause a condition to be void, but it must not be incapable 'of any certain or intelligible interpretation.'[132] Conditions regarding flood risk management therefore need to be worded so that they are clear as to what is required of the developer. For this reason, a condition which requires the developer not to carry out any activity that would increase flood risk, or one which requires the developer take steps to ensure that flood risk relating to the development is adequately managed without specifying what those steps are and/or what constitutes 'adequately managed', would be invalid.

For a condition to be enforceable, it must be possible for a contravention of the condition to be both detected and remedied. A condition will therefore be unenforceable if the LPA does not have the power to secure compliance with it.[133] This means that a condition that, for example, required the developer to ensure that there was no flooding of adjoining land would be unenforceable as the developer would not be able to control whether flooding occurred on the adjoining land. It has also been suggested that a condition that, for example, required the developer to obtain the LPA's approval of the drainage system or some other detail of the development would be unenforceable if it required the developer to submit the drainage scheme to the LPA for approval but did not include a requirement that the scheme be approved by the LPA.[134]

4.4.3.2.3 Challenging the validity of a planning condition

It can therefore be seen that there are numerous grounds upon which the validity of a condition can be challenged, and it is also the case that there are numerous opportunities for the developer to make such a challenge, namely:

- During the planning permission negotiations.
- In a Section 78 appeal to the Secretary of State against the planning permission having been granted subject to conditions.

[132] Moore and Purdue (n 77) para 14.27; See also *David Lowe & Sons Ltd v Musselburgh Corporation* [1974] SLT 5.
[133] *British Airports Authority v Secretary of State for Scotland* [1980] JPL 260.
[134] Moore and Purdue (n 77) para 14.30.

- In a Section 174(1) appeal to the Secretary of State against an enforcement notice alleging a breach of condition.
- As a defence to a Section 179 prosecution for failure to comply with a breach of condition notice.
- In a Section 192 application for a certificate of lawfulness in respect of the proposed operation or use.
- In a Section 288 appeal to the High Court following an adverse decision by the Secretary of State under Section 78.

If an applicant is successful in a Section 78 appeal against planning permission having been granted subject to the condition in question, then the Secretary of State has the power to deal with the application for planning permission as if it were before them in the first instance. This means that central government retains some control over the determination of planning application, and the Secretary of State is unlikely to impose conditions that do not accord with the Government's planning agenda unless there is a clear reason for doing so.

If a condition is found to be invalid otherwise that through a Section 78 appeal and the condition is considered to be fundamental to the planning permission, then it has the effect of rendering the whole planning permission void. On the other hand, if it is considered that the condition is not fundamental to the planning permission and the planning permission could be granted without it, the invalid condition will be severed from the planning permission so that permission survives otherwise intact.[135] Therefore, the danger is that if a flood risk management condition is considered to be invalid for any of the reasons discussed in this section 4.4.3.2, it may be severed from the planning permission leaving the planning permission in place but without a condition addressing the flood risk concerns relating to it.

4.4.3.3 Policy restrictions on use of conditions

In addition to the legal tests for the validity of planning conditions, there are a number of policy requirements. The NPPF states that a planning condition should be:

- Kept to a minimum;
- Necessary;
- Relevant to planning and to the development permitted;
- Enforceable;
- Precise; and

[135] *Hall & Co v Shoreham-by-Sea UDC* [1964] 1 WLR 240.

- Reasonable in all other respects.[136]

Whilst the latter four of these policy requirements largely repeat the legal requirements of the *Newbury* test, certainty and enforceability, the first two requirements go beyond the legal requirements. The requirements that conditions be kept to a minimum and be necessary seek to limit conditions to those that it is strictly necessary to impose for the development to be granted planning permission and to ensure that those conditions go no further than is necessary to make the development acceptable in planning terms. A condition, for example, requiring the developer to put in place flood risk management measures on an entirely precautionary basis where there is no evidence that they would reduce flood risk is therefore unlikely to fulfil the policy requirements. The policy requirements also mean that LPAs need to be careful regarding their use of standard conditions. If it is found that a standard form of condition regarding the management of flood risk has been attached without proper consideration of whether it is necessary in the particular case, it will fail the necessity test.[137] This limited ability to use standard form conditions increases the expertise and resources involved in the use of conditions.

As the policy requirements for conditions go beyond the legal requirements, it is possible for a condition to pass the legal tests for validity but not comply with the policy requirements. In this event, although the condition may be legally valid, its failure to comply with the policy requirements may be used as a ground for a Section 78 appeal to the Secretary of State, in which case the Secretary of State can substitute its own decision (and thereby ensure compliance with the policy requirements regarding conditions).

4.4.4 Conclusion on conditions for flood risk management

Conditions are a valuable means of addressing the flood risk associated with individual developments and are therefore an important means of enabling development. They can be used to ensure that developments are flood resistant and resilient and to provide for on-site flood risk management measures to prevent an increase in flood risk elsewhere. They can also be used, to a more limited extent, to require the developer to provide off-site flood risk management infrastructure. Whilst the legal and policy restrictions on the use of conditions do place some limits on the ways in which conditions can be used to manage flood risk, they largely operate to prevent abuse of conditions by LPAs and do not prevent conditions from being able to significantly contribute to the management of flood risk. The most significant

[136] MHCLG, *NPPF 2019* (n 53) para 55.
[137] MHCLG, *PPG: Use of Planning Conditions* (n 81) para 016.

constraint on LPAs' use of conditions to manage flood risk is LPAs' need/desire to not put onerous requirements on developers that have a detrimental impact on the viability of development and prevent development from taking place. Indeed, planning practice guidance states that conditions that place a financial burden on the developer which unreasonably impacts on the deliverability of the development should not be used,[138] and the influence that developers have over the conditions attached to planning permission enables them to use this to their advantage. Furthermore, onerous planning conditions are seen by the Government as being one of the reasons why houses are not being built quickly enough after planning permission has been granted.[139] Therefore, whilst conditions can be used to make minor improvements to a proposed development and address some flood risk concerns, they are not appropriate for circumstances where substantial changes are required to make the development appropriate in terms of flood risk.[140]

4.5 Planning Obligations

Planning obligations (also known as planning agreements and Section 106 agreements) are another means by which LPAs can exercise control over the detail of a particular development in order to mitigate any adverse impacts and ensure that it is acceptable in planning terms.[141] They are also a means of recovering for the community a share of the benefit arising from the development.[142] Under Section 106 of the Town and Country Planning Act 1990, planning obligations can regulate development in four specific ways. They can:

a) Restrict the development or use of the land in a specified way;
b) Require specified operations or activities to be carried out in, on, under or over the land;
c) Require the land to be used in a specified way; or
d) Require money to be paid to the LPA either in one lump sum or in installments.[143]

4.5.1 Use of planning obligations to manage flood risk

Each of the four types of obligation specified in Section 106 can be used to mitigate the adverse impacts that a development may have on flood risk in relation to the risk to the development and/or the risk resulting from it, and when deciding the terms of the planning

[138] ibid para 005.
[139] DCLG, *Fixing Our Broken Housing Market* (n 109).
[140] MHCLG, *PPG: Use of Planning Conditions* (n 81) para 012.
[141] Barry Cullingworth and others, *Town and Country Planning in the UK* (15th Edition edn, Routledge 2015) 162.
[142] Moore and Purdue (n 77) para 17.24.
[143] TCPA 1990, s 106(1).

obligation the LPA will take into consideration the need and circumstances of and created by the particular development. The means by which they can be used to manage flood risk include:

(a) Restricting or preventing an aspect of the development or the proposed use of the land that would increase flood risk;
(b) Requiring the developer to construct drainage, flood risk management infrastructure and defences, and/or an emergency access and evacuation route on the development site;
(c) Requiring that a particular amount or part of the development site be used for the storage of flood waters during a flood event or for the provision of other flood risk management services; or
(d) Requiring the developer to pay for or contribute towards the cost of the provision and maintenance of off-site drainage work or flood risk management infrastructure or defence works.

Planning obligations can also be an important means of enabling LPAs to acquire land, either within the development site or elsewhere, that is owned by the developer and which the LPA wishes to use for flood risk management purposes. The courts have held that whilst a planning obligation which positively requires a developer to transfer land to the LPA is not within the scope of Section 106, an obligation which prevents the developer from carrying out a particular activity or development until such time as the specified transfer has taken place is within Section 106.[144]

4.5.2 Advantages and benefits of the use of planning obligations

4.5.2.1 Impact and needs of multiple developments

It is possible for financial contributions from different planning obligations to be pooled and used to fund infrastructure that serves all the contributors,[145] thereby enabling planning obligations to be used as a means of addressing the facts that increases in flood risk are often a result of the combined impact of a number of developments rather than as the direct result of one particular development and that an item of flood risk management infrastructure will often benefit more than one development.

[144] *R v South Northamptonshire DC, ex p Crest Homes plc* [1995] JPL 200 CA.
[145] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Planning Obligations* (MHCLG 2016) para 006.

4.5.2.2 Enable development

Planning obligations, like planning conditions, are a means of enabling an LPA to permit development which would otherwise have been refused on the grounds of the flood risk associated with it.[146] They are therefore an important means of managing flood risk whilst also helping LPAs fulfill their responsibilities regarding meeting development needs.

4.5.2.3 Internalisation of flood risk costs

The use of a planning obligation to manage the flood risk relating to a development will usually increase the development costs and/or decrease the income from it, meaning that the cost of the development includes the cost of the impacts that it has on flood risk. Including the cost of the external impacts of the development in its costs (known as 'internalising the externality')[147] ensures that the flood risk cost of the development is not borne by the LPA/the Environment Agency through having to fund flood risk management infrastructure, by subsequent owners through the consequences of the development not being sustainable or insurable,[148] or by society through, for example, clean-up costs, subsidised insurance, and damage to the environment.

The importance of planning obligations as a means of ensuring that developers bear the cost of providing and maintaining flood defences is becoming increasingly important in light of the rising costs of maintaining flood defences due to increased pressure on them as a result of climate change, the growth in the number of flood defences, and their age.[149] A recent report found that 1 in 20 of England's 'high consequence' flood defences (those where there is a high risk to life and property if they fail) have defects that would either result in their complete failure or would significantly reduce their performance. It also highlighted the gap between the £5.2 billion that the Government has committed to provide to maintaining flood defences up to 2027 and the £1 billion per year that the Environment Agency has calculated it needs to maintain flood defences.[150] It is therefore clear that the traditional approach of the public sector contributing the majority flood risk management costs is not sustainable and that it is necessary for those benefiting from the flood risk management measures (including

[146] Cullingworth and others (n 141) para 160.
[147] John Gowdy and Sabine O'Hara, *Economic Theory for Environmentalists* (St Lucie Press 1995).
[148] Public Accounts Committee, *Managing Flood Risk* (PAC 2021) para 30.
[149] ibid conclusion 4.
[150] Josh Halliday, 'Swathes of England's Vital Flood Defences 'Almost Useless'' *The Guardian* (24th January 2021).

natural based solutions such as woodland planting, floodplain restoration, and inland storage ponds and wetlands, as well as formal flood defences) to contribute more to them.[151]

Internalising the external flood risk costs of development also means that the market reflects both the private development costs of the developer and the wider costs to society. This can help to incentivise low flood risk decision-making by developers and encourage behavioural changes that can further the achievement of sustainable development.

4.5.2.4 Cross-boundary flood risk management

It will frequently be the case that the most appropriate location for the flood risk management infrastructure needed to serve or address the impact of a particular development is in a different local authority area from the one in which the development is taking place. Whilst it may be considered to be 'more difficult' for planning obligations to be used to require developers to contribute towards infrastructure in another local authority area,[152] there is no prohibition on their use in this way. Furthermore, planning guidance on the use of planning obligations to obtain contributions towards education states that LPAs should consider the use of planning obligations to obtain contributions towards the expansion of schools outside of the area where pupils from planned development are likely to attend school outside the area.[153] This in analogous to a situation where development within one LPA area increases the need for flood risk management infrastructure within another LPA area. The ability of planning obligations to be used in a cross-boundary way is very important as it enables them to contribute towards a catchment scale approach to the management of flood risk.

4.5.2.5 Flexibility

A further advantage of planning obligations is that their terms can be amended by agreement between the parties after they have been entered into, giving them greater flexibility than conditions (in respect of which the only option is for the developer to try to get the condition removed by either challenging its validity, appealing to the Secretary of State against its imposition, or applying to the LPA for permission to carry out the development without having complied with the condition) to respond to changes in circumstances as well as improvements in understanding and knowledge. This is particularly important in the context

[151] Environment Agency, *National Flood and Coastal Erosion Risk Management Strategy for England* (Environment Agency 2020) 38 and 46.
[152] Ashley Bowes, *A Practical Approach to Planning Law* (14th Edition edn, OUP 2019) para 17.56.
[153] MHCLG, *PPG: Planning Obligations* (n 145) para 008.

of flooding where knowledge and understanding of both the causes and management of flooding is changing all the time.[154]

4.5.2.6 Enforcement

The planning obligation regime has the benefit of enforcement mechanisms that are similar to (although less extensive than) those for conditions. All planning obligations are enforceable by way of an injunction. In addition to this, if a developer fails to carry out an operation which they are required by a planning obligation to carry out, the LPA can enter the land and carry out the operation itself, recovering the cost of doing so from the developer.[155] Planning obligations are also binding on future purchasers and occupiers of the land,[156] whilst also remaining enforceable against the party that entered into it even after they have sold the land (unless the obligation states that they will not be so bound).[157]

4.5.3 Disadvantages and limitations of planning obligations

It can be seen from the discussion above that planning obligations are potentially a very useful means of helping LPAs manage flood risk in relation to a particular site or sites, in particular in relation to the provision of flood risk management infrastructure, and as a means of encouraging low-risk development. However, there has been little research into their effectiveness as a planning instrument in the context of environmental issues[158] and there are a number of limitations and restrictions on the use of planning obligations which are likely to reduce their ability to manage food risk.

4.5.3.1 Legal restrictions on use of planning obligations

The use of planning obligations has been subject to a number of policy tests over the years. These tests were introduced as means of addressing the abuse of planning obligations by LPAs, in particular the practice of using them as a means of obtaining from the developer some public benefit unrelated to the development. The Government saw the introduction of the Community Infrastructure Levy regime (and which is discussed in section 4.6) as an appropriate time and opportunity to scale back of the use planning obligations,[159] and the

[154] TCPA 1990, s 106(1)(a).
[155] ibid ss 106(5) and 106(6).
[156] ibid s 106(3).
[157] ibid ss 106(3) and 106(4).
[158] Rebecca Leshinsky, 'Use of Planning Agreements to Support Sustainability and Environmental Preservation' (2012) 4(2) International Journal of Law in the Built Environment 157, 160-61.
[159] CIL Review Group, *A New Approach to Developer Contributions* (Ministry of Housing, Communities and Local Government 2016) para 2.1.4.

Community Infrastructure Levy Regulations 2010 introduced a statutory test that states that planning obligations should only be used where they are:

a) Necessary to make the development acceptable in planning terms;

b) Directly related to the development; and

c) Fairly and reasonably related in scale and kind to the development.[160]

However, this test merely repeats policy which has been in place since 2005 and which has arguably done little to constrain the use of planning obligations. Case law has established that the connection between the development and the infrastructure need only be more than *de minimus*,[161] a considerably looser connection than that required for the use of planning conditions.[162] Indeed, the clear interest that LPAs have in securing planning obligations and that developers have in agreeing to what LPAs are asking for in order to ensure that they are granted planning permission, when combined with the broad interpretation of the policy tests by the courts, has resulted in a very low threshold for the association needed between the development and the obligation. Indeed, it has been argued that 'the range of matters that are routinely secured by planning obligations has expanded over the last 20 years to a point which strains the statutory limitation [of Section 106] to breaking point'.[163] As it can often be difficult to establish a direct link between a particular development and an increase in flood risk, this low threshold for the association between the development and the obligation reduces the impacts that the restrictions on planning obligations have on LPAs' ability to use them to further the management of flood risk.

Until recently, the most significant restriction on the use of planning obligation funds to provide flood risk management infrastructure was the statutory prohibition on pooling funds from more than five obligations towards the funding of a single piece of infrastructure.[164] This limited the ability of planning obligations to fund large pieces of infrastructure where the threshold of five planning obligations could be reached without sufficient funding having been secured to fund the infrastructure.[165] However, the Community Infrastructure Levy

[160] The Community Infrastructure Levy Regulations 2010, SI 2010/948, reg 122(3).
[161] *Tesco Stores Ltd v Secretary of State for the Environment* [1995] 1 WLR 759.
[162] *Delta and Design Engineering Ltd v Secretary of State for the Environment and South Cambridgeshire DC* [2002] JPL 726; *Tarmac Heavy Building Materials Ltd UK v Secretary of State for the Environment, Transport and the Regions* [2000] PLCR 157.
[163] Matthew White, 'Renegotiating Planning Obligations: An Overview of the Law' 2013 (10) Journal of Planning and Environment Law 1232, 1232.
[164] Community Infrastructure Levy Regulations 2010 (CIL Regulations 2010), SI 2010/948, reg 122(3)(b)
[165] CIL Review Group (n 159) para 3.5.5.

(Amendment) (England) Regulations 2019 removed this pooling restriction and LPAs can now pool as many planning obligations as necessary towards one piece of infrastructure.[166]

4.5.3.2 Policy restrictions on use of planning obligations

The NPPF states that planning obligations should not be used if it is possible to use a planning condition instead.[167] This has little implication on the ability to achieve the desired outcome (this preference for conditions is only applicable where the planning obligation and condition would achieve the same thing) and the enforcement mechanisms relating to planning conditions are, if anything, more extensive than those relating to planning obligations. However, this preference for planning conditions is something that LPAs need to ensure that they comply with as the unnecessary use of a planning obligation where a planning condition could have been used instead could lead to the planning obligation being challenged.

4.5.3.3 Viability

Issues of viability can be a significant limitation on the use of planning obligations. In the first instance, as discussed in section 4.1.3.2, a development plan that includes flood risk management policies on the use of planning obligations that undermine the deliverability of the development plan may not be approved for adoption. Even where the development plan policy has been approved, if application of the policy to an individual development would undermine the viability of that development, then the developer can request that the policy be disapplied,[168] and can appeal to the Secretary of State if the LPA refuses planning permission due to failure by the developer to agree to a planning obligation. On hearing the appeal, the Secretary of State may accept the obligation being offered by the developer and grant the planning permission against the wishes of the LPA.[169] Furthermore, even where an LPA manages to secure a planning obligation, the developer (or subsequent owner of the site) can apply to have the obligation modified or discharged,[170] and this has proved to be a significant issue for some LPAs, with developers seeking to renegotiate their planning obligations when a change of economic circumstances mean that the obligation makes the development unviable.[171] Given the Government's reluctance to allow anything that restricts development and the pressure on LPAs to deliver development, viability constitutes a powerful ground for

[166] Community Infrastructure Levy (Amendment) (England) (No 2) Regulations 2019, SI 2019/1103, reg 11.
[167] MHCLG, *NPPF 2019* (n 53) para 54.
[168] ibid para 57.
[169] TCPA 1990, s 78.
[170] ibid s 106A; White (n 163) 1237.
[171] Dr Alex Lord and others, *The Incidence, Value and Delivery of Planning Obligations and Community Infrastructure Levy in England in 2016-17* (MHCLG 2018) para 5.10.

the developer to argue for the reduction or disapplication of the planning obligation which the LPA is seeking, or for the removal or modification of a planning obligation that has been imposed.

4.5.3.4 Resource limitations

The terms of each planning obligation are determined on a case-by-case basis, usually resulting from an agreement between the LPA and the developer. The negotiations leading up to the agreement can often be lengthy and difficult.[172] It is also the case that knowing exactly what to require from the developer under a planning obligation in respect of managing flood risk will often require a certain level of expertise, and a lack of this requisite expertise within LPAs has been linked to a reduced use of planning obligations.[173]

4.5.3.5 Delivery of infrastructure

There are a number of potential issues with regard to delivery of the planning obligation. Payment or delivery of the infrastructure is usually linked to a particular trigger event such as commencement of the development, which may not occur until a number of years after the planning permission has been granted, and it therefore can take a long time for financial contributions to be made or the infrastructure to be delivered. [174] Whilst developers have an obligation to report to LPAs when that trigger event has occurred, in practice LPAs have to spend a significant amount of time and resources checking whether the trigger event has occurred and that the developer has delivered what they were supposed to deliver.[175] It has also been reported that what is being delivered is not always what was agreed and that there is a tendency for LPAs to receive less than was agreed.[176]

4.5.4 Conclusion on planning obligations for flood risk management

Whilst the utility of planning obligations is largely confined to dealing with site specific flooding issues, they have a number of significant benefits. Their ability to ensure that developers bear the cost of the flood risk implications of their developments makes them a key means of taking the financial burden off LPAs, the EA, and the public, and creating a market that incentivises development decision-making and behavioural changes that

[172] Department for Communities and Local Government, *Valuing Planning Obligations in England: Update Study for 2005-2006* (DCLG 2008) 12.
[173] Lord and others (n 171) para 7.25.
[174] ibid para 5.4.
[175] Gemma Burgess, Sarah Monk and Christine Whitehead, 'Delivering Local Infrastructure and Affordable Housing Through the Planning Sysytem: the Future of Planning Obligations Through Section 106' (2011) 5(1) People, Place and Policy Online 1, 5-7.
[176] Lord and others (n 171) para 5.7.

contribute towards the effective long-term management of flood risk. Their ability to be used in cross-boundary way is also a key advantage as it enables LPAs to take steps to address flood risk on a catchment basis. Furthermore, the recent removal of the pooling restrictions means that planning obligations are now capable of being used to fund expensive infrastructure that cannot be funded by just five planning obligations. However, loose as the connection between the development and the infrastructure need be in practice, the legal requirement that the infrastructure be directly related to the development concerned limits the ability of planning obligations to be used to address existing flood risk. Furthermore, the difficulties that can arise in establishing which development will benefit from flood risk management infrastructure and to what extent, particularly regarding less formal infrastructure, means that the extent to which planning obligations can be used to address flood risk relating to new development is also limited. They also require significant resources and entering into a planning obligation by no means guarantees the smooth and timely delivery of the relevant infrastructure. The biggest limitation on the use of planning obligations to manage flood risk is, however, the extent to which their impact on the viability of development conflicts with LPAs' other development obligations and objectives. Whilst it is recognised that the effective management of flood risk requires those who financially benefit from development (developers) to have responsibility for the consequences of it,[177] the need for LPAs to ensure that sufficient development takes place to meet short-term development needs prevents planning obligations being used to pass the responsibility for the flood risk implications of development to developers to the extent necessary to ensure that development is sustainable in the long-term.

4.6 Community Infrastructure Levy

The lack of clarity regarding what planning obligations can be used be obtain and the tendency for them to involve protracted negotiations led to questions regarding transparency, accountability, and predictability. As a result of this, as well as concerns that the regime was not recovering a sufficient share of the benefit resulting from the grant of planning permission, a new regime for obtaining developer contributions, the Community Infrastructure Levy (CIL), was established by the Planning Act 2008 to run parallel to the planning obligation regime.[178] Whilst planning obligations remain an important means of mitigating the impact of the specific development, the CIL regime was designed to be a more equitable means of obtaining contributions towards infrastructure need resulting from the

[177] Public Accounts Committee (n 148) para 30.
[178] Bowes (n 152) para 17.60.

cumulative impact and the general needs of development in the area.[179] Under the CIL regime a standard charge (calculated by reference to the size of the development) is payable on all development, the idea being that this makes the charge-setting process simpler, fairer, more certain and more transparent, as well as enabling LPAs to capture more planning gain.[180] The CIL monies received are then applied towards the funding and maintenance of infrastructure to support development in the area.[181]

4.6.1 Use of the Community Infrastructure Levy to manage flood risk

The need for flood risk management infrastructure will often arise due the cumulative impacts of multiple developments and flood risk management infrastructure will often benefit multiple developments (and whole areas in some cases). It is therefore not always possible to link the infrastructure to a particular development or developments and the CIL can therefore be a more suitable means of obtaining contributions from developers towards some flood risk management infrastructure than planning obligations. Indeed, flood defence infrastructure is specifically mentioned in the CIL legislation as an example of CIL fundable infrastructure.[182]

If the preferred location for the flood risk management infrastructure is on the land where the proposed development is to take place or on other land owned by the developer, the LPA can accept payment of the CIL in kind by way of a transfer of the land concerned.[183]
Alternatively, the LPA can accept payment in kind by way of completed infrastructure, which can help to give developers,[184] the LPA and the public more certainty regarding the timescale for delivery of the infrastructure.[185] However, such arrangements require the developer's consent, and the CIL's primary purpose is to obtain financial contributions from developers.

4.6.2 Advantages and benefits of use of the Community Infrastructure Levy

In addition to its ability to be used to fund flood risk management infrastructure which is not directly related to one or a small number of developments, there are some further advantages to the use of the CIL by LPAs as a means of managing flood risk.

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[179] Moore and Purdue (n 77) paras 17.59-17.60.
[180] Beverley Firth, 'Interpretation of the Changes to CIL and Section 106 Legislation and Applying Practical Solutions to Speed Up the Process and Improve Outcomes' Journal of Planning and Environment Law 2016 (44) 88, 88.
[181] Planning Act 2008, s216(1); CIL Regulations 2010, reg 59(1).
[182] TCPA 1990, s 216(2).
[183] The CIL Regulations 2010, reg 73.
[184] ibid reg 73A.
[185] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Community Infrastructure Levy* (MHCLG 2014) para 133.

4.6.2.1 Cross-boundary flood risk management

The CIL has the flexibility to deal with some of the cross-boundary issues relating to both the causes and impacts of flooding. LPAs are encouraged to work together when preparing their charging schedules.[186] Furthermore, in contrast to the lack of clarity regarding the extent to which planning obligations can be used to fund infrastructure in another LPA's area, the CIL legislation specifically provides for use of the CIL to fund or contribute to the building of flood risk management infrastructure in another local authority area.[187] LPAs can also pass CIL income to other bodies, such as the Environment Agency, where that body may be better able to provide the requisite flood mitigation infrastructure.[188] (LPAs can only do this with funds received through a planning obligation if this is provided for in the terms of the planning obligation in question). This makes the CIL a valuable tool for the cross-boundary management of flood risk and ensuring the delivery of effective flood risk management infrastructure that has the maximum benefit to the largest area.

4.6.2.2 Enforcement

The CIL Regulations contain strong enforcement mechanisms, including surcharges on late payment, the ability for LPAs to issue stop notices in cases of persistent non-compliance, and recourse to court (which can ultimately result in imprisonment).[189] This is a more extensive enforcement regime than that regarding planning obligations where LPAs only real means of pursuing payment is to obtain an injunction preventing the developer from continuing with the development until the outstanding payments have been made.[190]

4.6.3 Disadvantages and limitations of the Community Infrastructure Levy

There are, however, a number of general disadvantages and limitations to the CIL regime.

4.6.3.1 Viability

Viability issues are a significant constraint on the ability of the CIL to produce sufficient income to fund the flood risk management infrastructure needed to serve the area. One of the key aspects of the CIL regime is that each LPA decides both the rate of levy to charge[191] and what development to charge it on.[192] In theory, this enables LPAs to set the rate at the level necessary to ensure that sufficient income is produced to fund the flood risk management

[186] ibid para 011.
[187] The CIL Regulations 2010, reg 59(3).
[188] ibid reg 59(4).
[189] ibid pt 9.
[190] TCPA 1990, s 106(5).
[191] Planning Act 2008, s 211; The CIL Regulations 2010, reg 12.
[192] The CIL Regulations 2010, reg 13.

infrastructure needed to serve the area. However, planning practice guidance makes it clear that the rate should not undermine the viability of development in the area.[193] Furthermore, LPAs' charging rates must undergo a public examination by an independent person before it can be adopted[194] and the examiner looks specifically at the economic viability of the proposed charging schedule and its effect on the deliverability of the development plan when deciding whether to approve it for adoption.[195] This has resulted in LPAs having to set low charging rates and make significant use of their powers to introduce exemptions and reliefs[196] (or not introduce the CIL in the first place).[197] Consequently, the CIL has been found to be generating only between 5% and 10% of the funding needed to provide new infrastructure in an area, which in turn is preventing the timely delivery of infrastructure.[198]

4.6.3.2 Does not incentivise low-risk development

Whilst LPAs have the power to apply differential rates depending upon the location, size, nature or type of development,[199] planning practice guidance states that differential rates should only be used to ensure viability and not as a means of delivering other policy objectives.[200] LPAs are therefore not able to apply differential rates to different types of development in different areas in order to steer development towards areas with appropriate levels of flood risk. Furthermore, by applying a flat rate to all development, the CIL does not internalise the external flood risk costs of the specific development in the way that planning obligations can and therefore does not incentivise low-risk development.

4.6.3.3 Local Planning Authority discretion

It is not compulsory for LPAs to charge a CIL, and the general feeling, according to the CIL Review Group's questioning of 69 LPAs and 12 developers, is that the CIL regime is difficult to understand, expensive to operate and uncertain in its implementation.[201] As a result, uptake of the CIL regime by LPAs is low, with current figures showing that only 161 out of 351 local authorities in the UK have a charging schedule (with a further 74 consulting on one or awaiting approval from the Secretary of State).[202]

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[193] MHCLG, *PPG: Community Infrastructure Levy* (n 185) para 009.
[194] The CIL Regulations 2010, reg 19.
[195] MHCLG, *PPG: Community Infrastructure Levy* (n 185) para 040.
[196] CIL Review Group (n 159) paras 3.3.7 and 3.4.1.
[197] Lord and others (n 171) para 6.1.
[198] CIL Review Group (n 159) paras 3.3.2 and 3.4.1.
[199] The CIL Regulations 2010, reg 13.
[200] MHCLG, *PPG: Community Infrastructure Levy* (n 185) para 021.
[201] CIL Review Group (n 159) para 3.8.1.
[202] Quod, 'CIL Rates and Status' <https://cil.quod.com> accessed 22nd February 2021.

LPAs also have discretion over what infrastructure to fund through the CIL, meaning that LPAs are not required to use their CIL income to fund flood risk management infrastructure. Indeed, the findings of a 2016 Government commissioned review of the CIL regime suggest that, within those LPAs that have a CIL charging schedule, only ten out of the 69 LPAs questioned had used their CIL to obtain contributions to flood defences.[203] The evidence indicates that whilst LPAs have discretion regarding whether to introduce a CIL, how much to charge, and what to spend the income on, it is very unlikely to make a significant contribution to the management of flood risk by LPAs.

4.6.3.4 Inability to forward fund infrastructure

There is no requirement for LPAs to spend the CIL income, which means that the money can remain unspent and the infrastructure undelivered. LPAs are also unable to forward fund infrastructure which will subsequently be paid for by future CIL payments.[204] This means that infrastructure can only be paid for once there have been sufficient contributions to pay for it, when ideally flood risk management infrastructure should be in place before the development is commenced and certainly before the development is occupied.[205]

4.6.3.5 Basis of levy calculation

As the CIL payable is calculated by reference to the size of the development, it is not payable on any change of use or other development that does not involve any additional flood space. Some changes of use will create additional flood risk infrastructure need due to increased vulnerability of the development or additional burden on surface water drainage systems, but no CIL could be charged on it.

4.6.4 Conclusion on the Community Infrastructure Levy for flood risk management

In principle, the CIL regime appears to complement the planning obligation regime very well, enabling LPAs to obtain funding for the infrastructure that cannot be covered by a planning obligation. Fundamentally, however, the CIL regime is not considered to have been a success. Uptake has been low, with income no way near what was expected, and this is preventing the timely delivery of infrastructure. Its ability to be used by LPA as a means of ensuring the delivery of flood risk management infrastructure is therefore limited.

[203] The University of Reading and Three Dragons, *The Value, Impact and Delivery of the Community Infrastructure Levy: Report of Study* (Department for Communities and Local Government 2017) para 36.
[204] CIL Review Group (n 159) para 3.4.5.
[205] Lord and others (n 171) para 6.1.

The Government has proposed reforming the CIL regime to create a new 'Infrastructure Levy' regime that consolidates planning obligations and the CIL into one developer contribution regime. The Government believes that by charging a nationally set flat-rate ley based on the final value of development, the proposed reforms will increase the revenue from developer contributions. The reforms also propose giving LPAs the ability to borrow against future Infrastructure Levy to enable them to forward fund infrastructure, with the objective of improving the timely delivery of infrastructure.[206] However, it is unclear how the proposed new regime would address the viability issues that are hindering the current CIL regime. Furthermore, by requiring developers to pay for the flood risk management infrastructure needed as a result of their particular development, the planning obligation regime can be a valuable means of incentivizing low-risk development (as discussed in section 4.5.2.3) and a developer contribution regime based entirely on a flat-rate levy would not provide this incentive. The Government's response to the recent consultation on the proposed reforms is currently awaited and is expected in Spring 2021.[207]

4.7 Conclusion

Each of the planning tools discussed in this chapter has the ability to help manage flood risk in a different way. Development plans can be used to establish strategic policies to address flood risk across the development plan area and set out policies for how flood risk will be addressed in relation to individual developments. Article 4 Directions can be used to address the cumulative effects of small-scale development and discourage inappropriate development, and Local and Neighbourhood Development Orders can be used to encourage appropriate development. LPAs can ensure that development that is wholly inappropriate from a flood risk point of view does not take place by refusing planning permission and can use conditions to address more minor flood risk concerns regarding individual developments. Planning obligations can be used to internalise into the cost of a development the flood risk management costs relating to that particular development, thereby ensuring that those costs are not borne by the LPA, the Environment Agency, or the public, as well as incentivizing sustainable development. The CIL can then be used to obtain the funding for flood risk management infrastructure that the LPA needs to provide to serve the area in general and that is not linked to specific developments. Whilst on their own each of these tools is of limited application, if they are used in combination with one another as part of a holistic approach to

[206] Ministry of Housing, Communities and Local Government Ministry of Housing, *Planning for the Future* (White Paper, 2020) 60-67.
[207] Gabrielle Garton Grimwood, *Planning for the Future: Planning Policy Changes in England in 2020 and Future Reforms* (House of Commons Briefing Paper, 8981, 2021) 14.

development, they give LPAs the ability to significantly contribute to the effective management of flood risk.

However, each of the legal planning tools available to LPAs is subject to legal, policy, and practical limitations that restrict the extent to which they can be used to manage flood risk. The most significant limitation, and one that applies to all the tools, is the need for LPAs to comply with the NPPF presumption in favour of sustainable development and ensure that the development needed to meet short-term housing need is planned for and delivered. Although LPAs are not legally required to comply with the provisions of the NPPF, central government's oversight of LPAs' development plans, adaptation of permitted development rights, determination of planning applications (including the use of conditions and planning obligations), and the CIL enables central government to ensure that LPAs use these tools in a way that accords with the NPPF's main objectives of furthering the achievement of its interpretation of sustainable development and meeting short-term housing need. Furthermore, as compliance with these objectives requires LPAs to enable rather than restrict development, LPAs' interests merge with those of developers. This allows developers to exert significant influence over the determination of planning applications and ensure that the decision, and any conditions and planning obligations that the LPA seeks to use, are favourable to the developer.

It is therefore clear that the limitations on the legal planning tools available to LPAs restrict the extent to which LPAs can effectively manage flood risk, but this does not necessarily mean that the limitations prevent LPAs from fulfilling their flood risk management duties and requirements. As discussed in Chapter 3, LPAs' flood risk management obligations are vague and discretionary in nature and/or are subject to broad and discretionary exceptions, and contain no specific or measurable requirements. It is therefore difficult, if not impossible, to ascertain what LPAs need to do to fulfill those obligations. Furthermore, generally speaking, LPAs' obligations regarding the management of flood risk apply only so far as they do not conflict with their obligations to comply with the presumption in favour of sustainable development and plan for and deliver the development needed to fulfill short-term development need. The limitations on LPAs' ability to use the tools available to them to manage flood risk to a large extent relate to LPAs' need to comply with the presumption in favour of sustainable development and meet short-term development need. They therefore reflect the overall priorities and objectives of the planning system and do not prevent LPAs from fulfilling their flood risk management obligations.

This chapter has examined the legal planning tools LPAs have at their disposal to manage flood risk. It has discussed the advantages and benefits of each of these tools, as well as the extent to which the legal and policy framework limits their ability to manage flood risk. Chapters 5 to 9 will include an examination of the extent to which the case study LPAs have used these tools in practice, identify any further barriers that have prevented them from using the tools effectively, and assess whether LPAs are fulfilling their flood risk management obligations. Recommendations for the reforms needed to enable the tools to be used more effectively by LPAs to manage flood risk will be made in Chapter 10.

PART 3 – THE CASE STUDIES

The purpose of this research project is to investigate, assess and critique the management of flood risk by Local Planning Authorities. Part 1 of this thesis contained an introduction to the research project, providing an overview of flooding in England and the context within which the research has been carried out, setting out the aims and objectives of the project, and reviewing the relevant literature. Part 2 contained the doctrinal research, investigating the obligations that LPAs have to manage flood risk (RQ1) and examining the legal tools that they have at their disposal to enable them to fulfill these obligations and otherwise manage flood risk (O1 and RQ2). Part 3 addresses O2 and RQ3, covering the case studies of four LPAs that were carried out to obtain and analyse both quantitative and qualitative data. Chapters 5, 6, 7, 8 and 9 will cover the case studies. Chapter 5 will examine and analyse the data collected from the development plan, permitted development documents, refusals of planning permissions, planning conditions, planning obligations, the Community Infrastructure Levy and interviews in relation to Allerdale Borough Council in accordance with the case study methodology set out in Chapter 1 (section 1.7). Chapters 6, 7 and 8 will follow the same structure for Birmingham City Council, Worcester City Council and City of York Council respectively. The case studies were carried out during 2019, with the quantitative data collected over a number of months and the interviews taking place between February and May 2019. Chapter 9 will set out the conclusions that can be drawn from the case studies.

Chapter 5. Allerdale Borough Council (Case Study 1)

The main flood risk in Allerdale is from fluvial sources, and it has a long history of flooding, particularly in the Derwent catchment.[1] The data reveal that Allerdale Borough Council is largely compliant with its statutory and policy requirements to manage flood risk. However, it has made only limited use of the tools available to it to manage flood risk. The profile of and priority given to flood risk by the Interviewees is not well reflected in the current development plan, which largely replicates the approach of the National Planning Policy Framework (NPPF) by encouraging flood risk management only so far as it does not conflict with meeting short-term development needs and using vague and ambiguous wording rather than setting out clear and definite requirements. Although Allerdale Borough Council has made some use of refusals of planning permissions, removal of permitted development rights, conditions and planning obligations to manage flood risk, it is not using them to the full extent possible. In particular, Allerdale Borough Council does not routinely use conditions to ensure the use of property level resistance and resilience measures, nor does it have a practice of using planning obligations to require developers to make financial contributions towards flood risk management infrastructure.

5.1 The Data

5.1.1 Development plan

The current development plan for Allerdale is in two parts. Part 1 contains the strategic and development management policies plan for the period up to 2029 and was adopted in July 2014.[2] Part 2 was adopted in July 2020 and contains the site allocation policies.[3] Together these documents comprise the current development plan for Allerdale and replace the previous development plan adopted in 1999[4] and amended in 2006.[5]

5.1.1.1 Flood risk and surface water management policy

The overall objective of the 1999 development plan was to promote the local economy in a sustainable way whilst protecting and enhancing the natural and built environment, and it considered flood risk mitigation to be key aspect of this.[6] Its policy on the management of

[1] JBA Consulting, *Cumbria Level 1 Strategic Flood Risk Assessment for Allerdale Borough Council Volume II - Technical Report, Final Report* (Allerdale Borough Council 2018) 24.
[2] Allerdale Borough Council, *Allerdale Local Plan (Part 1): Strategic and Development Management* (Allerdale Borough Council 2014).
[3] Allerdale Borough Council, *Allerdale Local Plan (Part 2): Site Allocations* (Allerdale Borough Council 2020).
[4] Allerdale Borough Council, *Allerdale Local Plan 1999* (Allerdale Borough Council 1999).
[5] Allerdale Borough Council, *Allerdale Local Plan 1999 First Alterations* (Allerdale Borough Council 2006).
[6] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) para 2.3.1.

flood risk stated that the Allerdale Borough Council should 'resist' development on land likely to flood where that development would either be 'at direct unacceptable risk' from flooding or increase flood risk elsewhere. Where development was permitted on land likely to flood, the Council was required to ensure that the developer provided or paid for the provision of 'suitable' flood protection and mitigation measures.[7] The 2006 amendment introduced the Sequential Test (which, as discussed in Chapter 3, section 3.3.1.2.2, states that development should not take place if there is a reasonably available alternative site with a lower flood risk) and a requirement that a flood risk assessment be carried out in relation to development on land at risk of flooding.[8] It also made the connection between surface water drainage and flood risk and introduced provisions regarding the use of sustainable drainage systems (SUDS), having previously viewed drainage as a pollution rather than a flooding issue. However, these provisions applied only to development on land that was at risk of flooding itself and only required SUDS to be used if 'appropriate'.[9]

The current development plan includes minimizing flood risk within its strategic objectives.[10] Its general approach to flood risk management is similar to that of the 1999 development plan: to 'avoid' and 'resist' development in locations that are at risk of flooding (through use of the Sequential Test) or which would increase flood risk elsewhere. It also requires development to comply with the flood risk requirements of the NPPF but sets out no additional requirements and is generally lacking in detail. The 1999 development plan's requirement for the developers to provide or fund flood protection and mitigation measures is not repeated in the current development plan.[11]

The current development has retained the clear connection between the management of surface water drainage and flood risk that was established in the 1999 development plan and establishes a clear policy that SUDS be used in preference to discharge of surface water into watercourses or sewers. However, it only requires the use of SUDS 'so far as is practical and economically viable'.[12] As discussed in Chapter 3 (section 3.4.2.1.4), there is a tendency for such economic considerations to work in favour of the developer and therefore against incorporation of SUDS as the economic assessment only takes account of costs incurred by the developer of incorporating a SUDS system and not the costs of not using one. Therefore, whilst the current development plan has increased the attention on surface water as flood risk

[7] ibid paras EN12- EN13.
[8] Allerdale Borough Council, *Allerdale Local Plan 1999 First Alterations* (n 5) para EN13.
[9] ibid para EN13.
[10] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) 16 and para SO5e.
[11] ibid paras S29 and 287.
[12] ibid paras S29 and 289.

issue, particularly on the use of SUDS, its obligations are weakened by the inclusion of a potentially widely applicable exception to the requirement to incorporate SUDS. In any event, the Interviewees spoke of the limited value of surface water management as a means of managing flood risk in Allerdale where water travelling at speed down from the hills is one of the main causes of flooding. They made comments such as 'I doubt that a drainage strategy within a town is going to make a difference to that severity' and questioned whether the national policy on surface water drainage and use of SUDS was 'really fit for purpose' in places like the Lake District.[13]

The current development plan contains details of how the flood risk and surface water management policies will be monitored. The indicators for measuring compliance include the number of residential and economic developments in Flood Zones 2 and 3 and the number of planning permissions granted contrary to Environment Agency advice, neither of which accord with the provisions of the flood risk management policies. A further monitoring indicator is the number of SUDS schemes installed but, whilst this does accord to some extent with the flood risk management policy, it does not allow for the monitoring of the maintenance or effectiveness of the SUDS installed. There is no provision for the monitoring of the restrictions on development that increases flood risk elsewhere.[14]

5.1.1.2 Other relevant policies

5.1.1.2.1 Climate change

The 1999 development plan only referred to climate change in relation to coastal matters.[15] The current development plan increases the attention on climate change, stating that one of its strategic objectives is to '[e]nsure a comfortable, resilient and liveable environment … by ensuring development adapts to, and mitigates the effects of climate change'.[16] This supports the flood risk management policy so far as it relates to mitigating the impacts of flooding resulting from climate change but as it does not include any specific requirements or commitments with regard to achieving the objective it does not add to it.

5.1.1.2.2 Sustainable development

The 1999 development plan contained a very general statement that '[t]he Council seeks to ensure that new development is broadly sustainable in terms of global impact, natural

[13] Interview with Allerdale Borough Council (Allerdale, 22 May 2019).
[14] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) 205.
[15] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) para 13.1.1.
[16] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para SO1b.

resources and local environmental quality'.[17] The current development plan contains a presumption in favour of sustainable development that expressly reflects that in the NPPF.[18] The sustainable development provisions state a number of flood risk principles as being key to achieving sustainable development: minimising the risk to people and property from flooding; ensuring that future development does not undermine existing flood defence measures; and encouraging the use of SUDS.[19] However, the current development plan clearly classes flood risk management as within the environmental pillar of sustainable development and, as discussed in Chapter 3, section 3.3.1.2.7, environmental interests are vulnerable to being outweighed by economic and social interests. Indeed, whilst the Interviewees recognised that when conflict arises between the three pillars of sustainable development, environmental interests may be compromised in the furtherance of economic interests.[20] In any event, the current development plan contains nothing by way of actual requirements with regard to the pursuit or achievement of sustainable development.

5.1.1.2.3 Housing, communities, and settlement management

The 1999 development plan sought to strike a balance between housing and environmental interests, stating that its principle was to meet housing need 'without making excessive demands on natural resources or being incompatible with the environment as a whole'.[21] However, its actual policy was to confine new housing to existing settlements with good public services notwithstanding flood risk, environmental impacts or other sustainability issues.[22] The 2006 amendment introduced a minimum density requirement for housing,[23] without any apparent consideration of the potential flood risk implications of the increased surface coverage and demand on drainage infrastructure.

The current development plan takes a similar approach to the location of new development, seeking to concentrate it within existing urban centres[24] and encouraging the reuse of previously developed land irrespective of flood risk.[25] This is reflected in the settlement hierarchy, which identifies areas for housing and economic growth despite their flood risk,[26] as well as in the allocation policies in which 20 of the 196 sites allocated for housing are

[17] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) 7 and General Principle 1.
[18] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S1.
[19] ibid para S2.
[20] Interview with Allerdale Borough Council (n 13).
[21] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) para 5.4.1.
[22] ibid paras 5.3.13-5.4.15.
[23] Allerdale Borough Council, *Allerdale Local Plan 1999 First Alterations* (n 5) para HS8.
[24] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S3.
[25] ibid para S30.
[26] ibid paras 89, 105 and S5.

identified as being fully or partly within Flood Zones 2 or 3.[27] Indeed, whilst the strategic flood risk assessment applied the Sequential Test, a number of sites identified in the allocation policies did not satisfy it. In these cases, the Allerdale Borough Council's reason for preferring the site in question were seen as constituting a reason why it was not possible to allocate it to a lower risk site. Indeed, the strategic flood risk assessment (SFRA) stated that '[w]hilst the aim of the Sequential Approach is the avoidance of high flood risk areas, in locations such as Workington, where the Council is looking for continued growth and regeneration, this will not always be possible'.[28] Furthermore, the Interviewees expressed some dissatisfaction with SFRAs, which they felt merely identified land at flood risk in accordance with Environment Agency flood mapping, whereas they felt that something more dynamic that identified opportunities to mitigate flood risk would be more useful.[29]

On the other hand, the current development plan contains a policy that states that proposals for the relocation and replacement of community facilities, commercial business uses and dwellings that are under significant threat of collapse due to coastal erosion will be permitted provided that certain requirements are met.[30] However, this is of limited use in relation to the relocation of settlements that are at risk of flooding as it only covers coastal erosion and allows for rather than requires the relocation of settlements. Furthermore, this policy requires the developer to take the lead in relation to this relocation: it is does not itself identify those areas that are at risk and plan for the relocation of the development in them.

The current development plan provisions on housing density differ from those in the 1999 development plan, stating that housing density will be considered on a site-by-site basis taking into account the local context.[31] This means that local flood risk and drainage issues will be taken into account, but so too will other local issues such as housing need, and, as discussed in Chapter 3, the pressure from central government to meet housing need means that this is likely to outweigh flood risk in the event of conflict between the two considerations.

5.1.1.2.4 Environmental protection

The environmental policies in the 1999 development plan stated that development likely to cause 'unacceptable' environmental harm was 'likely to be resisted', but allowed for the development to be permitted if the economic or social benefits outweighed the environmental

[27] JBA Consulting (n 1) Appendix B.
[28] ibid para 6.1.
[29] Interview with Allerdale Borough Council (n 13).
[30] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S37.
[31] ibid para DM14.

harm.[32] However, it expressly supported the precautionary principle,[33] and also stated that '[t]he concept of environmental capital should be applied to decision making, in order to minimise development which has an irreversible impact on the quality of the natural environment',[34] and thereby sought to ensure that environmental interests were balanced equitably with economic interests.

The current development plan recognises that the natural environment and landscape is one of the area's features and attractions[35] and its strategic objectives include protection and promotion of the natural landscape, biodiversity, and green and blue infrastructure.[36] It also contains policy that seeks to protect and enhance the quality of water resources, but the wording of this is weak and non-committal, stating that development that has 'demonstrable' adverse impact on the quality of waterbodies will be 'resisted' unless 'adequate mitigation measures can be secured'.[37] The development plan area abuts the Lake District National Park and includes protected areas such as Special Areas of Conservation, Special Protection Areas, Sites of Special Scientific Interest and an Area of Outstanding Natural Beauty. Whilst the policies regarding protection of these sites could be used to support the management of flooding that could cause damage to these sites, it is unclear whether they do not add anything to the flood risk and surface water management policies as they contain only qualified restrictions on development.[38] Indeed, the current development plan's promise to 'strive to strike a balance' between economic prosperity and conservation of the natural environment makes it clear that where economic and conservation interests conflict, economic interests can be prioritised.[39] It has also removed any reference to the Precautionary Principle and the concept of environmental capital. In any event, the current development plan makes no connection between flooding and environmental harm and it is therefore questionable whether Allerdale Borough Council would use environmental protection policies to support flood risk management decisions.

[32] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) General Principle 2.
[33] ibid para 4.3.8.
[34] ibid para 4.3.9.
[35] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para 50.
[36] ibid paras SO6a, SO6b and SO6e.
[37] ibid para S36.
[38] ibid paras 31, S34 and S35.
[39] ibid paras 199, 325, S9 and S36.

5.1.1.2.5 Development design

Both the 1999 development plan and the current development plan refer to the use of development design in relation to appearance rather than flood risk or other issues of sustainability.[40]

5.1.1.2.6 Infrastructure

The 1999 development plan stated that where development took place on land likely to flood, the developer would be required to provided or pay for the provision of 'suitable' flood protection and mitigation measures.[41] The current development plan recognises the importance of having the drainage and flood mitigation infrastructure necessary to support development[42] and its strategic objectives include a commitment to the promotion of green infrastructure and multi-functional green and blue space.[43] However, it contains no direct requirement for their provision, requiring only that when determining a planning application Allerdale Borough Council should ensure that the capacity of local infrastructure or environmental assets is not exceeded.[44] Whilst its allocation polices set aside land for open space and green infrastructure, they do not specify whether this will be used to manage flood risk.[45]

5.1.1.2.7 Third parties and cross-boundary issues

The 1999 development plan referred to the Environment Agency as a consultee for development proposals where there were flood related issues.[46] The current development plan identifies a number of additional parties in the policies regarding the management of flood risk: Cumbria County Council (as the Lead Local Flood Authority (LLFA) and the Highways Authority), United Utilities, and Natural England.[47] The Interviewees spoke of the difficulties created when they receive incompatible advice and requirements from the different parties providing advice and expressed a desire for better coordination between those parties. The Interviewees also referred to the quality of advice they received from the Environment Agency, indicating that due to austerity this had become more 'streamlined' and 'standard'

[40] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 3) para HS8; Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) paras 5.4.27-5.4.36.
[41] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) paras EN12-EN13.
[42] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) paras S23-S24.
[43] ibid para SO6e.
[44] ibid para S5.
[45] Allerdale Borough Council, *Allerdale Local Plan (Part 2)* (n 3) paras SA51-SA53.
[46] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) paras EN12-EN16.
[47] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) paras 292, 293 and 323.

over the years. Indeed, the lack of in-house expertise and difficulty in obtaining expert advice and guidance on flood risk related issues was referred to at several points in the interview.

The Interviewees recognised that the causes and impacts of flooding cross the boundary of Allerdale Borough Council's area and that effective flood risk management requires a strategic approach at a more regional level.[48] However, the 1999 development plan made no reference to any cross-boundary issues, and although the current development plan states that it has been prepared in working with neighbouring local planning authorities (LPAs) to ensure effective strategic planning and coordination of issues with cross-boundary issues, there is no mention of flooding as a cross-boundary issue or provision for how cross-boundary issues should be dealt with.[49]

5.1.1.3 Conclusion on development plan

The vague and ambiguous wording of the flood risk management policy and the inclusion of a potentially widely applicable exception to the requirements regarding the management of surface water have the potential to undermine the effectiveness of these policies. Indeed, both the development plan policies and the Interviewees' comments make it clear that economic considerations can, and at times do, outweigh flood risk consideration. The policies on climate change, sustainable development, housing, settlement management and site allocation, environmental protection, development design and infrastructure, whilst providing some support to the flood risk and surface water management policies, do not add to them as they too are vague and ambiguous in their wording and/or make it clear that other objectives, particularly those relating to meeting short-term housing need and economic development, can be given priority over the management of flood risk.

5.1.2 Permitted development rights

5.1.2.1 Article 4 Directions

The 1999 development plan was in favour of extensions to dwellings.[50] Whilst it referred to a number of circumstances in which Allerdale Borough Council could use Article 4 Directions to remove permitted development rights, this did not include circumstances relating to flooding.[51] The current development plan is similarly in favour of extensions,[52] and refers to the use of Article 4 Directions only in relation to the protection of Conservation Areas.[53]

[48] Interview with Allerdale Borough Council.
[49] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para 22.
[50] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) paras HS12-HS13.
[51] ibid paras 4.6.23, 6.12.21, 6.12.32, 9.8.3, 9.8.8 and 10.13.19.
[52] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para 391.
[53] ibid para 275.

Indeed, Allerdale Borough Council has issued five Article 4 Directions, all of which are in relation to properties in Conservation Areas in order to protect architectural features.[54] Four of these were issued in 1978/9 and one in 2003,[55] and it is therefore clear that Article 4 Directions are not a tool that Allerdale Borough Council has made any use of in recent years, let alone as a means to manage flood risk.

One of the Interviewees had, whilst working for a different local authority, come across the use of Article 4 Directions to remove permitted development rights relating to hard-standing and extensions in connection with flood risk, but it was clear that the other Interviewees had not considered using them in this way. Their comments included 'Article 4, they're not for flooding are they?'. They did, however, suggest that they would consider making use of them, commenting that 'we should possibly be using that more often'.[56]

5.1.2.2 Local and Neighbourhood Development Orders

Whilst neither the 1999 development plan nor the current development plan refer to the use of Local or Neighbourhood Development Orders to extend permitted development rights, Allerdale Borough Council has issued one Local Development Order and one Neighbourhood Development Order. The Local Development Order, issued in 2013, applied for three years and granted planning permission for the erection, extension, alteration and change of use of office buildings, industrial buildings and warehouses. Although management of flood risk was not the objective of the Order, it did seek to address the cumulative flood risk impacts of development permitted by the Order by requiring that development use SUDS and not result in an increase in surface water run-off.[57] The Neighbourhood Development Order was issued in Cockermouth in 2014 for a period of three years. This granted planning permission for certain types of development with the objective of enhancing the town centre and the Conservation Area and made no reference to flood risk.[58]

5.1.3 Refusal of planning permission

The Interviewees stated that not only are developers, particularly the big house builders, aware that they will be required to include flood mitigation measures in their development proposals (and are motivated to do so because it gives them 'higher green credentials'), but

[54] Allerdale Borough Council, <www.allerdale.gov.uk/en/planning-building-control/planning-policy/conservation-natural-historic-environment/article-four-directions/> accessed 4 May 2020
[55] Email from foi@allerdale.gov.uk to author (1 July 2020).
[56] Interview with Allerdale Borough Council (n 13).
[57] Allerdale Borough Council, *Lillyhall Local Development Order* (Allerdale Borough Council 2013).
[58] Allerdale Borough Council, 'Cockermouth Neighbourhood Development Order' (*Allerdale Borough Council*) <https://www.allerdale.gov.uk/en/planning-building-control/planning-policy/neighbourhood-planning/cockermouth-neighbourhood-development-order/> accessed 25 September 2020.

also that Allerdale Borough Council is 'there to promote growth' and is incentivised to ensure that development proposals can proceed by the financial benefits that development brings, such as new homes bonuses, council tax, and business rates. Whilst they were clear that they would, and do, refuse planning permission if flood risk issues are not satisfactorily addressed they also made it clear that Allerdale Borough Council's approach to development proposals where there are flood risk issues is to try to resolve those issue through dialogue with the developer and that refusals due to unresolved flood risk issues are therefore unusual.[59]

The graph in Figure 5.1 below shows the number of decisions made by Allerdale Borough Council in March of each of the case study years in response to planning applications, as well as the number of those where planning permission was refused. Whilst the graph indicates a general decrease in the number of decisions being made over the course of the case study timescale, the number of refusals is too small to be able to ascertain any particular trend.

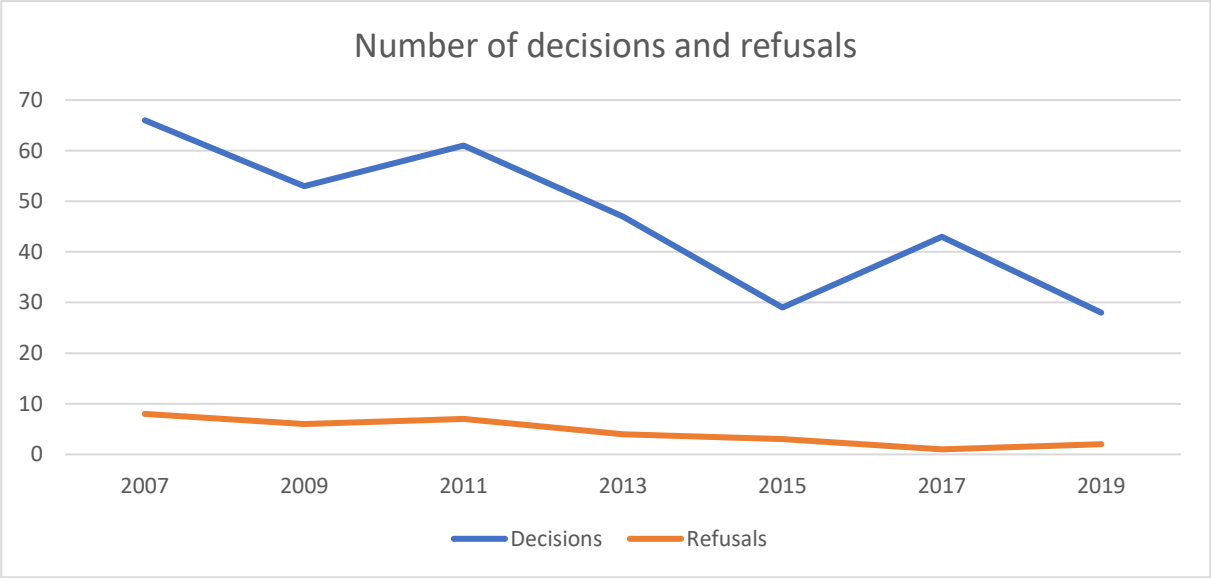

Figure 5.1 Graph showing number of planning decisions and refusals of planning permission made by Allerdale Borough Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019

The data include 31 refusals, of which just two were on grounds relating to flood risk. One was in respect of an application for permission for a bungalow in Flood Zones 2 and 3, which was refused because it failed the Sequential Test. The second refusal, in respect of an application for a dwellinghouse, was refused permission on the grounds that insufficient surface water drainage information had been provided.

[59] Interview with Allerdale Borough Council (n 13).

5.1.4 Conditions

The 1999 development plan referred to the use of conditions to protect European sites and Sites of Special Scientific Interests and to minimise the impacts of development on open space and green corridors,[60] but not expressly for the management of flood risk. The current development plan specifically states that Allerdale Borough Council will use conditions to ensure the provision of drainage, flood risk and surface water infrastructure.[61] Elaborating on this, the Interviewees said that they use conditions to manage some flood risk issues, for example floor levels, flood flow-paths and drainage, but not for 'nitty gritty detail' such as the height of plug sockets. (Indeed, such detail may be considered beyond the scope of the planning regime, as discussed in Chapter 2, section 2.4).

Data on the conditions imposed by Allerdale Borough Council that are potentially relevant to flood risk management were collected from 296 planning permissions and categorised in accordance with the methodology set out in Chapter 1 (section 1.7.3).

5.1.4.1 Temporary permission

The data include just two conditions imposed to make the planning permission temporary. Both conditions were used for reasons connected with amenity and the visual impact of the development, not for reasons connected to impact on flood risk.

5.1.4.2 Environmental protection

The data include just four conditions imposed for environmental protection purposes, three in 2011 and one in 2017, and none of which were aimed at protection of the environment from the impacts of flooding. The low use of conditions for environmental protection purposes reflects the lack of priority given to environmental interests in the development plan, and the fact that none of the conditions were to prevent environmentally damaging flooding similarly reflects the failure of the development plan to make the connection between flooding and environmental damage.

5.1.4.3 Materials

The data include 27 conditions that required the development to be carried out using materials approved by Allerdale Borough Council. All these conditions were imposed for reasons relating to appearance of the development rather than to ensure that flood resistant materials were used.

[60] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) paras EN26-EN27.
[61] Allerdale Borough Council, *Allerdale Local Plan 2014* (n 2) para S21.

5.1.4.4 Surfacing and ground levels

The data include 18 conditions imposed to control the material used to surface the ground. Just one of those, imposed in 2015 and requiring the driveway to have a porous surface, had the purpose of managing flood risk, with all others relating to highway safety. The Interviewees did, however, refer to the close link between the LLFA and Highways Authority functions of Cumbria County Council,[62] so it is possible that these conditions were attached as a result of advice from Cumbria County Council that also took account of flood risk. The Interviewees also stated that the issue of floor levels and the implications for flood risk is something that is resolved during the planning process.[63] The data included no conditions relating to floor levels which supports (but does not confirm) this.

5.1.4.5 Removal of permitted development rights/restrictions on use

Whilst the data include 31 conditions to remove permitted development rights or otherwise restrict the use of the development, just one of these, imposed in 2013 and prohibiting use of the ground floor for residential purposes, was for reasons connected to flood risk. All the others were for reasons connected to amenity and appearance. This reflects the lack of awareness amongst the Interviewees regarding the removal of permitted development rights as a means of managing flood risk (as discussed in section 5.1.3).

5.1.4.6 Surface water management

As discussed in section 5.1.1, the current development plan contains a qualified requirement for new development to incorporate SUDS. Notwithstanding their comments regarding the limitations of surface water management as a means of managing flood risk in Allerdale, the Interviewees spoke of the recent increase in public awareness in relation to surface water flooding and the Interviewees believed that the planning application process does have a role to play in managing surface water drainage on a site-by-site basis.[64] The data include 43 conditions regarding the management of surface water. Only two of these required the incorporation of SUDS (which require approval by Cumbria County Council as the LLFA), with the remaining 41 conditions constituting specific restrictions on run-off rates or more general requirements to manage surface water drainage. Of these 41 conditions, 35 required Allerdale Borough Council to approve the drainage scheme, and the Interviewees spoke of the tendency for developers to propose the scheme that was the easiest for them to incorporate rather than that which would be most effective or suitable. The Interviewees also felt that

[62] Interview with Allerdale Borough Council (n 13).
[63] ibid.
[64] ibid.

Allerdale Borough Council lacks the expertise to properly assess these schemes and the resources to monitor and enforce compliance with the conditions.[65] Therefore, whilst Allerdale Borough Council has made relatively extensive use of conditions to manage surface water, the effectiveness of these conditions may be questionable.

5.1.4.7 Other flood risk management conditions

In addition to those included within the above categories, the data contain a small number of further conditions imposed to manage flood risk. These comprised:

- Three conditions requiring the development to include the flood risk mitigation and resilience measures recommended in the site specific flood risk assessment.
- One condition requiring the development to include the flood risk resilience measures set out in the site specific flood risk assessment and to sign up to the Environment Agency flood warnings scheme.
- Three conditions requiring a flood emergency plan (including safe access and evacuation routes).

With regard to the latter class of conditions, the Interviewees commented that 'there is no process in place to advise on best practice with regard to that' and expressed frustration at the lack of guidance from the Environment Agency and the emergency services to enable them to approve emergency plans. They also spoke of the issues of 'the practicality of actually being able to deliver any evacuation routes if you're totally surrounded by flood zones'.

5.1.4.8 Conclusion on conditions

The data indicate a limited use of conditions specifically targeted at the management of flood risk and a significant, though not complete, reliance on the recommendations made in the site specific flood risk assessment. The low number of conditions requiring property level resistance and resilience measures is explained by the LPA's approach being that it is at developers' discretion whether to include them, with the Interviewees commenting that '[w]e just sort of say, you might want to do that, it's in your own self-interest from a resilience perspective to incorporate those as part and parcel of your work on the site.'[66] It is also the case that despite the development plan stating that conditions would be used to ensure the provision of flood risk infrastructure,[67] the data included no such conditions other than those relating to surface water drainage.

[65] ibid.
[66] ibid.
[67] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S21.

5.1.5 Planning obligations

The 1999 development plan stated that planning obligations would be used to mitigate the impacts of developments on open space and SSSIs and other sites of national importance,[68] as well as to fund the management of surface water.[69] The current development plan contains similar policy, stating that planning obligations will be used to obtain contributions towards drainage infrastructure, flood risk and surface water management, green infrastructure and open space.[70] Whilst it states that the impact of a proposed planning obligation on the viability of a development can be used as grounds for the developer to argue against its imposition,[71] in the Interviewees' experience, when viability issues arise it does not tend to be the flood risk management requirements that are sacrificed, and they commented that 'if you sort of start picking away at what things fail on viability, it doesn't tend to be the flooding, it will be something else'.[72]

Since 2013/14, Allerdale Borough Council has published annual monitoring reports which include details of the planning obligations entered into by agreement. Table 5.1 below sets out the information obtained from these reports.

[68] Allerdale Borough Council, *Allerdale Local Plan 1999* (n 4) paras EN27, EN37 and EN38.
[69] ibid para 4.5.26.
[70] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) paras 260 and S29.
[71] ibid.
[72] Interview with Allerdale Borough Council (n 13).

Year	Total number of planning obligations	Number of planning obligations for provision and maintenance of drainage measures	Number of planning obligations restricting use	Number of planning obligations for provision and maintenance of open space
2013/14	26	0	0	5
2014/15	15	2	0	0
2015/16	22	2	1 (not relating to flood risk management)	5
2016/17	32	1	2 (not relating to flood risk management)	3
2017/18	21	1	0	3
2018/19	12	2	2 (not flood risk management relevant)	1[73]

Table 5.1 Showing the total number of planning obligations entered into by Allerdale Borough Council and number relating to flood risk management

The information provided by Allerdale Borough Council regarding the fulfillment of these planning obligations and any unilateral planning obligations was incomplete, suggesting a lack of central or complete record of the planning obligations that have been entered into or provided and the extent to which they have been fulfilled.[74] This information was, nevertheless, compliant with reporting requirements,[75] but annual reports from 2020 onwards

[73] Allerdale Borough Council, *Annual Monitoring Report 2013/14* (Allerdale Borough Council 2015); Allerdale Borough Council, *Annual Monitoring Report 2014-2015* (Allerdale Borough Council 2016); Allerdale Borough Council, *Annual Monitoring Report 2015-2016* (Allerdale Borough Council 2016); Allerdale Borough Council, *Annual Monitoring Report 2016-2017* (Allerdale Borough Council 2017); Allerdale Borough Council, *Annual Monitoring Report 2017-2018* (Allerdale Borough Council 2018); Allerdale Borough Council, *Annual Monitoring Report 2018-2019* (Allerdale Borough Council 2019).

[74] Email from allerdale.gov.uk to author (6 May 2020).

[75] Localism Act 2011, s 113; Town and Country Planning (Local Planning) (England) Regulations 2012, SI2012/2613, reg 34.

will need to include a comprehensive statement of the planning obligations used to provide or fund infrastructure and whether it has been delivered.[76]

Whilst the data available was limited, it did provide some insight into the use of planning obligations for the management of flood risk. Fundamentally, it indicates that the use of planning obligations is low, both in general and in relation to the management of flood risk. Indeed, there were approximately 550 full planning permissions granted in 2018/19, but only 12 planning obligations entered into, just two of which directly related to the management of flood risk (it was unclear from the information available whether the open space planning obligations related to the management of flood risk). The data indicate that the planning obligations relating to/potentially relating to the management of flood risk were mainly non-financial obligations, constituting arrangements and requirements for the provision and maintenance of off-site drainage and public open space by the developer, with just one planning obligation requiring a financial contribution by the developer to the provision/laying out of open space. Allerdale Borough Council can therefore be seen to have used planning obligations in a very limited range of ways and, in particular, has not required developers to make financial contributions towards the provision of off-site flood risk management infrastructure.

5.1.6 Community Infrastructure Levy

The current development plan states that a Community Infrastructure Levy (CIL) will only be introduced if it will not compromise development viability.[77] It provides no information about what the CIL would be used to fund if it were introduced. As at the date of writing this thesis, no CIL had been introduced in Allerdale, and the Interviewees confirmed that this was due to the impact that a CIL would have on development viability.[78]

5.2 Compliance with Flood Risk Management Obligations

Set out below is an analysis of the extent to which Allerdale Borough Council is complying with the obligations that LPAs have regarding the management of flood risk that were discussed in Chapter 3.

[76] Community Infrastructure Levy (Amendment) (England) (No 2) Regulations 2019, SI 2019/1103, reg 9 and para 3, sch 2.
[77] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S21.
[78] Interview with Allerdale Borough Council (n 13).

5.2.1 Development plan

5.2.1.1 Strategic flood risk assessment

Despite the limitations of Allerdale Borough Council's strategic flood risk assessments(SFRAs), as the Council has carried out the necessary SFRAs[79] and taken them into account in the preparation of the development plan[80] it has fulfilled the NPPF requirement regrading SFRAs.[81]

5.2.1.2 Sequential Test

Although the application of the Sequential and Exception Test demonstrates some of the limitations of these tests discussed in Chapter 3 (section 3.1.1.2), the requirements to apply them to the allocation policies of the development plan has been complied with.[82]

5.2.1.3 Flood risk management infrastructure

The development plan contains no direct policy or requirements for the provision of drainage and flood risk mitigation infrastructure. It is therefore questionable whether Allerdale Borough Council has fulfilled the requirement to make sufficient provision for flood risk management infrastructure,[83] although it could be argued that the requirement that development proposals should not exceed the capacity of local infrastructure and environmental assets fulfills it indirectly.[84]

5.2.1.4 Safeguard land from development

The development plan does not have strategic or allocation policies that set aside land to be used for flood risk management and therefore does not appear to fulfill the requirement to safeguard land for flood management purposes.[85] However, it could be argued that it is being fulfilled through the open space and green infrastructure allocation policies. More information on the extent to which the open space and green infrastructure will provide flood risk management functions is needed to ascertain whether this is the case, but that is beyond the scope of this research project.

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[79] JBA Consulting, *Allerdale Borough Council Strategic Flood Risk Assessment Volume 1 Final Report* (Allerdale Borough Council 2010); JBA Consulting, *Allerdale Borough Council Strategic Flood Risk Assessment Volume 2 Final Report* (Allerdale Borough Council 2010).
[80] Allerdale Borough Council, *Allerdale Local Plan (Part 2)* (n 1) para S29; Allerdale Borough Council, *Allerdale Local Plan (Part 2)* (n 3) 26.
[81] MHCLG, *NPPF 2019* (MHCLA 2019) para 156.
[82] ibid paras 157, 158 and 160.
[83] ibid para 20.
[84] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S5.
[85] Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 157b).

5.2.1.5 Reducing the causes and impacts of flooding

Although there are weaknesses to the extent to which they so, the flood risk and surface water management policies do seek to reduce the causes and impacts of flooding and therefore fulfill the requirement for the development plan to do this.[86]

5.2.1.6 Relocation of unsustainable development

Other than the provision for the possible relocation of settlements that are at threat from coastal flooding, there are no provisions for the relocation of development where the flood risk means its long-term sustainability. However, as the NPPF requires only that the development plan seeks opportunities to relocate such development there is a low threshold for compliance with this requirement and it is certainly arguable that this has been reached.[87]

5.2.1.7 Long-term implications of flood risk

There is little provision for the long-term implications of flood risk other than the very tentative provision for the relocation of settlements that are at threat from coastal erosion. Furthermore, the focus on existing settlements as the location for new development and the allocation of sites within Flood Zones 2 and 3 for housing reveals a short-sighted approach to meeting development need. However, as LPAs are only required to take account of, rather than actually provide for, long-term implications, as long as Allerdale Borough Council considered them it will have fulfilled this requirement.[88]

5.2.1.8 Climate change

The current development plan's strategic objective of ensuring that development adapts to and mitigates the effects of climate change,[89] when combined with the policy requirements and restrictions in the flood risk and surface water management policy, fulfill the statutory requirement to include policies designed to ensure that development contributes to the mitigation of and adaptation to climate change,[90] as well as the NPPF requirement to take a proactive approach to climate change,[91] so far as these requirements relate to flood risk. However, as there is no requirement to ensure that development in flood risk areas includes mitigation and adaptation measures, it does not appear to comply with the NPPF requirement to avoid increasing vulnerability to the impacts of climate change and ensure that

[86] ibid para 157c).
[87] ibid para 157d).
[88] ibid para 149.
[89] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para SO1b.
[90] Planning and Compulsory Purchase Act 2004 (PCPA 2004), s 19(1A).
[91] MHCLG, *NPPF 2019* (n 85) paras 148-49.

development within areas at risk of the impacts of climate change include suitable adaptation measures.[92] However, as the development plan flood risk management policy requires individual development to be compliant with national policy, it has arguably indirectly complied with those requirements.[93]

5.2.1.9 Sustainable development

The current development plan contains a presumption in favour of sustainable development that expressly reflects that in the NPPF,[94] thereby fulfilling the requirements for the development plan to have the objective of contributing to the achievement of sustainable development and take account of government policy.[95] Both parts of the current development plan were subject to a sustainability appraisal[96] and the development plan adoption statements state that those appraisals were taken into account in the preparation of the development plan policies,[97] and the statutory requirements regarding sustainability appraisals have therefore been complied with.[98]

Despite the lack of a co-ordinated strategy to manage flood risk or other cross-boundary planning issues with other local authorities, Allerdale Borough Council has complied with the statutory duty to co-operate with third parties in relation to both parts of the development plan,[99] as confirmed by the Planning Inspectors' reports. [100] The Planning Inspector identified a number of cross-boundary matters, including housing, economic development, retail, gypsy and traveller provision and designated areas such as the National Park and Area of Outstanding Natural Beauty, but did not mention flood risk as a cross-boundary issue.[101] It also discussed the issue of compliance with the NPPF presumption in favour of sustainable development in terms of the provisions regarding meeting housing need (recommending some

[92] ibid paras 149-50.
[93] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S29.
[94] ibid para S1.
[95] PCPA 2004, ss 39(2) and 39(3).
[96] WYG Planning and Environment, *Allerdale Borough Council Local Plan Pre-Submission Draft Sustainability Appraisal Report* (Allerdale Borough Council 2013); Allerdale Borough Council, *Allerdale Local Plan (Part 2) Site Allocations Sustainability Appraisal Report* (Allerdale Borough Council 2018).
[97] Allerdale Borough Council, *Allerdale Local Plan (Part 1) Sustainability Appraisal/Strategic Environmental Assessment Post Adoption Statement*; Allerdale Borough Council, *Allerdale Local Plan (Part 2) Site Allocations: Sustainbility Appraisal Post Adoption Statement* (Allerdale Borough Council 2020).
[98] PCPA 2004, s 19.
[99] ibid s 33A.
[100] Susan Holland, *Report on the Examination into the Allerdale Loca Plan Part One* (The Planning Inspectorate 2014), para 15; David Troy, *Report on the Examination of the Allerdale Local Plan (Part 2) Site Allocations* (The Planning Inspectorate 2020), para 13.
[101] Troy (n 100) para 10.

modifications to the provisions regarding housing in order to ensure compliance with the NPPF presumption).[102]

5.2.1.10 Housing, communities, and settlement management

It is questionable whether the general approach to the location and density of new development in the current development is complaint with the NPPF requirements to ensure that development functions well for its lifetime and ensures safe and healthy places and living conditions at a strategic level.[103] However, as the development plan requires individual developments to be compliant with the requirements of the NPPF, this ensures compliance with these NPPF requirements at an individual development level.[104]

5.2.1.11 Environmental protection

A Strategic Environmental Assessment was carried out in respect of the development plan in accordance with the Environmental Assessment of Plans and Programmes Regulations 2004.[105] A Habitats Assessment was carried out and taken into account[106] in accordance with the requirements of the Conservation of Habitats and Species Regulations 2017.[107]

The current development plan recognises the importance of the area's natural environment. It includes protection of the natural landscape as a strategic objective the development plan, and has regard to nature conservation, the purpose of the neighbouring National Park, its Area of Outstanding Natural Beauty, and biodiversity conservation. It therefore complies with the statutory requirements to have regard to the desirability of conserving natural beauty and amenity,[108] the purpose of the National Park and AONB,[109] and biodiversity conservation.[110] In light of the limitations of the NPPF requirements to contribute to and enhance the natural environment[111] and to safeguard and improve biodiversity[112] discussed in Chapter 3 (section 3.3.2.4), it also appears to fulfill those requirements.

[102] ibid para 101.
[103] MHCLG, *NPPF 2019* (n 85) paras 117 and 127.
[104] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) para S29.
[105] WYG Planning and Environment (n 96); Allerdale Borough Council, *Allerdale Local Plan (Part 2) Site Allocations Sustainability Appraisal Report* (Allerdale Borough Council 2018) .
[106] Allerdale Borough Council, *Allerdale Local Plan 2014 (Part 1)* (n 2) paras 14 and 15.
[107] Conservation of Habitats and Species Regulations 2017, SI 2017/571, reg 63(1).
[108] Countryside Act 1968, s 11.
[109] National Parks and Access to the Countryside Act 1949, s 11A(2); Countryside and Rights of Way Act 2000, s 85.
[110] Natural Environment and Rural Communities Act 2006, s 40.
[111] MHCLG, *NPPF 2019* (n 85) para 170.
[112] ibid para 174.

5.2.2 Determination of planning applications

5.2.2.1 Environment Agency consultation

The Interviewees were clear that Allerdale Borough Council does consult the Environment Agency regarding development proposals where there are flood risk issues, claiming that they have never granted planning permission against Environment Agency advice.[113] The quantitative data show this to be largely the case, with the annual reports that have been published since 2009 confirming that Allerdale Borough Council has only granted one planning permission against the Environment Agency's advice.[114] This suggests that the duty to consult the Environment Agency is being complied, although it does not establish whether the Environment Agency is being consulted on every development proposal that it is required to be consulted on.[115]

5.2.2.2 Sequential Test

The fact that the data include one refusal of planning permission on the grounds that the proposal failed the Sequential Test indicates that Allerdale Borough Council is applying the Sequential and Exception Tests in accordance with the NPPF,[116] and the Interviewees commented that 'your sequential approach with your flood zones, that's probably your first port of call' when asked about how LPAs manage flood risk.[117] However, the data does not show whether it is applied to every proposal or what criteria are being used to establish whether there are 'reasonably available sites appropriate for the proposed development', and therefore how effective the Sequential Test is at steering development towards areas with the lowest risk of flooding.

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[113] Interview with Allerdale Borough Council (n 13).

[114] Allerdale Borough Council, *Annual Monitoring Report 08/09* (Allerdale Borough Council 2009) 42; Allerdale Borough Council, *Annual Monitoring Report 09/10* (Allerdale Borough Council 2010) para 9.2; Allerdale Borough Council, *Annual Monitoring Report 2010/2011* (Allerdale Borough Council 2011) para 7.6; Allerdale Borough Council, *Allerdale Local Plan Annual Monitoring Report 2011/12* (Allerdale Borough Council 2012) para 7.4; Allerdale Borough Council, *Annual Monitoring Report 2012/13* (Allerdale Borough Council 2014) para 7.4; Allerdale Borough Council, *Annual Monitoring Report 2013/14* (Allerdale Borough Council 2015) para 7.4; Allerdale Borough Council, *Annual Monitoring Report 2014-2015* (Allerdale Borough Council 2016) para 3.42; Allerdale Borough Council, *Annual Monitoring Report 2015-2016* (Allerdale Borough Council 2016) para 3.48; Allerdale Borough Council, *Annual Monitoring Report 2016-2017* (Allerdale Borough Council 2017) para 3.42; Allerdale Borough Council, *Annual Monitoring Report 2017-2018* (Allerdale Borough Council 2018) para 3.39; Allerdale Borough Council, *Annual Monitoring Report 2018-2019* (Allerdale Borough Council 2019) para 3.39.

[115] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595, art 18.

[116] MHCLG, *NPPF 2019* (n 84) paras 158 and 169.

[117] Interviews with Allerdale Borough Council (n 13).

5.2.2.3 Sustainable drainage systems

The data include only two conditions requiring the use of SUDS and eight planning obligations to ensure the provision of drainage systems (and which did not specify whether those systems were to be SUDS). It is therefore questionable whether Allerdale Borough Council is complying with the requirement to ensure that all major development or development within flood risk areas incorporates SUDS. However, it could be the case that SUDS are being incorporated into development proposals and therefore do not need to be conditioned. In any event, the requirement to ensure the use of SUDS does not apply where SUDS would be 'inappropriate'.[118] As discussed in Chapter 3, this is a potentially widely applicable exemption and the Interviewees' comments regarding the limitations of SUDS as a means of managing flood risk, such as 'I doubt that a drainage strategy within a town is going to make any difference to that severity', suggest that Allerdale Borough Council would make substantial use of this exemption.

5.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan

The planning permission decision documents include references to the development plan flood risk and surface water management policies and it is therefore clear that planning application decisions are taking account of these provisions as required by the Town and Country Planning Act 1990.[119] Furthermore, the interview data suggest that flood risk is a factor that is very much in the mind of the planning officers when they are deciding planning applications, with the Interviewees making comments such as 'it does dictate our thinking about other matters, like economic development or heritage'. However, whilst the data include nothing to suggest that decisions are not being determined in accordance with the development plan flood risk management policy, as the data do not include details of the development proposals, they are not able to show the extent to which the requirement to determine planning applications in accordance with these policies is being complied with. Even if the data did include details of the developments, there is a lack of clarity as to what is required in order to accord with the flood risk and surface water management policy (such as the requirement to incorporate SUDS 'so far as is practical and economically viable'). This, and the fact that the requirement to determine planning applications in accordance with the development plan is subject to a highly discretionary qualification 'unless material considerations indicate otherwise', means that it would be difficult to establish with any

[118] MHCLG, *NPPF 2019* (n 85) paras 163 and 165.
[119] Town and Country Planning Act 1990 (TCPA 1990), s 70.

certainty whether the requirement to determine planning applications in accordance with the development plan is being complied with.[120]

5.2.2.5 Climate change

It is questionable whether Allerdale Borough Council is fulfilling the NPPF requirement to ensure that where development does take place within areas vulnerable to the impacts of climate change the risks are managed through suitable adaptation measures.[121] Although some developments have been required to include or provide flood risk and surface water management measures, whether this is sufficient to manage flood risk is beyond the scope of this research project. It could also be the case that the development proposals are including adaptation measures and they therefore do not need to be conditioned or subject to a planning obligation.

5.2.2.6 Sustainable development

The Interviewees' reference to Allerdale Borough Council's overall objective of allowing development to go ahead suggests an overall compliance with the NPPF presumption in favour of sustainable development in relation to its planning application decisions. However, the fact that 9.5% of the decisions in the data are refusals seems to conflict with this, although the highly discretionary nature of application of the presumption in favour of sustainable development makes non-compliance very difficult to establish.[122]

5.2.2.7 Housing, communities, and settlement management

The fact that the data show that the Allerdale Borough Council has required developments to include flood risk management measures is evidence that it has taken steps to address safety issues relating to flood risk, in particular the conditions requiring the development to sign up to the Environment Agency flood warning schemes and requiring implementation of a flood emergency plan. However, the data is not comprehensive enough to enable an examination of the extent to which the planning decisions promote, ensure safety in relation to flood risk, and ensure that development functions well for its lifetime as required by the NPPF.[123]

5.2.2.8 Environmental protection

As the data do not show whether the development concerned requires an environmental impact assessment or an assessment of the impacts on a European protected site, they are not

[120] PCPA 2004, s 38(6).
[121] MHCLG, *NPPF 2019* (n 84) para 150.
[122] ibid para 11.
[123] ibid paras 95, 117 and 127.

able to show whether the requirements to carry out those assessments have been complied with. The Interviewees' comments that the natural environment was one of the major features of the area indicates that conserving natural beauty and amenity is a consideration when determining planning applications. Allerdale Borough Council has occasionally imposed conditions to protect environmental interests and planning obligations requiring the provision, maintenance and enhancement of open space supports this. This indicates (but does not fully establish) compliance with the statutory requirement to have regard to the desirability of conserving natural beauty and amenity[124] and contribute to and enhance valued landscapes.[125]

5.2.3 Conclusion on compliance with flood risk management obligations

The development plan is largely compliant with the obligations to manage flood risk. For those obligations where compliance is more questionable, such as the obligations to make provision for drainage and flood risk management infrastructure and to safeguard land from development, the obligations concerned are of such a vague and discretionary nature that there is a low threshold for compliance and non-compliance would be difficult to establish. Furthermore, the Planning Inspector's report on examination of the current development plan raised no concerns about the development plan's compliance with the NPPF or with any of the statutory requirements regarding flood risk.[126]

With regard to the planning application decisions, the data give examples of where some obligations, such as application of the Sequential Test, are being complied with, but the data were not able to establish whether the obligations are always being complied with. For other obligations, such as the requirement to ensure that development that takes place within areas vulnerable to the impacts of climate change incorporate suitable adaptation measures, the case study data are not able to establish whether they have been complied with. A detailed examination of the development proposal and the negotiations between Allerdale Borough Council and the developer would be required to do this. What can be concluded from the data is that there are no clear examples of non-compliance with the statutory and policy obligations regarding the management of flood risk in the determination of planning applications.

[124] Countryside Act 1968, s11.
[125] MHCLG, *NPPF 2019* (n 85) para 170.
[126] Holland (n 100); Troy (n 100).

5.3 Use of the Flood Risk Management Tools

The data reveal that Allerdale Borough Council has not made as extensive use of the tools available to it for the management of flood risk as it could. However, it can be seen from the above analysis that this is not due to a failure by Allerdale Borough Council to comply with its duties regarding flood risk management, and there are a number of other reasons for it not having made more extensive use of the tools:

- The failure of the development plan to provide for the effective management of flood risk is due in part to the weak and discretionary nature of the obligations on LPA to do so having been applied by Allerdale Borough Council in a way that does not prioritise the management of flood risk.
- The failure to set out strategic policies for the management of flood risk in the development plan may also be due to Allerdale Borough Council's belief that effective strategic flood risk management cannot take place at the local level. It is of the belief that effective strategic flood risk management requires 'coordination of several landowners, different planning authorities' and that it therefore needs to take place at a regional rather than a local level.[127]
- The Interviewees were of the opinion that measures such as the creation of floodplains and flood water retention pools are the most effective flood risk management measures for the area, but that the sites best suited for the provision of these are too geographically removed from the areas where development is taking place for the planning system to be able to provide for them. This demonstrates some of the limitations on the ability of conditions and planning obligations to be used to manage flood risk (as discussed in Chapter 4, sections 4.4.1.2 and 4.5.1), but also demonstrates that there may be a degree of lack of awareness by Allerdale Borough Council as to the extent to which these tools can be used to ensure the provision of flood risk management infrastructure that is some distance away from the development site (as discussed in Chapter 4, sections 4.4.3.2 and 4.5.3).
- This lack of awareness regarding the scope of the tools to manage flood risk was also evident regarding other tools, particularly Article 4 Directions, as well as planning obligations which have only be used in a limited number of ways.
- The low use of conditions to require the incorporation of SUDS and property level flood resistance and resilience measures is due, at least in part, to Allerdale Borough

[127] Interview with Allerdale Borough Council (n 13).

Council's perception that these tools lack the ability to effectively manage flood risk given the particular nature and drivers of flood risk in the area. This is also the case, to some extent, in relation to the removal of permitted development rights for hard-standing and extensions, and the use of conditions to require evacuation routes.

- The lack of policy regarding the provision of flood risk management infrastructure and the lack of conditions and planning obligations requiring the developer to provide/fund the provision of such infrastructure may be due to a lack of public support for such infrastructure. The Interviewees stated that the public sees measures such as flood retention pools as a visible reminder of the ongoing threat of flooding and prefers less visible measures.[128]
- The Interviewees also spoke of the difficulties in obtaining the expert advice necessary to make requirements regarding SUDS and access and evacuation routes, as well as the difficulties in following conditions up.[129] A lack of resources within Allerdale Borough Council itself, as well as within the Environment Agency and other consultees, therefore hinders the Council's ability to use conditions and planning obligations to effectively manage flood risk.
- The impact of flood risk management measures on the viability of development is a clear constraint on the ability of Allerdale Borough Council to require developers to mitigate or contribute towards the mitigation of flood risk. For example, impact on viability is the reason behind Allerdale Borough Council's decision not to introduce a CIL and the recent removal of the restriction on pooling more than five planning obligation contributions towards a single piece of infrastructure further removes what incentive there was to introduce a CIL.[130]
- The wide discretion that Allerdale Borough Council has with regard to its development control decisions and the need to balance flood risk management with other interests means that the Council has sometimes prioritised economic interests over flood risk management and granted planning permission for development despite the flood risk concerns. This is evident in Interviewee comments such as 'we've got these sites, they go into Flood Zones 2 and 3 for example. That balance between leaving it dormant because it's sequentially not the best-suited flood-wise' and

[128] ibid.
[129] ibid.
[130] Community Infrastructure Levy (Amendment) (England) (No 2) Regulations 2019, SO 2019/1103, reg 11.

'[t]here is a balancing act which is interesting following the flood events, especially in Cockermouth, and vacancy'.[131]

- Communication and negotiation between Allerdale Borough Council and the developer is a key part of the planning application process and it may be that, as a result of this process, developers include in their proposals the measures necessary to manage flood risk so that planning tools, particularly conditions, are not required. The vague and non-committal nature of the development plan policies regarding when conditions and planning obligations will be used and what will be required from developers in terms of the management of flood risk means that there is considerable room for negotiation.

[131] Interview with Allerdale Borough Council (n 13).

Chapter 6. Birmingham City Council (Case Study 2)

Birmingham is at substantial risk of flooding from a range of sources, including fluvial, surface water and groundwater flooding, and has experienced a number of flood events in recent years.[1] The data reveal that although Birmingham City Council is largely compliant with its statutory and policy requirements regarding the management of flood risk, it has made only limited use of the tools available to it to manage flood risk. In particular, it has failed to take a strong strategic approach to the management of flood risk and has also made only minimal use of conditions and planning obligations in order to address the flood risk associated with individual developments.

6.1 The Data

6.1.1 Development plan

The current development plan for Birmingham, the Birmingham Plan 2031, covers the period from 2011 to 2031.[2] It was adopted in 2017 and replaced the Birmingham Unitary Plan 2005.[3]

6.1.1.1 Flood risk and surface water management policy

The 2005 development plan did not have flood risk management as a strategic objective. Its approach to the management of flood risk was to prohibit development from taking place on floodplains and to avoid obstructions to flow-paths.[4] It recognised that surface water management and flooding are linked and prohibited new development from increasing surface water run-off. It also required it to incorporate sustainable drainage systems (SUDS) or, if this was neither practicable nor desirable, provide flood water storage infrastructure.[5]

The current development plan includes protection of floodplain in its strategic objectives,[6] and its approach to the management of flooding is to use the Sequential Test to steer development away from locations that are at risk of flooding. It also requires site specific flood risk assessments to be carried out in accordance with the requirements of the National Planning Policy Framework (NPPF) and all development, not just that which takes place in flood risk areas, to:

- Include measures to mitigate the flood risk to the development and elsewhere.

[1] Birmingham City Council, *Summary of the Local Flood Risk Management Strategy for Birmingham* (Birmingham City Council 2017) 3.
[2] Birmingham City Council, *Birmingham Plan 2031* (Birmingham City Council 2017).
[3] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (Birmingham City Council 2005).
[4] ibid paras 3.74-3.75.
[5] ibid paras 3.71-3.75.
[6] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 3.8.

- Use the layout and form of the development to reduce flood risk 'in the area and beyond'.
- Be designed to be safe from climate change impacts for its lifetime.[7]

However, this lacks clarity as to what is actually required and needs only be applied 'where possible'.

The flood risk management policy states that watercourses will be managed to enable natural flooding to take place in areas that will not put the environment or sensitive uses at risk.[8] It also expressly recognises the impact that increased levels of impermeable areas can have on flood risk,[9] and includes the following unqualified and relatively precise requirements regarding the management of surface water:

- All new developments must incorporate SUDS in accordance with the drainage hierarchy set out in the development plan and have in place operation and maintenance arrangements.
- All major development (10 or more dwellings or a development site of 0.5 hectares or more in the case of residential dwelling, or a development site of 1 hectare or more in the case of non-residential development) must have a sustainable drainage assessment that demonstrates that surface water will be managed and flood risk will not be exacerbated.
- Any development that requires a flood risk assessment or a sustainable drainage assessment must limit its run-off to the rate specified in the development plan (although this only applies if it does not make the development unviable).[10]

The Interviewee confirmed that '[w]e won't accept a major application unless it's got a SUDS assessment and a maintenance of the SUDS programme going forwards', but also pointed out one of the limitations of the policy requirement by commenting that 'just because you've done the assessment, doesn't mean you've got to provide SUDS'.[11]

The current development plan sets out how it will monitor compliance with these policies. It states that the indicator for the flood risk management policy is the number of developments approved against Environment Agency advice.[12] This, however, does not tie in with the flood risk management policy which refers to application of the Sequential Test and the

[7] ibid para 6.3.
[8] ibid para TP6.
[9] ibid para 6.33.
[10] ibid paras 6.31 and TP6.
[11] Interview with Birmingham City Council, *Birmingham City Council* (7 February 2019).
[12] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 145.

incorporation of mitigation and adaptation measures and SUDS in all development. The requirement to consult the Environment Agency comes from legislation not the development plan.[13]

6.1.1.2 Other relevant policies

6.1.1.2.1 Climate Change

The 2005 development plan contains no policy on climate change. The current development plan recognises that climate change mitigation and adaptation is one of the major challenges for the area and specifically refers to flood risk as a key aspect of this.[14] It also makes a clear link between addressing climate change issues and meeting its commitments regarding reducing health inequalities, increasing life expectancy and improving quality of life.[15] However, it contains no actual requirements beyond those specified in the policy relating to the management of flood risk and surface water, the provision of infrastructure (discussed in section 6.1.1.2.6), and environmental protection (discussed in section 6.1.1.2.4), and therefore whilst the climate change policy supports the flood risk management policy it does not add anything to it.

6.1.1.2.2 Sustainable development

The 2005 development plan's approach to sustainable development was to seek to minimise the environmental impact of the development that was required to meet the area's current needs, and it saw this as being largely about reducing reliance on car travel.[16] It did, however, recognise that there is a link between environmental quality and both the economy and health,[17] and thereby saw sustainable development as three inter-related, rather than separate, pillars.

The current development plan prioritises growth, but has the objective of ensuring that growth is achieved as sustainably as possible,[18] referring to this as involving:

- A built environment that is resilient to the impacts of climate change.
- Protection of floodplains from inappropriate development.
- Sustainable management of watercourses.[19]

[13] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/955, art 18 and para zc, sch 4.
[14] Birmingham City Council, *Birmingham Plan 2031* (n 2) paras TP1 and 2.18.
[15] ibid para TP37.
[16] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 3) para 2.8.
[17] ibid paras 2.9 and 2.14A.
[18] Birmingham City Council, *Birmingham Plan 2031* (n 2) paras 3.1-3.5.
[19] ibid para 3.8.

However, it contains little in the way of actual requirements regarding sustainability, and those that it does contain, such as a requirement for new development to '[t]ake opportunities to make sustainable design integral to development'[20] and 'contribute to making sustainable places',[21] are vague and ambiguous and do not constitute requirements for developments to be resilient to climate change, protect floodplains from inappropriate development, manage watercourses, or otherwise manage flood risk. It is also the case that the current development plan does not repeat the 2005 development plan's express link between environment, economy and health.

6.1.1.2.3 Housing, communities, and settlement management

The 2005 development plan aimed to focus new housing development on previously developed land. Whilst it stated that Birmingham City Council would 'take account of' flooding constraints when assessing housing development proposals, it contained no prohibition on developments where there were such constraints.[22] It also encouraged higher density and 'more compact layouts' for development, although only where that would not conflict with other policies, suggesting that higher density development may not have been permitted if it would increase surface water run-off.[23]

The current development plan prioritises existing built-up areas for the location of new housing,[24] but it also requires new residential development to contribute to making places that are environmentally sustainable and climate proofed, which suggests new development that increases flood risk will not be permitted.[25] New housing development within Flood Zone 3b is prohibited, but it is permitted within Flood Zones 2 and 3a provided that 'effective mitigation measures' are put in place.[26] Like the 2005 development plan, the current development plan supports high density residential development and includes specific density requirements of at least 40 dwellings a hectare. However, whilst the 2005 development plan's density requirements did not apply if they conflicted with other policy, the density requirements of the current development plan will only be disapplied if the developer argues for and can justify a lower density.[27] As the increase in flood risk resulting from high density development is due to increased run-off which impacts on the area in general and/or sites

[20] ibid para PG3.
[21] ibid para TP27.
[22] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 2) para 5.25C.
[23] ibid para 3.14E.
[24] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 3.24.
[25] ibid para TP27.
[26] ibid para TP28.
[27] ibid paras 3.26 and TP30.

other than the development site it is unlikely that a developer would seek a lower density on flood risk grounds as lower density development will usually be less profitable. Therefore, there is little scope for density to be reduced on flood risk related grounds. The current development therefore appears to be more pro-development than the 2005 development plan.

The strategic flood risk assessment (SFRA) shows that of the 1468 sites that have been identified for housing development, the majority, 1376, are fully within Flood Zone 1. However, 22 are located fully or partly within Flood Zone 2, 57 within Flood Zone 3a, and 31 within Flood Zone 3b (despite the development plan's prohibition on new housing within Flood Zone 3b).[28] The SFRA makes it clear that the Sequential Test has been applied to these sites, but for the sites that were in Flood Zones 2 and 3, Birmingham City Council's plans to include those sites within a regeneration scheme or the fact that they were in an existing housing location were considered to be reasons why it was not possible to allocate the development to a lower risk site.[29] The SFRA also discusses 25 residential sites to which the Exception Test was applied. These reveal a low, subjective and vague threshold for meeting the Exception Test requirement that the development provides 'sustainability benefits to the community' as they included reasons such as '[t]he site is a highly sustainable location in close proximity to the City Core and regeneration of this area will deliver significant sustainability benefits'.[30] Furthermore, the SFRA reports that 207 sites were removed from the sites available for housing development, but only 15 were removed due to flood risk.[31] This highlights some of the limitations of SFRAs discussed in Chapter 3 (section 3.3.1.2.1), in particular their tendency to favour the socio-economic interests on which the allocations were proposed and their ability to be adapted to the preferred outcomes. Indeed, the Interviewee seemed to view the Sequential and Exception Test as a simple balancing exercise to be undertaken between flood risk and the benefits of the development and commented that 'I don't think we're in a position where that [flood risk] trumps everything'.

6.1.1.2.4 Environmental protection

The 2005 development plan gave some protection to Sites of Special Scientific Interest (SSSIs), Nature Reserves, Sites of Importance and landscapes from the environmental implications of development, but it did allow development that would have a detrimental

[28] Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 1 Strategic Flood Risk Assessment* (Birmingham City Council 2012) para 9.4.2.
[29] Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 2 Strategic Flood Risk Assessment* (Birmingham City Council 2012) 16-21.
[30] ibid 26-29.
[31] ibid appendix B.

impact on such sites where the reasons for the development outweighed the impacts.[32] The current development plan recognises that conservation and enhancement of the natural environment has an important role in achieving the development plan objectives.[33] Its environmental policies state that '[t]he maintenance, enhancement and restoration of sites of national and local importance for biodiversity and geology will be promoted and supported' and prohibit development that would harm SSSIs, Nature Reserves and other sites of environmental importance unless the benefits of the development outweigh its impacts.[34] These provisions may therefore support ensuring that development does not cause environmentally damaging flooding, but they are subject to a potentially widely applicable exception and only apply to sites that are specifically protected. In any event, as the development plan does not make the connection between flood risk management and environmental protection, whilst the environmental protection provisions may give some support to the flood risk and surface water management policy, they do not add anything to it.

The current development plan does also contain a prohibition on development that would have a negative impact on rivers, lakes, canals, or groundwater quality. This is potentially more directly relatable to flood risk due to the detrimental impact that flooding and surface water run-off can have these bodies of water.[35] This policy therefore has the potential to add support to the flood risk and surface water management policy, especially as there are no exceptions to the prohibition on development that would have a negative impact.

6.1.1.2.5 Development design

The 2005 development plan did not directly refer to the use of development design to manage flood risk but did refer to it as a means of achieving sustainable development and mitigating the impacts of climate change.[36] The current development plan specifically requires development to be designed and constructed in a way that reduces flood risk[37] but contains no detail as to how this should be done. It therefore does not constitute a firm commitment to ensure that developments incorporate property level resistance and resilience measures or include flow-paths and flood water storage areas, or, indeed do anything more than they are required to do under the flood risk and surface water management provisions.

[32] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 3) para 3.37, 3.37A and 3.37B.
[33] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 3.5.
[34] ibid para TP8.
[35] ibid para TP6.
[36] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 3) para 3.14.
[37] Birmingham City Council, *Birmingham Plan 2031* (n 2) para TP3.

6.1.1.2.6 Infrastructure

The 2005 development plan encouraged, but did not require, new development to provide wetlands and pools.[38] The current development plan states that sustainable, long-term growth will be underpinned by 'high quality infrastructure' and that 'a range of measures will be used to ensure that the necessary infrastructure is in place' to manage surface water and flooding.[39] However, its actual requirements are ambiguous and subjective, consisting of requirements that new development be 'adequately serviced' by existing or new infrastructure,[40] 'address green infrastructure issues in an integrated way', and 'take advantage of new opportunities such as green and brown roofs.'[41] These do not constitute clear requirements for developers to ensure that they incorporate, provide or fund the flood risk management infrastructure necessary to serve or required as a result of the development.

6.1.1.2.7 Third party and cross-boundary issues

The 2005 development plan stated that the Environment Agency would be consulted on planning applications for developments affecting water resources and drainage.[42] The current development plan states that Birmingham City Council will work with the Environment Agency and water companies in relation to the management of flood risk and provision of infrastructure.[43] The Interviewee expressed some frustration at the Council's reliance on the Environment Agency for advice on fluvial flooding, commenting that the Environment Agency did not share the Council's objective of unlocking development and could be inflexible in its requirements. They believed the 'powerful position' of the Environment Agency and the Council's lack of in-house knowledge limited the Council's ability to challenge the Environment Agency's recommendations. The Interviewee also stated that although it was advantageous to have in-house advice on surface water issues (Birmingham City Council is the Lead Local Flood Authority), having different bodies responsible for fluvial and surface water flooding meant that there was no co-ordinated approach, with their perception being that 'it's not joined up at the moment and everyone's got different objectives' and 'it would be helpful if all the responsibilities sat in the same body'.[44]

[38] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 3) para 2.14.
[39] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 3.37.
[40] ibid para TP28.
[41] ibid para TP7.
[42] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 3) para 3.17A.
[43] Birmingham City Council, *Birmingham Plan 2031* (n 2) paras 6.29-6.31 and 10.3.
[44] ibid.

The 2005 development plan did not refer to cross-boundary issues or working with other local planning authorities (LPAs). The current development plan recognises that planning issues can cross local authority boundaries, but its reference to working with adjoining local authorities in the preparation of their plans focused on the use of jointly commissioned technical studies to inform the scale and distribution of growth rather than on preparing coordinated strategies for dealing with cross-boundary issues such as flooding.[45]

6.1.1.3 Conclusion on development plan

Whilst the development plan has been used to set out policies that seek to reduce development in flood risk areas, manage surface water drainage and ensure other mitigation and adaptation measures, other than the requirements regarding the use of SUDS it contains no clear requirements for the provision of flood risk management infrastructure or to ensure that mitigation and adaptation measures are included in development. Its application of the Sequential Test allows meeting short-term housing need to be prioritised over flood risk management. The policies on climate change, sustainable development, housing and settlement management, environmental protections, development design, and infrastructure provide some support for the management of flood risk and surface water policies but, other than the provisions prohibiting development from having detrimental impacts on watercourses and groundwater quality (section 6.1.1.2.4), they do not add to them.

The development plan contains policy that encourages the development of 'innovative energy technologies to reduce the use of fossil fuels and CO2 emissions' and states that 'promotion of low carbon industries will be supported and encouraged'.[46] However, it does not take the opportunity to establish similar policy promoting the development of innovative flood risk management technology or taking advantage of any of the other opportunities presented by flooding. Nor does it take the opportunity to establish a co-ordinated cross-boundary strategy for managing flood risk with neighbouring LPAs.

6.1.2 Permitted development rights

6.1.2.1 Article 4 Directions

The 2005 development plan does not refer to the use of Article 4 Directions. The current development plan refers to the use of Article 4 Directions 'to address some of the problems faced by residential areas' and to make communities 'balanced and sustainable' but only in

[45] ibid paras 10.19-10.21.
[46] Birmingham City Council, *Birmingham Plan 2031* (n 2) para TP5.

the context of exercising control over houses in multiple occupation.[47] Despite recognising that increased levels of impermeable areas can increase flood risk, it makes no reference to the use of Article 4 Directions in connection with the management of the cumulative impact of development on flood risk.[48] Furthermore, the Interviewees expressly stated that Article 4 Directions were not used by Birmingham City Council to manage flood risk,[49] commenting that 'most, or a good number, of the permitted development rights, they have a flood test in there anyway … So it's built into the process anyway for a lot of them.'[50] However, whilst some change of use permitted development requires prior approval from the LPA regarding flood risk issues,[51] permitted development relating to residential extensions, incidental buildings and hard-surfacing does not.[52] This misconception that flood risk management is an integral aspect of permitted development rights may be a reason behind Birmingham City Council's failure to recognise Article 4 Directions as a means of managing flood risk.

In practice, Birmingham City Council has issued a number of Article 4 Directions: 12 Directions removing permitted development rights relating to extensions and alterations for sites in Conservation Areas in order to protect the character of the area and individual architectural features[53] and a city-wide Article 4 Direction for change of use from residential dwellings to small houses in multiple occupation (HMOs).[54] The Conservation Area Article 4 Directions all came into force within six months of notice having been given, meaning that there was some scope for claims to be made by landowners to be compensated for losses incurred as a result of the removal of the permitted development rights. However, these Article 4 Directions covered a limited number of properties. The city-wide HMO Article 4 Direction was subject to 12 months' notice, and this may be evidence that in the case that of Article 4 Directions that have the potential to result in a large number of compensation claims (as discussed in Chapter 4),[55] Birmingham City Council is taking steps to prevent such claims.

[47] ibid para 5.109.
[48] ibid para 6.33.
[49] Interview with Birmingham City Council (n 11).
[50] ibid.
[51] Town and Country (General Permitted Development) (England) Order 2015, SI 2015/596, classes M-S, pt 3, sch 2.
[52] ibid classes A-F, pt 1, sch 2.
[53] Birmingham City Council, 'Extra protection for Conservation Areas: Article 4 Directions ' (*Birmingham City Council*) <https://www.birmingham.gov.uk/info/20055/conservation_areas/15/extra_protection_for_conservation_areas_article_4_directions> accessed 4 May 2020.
[54] Birmingham City Council, *City-Wide Article 4 Direction relating to Houses in Multiple Occupation (HMOs)* (Birmingham City Council 2019).
[55] Town and Country Planning Act 1990 (TCPA 1990), ss 107-108.

6.1.2.2 Local and Neighbourhood Development Orders

The 2005 development plan did not refer to the use of Local or Neighbourhood Development Orders. The current development plan refers to the use of Local Development Orders to help deliver the plan's policies.[56] Two Local Development Orders have been issued by Birmingham City Council.

In 2014, a Local Development Order was issued in respect of an area within Flood Zone 2. It sought to encourage appropriate development by granting permission for certain use classes that are classified by NPPF technical guidance[57] as being less vulnerable to the effects of flooding.[58] The Order also contained a number of conditions aimed at managing flood risk, requiring development carried out under the Order to include and obtain Birmingham City Council's approval of resistance and resilience measures and a SUDS scheme.[59]

In 2017, Birmingham City Council issued a Local Development Order to encourage development that accorded with identification of the area as a key location for CO2 reduction in the development plan.[60] Although the area is in Flood Zone 1, the Order required a flood risk assessment to be submitted to the Council for development carried out under it, compliance with Environment Agency standing advice, and Council approval of a SUDS scheme.[61]

Whilst Birmingham City Council does not appear to recognise Article 4 Directions as a means of controlling the cumulative impacts of small-scale development on flood risk, it has made use of Local Development Orders to encourage development that helps deliver the development plan policies in a way that takes account of and seeks to manage flood risk.

6.1.3 Refusal of planning permission

The Interviewee said of Birmingham City Council that 'as far back as you look it's always been pro-development,' and they were not aware of any planning applications having been refused on grounds relating to flood risk. They commented that although there have been 'a lot of developments that have just stalled', sometimes for a long time, whilst flooding issues

[56] Birmingham City Council, *Birmingham Plan 2031* (n 3) para 10.3.
[57] Department for Communities and Local Government, *Technical Guidance to the National Planning Policy Framework* (DCLG 2012) 6.
[58] Birmingham City Council, *Aston Advanced Manufacturing Hub Local Development Order Statement of Reasons* (Birmingham City Council) para 3.14.
[59] Birmingham City Council, *The Local Development Order for Advanced Manufacturing Hub, Aston* (Birmingham City Council 2014) appendix B.
[60] Birmingham City Council, *Birmingham Plan 2031* (n 3) paras TP6 and 6.91.
[61] Birmingham City Council, *Tyseley Environmental Enterprise District Local Development Order* (Birmingham City Council 2017) appendix B.

are resolved, ultimately the Council's approach is to continue to negotiate with the developer until there is a development proposal that the Council is satisfied with.[62]

The graph in Figure 6.1 below shows the number of planning decisions made by Birmingham City Council in March of each of the case study years, as well as the number of those where planning permission was refused. The graph indicates a general decrease in the number of decisions made over the course of the case study timescale, but the number of refusals is too small to indicate any particular trend.

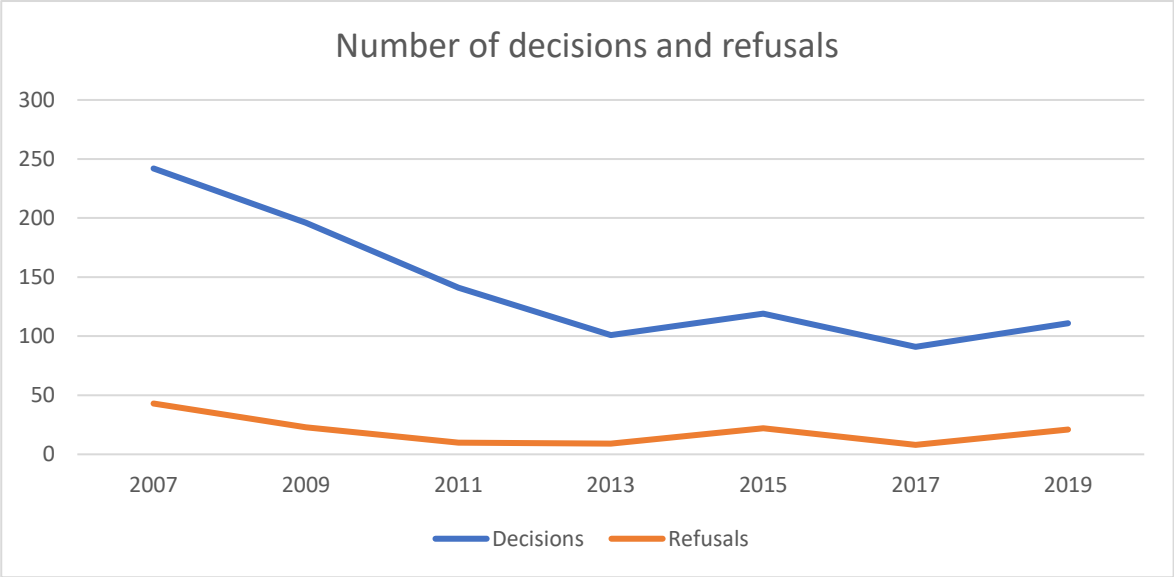

Figure 6.1 Graph showing number of planning decisions and refusals of planning permission made by Birmingham City Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019

The data include 136 refusals, of which two were on grounds relating to flood risk. One was in respect of an application for planning permission for a shop, and one of the reasons for the refusal was failure to provide flood risk information. The second refusal was in respect of an application for planning permission for a dwellinghouse, and this was refused on the grounds that the flood risk assessment was inadequate. Both these refusals were therefore due to a lack of adequate information rather than the actual flood risk associated with the proposed development.

The data indicate that Birmingham City Council is making little use of its ability to refuse planning permission on flood risk related grounds. It has a pro-development approach and a

[62] Interview with Birmingham City Council (n 11).

practice of negotiating with the developer to resolve any flood risk related issues that proposed developments may present.

6.1.4 Conditions

Neither the 2005 development plan nor the current development plan refer to the use of conditions to manage flood risk. The Interviewee stated that in practice conditions are used to manage flood risk, in particular to ensure compliance with the measures recommended by the Environment Agency.[63] Data on the conditions imposed by Birmingham City Council that are potentially relevant to flood risk management were collected from 1,001 planning applications and categorised in accordance with the methodology set out in Chapter 1 (section 1.7.3).

6.1.4.1 Temporary permission

The data include 27 planning permissions that contained a condition to limit the planning permission to a specified number of years. Whilst seven of these were to enable the impacts of development to be ascertained before permanent permission was granted, the impacts Birmingham City Council was concerned with related to amenity, highways and local business rather than flood risk.

6.1.4.2 Environmental protection

The data include 68 conditions imposed for environmental protection purposes, but none were aimed at protecting the environment from the impacts of flooding.

6.1.4.3 Materials

The data include a total of 303 conditions that required the materials used in the development to either match those of the existing development or be approved by Birmingham City Council. The reason for imposing these conditions was to ensure compliance with the 'place making' policy in the development plan. As this policy includes aspects of sustainability, it is possible that flood risk considerations were taken into account when imposing these conditions/approving the materials, but the extent to which this was the case cannot be ascertained from the data.

6.1.4.4 Surfacing and ground levels

The data include 57 conditions requiring the developer to obtain Birmingham City Council's approval of the hard-surfacing materials. Whilst these were imposed for general reasons

[63] ibid.

relating to the quality of the built environment and 'place making' rather than expressly to manage flood risk, this could have included flood risk considerations. The data also include 47 conditions controlling the levels of the site or ground floor of the development. Whilst the Interviewee stated that conditions are used by Birmingham City Council to control floor levels in order to manage flood risk,[64] just six of these 47 conditions were for the specific purpose of managing flood risk (and these were all imposed in 2007). The other 41 conditions were for the more general purpose of place making.

6.1.4.5 Removal of permitted development rights/restrictions on use

The Interviewee stated that conditions had been used to prevent use of the ground flood for residential purposes in order to manage flood risk,[65] but of the 90 conditions restricting the use of the development or removing permitted development rights regarding change of use included in the data, none were imposed for flood risk management reasons. The data also include 45 conditions removing permitted development rights for the hard-surfacing of front gardens and extension, but these were imposed for reasons of amenity and general place making, rather than specifically for the management of flood risk.

6.1.4.6 Surface water management

According to the current development plan, all new development will be required to incorporate SUDS and have a maintenance plan, and all major development is required to have a sustainable drainage assessment.[66] The Interviewee stated that for those developments where a SUDS assessment and maintenance plan is required, 'we always condition and follow it through'.[67] However, just 99 out of the 1,001 planning application determinations examined contained a condition regarding surface water drainage, and just 38 of those required the use of SUDS. This suggests that Birmingham City Council's policy and perceptions regarding the use of SUDS do not correlate with what is happening in practice. It is also the case that out of the 99 conditions regarding surface water drainage, 85 required Birmingham City Council to approve the drainage scheme.

6.1.4.7 Other flood risk management conditions

In addition to those included within the above categories, the data include a number of further conditions imposed to manage flood risk. These comprised:

[64] ibid.
[65] ibid.
[66] Birmingham City Council, *Birmingham Plan 2031* (n 2) para TP6.
[67] Interview with Birmingham City Council (n 11).

- One condition requiring a demolition and construction method statement to be provided in respect of a development near a canal to ensure the structural integrity of the canal.
- One condition requiring a buffer zone between the development and river.
- Six conditions requiring the development to include the flood risk mitigation and resilience measures recommended in the site specific flood risk assessment.
- Two conditions requiring the development to include safe routes in and out of the development in the event of flooding.

Although the data include no such conditions, the Interviewee stated that conditions had also been used to require the development to be signed up to the Government's early flood warning scheme.[68]

6.1.4.8 Conclusion on conditions

The data indicate that there has been some, limited, use of conditions specifically targeted at the management of flood risk, but that their use may not be as extensive as the Interviewee perceived them to be. Other than conditions regarding drainage, the use of which were themselves limited, the data include just ten conditions requiring the development to flood risk management measures. Despite the provisions of the flood risk management policies discussed in section 6.1.1.1, there is therefore little evidence of conditions being used to require property level mitigation measures, that the layout be used to reduce flood risk, or that development be designed to be safe from flooding. The data include no conditions restricting the permission to a limited time to allow the impacts of the development on flood risk to be assessed before deciding whether to grant permanent planning permission or specifying or restricting use to ensure that it is appropriate to the level of flood risk.

6.1.5 Planning obligations

The 2005 development plan stated that planning obligations would be used to enable development to proceed and secure proper planning of development and the area, and that developers would be encouraged to enter into them to provide other planning benefits.[69] It did not include flood risk management in its non-exhaustive list of infrastructure that planning obligations would be used to fund.[70] In the current development plan, each policy includes details of how that policy is to be implemented. The policies on place making,[71] climate

[68] ibid.
[69] Birmingham City Council, *Birmingham Unitary Development Plan 2005* (n 3) para 8.51.
[70] ibid 162.
[71] Birmingham City Council, *Birmingham Plan 2031* (n 2) para PG3.

change adaptation,[72] green infrastructure,[73] open space,[74] sustainable neighbourhoods,[75] physical infrastructure,[76] and mitigation of the adverse impacts of development,[77] all include planning obligations and/or Community Infrastructure Levy in the measures through which they will be implemented, and each of these policies has the potential to cover some flood risk mitigation measures. The current development plan also states that planning obligations will be used to 'secure on site public open space', 'ensure the development or use of land in specific ways' and 'require specific activities to be carried out'.[78] The development plan therefore enables planning obligations to be used to restrict the development or use of land that would increase flood risk, require developers to provide or fund both on and off-site flood risk management infrastructure, emergency access and evacuation routes, and require the developer to use part of the site for the storage of flood water. However, the flood risk and surface water management policy itself states that it will be implemented through national funding, partnerships and 'planning management', but not through planning obligations,[79] which is reflected in the fact that when asked about the frequency of the use of planning obligations to manage flood risk, the Interviewee's response was, 'I could only guess that you're probably looking at counting on the fingers of one hand in the last five years'.[80]

As discussed in Chapter 1 (section 1.7.3.2.5), the current obligation on LPAs to publish details of the planning obligations entered into did not take effect until December 2020 and Birmingham City Council had not voluntarily published such information prior to this date. Following a Freedom of Information request, in May 2020 Birmingham City Council provided a schedule of planning obligations entered into between 2007 and 2019. Table 6.1 below sets out the information obtained from that schedule.

[72] ibid paras TP2 and TP47.
[73] ibid para TP7.
[74] ibid para TP9.
[75] ibid para TP27.
[76] ibid para TP47.
[77] ibid.
[78] ibid para 10.13.
[79] ibid para TP6.
[80] Interview with Birmingham City Council (n 11).

Year	Total number of planning obligations	Number of planning obligations for funding of open space	Number of planning obligations for funding of drainage measures	Number of planning obligations for funding of off-site flood compensation	Number of planning obligations for funding of wetlands
2007	111	35	1	0	0
2008	54	8	0	0	0
2009	31	7	0	0	0
2010	52	18	0	0	0
2011	83	19	0	1	0
2012	87	12	0	0	0
2013	73	5	0	0	0
2014	46	4	0	0	0
2015	71	10	0	0	0
2016	51	11	0	0	1
2017	46	4	0	0	0
2018	39	7	0	0	0
2019	10	3	0	0	0[81]

Table 6.1 Showing the total number of planning obligations entered into by Birmingham City Council and number relating to flood risk management

Table 6.1 shows that there is significant variation in the number of planning obligations entered into from year to year but indicates an overall reduction in the number of planning obligations over the time-frame of the case studies, with particularly low numbers in the last two years. The data show that planning obligations have been used relatively extensively to

[81] Email from infogovernance@birmingham.gov.uk to author (7 May 2020).

obtain contributions towards open space, but it is unclear whether flood risk management formed part of the functions of the open space concerned. What is clear from the data is that there has been almost no use of planning obligations for specific flood risk or surface water management purposes, which accords with the development plan flood risk and surface water management policy and the Interviewee's comments. The data provided by Birmingham City Council as shown in Table 6.1 relates exclusively to planning obligations requiring the developer to make financial contributions towards infrastructure. In addition to this, a 2019 report by Birmingham City Council stated that between 2010/11 and 2018/19, 14 planning obligations were entered into for the provision by the developer of open space, although it is not clear whether this is provided on or off-site.[82] This shows that planning obligations have been used to require developers to provide certain infrastructure, but they are mainly used to obtain financial contributions from developers.

The schedule that out of a total of £188,677,229.74 due under planning obligations entered into between 2007 and 2019, £63,496,210.87 had been received and £125,181,018.87 remained outstanding.[83] The issue of fulfillment of planning obligations was identified in Chapter 4 (section 4.5.3.6) as one of their limitations, and the data demonstrate the extent to which this is the case for Birmingham City Council. Indeed, the Interviewee confirmed that not knowing when the funding will be received is one of the disadvantages of planning obligations.

The low use of planning obligations for the management of flood risk accords with the provisions of the development plan that excluded planning obligations from the means by which the flood risk management policies would be implemented. The Interviewees revealed little as to the reason why Birmingham City Council has taken this approach, although they did refer to the general problem the restrictions on pooling had caused as some infrastructure schemes can costs tens of millions of pounds and cannot be funded by a small number of developments.[84]

6.1.6 Community Infrastructure Levy

The current development plan expressly states that the Community Infrastructure Levy (CIL) will be used to fund 'flood defences',[85] as well as to obtain contributions towards green and open spaces, green infrastructure, place making, sustainable neighbourhoods, climate change

[82] Birmingham City Council, *Birmingham Local Plan Authority Monitoring Report 2011-2019* (Birmingham City Council 2019) 53.
[83] Email from infogovernance@birmingham.gov.uk (n 81).
[84] Interview with Birmingham City Council (n 11).
[85] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 10.14.

adaptation, and mitigation of the adverse impacts of development, all of which have the potential to include other types of flood risk management infrastructure.[86] Indeed, Birmingham City Council introduced a CIL in January 2016, and the list of infrastructure that it will be used to fund includes flood risk management infrastructure and SUDS schemes.[87] The Interviewee explained that when introducing the CIL, Birmingham City Council's initial approach had been to include 'everything' in this list but in practice 'CIL receipts have been slightly disappointing and there's no way they could fund everything on the list'. The Interviewee concluded that having flood risk management infrastructure on the list of infrastructure to be funded by the CIL was actually 'a problem' as it prevented Birmingham City Council from being able to fund that infrastructure through planning obligations.[88] It is also the case that although the annual monitoring reports published since 2015/16 show a sharp increase in annual CIL income from £0 in 2015/16[89] to £5,047,391.69 in 2019/20, none of the CIL income has been spent on infrastructure.[90] This case study therefore provides evidence of some of the problems with the CIL regime discussed in Chapter 4 (section 4.6.3) and demonstrates the impact that this had on the delivery of flood risk management infrastructure.

6.2 Compliance with Flood Risk Management Obligations

6.2.1 Development plan

6.2.1.1 Strategic flood risk assessment

A strategic flood risk assessment (SFRA)[91] was carried out and referred to in the flood risk management provisions of the current development plan.[92] The SFRA requirements of the NPPF have therefore been complied with.[93]

[86] ibid paras 10.14, PG3, TP2, TP7, TP9, TP27 and TP47.
[87] Birmingham City Council, *Community Infrastructure Levy Regulation 123 List* (Birmingham City Council).
[88] Interview with Birmingham City Council (n 11) .
[89] Birmingham City Council, *Birmingham Local Plan Authority Monitoring Report 2011-2016* (Birmingham City Council 2017) para 6.1.
[90] Birmingham City Council, *Authority's Monitoring Report 2017-2018* (Birmingham City Council 2019) para 6.1; Birmingham City Council, *Authority's Monitoring Report 2016-2017* (Birmingham City Council 2018) para 6.1; Birmingham City Council, *Birmingham Local Plan Authority Monitoring Report 2011-2019* (Birmingham City Council 2019) para 6.1; Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 2 Strategic Flood Risk Assessment* (n 29) para 8.4.
[91] Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 1 SFRA* (n 28); Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 2 SFRA* (n 29).
[92] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 6.32-6.35.
[93] Ministry of Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 156.

6.2.1.2 Sequential Test

Despite the shortcomings of the application of the Sequential and Exception Test in the SFRA (as discussed in the section 6.1.1.2.3), the requirements to apply these tests to the allocation policies of the development plan have been complied with.[94]

Anecdotal information was obtained from Birmingham City Council regarding the application of the Sequential and Exception Test in relation to a large development comprised of over 700 residential units and over 3,500 square metres of commercial, retail, leisure and community uses along a river. The outcome of the application of the Sequential Test was that there were other sites with a lower risk of flooding that could accommodate the development. However, Birmingham City Council was of the opinion that locating the development in any of the lower risk areas would not have the wider sustainability benefits than it would have if located on the proposed site. It therefore concluded that the proposed development could be granted planning permission provided the requirements of the Exception Test were met.[95] This demonstrates that inclusion of the caveat that development only needs to take place in the lowest risk area where this accords with 'wider sustainability objectives' enables LPAs to essentially justify the granting of planning permission to development that is not in the lowest risk area available provided that there are some social or economic benefits to the development. This transforms the Sequential Test from forward to backward-looking and clearly demonstrates the limitations of the Sequential Test as an effective means of managing flood risk in relation to individual developments (as discussed in Chapter 3.4.2.1.1).

6.2.1.3 Flood risk management infrastructure

The ambiguous and discretionary nature of the development plan provisions regarding flood risk and surface water infrastructure means that it is questionable whether it fulfills the NPPF requirement. However, as the NPPF requirement is itself ambiguous and subjective, requiring that development plans make 'sufficient provision' for flood risk management infrastructure,[96] non-compliance would be difficult to establish (as discussed in Chapter 3).

[94] ibid paras 157, 158 and 160.
[95] Birmingham City Council, *Planning Officer Report to Planning Committee* (Birmingham City Council 2019) para 6.63.
[96] MHCLG, *NPPF 2019* (n 93) para 20.

6.2.1.4 Safeguard land from development

The development plan does not set aside, or require to be set aside, land for the management of flood risk. However, as the flood risk management policy requires watercourses to be managed to enable flooding to take place in certain areas,[97] this may fulfill the NPPF requirement to safeguard land to be used for flood risk management.[98]

6.2.1.5 Reducing the causes and impacts of flooding

The current development plan requires all development to include flood risk mitigation measures, use its form and layout to reduce flood risk, be designed to be safe from climate change impacts, and incorporate SUDS, and it therefore complies with the NPPF requirement to reduce the causes and impacts of flooding.[99]

6.2.1.6 Relocation of unsustainable development

As the development plan makes no provision for the possible relocation of development, it is questionable whether it fulfills the NPPF requirement regarding the relocation of development that is expected to become unsustainable due to flood risk. [100] However, this requirement only applies to flood risk caused by climate change, and in Birmingham the causes of flood risk are multiple[101] meaning it would be difficult to say with any certainty whether the NPPF requirement applies to a particular development.

6.2.1.7 Long-term implications of flood risk

The development plan makes no express provision for the long-term implications of flood risk. As the NPPF only requires long-term implications to be taken into account, provided Birmingham City Council considered them it will have fulfilled this requirement,[102] but it is not possible to establish whether this is the case from the data collected.

6.2.1.8 Climate change

The current development plan requires that all development include flood mitigation measures, use its form and layout to reduce flood risk, be designed to be safe from climate change impacts, and incorporate SUDS. This fulfills the statutory requirement to include policies that ensure that land is developed and used in a way that contributes to the adaptation

[97] Birmingham City Council, *Birmingham Plan 2031* (n 2) para TP6.
[98] MHCLG, *NPPF 2019* (n 93) para 157b).
[99] ibid para 157c).
[100] ibid para 157d).
[101] Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 1 SFRA* (n 28) pt 8.
[102] MHCLG, *NPPF 2019* (n 93) para 149.

to climate change[103] and ensure that vulnerable development includes suitable adaptation measures.[104] In addition to which, as these measures seek to reduce the risk of flooding occurring and/or reduce the impact that it has when it does occur (rather than taking a reactive approach that addresses the issues that arise after flooding has occurred), they comply with the NPPF requirements to take a proactive approach to mitigate and adapting to climate change and avoid increasing vulnerability to the impacts of climate change so far as these relate to flood risk.[105]

6.2.1.9 Sustainable development

The development plan has the objective of achieving growth as sustainably as possible and therefore, despite the fact that there are no tangible requirements regarding sustainable development, it complies with the statutory requirement that the development plan have the objective of contributing to the achievement of sustainable development.[106]

A sustainability appraisal[107] was carried out in compliance with the Planning and Compulsory Purchase Act 2004,[108] and the current development plan confirms that its preparation took the appraisal into account.[109]

Birmingham City Council complied with its duty to co-operate with other LPAs in relation to the sustainable development,[110] as confirmed by the Planning Inspector's report. The Planning Inspector viewed the duty to co-operate as being about ensuring that Birmingham's unmet housing need can be met by neighbouring authorities. [111] The Planning Inspector also found the provisions of the development plan to be compliant with the NPPF's presumption in favour of sustainable development.[112]

6.2.1.10 Housing, communities, and settlement management

As the current development plan plans for and enables new housing development to take place within flood risk areas, it is questionable whether the NPPF requirements to ensure safe and healthy living conditions and ensure that development functions well for its lifetime are

[103] Planning and Compulsory Purchase Act 2004 (PCPA 2004), s 19(1A).
[104] MHCLG, *NPPF 2019* (n 93) para 150.
[105] ibid paras 149-50.
[106] PCPA 2004, ss 39(2)-39(3).
[107] Amec Foster Wheeler Environment & Infrastructure Ltd, *Birmingham City Council Sustainability Appraisal of the Birmingham Development Plan: Revised Sustainability Report* (Birmingham City Council 2015).
[108] PCPA Act 2004, s 19.
[109] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 1.6.
[110] PCPA 2004, s 33A.
[111] Roger Clews, *Report on the Examination of the Birmingham Development Plan* (Birmingham City Council 2016) paras 20 and 65.
[112] ibid paras 24-25.

complied with at a strategic level. However, as the development plan requires all development to include flood mitigation measures and be designed to be safe from climate change impacts, this ensures that the NPPF requirements are complied with at the individual development level.[113]

6.2.1.11 Environmental protection

A Strategic Environmental Assessment[114] was carried out and taken into account in the preparation of the development plan[115] in accordance with the Environmental Assessment of Plans and Programmes Regulations 2004.[116] A Habitats Assessment was carried out in accordance with the statutory requirements and it confirmed that the development plan is not likely to lead to adverse effects on any European sites.[117]

There are no National Parks or Areas of Outstanding Natural Beauty in the development plan area and the development plan contains provisions that seek to protect and enhance sites of environmental importance. It requires all development to support Birmingham's natural environment and refers to the use of biodiversity enhancement measures.[118] Therefore, although there are some limitations to the environmental protection provisions in the development plan, it does appear to comply with the statutory requirements to have regard to the conservation of natural beauty and amenity[119] and biodiversity[120] as well as the NPPF requirements to contribute to and enhance the natural environment and safeguard and improve biodiversity.[121]

6.2.2 Determination of planning applications

6.2.2.1 Environment Agency consultation

The Interviewee stated that Birmingham City Council consults the Environment Agency regarding development with flood risk issues and that it always follows its advice. This is supported by the Council's monitoring reports, which state that for the period 2011-2019 the Environment Agency provided advice on 559 approved planning applications, none of which

[113] MHCLG, *NPPF 2019,* paras 117 and 127.
[114] Amec Foster Wheeler Environment & Infrastructure Ltd (n 107) i.
[115] ibid para 6.2.
[116] Environmental Assessment of Plans and Programmes Regulations 2004, SI 2004/1633, reg 5.
[117] Lepus Consulting, *Habitats Regulations Assessment of the Birmingham Development Plan: Pre-Submission Version* (Birmingham City Council 2013) para 5.13.
[118] Birmingham City Council, *Birmingham Plan 2031* (n 2) para TP8.
[119] Countryside Act 1968, s 11.
[120] Natural Environment and Rural Communities Act 2006, s 40.
[121] MHCLG, *NPPF 2019* (n 2) paras 170-74.

had any outstanding objections.[122] Although this conflicts slightly with the monitoring reports for the years 2011/12 and 2012/13, which state that in each of these years two planning applications were approved with outstanding Environment Agency objections,[123] which suggests that there may be some inaccuracies in record keeping/reports, the requirement is that the Environment Agency be consulted not that their advice be followed. It is therefore clear that the Environment Agency is being consulted, but the data are unable to show whether it is being consulted on all applications that it should be consulted on.

6.2.2.2 Sequential Test

When asked what the Council's flood risk management obligations were when determining planning applications, the Interviewee replied:

'So it's just an application of policy isn't it? So I see it as rigid application of the NPPF at the end of the day. So are you making it any worse? So firstly, are you avoiding areas that flood, that's the first test isn't it? Then, secondly, if you can't, if there's no sequentially preferable site, then is it safe and are you making it worse for anyone else?'

This demonstrates a clear understanding of the Sequential Test. Having previously referred to the weighing up of the benefits of the proposed development that the Exception Test entails, the Interviewee also demonstrated a clear understanding of the Exception Test.[124] Whilst this suggests that the Sequential and Exception Tests are being applied in accordance with the requirements of the NPPF,[125] the data is not able to show whether the Sequential Test is applied to all planning applications nor the extent to which the Exception Test is being used to enable development to take place where there are lower risk sites available.

6.2.2.3 Sustainable drainage systems

As the data include 38 conditions requiring the use of SUDS and just one planning obligation to contribute to the provision of drainage, it is questionable whether Birmingham City Council is complying with the requirement to ensure that all development within flood risk areas and all major development incorporate SUDS. However, if SUDS are included in the initial development proposal or subsequently incorporated as a result of negotiations with the Council, then they do not need to be conditioned or subject to a planning obligation and will not be shown in the data. In any event, the requirement to ensure the use of SUDS does not

[122] Birmingham City Council, *Birmingham Local Plan Authority Monitoring Report 2011-2019* (Birmingham City Council 2019) 46.
[123] Birmingham City Council, *Annual Monitoring Report 2012* (Birmingham City Council 2012) para 3.104; Birmingham City Council, *Annual Monitoring Report 2013* (Birmingham City Council 2013) para 3.106.
[124] Interview with Birmingham City Council (n 11).
[125] MHCLG, *NPPF 2019* (n 93).

apply where it would be 'inappropriate',[126] and the Interviewee commented that for applications relating to 'very constrained sites', the opportunities to include such measures are more limited.[127] It may therefore be the case that the Council considers the use of SUDS to be inappropriate in many cases and can therefore legitimately not require them to be used.

6.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan

The planning permission decisions include references to the development plan flood risk and surface water management policies and it is therefore clear that the provisions of the development plan are being taken into account in these decision, as required by Town and Country Planning Act 1990.[128] The data are not able to show the extent to which the planning decisions are made in accordance with the development plan flood risk and surface water management policies as they do not include full details of the development proposals.[129]

6.2.2.5 Climate change

The data include examples of planning permissions being granted subject to requirements to manage flood risk, but an examination of the extent to which planning decisions are complying with the requirement to ensure that development within flood risk areas incorporates suitable climate change adaptation measures is beyond the scope of this research project.[130]

6.2.2.6 Sustainable development

The Interviewee's reference to Birmingham City Council's 'pro-development' approach suggests an overall compliance with NPPF presumption in favour of development,[131] although the fact that 12% of the decisions in the data were refusals seems to conflict with this. However, if the NPPF's presumption in favour of sustainable development is not being applied, this is not being done in order to enable the Council to manage flood risk as only 0.18% of the refusals were on grounds relating to flood risk.

6.2.2.7 Housing, communities, and settlement management

The quantitative data provides some examples of Birmingham City Council requiring the development to include measures to address the safety issues relating to flood risk. The data

[126] ibid paras 163 and 165.
[127] Interview with Birmingham City Council (n 11).
[128] Town and Country Planning Act 1990, s 70.
[129] Planning and Compulsory Purchase Act 2004, s 38(6).
[130] MHCLG, *NPPF 2019* (n 93) para 150.
[131] ibid para 11.

on the use of conditions include two conditions requiring the development to incorporate safe access and escape routes and one prohibition on the use of the ground floor as residential. The Interviewee also made a clear link between flood risk and safety and stated that safety was something that would never be compromised, commenting that 'You've got to make it safe. That was always a given. We would never, ever compromise on that.'[132] A comprehensive examination of the extent to which the planning application decisions are fulfilling the NPPF requirement to ensure safe and healthy places and living conditions and development that functions well for its lifetime is, however, beyond the scope of this research project.[133]

6.2.2.8 Environmental protection

As the data do not show whether the development concerned requires an environmental impact assessment or an assessment of the impacts on a European protected site, they are not able to show whether the requirements to carry out those assessments have been complied with. It is unclear from the data the extent to which Birmingham City Council has ensured that its planning decisions protect the environment. The inclusion of conditions to protect environmental interests in some planning permissions and the imposition of some planning obligations requiring financial contributions to open space suggest that Birmingham City Council does have regard to environmental interests. A comprehensive examination of the extent to which Birmingham City Council's planning application decisions comply with the statutory requirement to have regard to the desirability of conserving natural beauty and amenity[134] or the NPPF requirement to contribute and enhance valued landscapes is beyond the scope of this research project.[135]

6.2.3 Conclusion

Birmingham City Council is using its development plan to seek to manage flood risk and it appears to be largely compliant with its statutory and policy obligations to do so. For those obligations where compliance is more questionable, such as requirements relating to the relocation of unsustainable development, the vague and ambiguous nature of the obligations, when combined with the vague nature of the development plan policies and provisions means that non-compliance with the obligations would be difficult to establish. Furthermore, the Planning Inspector's report on examination of the current development plan found the policies regarding flood risk to be compliant with the NPPF and justified and effective.[136]

[132] Interview with Birmingham City Council (n 11).
[133] MHCLG, *NPPF 2019* (n 93) paras 95, 117 and 127.
[134] Countryside Act 1968, s 11.
[135] MHCLG, *NPPF 2019* (n 93) para 170.
[136] Clews (n 111) para 261.

With regard to its obligations in relation to the determination of planning applications, the data include examples of where some obligations, such as the requirement to consult the Environment Agency and application of the Sequential Test, have been complied with, but the data were not able to establish whether the obligations are always being complied with. For other obligations, such as the requirements regarding climate change and environmental protection, the data were not able to establish whether they have been complied with, but there were no clear examples of non-compliance with the statutory and policy obligations regarding the management of flood risk.

6.3 Use of the Flood Risk Management Tools

Whilst Birmingham City Council is largely in compliance with its obligations regarding the management of flood risk, the data indicate that it is has not made extensive use of the legal planning tools available to it to manage flood risk. The data indicate that there are a number of reasons why this may be the case:

- The Interviewee expressed the belief that Birmingham City Council's responsibility as a planning authority amounted to a 'rigid application of the NPPF', and when asked whether they thought the Council was effectively managing flood risk, they replied, 'Yes, I think so. I think we're discharging our duty.'[137] This suggests that Birmingham City Council considers the legal and policy requirements as being sufficient and does not believe it is necessary to go above and beyond them in order to effectively manage flood risk.
- Birmingham does not currently have the capacity and land allocations necessary to meet housing need[138] and the development plan recognises that identifying appropriate development sites is a challenge.[139] As discussed in Chapter 3 (section 3.3.2.2), this limits the Council's ability to prioritise flood risk management and is likely to be a significant contributory factor in the allocation of land for housing within flood risk areas.
- There is a misconception regarding the extent to which permitted development rights account for flood risk. The Interviewee's belief that 'most, or a good number of permitted rights, they have a flooding test in there anyway' means that they are not fully recognising that placing further controls on permitted development can help to manage flood risk. This belief that permitted development rights take account of the

[137] Interview with Birmingham City Council (n 11).
[138] Birmingham City Council, *Birmingham Plan 2031* (n 2) para 8.11.
[139] ibid para 2.18.

flood risk implications of the development will prevent them from considering whether they need to bring permitted development back into their control so that they can manage the flood risk associated with it.

- The Interviewee spoke of how smaller sites lacked the space to accommodate flood risk management measures, such as the storage of flood waters. As the development plan describes Birmingham as 'a densely built up area',[140] issues of space are likely to be common and this perception that flood risk management measures require lots of space will stop Birmingham City Council from using conditions requiring the incorporation of flood risk management infrastructure into development. This also indicates that there may be a lack of awareness by Birmingham City Council as to the types of infrastructure and measures that can be used on smaller sites where space is an issue as well as regarding the ability of planning obligations to require developers to contribute towards the provision of such infrastructure off-site.
- The Interviewee spoke of how the lack of expertise within Birmingham City Council limits its ability to ensure that flood risk is managed effectively, with the Interviewee commenting 'It's difficult because of resources we don't have'. This lack of expertise hinders the Council's ability to use conditions and planning obligations to effectively manage flood risk.
- The Interviewee made it clear that the restrictions on the pooling more than five planning obligation contributions towards a single piece of infrastructure has reduced the ability of planning obligations to be used to fund flood risk management infrastructure. When asked whether the then proposed removal of the pooling restrictions would improve the planning system's ability to manage flood risk, the Interviewee replied, 'Absolutely, I think that would help' and it remains to be seen whether the subsequent removal of the restriction has increased Birmingham City Council's use of planning obligations as a means of ensuring that developers pay for flood risk management infrastructure required as a result of their development.
- The lower than expected income from the CIL has meant that it has been unable to fund the flood risk management infrastructure it was anticipated it would cover.
- The need for a more strategic approach to flood risk management. The Interviewee believed that dealing with flood risk on a site-by-site basis was of limited value given the scale of the problem and the lack of ability of many development sites to accommodate flood risk management measures, saying 'I think dealing with it on a

[140] ibid para 2.18.

site-by-site basis when we've got issues of the scale that we have is not going to be the answer.' They commented '[i]t's got to be a bigger piece' and 'we really do need that strategic solution as soon as possible.'[141] This perception that flood risk needs to be managed on a strategic level will act as a disincentive to take steps to manage it in respect of individual developments. The Interviewee's comments also suggest a lack of understanding of the extent to which development plans can establish policies regarding the strategic management of flood risk.

- Communication and negotiation between Birmingham City Council and the developer is a key part of the planning application process and it may therefore be that the negotiation process results in the development proposals incorporating the measures necessary to manage flood risk so that tools, such as conditions, are not required. The vague and non-committal nature of the development plan policies regarding when conditions and planning obligations will be used and what will be required from developers in terms of the management of flood risk means that there is considerable room for negotiation.

[141] Interview with Birmingham City Council (n 11).

Chapter 7 – Worcester City Council (Case Study 3)

Worcester has a long history of fluvial and surface water flooding.[1] The data show that although the development plan policies regarding the management of flood risk are relatively detailed compared to the other case study development plans, like the other case study development plans they use vague and non-committal wording which undermines their effectiveness. On the other hand, the policy on surface water management is more specific and therefore potentially more effective. The data also show that Worcester City Council is largely compliant with its statutory and policy requirements regard the management of flood risk. There are, however, some questions about its application of the Sequential Test to the development plan, the implications of which are discussed further in Chapter 9.

7.1 The Data

7.1.1 Development plan

The current development plan for Worcester is the South Worcestershire development plan, a development plan prepared jointly by Worcester City Council, Malvern Hills District Council, and Wychavon District Council. It came into effect in February 2016 and covers the period 2006 to 2030.[2]

7.1.1.1 Flood risk and surface water management policy

One of the development plan's five objectives is to create a better environment and ensuring that development is designed to minimise flood risk is seen as being part of this.[3] Its basic approach to flood risk management is one that reflects the requirements of the National Planning Policy Framework (NPPF) regarding the Sequential and Exception Tests and flood risk assessments. It also contains some specific restrictions on development within the floodplain, breaking floodplain down into three categories ranked by the level of risk and applying different restrictions to each category. Development within the highest risk category (which the development plan calls 'functional floodplain') is prohibited. The middle risk floodplain category is land within 'floodplain flow (as defined by the Environment Agency)' plus land within 8 metres of watercourses, and there is a prohibition on all 'new development (including extensions) and redevelopment' in areas in this category, as well as a requirement

[1] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Level 1 and Level 2 Strategic Flood Risk Assessment* (Worcester City Council, Malvern Hills District Council, Wychavon District Council 2009) 2.
[2] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (Worcester City Council, Malvern Hills District Council, Wychavon District Council 2016).
[3] ibid 8-10.

for options to be explored for the managed retreat from such areas. With regard to the lowest risk category of floodplain, 'areas not subject to significant flood flows (as defined by the Environment Agency)', the development plan allows for redevelopment of existing sites provided that all of the following requirements are met:

- It is for a 'less vulnerable' or 'water compatible' use (as defined in planning practice guidance).[4]
- The ground flood levels of all buildings are above a certain level.
- There is a flood warning system, evacuation plan, and safe access.
- Car parking is designed to take account of potential flood depths.
- There is no impairment to flood storage capacity and additional storage is created.
- Obstructions to flow paths are removed.[5]

The flood risk management policy therefore appears to be seeking to ensure that development only takes place in areas appropriate to its level of vulnerability to flood risk and that mitigation measures are incorporated into development that takes place in areas at risk of flooding. There is, however, a lack of clarity regarding the distinction between the floodplain categories in relation to both the areas that they cover and the type of development that they prohibit. As the Environment Agency defines functional floodplain as land 'where water has to flow or be stored in times of flood',[6] it is not clear what the distinction is between areas that the development categorises as 'functional floodplain', areas of 'floodplain flow', and areas 'not subject to significant flood flows'.[7] Neither is it clear what the difference is between 'development' and 'new development (including extensions) and redevelopment'. This lack of clarity may undermine the effectiveness of the policy by preventing it from sending out a clear and consistent message regarding the type of development that is permitted and where, and it gives room for developers to negotiate an interpretation of the policy that furthers their interests.

It is also the case that the requirement to consider managed retreat from areas in the middle floodplain category requires the developer to identify and raise the possibility of managed retreat with the local planning authority (LPA) in respect of individual developments. However, managed retreat is a strategic issue that needs to be planned for by the LPA and a

[4] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Flood Risk and Coastal Change* (MHCLG 2014) para 066.
[5] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP28.
[6] MHCLG, *PPG: Flood Risk and Coastal Change* (n 4) para 065.
[7] ibid.

policy that relies on developer initiative is unlikely to be effective. Similarly, the provisions regarding the relocation of caravan, mobile home and chalet parks from the floodplain depends on developers proposing the relocation.

In addition to these restrictions on development, the flood risk management policy requires all development to fulfill all the following requirements:

- Provide floodplain compensation 'where necessary'.
- Ensure that flood risk is not increased elsewhere.
- 'Explore opportunities' to reduce overall flood risk.
- Ensure development is safe from flooding for its lifetime.
- Ensure development is 'appropriately' flood resistant and resilient.
- Provide safe access and exits routes for all residential development.
- Provide an evacuation management plan 'where necessary'.
- Provide an assessment of residual risk. [8]

Whilst these requirements have the objective of ensuring that new development includes the necessary mitigation and adaptation measures, the use of ambiguous and subjective language may undermine their effectiveness by enabling a low threshold for compliance to be applied by the LPA and giving developers scope to negotiate for a reduction in the requirements that the LPA is seeking to impose.

The development plan also contains the following specific and unqualified requirements regarding surface water:

- Development must not cause an increase in surface water flooding elsewhere.
- Greenfield development must not increase run-off.
- Brownfield development must reduce run-off by 20%.
- All development must use and secure the long-term maintenance of sustainable drainage systems (SUDS).
- The culverting of watercourses is prohibited and developers are required to open up culverted watercourses.

The development plan is quite clear that it expects all development to incorporate SUDS. It sets out 16 different SUDS techniques which it says are of such a range that there is

[8] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP28.

something appropriate for all sites and '[l]ack of space, prohibitive costs, inadequate infiltration and land contamination will not be accepted as reasons for not including SuDS.'[9]

With regard to monitoring the progress of the plan, the development plan states that monitoring reports will be produced to assess the progress of delivering its visions and objectives, the extent to which the development plan policies are proving effective, and whether targets are being met.[10] The indicators for carrying out this assessment are set out in the monitoring reports rather than the development plan. The indicators used for measuring implementation of the flood risk management policy are the number of planning applications that the Environment Agency has objected to on flood risk grounds and the number of appeals against the refusal of planning permission on flood risk grounds. This gives little, if any, information about the extent to which the development plan policy regarding ensuring that development takes place in appropriate areas and incorporates mitigation and adaptation measures is being implemented. Similarly, the indicators used to monitor implementation of the surface water drainage are the number of planning applications refused on grounds citing the surface water drainage policy and the number of appeals against such refusal, which does not correlate with the policy objectives of ensuring that surface water is managed in order to minimise flood risk and improve water quality. The monitoring reports therefore do not do what the development plan promises they will do as they do little to measure implementation of the policies or delivery of the visions and objectives, and neither do they measure the effectiveness of policies.[11]

7.1.1.2 Other relevant policies

7.1.1.2.1 Climate change

The development plan makes a clear link between climate change and the management of flood risk, stating that its flood risk and surface water management policies are central to

[9] ibid para SWDP29.
[10] ibid 279 and para SWDP63.
[11] Malvern Hills District Council and Wychavon District Council Worcester City Council, *Annual Monitoring Report 2010* (Malvern Hills District Council and Wychavon District Council Worcester City 2010); Malvern Hills District Council and Wychavon District Council Worcester City Council, *Authorities' Monitoring Report 2011/12* (Malvern Hills District Council and Wychavon District Council Worcester City 2011/12); Malvern Hills District Council and Wychavon District Council Worcester City Council, *Authorities' Monitoring Report 2012/13* (Malvern Hills District Council and Wychavon District Council Worcester City 2012/13); Malvern Hills District Council and Wychavon District Council Worcester City Council, *Authorities' Monitoring Report 2017* (Malvern Hills District Council and Wychavon District Council Worcester City 2017); Malvern Hills District Council and Wychavon District Council Worcester City Council, *Authorities' Monitoring Report 2018* (Malvern Hills District Council and Wychavon District Council Worcester City 2018); Malvern Hills District Council and Wychavon District Council Worcester City Council, *Authorities Monitoring Report 2019* (Malvern Hills District Council and Wychavon District Council Worcester City 2019).

compliance with its requirements to mitigate and adapt to climate change.[12] It does not, however, set out any requirements regarding the mitigation of and adaptation to climate change and therefore whilst the climate change provisions support the flood risk and surface water management policies they do not add to them.

7.1.1.2.2 Sustainable development

The sustainable development policy does not refer to flood risk management directly but does state that mitigating and adapting to climate change is a means of contributing to the environmental pillar of sustainable development[13] and, as discussed above (section 7.1.1.2.1), the development plan clearly sees flood risk management as a key part of climate change mitigation and adaptation. However, its overall approach to sustainable development is one that reflects the NPPF's presumption in favour of sustainable development[14] which, as discussed in Chapter 3 (section 3.3.2.2), favours short-term economic development and meeting short-term housing need over environmental interests and long-term sustainability. Indeed, the development plan states that its main focus 'is to provide development that supports the area's economic prosperity.'[15] In any event, the development plan contains no specific requirements regarding sustainable development.

7.1.1.2.3 Housing, communities, and settlement management

The site allocations in the development plan were informed by a strategic flood risk assessment (SFRA).[16] The SFRA shows that of 177 allocated sites, 48 are in Flood Zone 1 only, 91 are in Flood Zone 1 but have surface water issues, 9 are in Flood Zone 2, and 29 are in Flood Zone 2 and 3.[17] This appears to be inconsistent with the development plan's statement that 'there is sufficient low flood risk land on which to meet the housing supply requirements for the plan period'[18] and to conflict with the development restrictions in the flood risk management policy. Added to which, the development plan's approach to the allocation of sites for development appears to base its settlement hierarchy largely on the availability of public services[19] and clearly prioritises the reuse of previously developed

[12] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) 167.
[13] ibid para SWDP1.
[14] ibid.
[15] ibid 59.
[16] ibid 300.
[17] ibid table 7.1.
[18] ibid 160.
[19] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) 44 and appendix D.

land.[20] However, the SFRA does not clearly distinguish between sites that are allocated for residential and employment (or identify the type of employment), and it is therefore not possible to ascertain the extent to which the site allocations comply with the flood risk management policy that only 'less vulnerable' or 'water compatible' uses be permitted on floodplains. (Residential use and some employment uses are classed as 'more vulnerable').[21] In any event, the allocations policies prohibit built development on those parts of the allocated sites that are identified in the SFRA and/or a site specific flood risk assessment as being liable to flooding,[22]

The development plan includes density requirements for residential development. Whilst these requirements vary between sites, the variation is based on the accessibility of the site and the transport infrastructure serving it and does not acknowledge the impacts that high density development can have on flood risk.[23]

7.1.1.2.4 Environmental protection

The development plan recognises the importance of having a high-quality natural environment in underpinning economic and social policies as well as environmental ones.[24] It prohibits development that would:

- Compromise 'the favourable condition of a Special Area of Conservation or other international designations'. This goes further than the statutory requirements regarding protection of these areas (discussed in Chapter3, section 3.4.2.5) as it constitutes an unqualified prohibition on development that would have a detrimental impact on these sites.
- Have a detrimental impact on an Area of Outstanding Natural Beauty (AONB).[25] Again, this goes further than the statutory requirement, which only requires LPAs to have regard to the purpose of AONBs.
- Have an adverse impact on a Site of Special Scientific Interest (SSSI) or locally protected site, subject to an exception where the benefits of the development 'clearly outweigh … its likely impact' and 'full compensatory provision' is made. This

[20] ibid 48 and 50.
[21] MHCLG, *PPG: Flood Risk and Coastal Change* (n 4) para 066.
[22] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) 199.
[23] ibid para SWDP13.
[24] ibid 9.
[25] Ibid para SWDP23.

requirement repeats but does not go any further than the statutory and NPPF provisions on SSSIs (discussed in Chapter 3 section 3.4.2.5).[26]

As it is only these specific sites that benefit from these restrictions on development, the circumstances in which they can be used to prevent environmentally damaging development are limited. Added to which, as the development plan does not expressly recognise the detrimental impact that flooding can have on the environment, it is unclear whether Worcester City Council would use these environmental policies to prevent development that would increase flood risk.

The development plan also contains a prohibition on development that would have an adverse impact on watercourses or that would result in the loss of open water features.[27] This is potentially more directly relatable to flood risk due to the detrimental impact that flooding and surface water run-off can have on watercourses and it ensures the protection of blue infrastructure that can be used to hold flood waters. It therefore adds to and strengthens the flood risk and surface water management policy, especially as it the requirements are unqualified.

7.1.1.2.5 Development design

The development plan policy regarding development design focuses on the appearance of development and does not specifically refer to flooding. However, it does require development design to 'ensure adaptability to changes in the climate,'[28] and states that '[i]t is essential that full consideration is given to achieving sustainable development and counteracting climatic variations over the lifetime of a new building or development through the choice of location, design and materials and through addressing ecological integrity.'[29] This indicates that development design will be expected to take into account the flood risk of the area and seek to reduce the impacts of flooding both on and resulting from the development. There is also a requirement for development to 'be designed in order to avoid any significant impacts from pollution, including cumulative ones, on … [t]he water environment.'[30] Given the potential for run-off to cause pollution of the water environment, this requires development to be designed to prevent surface water run-off.

[26] ibid para SWDP22.
[27] ibid para SWDP28.
[28] ibid para SWDP21.
[29] ibid 141.
[30] ibid para SWDP31.

7.1.1.2.6 Infrastructure

The development plan includes a general requirement for developments to provide or contribute towards the provision of the 'infrastructure needed to support it'.[31] It also states that the provision of drainage infrastructure to serve 'major schemes' is 'essential' (although it is not clear what the definition of 'major scheme' is or what the effect is of infrastructure being considered 'essential').[32] Housing development is required to contribute towards green infrastructure, although this is subject to 'financial viability', meaning that there is significant scope for developers to negotiate regarding their contribution. Development that would have a detrimental impact on certain green infrastructure is prohibited.[33]

7.1.1.2.7 Third parties and cross-boundary issues

The development plan states that the Worcester City Council, Malvern Hills District Council and Wychavon District Council will liaise and work with the Environment Agency, Severn Trent Water and the South Worcestershire Land Drainage Partnership (the body that has been delegated the role of Lead Local Flood Authority) in the implementation of the flood risk and sustainable drainage policies.[34]

As the development plan area covers three local authority areas, co-operation regarding issues that cross the boundaries between the three areas is a fundamental aspect of it. The development plan also states that its policies go further than that and were developed with regard to their 'relationship beyond the combined administrative areas' and relate to 'Worcestershire as a whole'.[35] It explicitly recognises flood risk as being a cross-boundary issue, stating that development should be planned across the whole area in order to ensure that it does not increase flood risk up or downstream.[36] It does not, however, expand on this to say how this should be done and neither the flood risk management nor surface water management policy refer to impacts or causes beyond the boundary of the development plan. Moreover, the policy on water resources appears to view the need for the development plan to take account of the cross-boundary aspect of water management as being fulfilled by requiring developers to engage with Severn Trent Water to ensure the necessary infrastructure

[31] ibid para SWDP7.
[32] ibid annex 1.
[33] ibid para SWDP5.
[34] ibid 169.
[35] ibid 37.
[36] ibid 36.

is secured.[37] The development plan has therefore not taking the opportunity to co-ordinate with other LPAs to set out a regional based approach to the management of flood risk.

7.1.1.3 Conclusion on development plan

Whilst the development plan contains a quite detailed policy on flood risk that seeks to ensure that development is allocated to suitable locations and contains mitigation and adaptations measures, the policy is undermined by a lack of clarity, use of ambiguous language, and inclusion of potentially widely applicable exceptions. Its policy on run-off and SUDS is comparatively strong and clear, and there is specific policy regarding the use of development design to help manage flood risk. However, the policies on climate change, sustainable development, housing, settlement management and site allocations, environmental protection and infrastructure add little, if anything, to the flood risk management policy.

Furthermore, the development plan fails to properly account for the interaction between flood risk management and other policies. It contains an annex that consists of a table making links between its various policies. This table specifies that the policy on the management of flood risk links with the policies on green infrastructure, biodiversity and geodiversity, SUDS, water resources, tourism and leisure, visitor accommodation, caravans, chalets and camping sites, green space, waterfronts, marinas and moorings, and residential moorings. The policy on sustainable drainage is specified as being linked to those on design, flood risk management, water resources, and pollution and land instability.[38] Whilst this appears to be an attempt to present a co-ordinated approach to development, there are a number of factors and discrepancies that undermine this. Fundamentally, the table does not always make it clear what the nature of the connection between the different policies is, whether they compliment each other or are areas of potential conflict, or both, nor does it state how the different interests will be balanced in the event of conflict. Neither do the links that the table makes between the policies accurately reflect the links that are made in the policies themselves. For example, the table does not include the link which is made in the sustainable drainage policy between the management of water and drainage, biodiversity, amenity, water quality, energy consumption.[39] It is also the case that on the one hand the development plan and table of policy links clearly recognise the significance of watercourses and waterfront development in the management of flood risk,[40] on the other hand it describes the riverside as ‘an underused asset’ and sees riverside development as being beneficial to the economy, promoting

[37] ibid SWDP30.
[38] ibid annex C.
[39] ibid 167 and para SWDP29.
[40] ibid 36 and annex C.

protection of existing development and new development in waterfront locations without any reference to flood risk.[41] Therefore, whilst it has attempted to link policy areas, it has perhaps taken a too simplistic approach to this that has failed to recognise the interconnectedness of different interests and policy areas.

7.1.2 Permitted development rights

7.1.2.1 Article 4 Directions

The development plan refers to the removal of permitted development rights regarding change of use and residential extensions in order to promote small and start-up businesses.[42] It also states that the use of Article 4 Directions to control the number of houses in multiple occupation in a local area will be considered[43] and refers to their use as a means of controlling development within Conservation Areas and protecting listed buildings.[44] It does not refer to their use for the management of flood risk.

Worcester City Council has issued three Article 4 Directions. Two of these remove permitted development rights regarding extensions and alterations for properties within two small Conservation Areas. One of these Directions was made in 1986 (and therefore well before the restriction on claims for compensation was introduced).[45] The second was made on 23rd October 2018. This came into force with just two months' notice, but as it covers only a small area the potential number of compensation claims is limited.[46] The third Article 4 Direction is an area wide removal of permitted rights regarding change of use from residential to small houses in multiple occupation to give the Council more control over the location of shared houses and flats. The Council gave 16 months' notice for this Article 4 Direction thereby preventing any compensation claims regarding the removal of the rights.[47]

7.1.2.2 Local and Neighbourhood Development Orders

The development plan refers to the use of Local Development Orders as a means of securing the vitality and viability of city and town centres,[48] and to Neighbourhood Development Orders as a means of encouraging housing development within the particular areas.[49] Whilst

[41] ibid 213 and SWDP40.
[42] ibid 101 and para 15.
[43] ibid para SWDP14.
[44] ibid 282.
[45] Worcester City Council, *York Place Article 4 Direction* (Worcester City Council 1986).
[46] Worcester City Council, *Shrubbery Avenue Conservation Area Article 4 Direction* (Worcester City Council 2018).
[47] Town and Country Planning Act 1990, ss 107-108.
[48] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP9.
[49] ibid para SWDP59.

this could indicate that Worcester City Council is prepared to use Local Development Orders to ensure that development within city centres is suitable to the level of flood risk and Neighbourhood Development Orders as a means of encouraging housing development within areas with low flood risk, the development plan's lack of recognition of the impact of flooding on the vitality and viability of city and town centres and the general focus of on existing settlements for new housing suggests that this is unlikely. There are currently no such Orders in place.

7.1.2.3 Conclusion on permitted development rights

Whilst the development plan suggests that Worcester City Council has a relatively extensive understanding of the removal and extension of permitted development rights as a means of controlling and encouraging certain types of development, in practice this has been limited to the use of Article 4 Directions to protect Conservation Areas and control houses in multiple occupation and has therefore been no more extensive than the other case study LPAs.

7.1.3 Refusal of planning permission

The Interviewees referred to Worcester City Council's role as being to 'facilitate' development and to the priority it gives to 'building an ever-increasing number of dwellings to ensure the housing crises is controlled'.[50] However, although they were not aware of the extent to which planning permissions were refused on grounds relating to flood risk, the Interviewees were of the opinion that permission would be refused for development in high flood risk area if the Sequential Test had not been met.

The graph in Figure 7.1 below shows the number of planning decisions made by Worcester City Council in respect of which data was collected, as well as the number of those decisions that were refusals of planning permission. This indicates a general decrease in the number of planning decisions being made over the course of the case study timescale, but the number of refusals is too low to be able to ascertain any particular trend.

[50] Interview with Worcester City Council (25th February 2019).

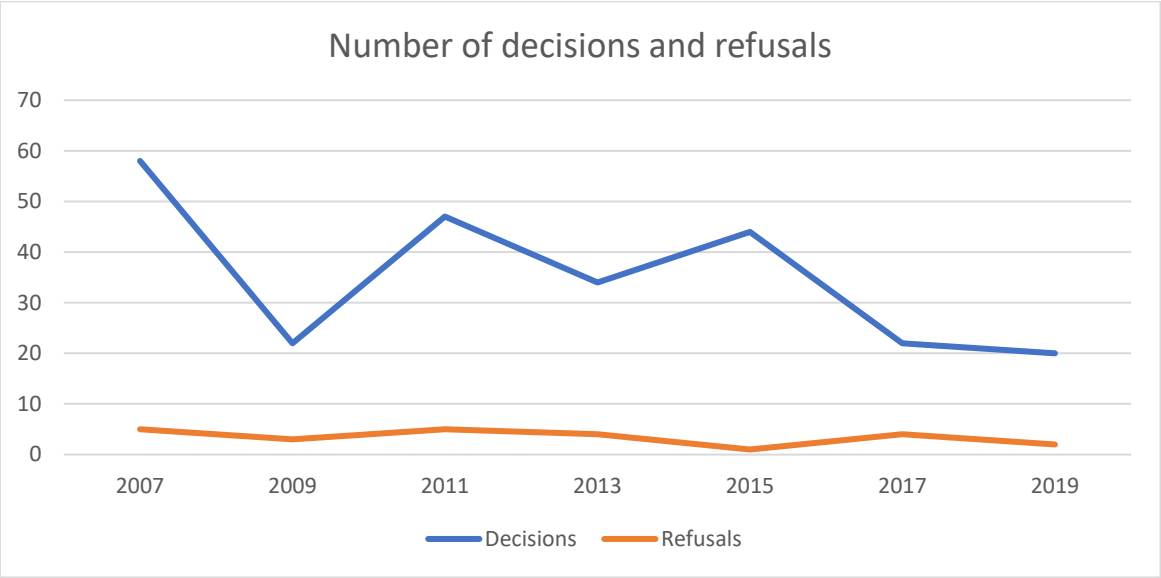

Figure 7.1 Graph showing number of planning decisions and refusals of planning permission made by Worcester City Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019

The data included 24 refusals, but none were on grounds relating to flood risk, suggesting that Worcester City Council is making little use of its ability to refuse planning permission due to flood risk.

7.1.4 Conditions

The development plan refers to the use of conditions to control the use and occupancy of development,[51] although not in the context of the management of flood risk. The Interviewees did, however, recognise that conditions are a means of managing flood risk, referring to them as 'useful tools in ensuring mitigation strategies and design features are implemented and kept in perpetuity.'[52]

Data on the conditions imposed by Worcester City Council were collected from 267 planning permissions and categorised in accordance with the methodology set out in Chapter 1 (section 1.7.3).

7.1.4.1 Temporary permission

The data included two temporary planning permissions. Both were temporary for reasons connected with protection of appearance and local amenity and not with flood risk.

[51] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) paras SWDP17 and SWDP19.
[52] Interview with Worcester City Council (n 50).

7.1.4.2 Environmental protection

The data included just two conditions aimed at protecting environmental interests. The very low use of such conditions reflects the lack of emphasis on environmental protection in the development plan and, in any event, there is no evidence of Worcester City Council having made the connection between flooding and environmental damage.

7.1.4.3 Materials

The data included 129 conditions requiring either that the external materials of the development permitted match the existing development or that they be approved by Worcester City Council. The reason for the imposition of these conditions was to ensure compliance with the development plan design policy which, as discussed in section 7.1.1.2.5, requires development design to be used to 'ensure adaptability to changes in the climate'. It could, therefore, be that some of these conditions were imposed in order to ensure that the development included flood risk adaptation measures, but it is not possible to tell from the data the extent to which this is the case.

7.1.4.4 Surfacing and ground levels

The data included 20 conditions relating to surfacing, 11 of which required the use of permeable surfacing to mitigate flood risk. The data included just one condition imposing requirements relating to ground levels, and this was imposed in order to protect the development from flooding.

7.1.4.5 Removal of permitted development rights/restrictions on use

The data included 18 conditions removing permitted development rights relating to change of use, extensions or alterations and one condition restricting the use of a garage to storage. They were, however, imposed in order to enable the Council to retain control of the design of the development and the character of the area rather than for reasons relating to flood risk. Therefore, despite the suggestion in the development plan of an understanding of the use of removal of permitted development rights to control the impacts of development, the data indicates that in practice Worcester City Council's control of permitted development has been no more extensive that the other case study LPAs.

7.1.4.6 Surface water management

The data included 35 conditions relating to the management of surface water drainage, 29 of which were imposed for the express purpose of managing flood risk. Of the 35 conditions, 22 required the use of SUDS and 33 required Worcester City Council to approve the drainage

scheme. In light of the fact that the development plan policy requires all development to include SUDS, it might have been expected that there would have been more conditions requiring the use of SUDS in the data. However, as discussed in Chapters 5 (section 5.1.4.6) and 6 (section 6.1.4.6), it could be the case that SUDS are being included within the initial development proposals and/or being incorporated as a result of negotiation between the developer and the Council and therefore do not need to be conditioned.

7.1.4.7 Other flood risk management conditions

In addition to those included within the above categories, the data included three further conditions imposed to manage flood risk (all of which were imposed in 2011). These comprised:

- One condition requiring the development to incorporate flood defences, details of which were to be submitted to Worcester City Council for approval.
- One condition prohibiting development within a flood defence access strip.
- One condition requiring implementation of a flood evacuation plan.

7.1.4.8 Conclusion on conditions

The data indicates that there has been limited use of conditions specifically directed at managing flood risk. Although it has not made particularly extensive use of them, the data does suggest that Worcester City Council has an understanding of the ability of conditions controlling surfacing and ground levels to help manage flood risk. Overall, however, the data indicates that there has been limited use of conditions to manage flood risk and when they have been used it has been predominantly to ensure the use of SUDS, with only one requiring incorporation of property level resistance or resilience measures and (other than the conditions relating to drainage) none requiring the impacts of the development on flood risk elsewhere.

7.1.5 Planning obligations

The development plan makes only a vague reference to the use of planning obligations to secure flood risk management measures, stating that all development must '[e]xplore opportunities to reduce flood risk overall, including contributions where appropriate'.[53] Clearer requirements for the use of planning obligations can be found in the implementation provisions which state that they will be used to 'provide funding to mitigate negative impacts

[53] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP28.

relating to specific developments.'[54] The development plan therefore seems to expect planning obligations to be used to fund flood risk management measures where they are necessary to mitigate the impacts of a development on flood risk. The Interviewees were aware of the ability of planning obligations to manage flood risk and viewed them as further tools for ensuring the incorporation and maintenance of 'mitigation strategies and design features'.[55]

Worcester City Council has published developer contribution monitoring reports for the last three years which set out details of the planning agreements entered into over each of these years. The data regarding the number and type of planning obligations entered into in each of these years is set out in Table 7.1 below.

Year	**Total number of planning obligations**	**Number of planning obligations relating to flood risk management and/or drainage measures**	**Number of planning obligations restricting use**	**Number of planning obligations for financial contributions to open space**
2016/17	7	0	0	7
2017/18	4	0	0	4
2018/19	3	0	0	3[56]

Table 7.1 Showing the total number of planning obligations entered into by Worcester City Council and number relating to flood risk management

[54] ibid para SWDP62.
[55] Interview with Worcester City Council (n 50).
[56] Worcester City Council, *Developer Contributions Monitor 2017* (2017); Worcester City Council, *Developer Contributions Monitor 2018* (Worcester City Council 2018); Worcester City Council, *Developer Contributions Monitor 2019* (Worcester City Council 2019).

This shows that not only has Worcester City Council's use of planning obligations been low, but also that it has been limited to requirements to make a financial contribution towards the costs of provision of open space. Further information in the monitoring reports reveal that these contributions have been spent on, *inter alia*, public art projects, football pitches, landscaped parks, and play equipment, and there is no suggestion that they have been spent on measures that will have a flood risk management function other than those inherent to open space such as general drainage and flood water storage. It therefore appears that, in practice, Worcester City Council is not using planning obligations in the way the development plan says they will be used and, in particular, it has not used planning obligations as a means of requiring the developer to provide or contribute to flood risk management infrastructure either on or off-site.

The monitoring reports also contained information regarding the financial contributions received by, spent by, and overdue to Worcester City Council. The data on this is set out in Table 7.2 below.

Year	**Amount received**	**Amount spent**	**Amount overdue**
2016/17	£378,730	£552,284	£15,352
2017/18	£1,738	£597,658	£15,352
2018/19	£153,999	£336,612	£169,378[57]

Table 7.2 Showing the financial developer contributions received by, spent by, and overdue to Worcester City Council

This demonstrates the problem of delivery of the planning obligation payments discussed in Chapter 4 (section 4.5.3), and this will have an impact on the ability of planning obligations to deliver infrastructure.

7.1.6 Community Infrastructure Levy

The development plan states that developers will be required to contribute to the provision and enhancement of strategic infrastructure through Community Infrastructure Levy (CIL)

[57] ibid.

contributions.[58] Furthermore, Worcester City Council's schedule of infrastructure that will be funded through the CIL, introduced in September 2017, includes the 'provision, expansion, improvement, or replacement of new and existing flood mitigation measure (including flood risk management infrastructure)'. It also specifically states that this infrastructure will include strategic flood defences and mitigation measures 'required to support development across the area' and the provision of flood warning services, but that it will not include on-site flood defences and mitigation measures required by site specific flood risk assessment, which are to be provided through planning obligations.[59]

Worcester City Council's CIL charging documentation includes evidence of the problems that viability can have on setting a charging rate that can deliver infrastructure. It refers to the need to set the charging rate 'at a cautious level' so as not to prevent development from coming forward.[60] The impact of this was explained by the Interviewee, who stated that the CIL has had little impact on the management of flood risk 'due to the small amount of money raised.'[61] Indeed, the CIL monitoring reports state that no CIL income has been received since its implementation.[62]

7.2 Compliance with Flood Risk Management Obligations

7.2.1 Development plan

7.2.1.1 Strategic flood risk assessment

Despite the limited information provided in the SFRA (in terms of distinguishing between the different types of uses that land has been allocated for) and its backward-looking approach to the location of development (in terms of it being applied to allocation decisions once they have been made, rather than during the allocation process), the development plan was informed by an SFRA[63] and thereby complies with the SFRA requirements of the NPPF.[64]

[58] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) 272.
[59] Worcester City Council, *Worcester City Council Community Infrastructure Charging Schedule* (Worcester City Council 2017) 19 and 29.
[60] ibid para 6.1.
[61] Interview with Worcester City Council (n 50).
[62] Worcester City Council, *Regulation 62 of the Community Infrastructure Levy (CIL) Regulations 2010 (as amended) Monitoring Report 1 April 2017 to 31 March 2018* (Worcester City Council 2018); Worcester City Council, *Regulation 62 of the Community Infrastructure Levy (CIL) Regulations 2010 (as amended) Monitoring Report 1 April 2018 to 31 March 2019* (Worcester City Council 2019).
[63] JBA Consulting, *South Worcestershire Strategic Flood Risk Assessment Level 2 Update Final Report* (Worcester City Council 2012).
[64] Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 156.

7.2.1.2 Sequential Test

Neither the development plan nor the SFRA explicitly applies the Sequential and Exception Tests and it is therefore questionable whether the requirements of the NPPF have been complied with.[65] As discussed in Chapter 3 (section 3.5.1), it is not a legal requirement for LPAs to comply with the NPPF, they are only required to take it into account. In any event, the courts have tended to leave questions of soundness of the development plan to the Planning Inspectorate to decide on examination of the draft development plan[66] and the Planning Inspector report on examination of the South Worcestershire development plan raised no concerns regarding the Sequential Test not having been applied and stated that the site allocations are justified, deliverable and consistent with national policy.[67]

7.2.1.3 Flood risk management infrastructure

The development plan policy requirements for development to provide or contribute towards the infrastructure necessary to support it[68] and specifically to provide drainage infrastructure[69] appear to fulfill the NPPF requirement for the development plan to make sufficient provision for flood risk management infrastructure.[70]

7.2.1.4 Safeguard land from development

There are no specific allocations of land for use for flood risk management, but the development plan flood risk management policy prohibits development that has a detrimental impact of the flood storage capacity of floodplain[71] and, in the absence of any detail in the NPPF as to how much land must be safeguarded or what constitutes use for flood management purposes, this arguably complies with the NPPF requirement to safeguard land for flood management purposes.[72]

7.2.1.5 Reduce the causes and impacts of flooding

The flood risk and surface water management policies seek to ensure that development takes place in appropriate areas and that it incorporates SUDS and other mitigation and adaptation

[65] ibid paras 157-60.
[66] *Oxted Residential Ltd v Tanbridge District Council* [2016] EWCA Civ 414.
[67] Roger Clews, *Report on the Examination of the South Worcestershire Development Plan* (The Planning Inspectorate 2016) para 289.
[68] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP7.
[69] ibid para SWDP29.
[70] MHCLG, *NPPF 2019* (n 63) para 20.
[71] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP28.
[72] MHCLG, *NPPF 2019* (n 63) para 157b).

measures. Whilst there may be questions over the effectiveness of this policy, it is seeking to use the opportunities presented by new development to reduce the causes and impacts of flooding as required by the NPPF.[73]

7.2.1.6 Relocation of unsustainable development

The development plan makes some provision for the relocation of existing development by stating in the flood risk management policy that options should be explored for 'managed retreat or land swap' in relation to development within the floodplain and for the relocation of existing caravan, mobile home and chalet parks within floodplain.[74] The issues regarding the effectiveness of these provisions as a means of ensuring the relocation of development from high-risk areas were discussed in section 7.1.1 but, as discussed in Chapter 3 (section 3.3.1.2.6), the NPPF only requires opportunities be sought to relocate development from areas where flood risk means its long-term sustainability is questionable, which indicates a low threshold for compliance and one that appears to have been met by the South Worcestershire development plan.[75]

7.2.1.7 Long-term implications of flood risk

The development plan does make some provision for the long-term implications of flood risk. In addition to the provisions regarding the relocation of development discussed above, it requires all development to be safe for its lifetime and to include appropriate allowances for climate change in relation to mitigation and adaptation measures.[76] Although it is questionable exactly how long-term these provisions are, as the NPPF does not specify the period of time the development plan needs to account for they are likely to be sufficient to demonstrate compliance with the requirement to take account of the long-term implications of flood risk.[77]

7.2.1.8 Climate change

The development plan flood risk and surface water management policies, as they seek to ensure that development includes adaptation and mitigation measures, fulfill the statutory requirement to include policies designed to ensure that development contributes to the

[73] ibid para 157c).
[74] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP28.
[75] MHCLG, *NPPF 2019* (n 63) para 157d).
[76] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP 28.
[77] MHCLG, *NPPF 2019* (n 63) para 149.

mitigation of and adaptation to climate change,[78] as well as the NPPF requirements to take a proactive approach to climate change, avoid increasing vulnerability to the impacts of climate change, and ensure that development within flood risk areas includes suitable adaptation measures so far as these requirements relate to flood risk.[79]

7.2.1.9 Sustainable development

The development plan contains a presumption in favour of sustainable development that expressly reflects that in the NPPF,[80] thereby fulfilling the requirements to have the objective of contributing to the achievement of sustainable development and take account of government policy.[81] The Planning Inspector's report on examination of the draft development plan also confirmed that the presumption in favour of sustainable development had been complied with.[82] The development plan has also been subject to a sustainability appraisal,[83] with the sustainability appraisal adoption statement confirming that the appraisal was taken into account in preparation of the development plan policies,[84] thereby fulfilling the statutory requirements regarding sustainability appraisals.[85]

Despite the limited nature of the provisions regarding development issues that extend beyond the boundary of the development plan area and the failure to seek to address flood risk in a way that takes full account of its cross-boundary nature, the Planning Inspector's report confirmed that the duty to co-operate with other LPAs in the preparation of the development plan has been complied with. The Planning Inspector's report simply stated that the obligation had been fulfilled without giving any consideration or explanation of how it has been fulfilled.[86]

7.2.1.10 Housing, communities, and settlement management

The development plan seeks to ensure that development is appropriately located. The allocation policies allocate development to some sites that are partly within flood risk sites, but inappropriate development within those areas of the site that are at risk is prohibited. The

[78] Planning and Compulsory Purchase Act 2004 (PCPA 2004), s 19(1A).
[79] MHCLG, *NPPF 2019* (n 63) paras 150 and 249.
[80] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP1.
[81] PCPA 2004, ss 39(2) and 39(3).
[82] Clews (n 66) para 49.
[83] Enfusion, *South Worcestershire Development Plan Sustainability Appraisal Report (Integrated Appraisal)* (Worcester City Council, Wychavon District Council, Malvern Hills District Council 2012).
[84] Enfusion, *South Worcesterhsire Development Plan Sustainability Appraisal (SA) (Integrated Appraisal) Adoption Statement* (Worcester City Council, Wychavon District Council, Malvern Hills District Council 2016).
[85] PCPA 2004 (n 81) s 19.
[86] Clews (n 66) para 26.

development plan also requires all development to be safe for its lifetime, be appropriately resistant and resilient, and include access and evacuation routes and plans. It therefore appears to comply with the NPPF requirements that development function well for its lifetime and ensures safe and healthy places and living conditions.[87]

7.2.1.11 Environmental protection

The sustainability appraisal includes a Strategic Environmental Assessment and a Habitats Assessment,[88] thus ensuring compliance with the statutory requirements regarding assessment of the potential environmental impacts of the development plan.[89] As the development plan's sustainable development policy states that the development plan must contribute to protecting and enhancing the area's natural environment,[90] the statutory requirement to have regard to the desirability of conserving natural beauty and amenity[91] and the NPPF requirement to contribute to and enhance the natural environment have also been complied with.[92] The development plan also contains a requirement that development should, wherever practicable, be designed to enhance biodiversity and geodiversity, thus fulfilling the statutory requirement to have regard to conserving biodiversity[93] and the NPPF requirement to safeguard and improve biodiversity.[94] There is policy that seeks to conserve and enhance the area's Area of Outstanding Natural Beauty, thereby fulfilling the statutory requirement to have regard to the purpose of Areas of Outstanding Natural Beauty.[95]

7.2.2 Determination of planning applications

7.2.2.1 Environment Agency consultation

The monitoring reports refer to planning applications made to Worcester City Council that the Environment Agency has objected to, thus making it clear that Worcester City Council does consult the Environment Agency. The reports also make it clear that Worcester City Council takes account of the advice and takes steps to comply with it. What they are not able to show,

[87] MHCLG, *NPPF 2019* (n 50) paras 117 and 127.
[88] Enfusion, *South Worcestershire Development Plan Sustainability Appraisal Report (Integrated Appraisal)* (n 81).
[89] Environmental Assessment of Plans and Programmes Regulations 2004, SI 2004/1633, reg 5; Conservation of Habitats and Species Regulations 2017, SI 2017/1012, reg 63(1).
[90] Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (n 2) para SWDP1.
[91] Countryside Act 1968, s 11.
[92] MHCLG, *NPPF 2019* (n 63) para 170.
[93] Natural Environment and Rural Communities Act 2006, s 40.
[94] MHCLG, *NPPF 2019* (n 63) para 174.
[95] Countryside and Rights of Way Act 2000, s 85.

however, is whether Worcester City Council is consulting the Environment Agency on all planning applications that is required to.[96]

7.2.2.2 Sequential Test

The monitoring reports reference to planning applications that the Environment Agency has objected to includes one objection on the grounds that the Sequential Test had not been applied, thus suggesting that Worcester City Council does usually apply the Sequential Test. However, the data are unable to show whether it is always applied or how it is applied.[97] The Interviewees referred to the application of the Sequential Test in line with the NPPF and thought that failure to apply the Sequential Test would be a grounds for refusing planning permission, but again this does not establish whether it is always applied or what Worcester City Council will accept as a reasons for development not to be able to take place in a lower risk area.

7.2.2.3 Sustainable drainage systems

Out of the 267 decisions in respect of which data on the use of conditions was collected, just 22 included conditions requiring the use of SUDS. This makes it questionable whether Worcester City Council is complying with the NPPF requirement that all major development and all development within flood risk areas incorporates SUDS.[98] However, what the data does not show is the extent to which SUDS are incorporated into development proposals and therefore do not need to be conditioned. In any event, as the requirement to use SUDS does not apply if it would be 'inappropriate', Worcester City Council has significant discretion as to whether or not to require them.

7.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan

The planning permissions decision documents include reference to development plan policies, making it clear that the decisions comply with the statutory requirement to take account of the development plan policies.[99] Although it may be questionable the extent to which the decisions comply with the detail of the flood risk management policy, such as the requirements to secure the use and maintenance of SUDS and ensure that development is safe

[96] Worcester City Council, *Annual Monitoring Report 2010* (n 10) 84; Worcester City Council, *Authorities' Monitoring Report 2011/12* (n 11) 37; Worcester City Council, *Authorities' Monitoring Report 2012/13* (n 11) 39; Worcester City Council, *Authorities' Monitoring Report 2017* (n 10) 36; Worcester City Council, *Authorities' Monitoring Report 2018* (n 11) 56; Worcester City Council, *Authorities Monitoring Report 2019* (n 11) 34.
[97] Worcester City Council, *Authorities Monitoring Report 2019* (n 11) 34.
[98] MHCLG, *NPPF 2019* (n 63) paras 163 and 165.
[99] Town and Country Planning Act 1990, s 70.

from flooding for its lifetime and is flood resistant and resilient, the data included no clear examples of planning decisions that conflict with the development plan.[100]

7.2.2.5 Climate change

The data include some requirements for development to included climate change adaptation measures. This was evident in the conditions requiring compliance with the development plan policy on development design (which includes a requirement to incorporate climate change adaptation measures) and those requiring the incorporation of flood risk adaptation measures. However, the data are not able to show the extent to which the risk to development within areas vulnerable to flood risk (as a climate change impact) is being managed through suitable adaptation measures, as required by the NPPF.[101]

7.2.2.6 Sustainable development

The Interviewees' reference to Worcester City Council's role being to facilitate development and the low number of refusals of planning permission suggests an overall compliance with the NPPF presumption in favour of sustainable development.[102] Although the fact that 8.2% of the planning application decisions in the data are refusals may conflict with this, the discretionary nature of application of the presumption in favour of sustainable development means that non-compliance with the presumption would be difficult to establish.

7.2.2.7 Housing, communities, and settlement management

The data provide some examples of Worcester City Council requiring the development to include measures to address the safety issues related to flood risk, in particular the condition requiring the implementation of a flood evacuation plan. However, the data are not able to show the extent to which planning decisions are fulfilling the requirements to ensure safe and healthy places and living conditions and that development functions well for its lifetime.[103]

7.2.2.8 Environmental protection

As the data do not show whether the development concerned requires an environmental impact assessment or an assessment of the impacts on a European protected site, they are not able to show whether the requirements to carry out those assessments have been complied with. The low number of conditions in the data aimed at protecting environmental interests may indicate a lack of focus within Worcester City Council on protection of environmental

[100] Planning and Compulsory Purchase Act 2004, s 38(6).
[101] MHCLG, *NPPF 2019* (n 63) para 150.
[102] ibid para 11.
[103] ibid paras 95, 117 and 127.

interests, but the fact that there are some such conditions shows that Worcester City Council does have some regard to environmental interests when determining planning applications and is therefore in compliance with the requirements of the Countryside Act 1968 to have regard to the desirability of conserving natural beauty and amenity.[104] However, the data are not able to show the extent to which the planning decisions contribute to and enhance valued landscapes, as required by the NPPF, or the extent to which they comply with the legislative requirements regarding protection of European and nationally protected sites.[105]

7.2.3 Conclusion

The development plan is largely compliant with the obligations to manage flood risk. For those obligations where compliance is more questionable, such as the requirement to ensure that development meets the needs of future generations, the obligations concerned are of such a vague and discretionary nature that there is a low threshold for compliance and non-compliance would be difficult to establish. Perhaps the most significant potential area of non-compliance is the lack of clear application of the Sequential Test, and it is noteworthy that the Planning Inspector did not pick up on this, or any of the other policies where compliance is questionable.

With regard to the planning application decisions, whilst the data give examples of compliance with all of these obligations, they cannot establish whether the obligations are being fully complied with. A detailed examination of each development proposal and the negotiations between the developer and Worcester City Council would be required to be able to investigate the extent to which these obligations are being fulfilled. What can be concluded from the data is that there are no clear examples of non-compliance with the statutory and policy obligations in relation to the determination of planning applications.

7.3 Use of the Flood Risk Management Tools

Whilst Worcester City Council is largely in compliance with its obligations regarding the management of flood risk (despite the Interviewees admitting to being 'unsure' of what Worcester City Council's flood risk management obligations are),[106] the data show that it has not made extensive use of any of the tools available to it. As the interview data for Worcester City Council were more limited than for the other three case studies, they provide little information on the reasons for this, but the following points were identified:

[104] Countryside Act 1968, s 11.
[105] Wildlife and Countryside Act 1981, s 28; Conservation of Habitats and Species Regulations 2017, SI 2017/1012, reg 63; Countryside and Rights of Way Act 2000, s 85.
[106] Interview with Worcester City Council (n 50).

- The Interviewees referred to the emphasis on the planning system on ‘building an ever-increasing number of dwellings to ensure the housing crises is controlled.’ As discussed in Chapter 3 (section 3.3.2.2), the need to plan for and meet short-term housing need constrains LPAs’ ability to introduce and apply policies that seek to manage flood risk as such policies will usually restrict development and/or affect the viability of development.
- The Interviewees were of the belief that the planning system gives adequate consideration to flood risk management and that Worcester City Council is effectively managing flood risk, suggesting that they do not consider it necessary to go above and beyond the legal and policy regime in order to effectively manage flood risk.
- The Interviewees indicated a lack of awareness regarding how they can manage flood risk, stating that they were ‘unsure’ of what tools were available to them to do so. In order to be able to make the most of the tools available to them, they need to understand what tools are available to them and how they can be used.

Chapter 8 – City of York Council (Case Study 4)

York lies astride the confluence of the River Ouse and River Foss, and the River Derwent also runs through it. The interaction of these rivers, plus rainfall in the catchments and winter snowmelt have contributed to frequent flooding in York.[1] The data include no clear examples of non-compliance with the statutory and policy requirements relating to the management of flood risk, but they also reveal that City of York Council has made only limited use of the tools available to it to manage flood risk. The data indicate that City of York Council recognises that flood risk is a social, economic, and environmental issue and the draft new development plan appears to give flood risk significant weight in the identification of appropriate sites for development. However, the lack of published strategic flood risk assessment (SFRA) means that it is not possible to examine the weight it has been given in practice. The draft new development plan also makes some attempt to introduce a catchment-based approach to the management of flood risk but fails to establish how this is to be achieved. City of York Council has rarely refused planning permission or amended permitted development rights. Whilst the data indicate that City of York Council may have a greater awareness of the different ways in which conditions can be used to manage flood risk, it makes little use of them in these ways in practice. There was a lack of reliable data regarding City of York Council's use of planning obligations, but the data that was obtained suggests that it is making only very limited use of planning obligations for flood risk management purposes.

8.1 The Data

8.1.1 Development plan

The current development plan for York has been in place since 2005 (although it has never been formally adopted).[2] City of York Council is in the process of preparing a new development plan to cover the period from 2017 to 2032/33.[3] The draft new development plan was submitted to the Planning Inspectorate for examination in May 2018 and has since been subject to modifications, requests for additional information, further consultations and hearings, and has yet to be adopted. Planning applications are therefore required to be determined in accordance with the current development plan (unless material considerations

[1] City of York Council, *Strategic Flood Risk Assessment Revision 2* (City of York Council 2013) 13.
[2] City of York Council, *Development Control Local Plan* (City of York Council 2005).
[3] City of York Council, *Local Plan - Publication Draft* (City of York Council 2018).

indicate otherwise),[4] but the draft new development plan ought to be taken into account as a material consideration.[5]

8.1.1.1 Flood risk and surface water management policy

Flood risk management does not form part of the strategic objectives of the current development plan. The general approach of the current development plan to the management of flood risk is a presumption against built development (except essential infrastructure) within functional floodplain. However, this is a presumption rather than a requirement, and only applies to development outside existing settlements. The flood risk management policy also contains a number of specific requirements and restrictions:

- A prohibition on development on greenfield land that will reduce floodplain storage, impede water flows, or increase flood risk elsewhere.
- A requirement for all development with a 0.1% or higher annual probability of flooding to submit a site specific flood risk assessment and incorporate the measures necessary to ensure that flood risk 'will be successfully managed' and that the site can be safely developed and occupied.[6]

With regard to surface water drainage, the current development plan:

- Requires development to reduce run-off.
- Prohibits development from exceeding the capacity of the drainage infrastructure.
- Promotes, but does not require, the use of sustainable drainage systems (SUDS).[7]

The draft new development plan's general approach to flood risk is to ensure that 'new development is appropriate for its location'.[8] Its strategic policies include ensuring that development is not subject to and does not contribute to unacceptable levels of flood risk, does not increase flood risk elsewhere, and reduces overall flood risk. Its flood risk policy contains the following specific requirements and restrictions:

- A prohibition on new development being subject to 'unacceptable' flood risk.
- A requirement for the assessment of the risk to and resulting from all proposed development 'where flood risk is an issue, regardless of its location within the flood zones'. This assessment must include the impacts on flood risk within the whole catchment, not just those within the local area.

[4] Planning and Compulsory Purchase Act 2004, s 38(6).
[5] Town and Country Planning Act 1990, s 70(2).
[6] City of York Council, *Local Plan 2005* (n 2) para GP15.
[7] ibid para GP15a.
[8] City of York Council, *Draft Local Plan 2018* (n 3) para 12.1.

- A requirement that any impacts identified in the assessment be 'successfully managed (through a management and maintenance plan for the lifetime of the development)'.
- A requirement that the question of the appropriateness of development be determined by reference to the compatibility of the level of flood risk with the vulnerability of the proposed development.
- A requirement that new development mitigate against current and future flood events.[9]

The flood risk management provisions of the draft new development plan are more detailed than those in the current development plan and, importantly, recognise that flood risk needs to be managed on a catchment basis. The draft new development plan does not, however, include any explanation as to how catchment-based management should be carried out. Whilst the flood risk management provisions of the draft new development refer to catchment areas and recognise that different types of development have different levels of vulnerability to flood risk, they take a similar approach to the current development plan, namely requiring an assessment of flood risk in respect of any proposed development where there are flood risk concerns and that those risks that are identified in the assessment be managed. Like with the other case studies, the wording of the flood risk management policy in both the current and draft new development plan is vague, making it unclear what developers will be required to do to and leaving Birmingham City Council with a significant degree of discretion to determine what is required and in what circumstances.

With regard to drainage, the draft new development plan makes the following requirements:

- All applications for full planning permission must provide drainage details to enable an assessment of the impact of the proposed development on the catchment and watercourses.[10]
- Development on brownfield sites must reduce surface water runoff rates by 30%. Whilst it provides for an exception to this requirement where such a reduction is 'not reasonably practicable', this exception only applies if 'sufficient facilities for the long-term storage of surface water' are installed either on or off-site.
- New development on greenfield sites must not cause an increase in surface water flow, subject to the exception where this is 'not reasonably practicable'. (It is unclear whether the requirement for surface water storage facilities to be provided is also subject to this exception).

[9] ibid para ENV4.
[10] ibid para 12.35.

- All new development must incorporate SUDS either on or close to the site. In the 'exceptional circumstances' where SUDS cannot be provided, an alternative 'acceptable means of surface water disposal' must be provided.
- Development in or adjacent to built-up areas is required to have 'explored' retrofitting existing surface water drainage systems and SUDS.
- New development must not connect ground or surface water drainage to public sewers or have a detrimental impact on existing land drainage systems.[11]

The draft new development plan therefore takes a broadly similar approach to the current development plan regarding restricting run-off, but it includes much stronger and more specific requirements regarding the use of SUDS. Whilst the requirements regarding drainage are not without elements of discretion, the draft new development plan makes it significantly clearer how surface water should be managed and what developers are required to do than how other aspects of flood risk should be managed.

The current development plan contains no provisions for if and how delivery of the flood risk policy will be monitored. The monitoring provisions of the draft new development plan state that the indicators for monitoring delivery of the flood risk policy are the number of planning permissions granted contrary to Environment Agency advice and the percentage of new dwellings in Flood Zones 2 and 3. However, the requirement to consult the Environment Agency arises from legislation rather than the development plan,[12] and the number of planning permissions granted contrary to Environment Agency advice therefore provides no information relating to delivery of the development plan flood risk policy. Similarly, measuring the percentage of new dwellings in Flood Zones 2 and 3 does not take any account of non-residential development, not does it accord with the requirements of the development plan policy to manage and mitigate flood risk. The indicators used to monitor delivery of the drainage policy are the percentage of new developments incorporating SUDS, the number of developments meeting the run-off requirements, and the number of new developments that connect to public sewers.[13] Whilst these do relate to some of the provisions of the development plan's drainage policy, they do not monitor the provision of alternative surface water disposal measures where SUDS are not being used or whether the requirements regarding exploration of retrofitting are being complied with, and they make no attempt to measure the effectiveness of the policy.

[11] ibid para ENV5.
[12] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595, art 18 and para zc, sch 4.
[13] City of York Council, *Draft Local Plan 2018* (n 3) 258-59.

8.1.1.2 Other relevant policies

8.1.1.2.1 Climate change

The current development plan does not contain any provisions relating to climate change. The draft new development plan climate change policy focuses on emissions and energy efficiency, but it does recognise that flood risk management and sustainable drainage are key aspects of adapting to climate change.[14] Although it encourages climate risk assessments and adaptation measures,[15] the only actual requirement is a vague and ambiguous requirement for developers to 'consider good practice adaptation principles for climate change resilience.'[16] Therefore, whilst the climate change policy may support the flood risk policy, the lack of specific requirements or commitments regarding climate change adaptation or mitigation means it does not add anything to it.

8.1.1.2.2 Sustainable development

The current development plan states that its overall objective is to promote sustainable development.[17] However, whilst it sets out what it considers to be the principles of sustainable development, these are limited in their scope and make no specific reference to flood risk, only a general principle to conserve and enhance open space.[18]

The draft new development plan similarly states that its overall objective is 'to deliver sustainable patterns and forms of development'.[19] It breaks sustainable development down into four broad principles: creation of a prosperous city for all; provision of good quality homes and opportunities; conservation and enhancement of the environment; and ensuring efficient and affordable transport links. The status of these principles is unclear as the policy states that development needs to be 'consistent with the principles', but also refers to the principles as matters to be taken into account in the consideration of planning applications. Given that it would be impractical, if not impossible, to require development to be consistent with all the principles of sustainable development, it is likely that it is the latter approach, based on balancing interests, that the draft new development plan intends to be taken in relation to sustainable development.[20] However, as it contains no guidance as to how the different principles should be balanced against one another and how any conflict between

[14] ibid para 11.22.
[15] ibid para 11.23.
[16] ibid para CC2.
[17] City of York Council, *Local Plan 2005* (n 2) para 2.9.
[18] ibid para GP4a.
[19] City of York Council, *Draft Local Plan 2018* (n 3) 16.
[20] ibid para DP2.

them should be resolved, it leaves City of York Council with considerable discretion when determining planning applications.

Whilst the draft new development plan includes the management of flood risk within the environmental pillar of sustainable development,[21] the Interviewees recognised that although flooding tends to be regarded as an environmental issue as this represents 'the easiest fit', it affects all three pillars of sustainable development. They believed that the economic impacts and large number of people forced from their homes by the 2015 floods in York means that this is now widely recognised by the residents of York.[22] This means that whichever of the pillars of sustainable development City of York Council is seeking to further in the determination of individual planning applications, the management of flood risk ought to be given substantial weight.

8.1.1.2.3 Housing, communities, and settlement management

The current development plan's general approach to the location of development is to concentrate development primarily on brownfield land within the urban area of the city and its urban extensions and then in surrounding settlements and selected transport corridors.[23] In relation to residential development specifically, it aims to concentrate new residential development within the main existing settlements[24] and it prioritises sites that can be accessed by public transport or bicycle.[25] It also includes density targets that residential development 'should aim to achieve'.[26]

The draft new development plan takes account of a wider range of factors in its provisions regarding the location of development. It states that the location of new development will be guided by five principles: conserving and enhancing the historic and natural environment; accessibility to sustainable modes of transport and a range of services; preventing unacceptable levels of congestions, pollution and air quality; managing flood risk; and prioritising reuse of previously developed land (where viable and deliverable).[27] Therefore, in comparison with the current development plan in which flood risk was given no particular weight in relation to the location of new development, under the provisions of the draft new development plan flood risk is one of the key factors. Furthermore, the draft new development

[21] ibid.
[22] Interviews with City of York Council (17 January 2019).
[23] City of York Council, *Local Plan 2005* (n 2) SP6.
[24] ibid para 7.46.
[25] ibid para 7.18.
[26] ibid para H5a.
[27] City of York Council, *Draft Local Plan 2018* (n 3) para SS1.

plans states that it is the environmental factors, including flood risk considerations, that are the factors that should first used to identify suitable potential development sites, and once these potential sites have been identified they will be assessed by reference to the transport links, facilities and services.[28]

On the other hand, the draft new development plan identifies that the delivery of sufficient housing is a 'key challenge' for the development plan.[29] A strategic flood risk assessment (SFRA) was carried out in 2013 following introduction of the requirements regarding SFRAs in the 2012 National Planning Policy Framework (NPPF). Whilst this assessed the flood risk of sites within the area and included recommendations and advice regarding the measures required to manage the flood risk and ensure compliance with the NPPF,[30] another SFRA was carried out to inform the draft new development plan.[31] However, this most recent SFRA has not been yet been published as the Interviewees stated that they 'want it to mesh properly with the timescale and programme' of the new development plan.[32] This means that it is not possible to ascertain the level of flood risk associated with the sites allocated for development. Added to which, although there has been no breach of the consultation requirements regarding the draft new development plan,[33] as the SFRA was not available for the public to refer to, it is questionable how effective the consultation has been.

Like the current development plan, the draft new development plan includes specific density requirements for residential development with no recognition of the impact of those requirements on flood risk.[34]

8.1.1.2.4 Environmental protection

The current development plan recognises the area's natural environment as being an important part of York's historic character and setting, and valuable to the furtherance of economic and social interests as well as environmental interests.[35] One of its general objectives is to improve the natural environment,[36] and it states that it aims to 'ensure that development is compatible with nature conservation and biodiversity'.[37] In order to achieve this, it contains the following restrictions on development:

[28] ibid para 5.11.
[29] ibid para 1.45.
[30] City of York Council, *Strategic Flood Risk Assessment Revision 2* (n 1).
[31] City of York Council, *Draft Local Plan 2018* (n 3) para 3.10.
[32] Interviews with City of York Council (n 22).
[33] Town and Country Planning (Local Planning) (England) Regulations 2012, SI 2012/2613, regs 18-20.
[34] City of York Council, *Draft Local Plan 2018* (n 3) para H2.
[35] City of York Council, *Local Plan 2005* (n 2) 4 and paras 1.3 and 1.17.
[36] ibid 11.
[37] ibid 25.

- A prohibition on development that would have a detrimental impact on rivers, streams, ponds or wetlands.[38]
- A requirement for development to minimise its impact on watercourses, open water and groundwater.[39]
- A prohibition on development that is likely to have an adverse impact on nationally and internationally protected sites (Sites of Special Scientific Interest, National Nature Reserves, Ramsar sites, Special Protections Areas and Special Areas of Conservation), subject to the exception 'where the reasons for the development clearly outweigh the special nature conservation value of the site'.[40]
- A prohibition on development that will have an adverse impact on a Local Nature Reserve or non-statutory nature conservation site, subject to the exception 'where the reasons for the development clearly outweigh the substantive nature conservation value of the site'.[41]
- A prohibition on development that would harm protected animals or plants or their habitats.[42]

As flooding and surface water run-off can have significant impacts on rivers, ponds, wetlands, open water and groundwater, the first two restrictions have the potential to be widely applicable to development that increases flood risk and/or surface water run-off. The fact that these are unqualified restrictions increases their value in this respect. The latter three restrictions relate to only a limited number of specific environmental interests, and the circumstances in which they could potentially be used to restrict development that would result in environmentally damaging flooding are therefore more limited. It is also the case that two of the latter three restrictions are subject to a potentially widely applicable exception that allows economic interests to be prioritised over environmental interests.

Like the current development plan, the draft new development plan recognises the importance of the natural environment to the character of the area[43] and its role in achieving the economic and social objectives of the development plan.[44] Again like the current development plan, its

[38] ibid para NE2.
[39] ibid para NE3.
[40] ibid para NE4a.
[41] ibid para NE5a.
[42] ibid para NE6.
[43] City of York Council, *Draft Local Plan 2018* (n 3) para 1.54.
[44] ibid para 2.12.

aim is that York will be a city that conserves and enhances its natural environmental assets.[45] In order to achieve this, it contains the following restrictions on development:

- A prohibition on development that would harm a site designated as a Site of Importance for Nature Conservation by North Yorkshire County Council, subject to an exception where the need for the development outweighs the harm and the impacts can be adequately mitigated or compensated.
- A prohibition, where appropriate, on development within the catchment area of the Rivers Ouse, Foss, and Derwent that would have a detrimental impact on the River Derwent, Lower Derwent Valley and Humber Estuary European Sites.
- A prohibition, where appropriate, on development that would have a detrimental impact on the Lower Derwent Valley.[46] Guidance has been prepared collaboratively between City of York Council and the other local planning authorities (LPAs) in the Lower Derwent catchment area that seeks to provide a cross-boundary approach to conservation to inform the determination of planning applications.[47]
- A prohibition on development that would harm open space of environmental importance, unless the open space can be satisfactorily replaced in an alternative location.[48]

It also contains the following requirements:

- Development should, where appropriate, retain, enhance, and manage features of biological interest.
- Development should, where appropriate, result in a net biodiversity gain.
- Development should, where appropriate, maintain the rivers, banks, floodplains and settings of waterways for their biodiversity.[49]

The restrictions and requirements are, in some respects, more limited than in the current development plan. They relate to a narrow range of areas, sites and water bodies, and they are all qualified requirements. Therefore, whilst the environmental provisions of the draft new development plan have the ability to be used to support planning decisions which seek to prevent environmentally damaging flooding, the circumstances in which they can be used to

[45] ibid 16.
[46] ibid para G12.
[47] East Riding of Yorkshire Council, *Lower Derwent Supplementary Planning Document* (East Riding of Yorkshire Council 2018).
[48] City of York Council, *Draft Local Plan 2018* (n 3) para G15.
[49] ibid para G12.

do so are limited and the requirements are all subject to highly discretionary and potentially widely applicable exceptions.

8.1.1.2.5 Development design

The current development plan recognises that design can be used to minimise the adverse environmental effects of development.[50] It requires development design to take account of the liability of the site to flooding,[51] be compatible with the character of the area, and use appropriate building materials.[52]

The draft new development plan specifically requires development design to be used to mitigate against flood risk.[53] It also requires development to be fit for purpose and repeats the current development plan's requirement that appropriate materials be used.[54] Put together, these constitute a requirement that development be designed in a way that includes the property level mitigation measures necessary to ensure that it is fit for its intended use, as well as to mitigate its impact on flood risk elsewhere.

8.1.1.2.6 Infrastructure

The current development plan refers to infrastructure almost exclusively in terms of transport infrastructure and makes no mention of flood risk management infrastructure.[55] It does, however, prohibit development that would either harm the integrity of green space or result in the loss of open space where that would have a detrimental effect on local amenity or nature conservation (unless compensatory open space is provided).[56] As the development plan's definition of green space includes multifunctional open spaces and waterways,[57] these policies prohibit development that would result in flooding that would harm waterways or result in the loss of open space that provides flood water storage services.

The draft new development plan states that flood risk management infrastructure is essential to delivery of the plan.[58] Whilst not specifically requiring development to provide flood risk management infrastructure, it does require new development to have the infrastructure necessary to meet the needs of and generated by the development, and therefore appears to prohibit development that does not make adequate provision for flood risk and surface water

[50] City of York Council, *Local Plan 2005* (n 2) para 1.47.
[51] ibid para GP15a and 2.44.
[52] ibid para GP1.
[53] City of York Council, *Draft Local Plan 2018* (n 3) para ENV4.
[54] ibid para D1.
[55] City of York Council, *Local Plan 2005* (n 2) paras 12.7 and 15.2.
[56] ibid paras NE8, GP1 and GP7.
[57] ibid glossary.
[58] City of York Council, *Draft Local Plan 2018* (n 3) para 15.9.

management infrastructure.[59] It also, like the current development plan, recognises the value of open space in the management of flood risk[60] and contains a restriction on development to help protect it. This restriction comprises a prohibition on development that would result in harm or loss to open space, but it only applies to open space that is of environmental or recreational importance and is subject to an exception where replacement open space can be provided. As the draft new development plan does not explain what constitutes open space of environmental or recreational importance, it is unclear whether this policy is more permissive of development that would result in the loss of open space that provides flood storage services than the current development plan.[61]

8.1.1.2.7 Third parties and cross-boundary issues

The current development plan states that the Environment Agency, British Waterways (the body responsible for canals and rivers prior to 2012), and the relevant internal drainage board will be consulted in respect of all applications for planning permission that may increase flood risk.[62] The draft new development plan refers to the Environment Agency and internal drainage boards as being 'Key Delivery Partners' in respect of delivery of the flood risk and sustainable drainage policies. It does not refer to the Canal and Rivers Trust (the body currently responsible for canals and rivers).[63] The Interviewees confirmed that City of York Council does work with the Environment Agency and internal drainage boards regarding flood risk issues and that it had amended its policies as a result of Environment Agency advice.[64] The Interviewees did, however, refer to the fact that the different parties involved in decision making have different, and sometimes competing, priorities and therefore sometimes issue conflicting advice. They also said that dealing with flood risk issues on a catchment wide basis can result in difficulties in deciding which of the different local authorities should be given priority regarding protection and promotion of their interests.

The City of York Council's statement to demonstrate compliance with the duty to co-operate refers to flood risk, recognizing that it is a strategic matter that requires co-operation with other LPAs in the North Yorkshire and York Sub-Region and the York sub-area. However, this co-operation appears to be limited to consultation with other LPAs rather than working together to establish a co-ordinated approach to the management of flood risk. Whilst it

[59] ibid para DM1.
[60] ibid para 9.14.
[61] ibid para G15.
[62] City of York Council, *Local Plan 2005* (n 2) para 2.43.
[63] City of York Council, *Draft Local Plan 2018* (n 3) paras ENV4 and ENV5.
[64] Interviews with City of York Council (n 22).

confirms that consultation has taken place with these other LPA, it does not refer to working with other LPAs to manage flood risk and there is no evidence of a collaborative approach.[65] This is in comparison with the issue of conservation, in respect of which guidance for use in the determination of planning applications has been prepared collaboratively between City of York Council, East Riding of Yorkshire Council, and Selby District Council in order to provide a cross-boundary approach to conservation.[66]

The draft new development plan recognises that development within York has impacts beyond City of York Council's boundary and refers to the Council's 'long history of joint working and cooperation with its neighbouring authorities to achieve better spatial planning outcomes.'[67] It recognises that flood risk needs to be dealt with on a catchment basis in co-operation with other local authorities,[68] requires the impact of individual developments on the whole catchment to be assessed,[69] and states that the development plan will aim to ensure that (but does actually requirement that) development within its area 'will not lead to environmental problems including flood risk … for adjacent local authority areas'.[70] However, the flood risk management policy does not explain how this will be achieved. Indeed, as discussed in section 8.1.1.1, it addresses flood risk on a site-by-site basis rather than on any sort of strategic level, and it clearly sees the development of catchment-based solutions as the responsibility of the Environment Agency rather than local authorities.[71]

8.1.1.3 Conclusion on development plan

The draft new development plan recognises that effective flood risk management requires a catchment-based approach. However, the extent to which it provides for a meaningful catchment-based/cross-boundary approach is limited as it does not seek to address it in a strategic way, limiting its consideration of the cross-boundary nature of flooding to a requirement that the impacts of individual proposed developments on the catchment area be taken into account. Indeed, both the current and the draft new development plan largely address flood risk on an individual development basis and fail to set out a strategic approach. (Whilst there may be some strategic management of flood risk in the policies of the draft new development plan that allocate land for development, in the absence of a published SFRA it is

[65] City of York Council, *Statement to Demonstrate Compliance with the Duty to Co-operate* (City of York Council 2018) tables 4.2 and 4.4.
[66] East Riding of Yorkshire Council (n 5).
[67] City of York Council, *Draft Local Plan 2018* (n 3) para 2.17.
[68] ibid para 4.17.
[69] ibid para 12.35.
[70] ibid para DP1.
[71] ibid para 4.75.

impossible to ascertain the extent to which this is the case). Instead, both the current and the draft new development plan base their flood risk management policies on an assessment of the flood risk of individual proposed developments and management of the risk identified therein, with City of York Council having a significant amount of discretion regarding what flood risk management measures are required and when.

On the other hand, whilst the current development plan contains only quite limited provisions regarding the management of surface water, the surface water management policy in the draft new development plan is more detailed and contains stronger and clearer requirements than those relating to the general management of flood risk. Furthermore, both the current and the draft new development plan both acknowledge that managing flood risk is a social and economic issue, suggesting that flood risk management is seen as necessary to the furtherance of social and economic interests rather than as conflicting with those interests. However, this is not reflected in development plan policies with, for example, the draft new development plan making it clear that policy requirements regarding the management of flood risk should not compromise the viability and delivery of development.[72] As with the other case studies, the provision for monitoring the flood risk and surface water management policies of draft new development plan are largely ineffective, and the current development plan makes no provision for monitoring these policies.

The policies on climate change and sustainable development in the current development plan do little to support the flood risk management policies and, whilst those in the draft new development plan give some support to the flood risk management policies, they are too vaguely worded to actually add anything to them. The environmental policies of the current and draft new development plan both support and add to the flood risk management policy regarding specific sites/environmental interests, although this is undermined, particularly in the draft new development plan, by the qualifications to the various development restrictions and requirements. The development design policies of both the current and the draft new development plan support and add to the flood risk management policy, as do the infrastructure requirements of the draft new development plan. However, making stronger, clearer links between the policies would enable the draft new development plan to present a more co-ordinated approach to development that properly recognised the impact of flood risk on other development policies and vice versa.

[72] ibid paras SS1 and 15.4.

8.1.2 Permitted development rights

8.1.2.1 Article 4 Directions

The current development plan is in favour of small-scale extensions[73] and only recognises that the cumulative impacts of small-scale permitted development can be an issue in the context of Conservation Areas.[74] It makes no reference to Article 4 Directions. Like the current development plan, the draft new development plan is generally in favour of extension to existing buildings[75] and refers to the use of Article 4 Directions as a means of controlling the potentially damaging cumulative impacts of small-scale development in Conservation Areas.[76] It also refers to the use of Article 4 Directions as a means of controlling the number and location of houses in multiple occupation.[77] No reference is made in either development plan to the use of Article 4 Directions as means of addressing the cumulative impact of small-scale development on flood risk.

There are four Article 4 Directions in place in York. One covers a Conservation Area and removes permitted development rights regarding alterations to the elevations of houses that front highways and open space. No copy of this Direction nor detail of the date it came into effect were available.[78] There is a city centre-wide Article 4 Direction regarding change of use from dwellinghouse to small houses in multiple occupation. This was made on 15 April 2011, confirmed on 9 November 2011, and came into effect on 20th April 2012, and therefore included a 12 month notice period before it came into effect.[79] There are two further Article 4 Directions in place on specific buildings, one regarding change of use of a public house,[80] the other regarding demolition of the property.[81] These were introduced in 2015 and 2017 respectively and were subject to 12 months' notice. It can therefore be seen that the Article 4 Directions made after the Planning Act 2008 removed the right to compensation for claims made more than 12 months after the Direction was made included a 12 month delay before they came into effect in order to prevent compensation claims from being made.

[73] City of York Council, *Local Plan 2005* (n 2) paras GB4, 5.36 and 5.37.
[74] ibid para 8.25.
[75] City of York Council, *Draft Local Plan 2018* (n 3) para D11.
[76] ibid para 8.25.
[77] ibid para 5.49.
[78] City of York Council, *Article 4(2) Directive for East Mount Road* (City of York Council)
[79] City of York Council, *Article 4 Direction in Relation to Houses in Multiple Occupation* (City of York Council 2011).
[80] City of York Council, *Confirmed Article 4 Direction in Relation to Punchbowl Public House* (City of York Council 2015).
[81] City of York Council, *Article 4 Direction for 79 Fulford Road* (City of York Council 2017).

It is therefore clear that although City of York Council has made some use, including recently, of Article 4 Directions to control development, they are not used frequently and have not been used as a means of managing flood risk. Indeed, the Interviewees did not appear to have considered the use of Article 4 Directions to manage surface water run-off and were not aware of them having been used in this way either by City of York Council or any other local authority.

8.1.2.2 Local and Neighbourhood Development Orders

The current development plan does not refer to the use of Local or Neighbourhood Development Orders. Similarly, other than referring to the use of Community Right to Build Orders (a type of Neighbourhood Development Order that can grant planning permission for small-scale community-led development)[82] to support development of new community facilities, the draft new development plan does not refer to Local or Neighbourhood Development Orders[83] and there are no Local or Neighbourhood Development Orders in City of York Council's area.[84]

8.1.3 Refusal of planning permission

The Interviewees understood City of York Council's role as local planning authority as being to facilitate rather than prevent development and were of the view that the 'iterative process' of applying for planning permission ensures that in the majority of cases any issues are ironed out in discussions between the Council and the developer, with only 'a handful' of applications being refused each year.

The graph in Figure 8.1 below shows the number of decisions made by City of York Council on which data was collected, as well as the number of those decisions where planning permission was refused. The graph indicates a general decrease in the number of planning decisions being made over the course of the case study timescale. The number of refusals is too low to infer any particular trend but does support the Interviewees' assertion that refusals are rare.

[82] Town and Country Planning Act 1990, sch 4C.
[83] City of York Council, *Draft Local Plan 2018* (n 3) para 6.13.
[84] Email from author to ycc@york.gov.uk (13 April 2020).

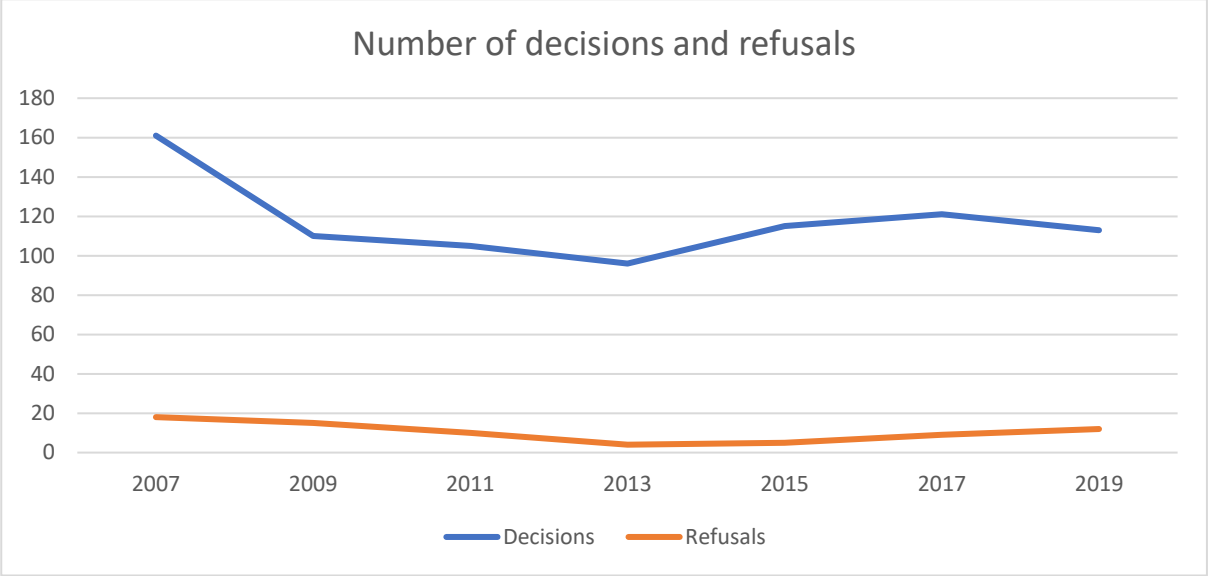

Figure 8.1 Graph showing number of planning decisions and refusals of planning permission made by City of York Council in March in the years 2007, 2009, 2011, 2013, 2015, 2017 and 2019

The data included 73 refusals, of which just four were on grounds relating to flood risk. Three of the refusals were due to insufficient information having been provided regarding surface water management, drainage and flood risk. The fourth refusal was a case in which the developer had appealed against the City of York Council's failure to determine within the prescribed time limit an application for erection of a dwellinghouse that was partly within Flood Zones 2 and 3. The outcome of the appeal had been a refusal of planning permission by the Planning Inspectorate on the grounds that the Sequential Test had not been satisfied. The data therefore indicate that City of York Council is making little use of its ability to refuse planning permission on flood risk related grounds, but cannot tell us whether planning applications are withdrawn due to City of York Council and the developer being unable to resolve the flood risk issues, and it was clear that the Interviewees were of the belief that planning applications did sometimes get withdrawn due to flood risk issues.[85]

8.1.4 Conditions

The current development plan states that conditions will be used to control certain aspects of development, including who can occupy development,[86] the use it can be put to,[87] permitted development rights for extensions (in order to protect the visual amenity of the open

[85] Interviews with City of York Council (n 22).
[86] City of York Council, *Local Plan 2005* (n 2) paras 7.33, GB8 and 13.16.
[87] ibid paras SP7a and 8.23.

countryside),[88] and to protect conservation interests within conservation sites.[89] It also includes policy that states that planning permission will be granted for the temporary use of land or the erection of temporary buildings for a limited period where, *inter alia,* 'a trial period is necessary for the development, to allow an assessment of its character or effects', although in this is in terms of ensuring there is no adverse visual or traffic impact or loss of amenity for nearby occupants rather than seeking to control the broader impacts of the development, such as on flood risk.[90] Indeed, the current development plan makes no reference to the use of conditions as a means of managing flood risk.

Like the current development plan, the draft new development plan states that conditions will be used to control a number of aspects of development, including occupation,[91] biodiversity protection,[92] and the removal of permitted development right.[93] It does not repeat the current development plan's policy on the use of temporary planning permissions, and makes no specific reference to the use of conditions to manage flood risk. It also states that if a developer seeks revision of a planning condition, any changes in market conditions will be taken into account, and it is therefore clear that developers will be able to use viability issues as grounds for seeking to have any conditions imposed for flood risk management reduced or removed.[94]

Data on the conditions imposed by City of York Council were collected from 821 planning permissions and categorised in accordance with the methodology set out in Chapter 1 (section 1.7.3).

8.1.4.1 Temporary permission

The data include just one temporary permission, and this was imposed for reasons relating to the visual impact of the development.

8.1.4.2 Environmental protection

Although the current and draft new development plans both contain specific requirements regarding the impacts of development on environmental impacts, the data include no environmental protection or enhancement conditions. However, the data are not able to show whether this is the result of the City of York Council making use of the widely applicable

[88] ibid para 5.38.
[89] ibid para NE5b.
[90] ibid para GP23.
[91] City of York Council, *Draft Local Plan 2018* (n 3) paras EC5 and H5.
[92] ibid para 9.6.
[93] ibid para 10.8.
[94] ibid H1.

exceptions to the development plan requirements, due development that would be detrimental to environmental interests not being proposed, or because mitigation measures are included in development proposals and therefore do not need to be conditioned.

8.1.4.3 Materials

Of the 821 planning decisions from which data were collected, 454 had conditions that required the materials to either match those of the existing development or be approved by City of York Council. This indicates a readiness of City of York Council to control the external materials used in development, but none of the conditions were imposed to ensure the use of flood resistant materials. Instead, they were all imposed for reasons relating to the visual appearance of the development.

8.1.4.4 Surfacing and ground levels

The data included 26 conditions relating to how the ground must be surfaced. Only six of these were for the specific purpose of managing risk, with two being to address surface water run-off and drainage generally and 18 being to prevent run-off onto public roads. In addition to the conditions regarding surfacing, the data included 11 conditions imposing requirements regarding the height of site and ground flood levels, all of which were imposed for flood risk management purposes. This demonstrates that City of York Council is aware of the role that surfacing and site and floor levels can have on managing flood risk, but it is not possible to tell from the data whether the low use of conditions to control these aspects of development is due to the Council having rarely considered these issues or whether it is because the majority of development proposals already include appropriate surfacing and floor levels and conditions are therefore not required.

8.1.4.5 Removal of permitted development rights/restrictions on use

The data included 86 conditions removing permitted development rights regarding extensions or change of use or otherwise restricting how the development is used. Whilst the majority of these were granted for reasons relating to appearance and amenity, three were imposed for reasons relating to the management of flood risk. These consisted of one prohibition on the use of the ground floor for bedroom accommodation in order to reduce the impacts of flooding, and two conditions removing permitted development rights regarding extensions and alterations due to flood risk to the development. Unlike many other aspects of development, removal of permitted development rights and restrictions on use cannot be incorporated into the development proposal and therefore will always need to be conditioned. The low number of such conditions in the data therefore indicate that whilst City of York

Council has some awareness of the removal of permitted development rights and restrictions in use to manage flood risk, it rarely considers it.

8.1.4.6 Surface water management

As discussed in section 8.1.1, the current development plan contains some specific requirements to reduce run-off and encourages the use of SUDS, and the draft new development requires that brownfield development reduce run-off by 30%, that greenfield development not increase run-off, and that SUDS be used other than in 'exceptional circumstance'. The Interviewees were aware of the ability of conditions to be used to restrict surface water run-off,[95] and the data included 77 conditions relating to the management of surface water. These included:

- Four conditions requiring the use of SUDS.
- 25 conditions restricting run-off.
- One condition requiring the development to include measures to ensure that it did not impact on up and down stream riparian owners.
- Two conditions requiring the impact of the development on the downstream watercourse to be assessed.
- Eight conditions requiring off-site drainage works to be carried out.

Like in the other case studies, a large proportion of these, 53 out of the 77 conditions, required the Council's approval.

8.1.4.7 Other flood risk management conditions

In addition to the conditions included within the above categories, the data contain ten further conditions imposed to manage flood risk, consisting of:

- Two conditions requiring the use of resilient construction techniques.
- One condition requiring the incorporation of unspecified flood protection measures such as flood gates, water-tight external doors, and a flood protection boundary wall.
- Six conditions requiring the carrying out of specific mitigation works detailed in additional documentation/in accordance with the requirements of the site specific flood risk assessment.
- One condition requiring provision of a safe access and egress route.

[95] Interviews with City of York Council (n 22).

8.1.4.8 Conclusion on conditions

The data suggest that the City of York Council is making little use of conditions to ensure the incorporation of property level resistance and resilience measures, to mitigate the impacts of development on flood risk elsewhere (other than conditions relating to drainage), or to enable the flood risk impacts of the development to be assessed before permanent planning permission is granted. Whilst the data indicate a high use of conditions to control the materials used, this has been confined to protecting the appearance of the development and such conditions have not been used to ensure the use of flood resistant materials. The data also indicate that the Council is aware of the potential use of conditions to ensure that hard-surfaces allow the absorption of rain fall and to remove permitted development rights and restrict use to reduce flood risk, but such conditions have been used only very rarely. There is evidence of a broader approach to the management of surface water in City of York Council's use of conditions which seek to control the impact of the development up and downstream and the inclusion of requirements regarding off-site works, but again such conditions have only been used very rarely. Therefore, whilst the data indicate that City of York Council may have a greater awareness of the ways that conditions can be used to manage flood risk than the other three case study LPAs, they only rarely use them in these ways.

8.1.5 Planning obligations

The current development plan does not refer directly to the use of planning obligations to manage flood risk. It does, however, state that City of York Council 'will expect developers to enter into planning obligations to provide for the infrastructure required by development and mitigate its environmental and other impacts',[96] and that '[d]eveloper contributions towards open space will normally be required on all residential developments.'[97] It thereby contains some indirect requirements for developers to enter into planning obligations to provide drainage infrastructure and other flood mitigation measures, although the use of words such as 'expect' and 'normally' indicate that they are not absolute requirements. The draft new development plan states that developer contributions (through the Community Infrastructure Levy as well as planning obligations) 'will be sought' in respect of SUDS and strategic and site specific flood risk management infrastructure.[98] Therefore, as with the current development plan, the strength of the requirement for developers to enter into planning obligations is weakened by the language used. In any event, the draft new

[96] City of York Council, *Local Plan 2005* (n 2) para GP13.
[97] ibid para 13.14.
[98] City of York Council, *Draft Local Plan 2018* (n 3) paras DM1, ENV4 and ENV5.

development plan makes it clear that developers will be able to negotiate a reduction in their planning obligations on grounds of viability, which undermines City of York Council's ability to obtain sufficient contributions to fund the necessary infrastructure.[99]

Despite the weaknesses in the provisions in both the current and draft new development plans, they do suggest that planning obligations will be commonly used. However, whilst the Interviewees demonstrated that they were aware of the potential for planning obligations to be used to require developers to contribute towards the provision or improvement of strategic flood risk management infrastructure and the provision of on-site management of surface water, they also stated that planning obligations are not used by City of York Council on a day-to-day basis. The Interviewees were also unsure as to whether any thorough record was kept regarding the planning obligations that were entered into and whether they were delivered, saying of any record that there might be, 'I wouldn't say it's as comprehensive as you might wish it to be.' They were aware, however, that the new regulations regarding the recording and reporting of developer contributions from planning obligations and the Community Infrastructure Levy would require changes to City of York Council's recording and reporting procedures.[100]

Consistent with the Interviewees' comments regarding records on planning obligations, little information was available from the City of York Council website regarding the planning obligations that it has entered into. The Council has produced annual reports summarizing the current financial contributions arising from planning obligations, but only for the years 2017 and 2016. These summary reports contain details of the amounts required, collected and spent. They show that there were 30 ongoing planning obligations in January 2017 (including planning obligations entered into as far back as 2010)[101] and 210 ongoing planning obligations in January 2016 (including planning obligations entered into as far back 2000).[102] According to the information in the reports, no planning obligations were entered into in 2016, 13 were entered into 2015, 31 in 2014, and 84 in 2013. The reports just cover *ongoing* planning obligations, and therefore do not provide information on planning obligations that were fulfilled within the same year that they were entered into. The reports also state that none of the money received from planning obligations was spent, although it does refer to money having been released. No explanation is given as to what this means, but it perhaps refers to money that has been given by York City Council to whichever authority or body is

[99] ibid para 15.21.
[100] Interviews with City of York Council (n 22).
[101] City of York Council, *Section 106 Agreements - Jan 2017* (City of York Council 2017).
[102] City of York Council, *Section 106 Agreements - Jan 2016* (City of York Council 2016).

going to actually provide the infrastructure. A freedom of information request for information on the planning obligations entered into in 2016 and 2017 that are not ongoing and all those entered into since 2017 was made to City of York Council. This request was refused on the basis that such information is not collated by the Council and collating it would require going through all planning applications individually.[103] It is therefore clear that no comprehensive records on planning obligations have been kept.

The annual reports show that some of the planning obligations included in the reports included a financial contribution towards the provision of open space (21 out of the 30 planning obligations detailed in the 2017 report and 180 out of the 210 in the 2016 report), but it was unclear what the nature of the open space was and therefore whether it was relevant to the management of flood risk. Whilst none of the planning obligations expressly relate to any flood risk management or drainage infrastructure, the Interviewees clearly recognised that flood risk management measure often have environmental benefits and vice versa and it may therefore be the case that flood risk management is part of the reasoning for the provision of open space.

Whilst the data regarding the use of planning obligations by City of York Council is incomplete, it does suggest that the Council is not making use of planning obligations as a means of ensuring that developers provide or pay for the flood risk management infrastructure required as a result of their development.

8.1.6 Community Infrastructure Levy

The current development plan was adopted prior to the introduction of the Community Infrastructure Levy (CIL) regime and therefore makes no reference to the CIL.[104] The draft new development plan states that the CIL is one of the means by which strategic infrastructure can be funded.[105] In 2018, City of York Council published a viability assessment of the development plan and CIL, and this proposed a CIL charging rate that it considered 'would be affordable without putting at risk the bulk of development sites in most parts of the unitary authority area'.[106] The Interviewees referred to this and the fact that the viability assessment had concluded that 'there's sufficient viability headroom to introduce a CIL should the Council wish to do so'.[107] Nevertheless, the Interviewees said of the CIL, based on their discussions with other local authorities, 'it's cost to set it up and a hassle to run it' and that the

[103] Email from foiresponses_NO-REPLY@york.gov.uk to author (22 December 2020).
[104] Planning Act 2008, s 205.
[105] City of York Council, *Draft Local Plan 2018* (n 3) para DM1.
[106] Porter Planning Economics, *Local Plan Viability Final Report* (City of York Council 2018) para 7.3.
[107] Interviews with City of York Council (n 22).

recent removal of the pooling restrictions for planning obligations (which was being consulted on at the time of the interview) would remove the incentive to introduce the CIL. They concluded that the CIL regime 'isn't working'. At the time of writing this thesis City of York Council had not introduced a CIL charging schedule.

8.2 Compliance with the Flood Risk Management Requirements

Set out below is an analysis of the extent to which City of York Council is complying with its obligations to manage flood risk.

8.2.1 Development plan

8.2.1.1 Strategic flood risk assessment

An SFRA was carried out in 2013 and, according to the Interviewees, a further SRFA has recently been carried out in order to inform the draft new development plan. Although this new SFRA has not been published and it is therefore not possible to examine the extent to which its findings are reflected in the draft new development plan policies, it appears that the NPPF requirement that strategic policies be informed by an SFRA have been complied with.[108]

8.2.1.2 Sequential Test

The current development plan makes no reference to the Sequential Test. Whilst the draft new development plan states that the Sequential Test has been applied to the location of new development,[109] in the absence of a published SFRA it is not possible to examine the extent to which this is the case and City of York Council's compliance with the policy requirements regarding application of the Sequential Test is therefore questionable.[110] Although it remains to be seen whether the Planning Inspectorate will pick up on this in its report on the examination of the draft development plan, the Planning Inspector's initial observations did not refer to it.[111]

8.2.1.3 Flood risk management infrastructure

The current development plan does not appear to fulfill the NPPF requirement to make sufficient provision for flood risk management infrastructure as its policies are limited to restrictions on development that would harm waterways or result in a loss of open space

[108] Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 156.
[109] City of York Council, *Draft Local Plan 2018* (n 3) para 12.30-12.31.
[110] MHCLG, *NPPF 2019* (n 108) paras 157-60.
[111] Simon Berkeley and Andrew McCormack, *Inspectors' Initial Observations* (City of York Council 2018).

rather than including requirements for the provision of flood risk management infrastructure.[112] Although the draft new development plan does not expressly state that development will be required to provide site specific flood risk management infrastructure, it does state that new development will only be permitted if there is the physical, social and green infrastructure necessary to serve the development and the need generated by it and therefore appears to be in compliance with the NPPF requirements regarding flood risk management infrastructure.[113]

8.2.1.4 Safeguard land from development

The current development plan, whilst not specifically setting aside land to be used to manage flood risk, does prohibit development that reduces floodplain storage,[114] and thereby could be said to be safeguarding land for flood risk management purposes as required by the NPPF.[115] The draft new development plan neither sets aside land to be used for the management of flood risk nor prohibits development that reduces floodplain storage. The only policy that could be interpreted as safeguarding land for flood management purpose is that regarding the density requirements for residential development, which states that application of the density requirements will ensure that 'important open space' is not developed.[116] It is therefore doubtful whether the draft new development plan complies with the requirement to safeguard land for flood management purposes, but it remains to be seen whether this is picked up on by the Planning Inspector in the examination of the draft development plan.

8.2.1.5 Reduce the causes and impacts of flooding

Although there may be limitations to their effectiveness, the flood risk and surface water management policies of both the current and draft new development plans do seek to reduce the causes and impacts of flooding and therefore fulfill the NPPF requirement to do so.[117]

8.2.1.6 Relocation of unsustainable development

The current development makes no provision for the relocation of development that is not sustainable in the long-term. Furthermore, it seeks to concentrate new development within existing settlements without consideration of the sustainability of their location.[118] The draft new development plan gives more consideration to sustainability issues in relation to the

[112] MHCLG, *NPPF 2019* (n 108) para 20.
[113] City of York Council, *Draft Local Plan 2019* (n 3) paras DM1 and 15.11.
[114] City of York Council, *Local Plan 2005* (n 2) para GP15.
[115] MHCLG, *NPPF 2019* (n 108) para 157b).
[116] City of York Council, *Draft Local Plan 2018* (n 3) para 5.18.
[117] MHCLG, *NPPF 2019* (n 108) para 157c).
[118] City of York Council, *Local Plan 2005* (n 2) para 7.46.

location of new development but makes no provision for the relocation of existing development. However, as discussed in Chapter 3 (section 3.3.1.2.6), the obligation to seek opportunities to relocate development only applies to development that is unsustainable due to climate change. As flooding in York is not solely attributable to climate change, it would be difficult, if not impossible to establish whether this requirement applies to a particular development.[119]

8.2.1.7 Long-term implications of flood risk

The current development plan makes no real provision for the long-term implications of flood risk. Indeed, its prioritisation of existing settlements as the location of new development indicates a short-sighted approach to development.[120] The draft new development plan requires flood risk assessments to take account of 'future climate change', meaning that future flood risk will be assessed in relation to proposed development. It also requires new development to mitigate against future as well as current flood events.[121] However, it makes no strategic provision for management of the long-term implications of flood risk, limiting its provision to the implications of individual proposed development. Despite this limitation, as the NPPF only requires LPAs to take account of long-term implications, the threshold for compliance is low and likely to have been met by the provisions of the draft new development plan.[122]

8.2.1.8 Climate change

By including provisions to manage surface water and reduce flood risk, both the current and draft new development plan comply with the statutory requirement to ensure that development contributes to the mitigation of and adaptation to climate change,[123] as well as with the NPPF requirements to take a proactive approach to mitigation of and adaptation to climate change.[124] Although it is questionable whether the policies of the current or draft new development plan relating to the location of new development comply with the NPPF requirement to plan new development in ways that avoid increasing vulnerability to climate change,[125] as they both require development in flood risk areas to be successfully managed they are both arguably compliant with this requirement.

[119] MHCLG, *NPPF 2019* (n 108) para 157d).
[120] City of York Council, *Local Plan 2005* (n 2) paras 7.46 and H5a.
[121] City of York Council, *Draft Local Plan 2018* (n 3) para ENV4.
[122] MHCLG, *NPPF 2019* (n 108) para 149.
[123] Planning and Compulsory Purchase Act 2004 (PCPA 2004), s 19(1A).
[124] MHCLG, *NPPF 2019* (n 108) para 149.
[125] ibid para 150.

8.2.1.9 Sustainable development

Both the current and the draft new development plan include the objectives of contributing to the achievement of sustainability. The current development plan refers to central government policy on sustainability[126] and the draft new development plan states that its approach to sustainable development will reflect that in the NPPF.[127] Both development plans therefore comply with the statutory requirements to have the objective of contributing to the achievement of sustainable development and take account of government policy.[128]

There is no evidence of a sustainability appraisal having been carried out in respect of the current development plan. The reason for this is unclear as the current development plan was approved nearly a year after the legislation requiring sustainability appraisals came into force in July 2004, but as the current development plan has not been formally adopted it has not been subject to the Planning Inspectorate examination process where this would have been picked up on.[129] The draft new development plan has been subject to a sustainability appraisal[130] and has taken account of that appraisal,[131] and City of York Council has therefore fulfilled its statutory requirements to carry out a sustainability appraisal of its proposed new development plan.[132]

The current development plan was adopted prior to the duty to co-operate being introduced by the Localism Act 2011[133] and has not been subject to examination by the Planning Inspectorate as it has never been formally adopted. The Planning Inspectorate is yet to confirm whether the duty to co-operate has been complied with in respect of the draft new development plan. Chapters 5 (section 5.2.1.9), 6 (section 6.2.1.9) and 7 (section 7.2.1.9) show that the duty to co-operate was found to have been fulfilled in respect of the Allerdale, Birmingham and South Worcestershire development plans on the basis of the LPAs having engaged with neighbouring LPAs when preparing the development plan without there being any actual strategies in place for dealing with cross-boundary issue. As City of York Council has co-operated with other LPAs, the Environment Agency and drainage boards in the preparation of the draft new development plan,[134] it is likely that, despite the lack of cross-

[126] City of York Council, *Local Plan 2005* (n 2) para 1.7.
[127] City of York Council, *Draft Local Plan 2018* (n 3) paras DP4, 2.18 and 2.21.
[128] PCPA 2004, ss 39(2) and 39(3).
[129] ibid s 19.
[130] Amec Foster Wheeler Environment & Infrastructure Ltd, *Sustainability Appraisal* (City of York Council 2018).
[131] City of York Council, *Draft Local Plan 2018* (n 3) para 2.19.
[132] PCPA 2004, s 19.
[133] Localism Act 2011, s 110.
[134] City of York Council, *Draft Local Plan 2018* (n 3) paras ENV4, ENV5 and 9.8.

boundary development strategies, the Planning Inspector will find that the duty to co-operate has been complied with.

8.2.1.10 Housing, communities, and settlement management

It is questionable whether the current development plan's strategic policies regarding the location of new development and the setting of density targets complies with the NPPF requirements for development plans to ensure safe and healthy living conditions[135] and that development functions well for its lifetime.[136] However, its requirement that where development takes place in flood risk areas the risk must be successfully managed appears to ensure the NPPF requirement is fulfilled at the individual development level. The draft new development plan policy regarding the location of new development takes account of a broader range of factors and gives greater priority to flood risk. Indeed, the draft new development indicates that flood risk is one of the primary factors in determining whether a site is suitable for development and claims that its policies ensure development is not subject to, nor contributes to, unacceptable levels of flood risk.[137] It also requires development in flood risk areas to successfully manage the flood risk, and therefore appears to be compliant with the NPPF requirements at both the strategic and individual development level.

8.2.1.11 Environmental protection

As with sustainability appraisals, the legislation requiring the environmental impacts of development plans to be assessed came into force in July 2004 and therefore will not have been in place when the current development plan was prepared. A Strategic Environmental Assessment and a Habitats Assessment have both been carried out in respect of the draft new development plan[138] and were both taken into account in its preparation,[139] thus ensuring compliance with the assessment of the environmental impacts of the draft new development plan.[140]

The current development plan recognises the importance of the natural environment. Its objectives include conservation and improvement of the natural environment, biodiversity, and habitats and it seeks to achieve these by restricting development that would have a detrimental impact on environmental interests, including habitats and species. This

[135] MHCLG, *NPPF 2019* (n 108) para 117.
[136] ibid para 135.
[137] City of York Council, *Draft Local Plan 2018* (n 3) paras SS1 and 2.14.
[138] Amec Foster Wheeler Environment & Infrastructure Ltd (n 129).
[139] City of York Council, *Draft Local Plan 2018* (n 3) i and iii.
[140] Environmental Assessment of Plans and Programmes Regulations 2004, SI 2004/1633, reg 5; Conservation of Habitats and Species Regulations 2017, SI 2017/1012, reg 63(1).

demonstrates that the statutory requirements for development plans to have regard to the desirability of conserving natural beauty[141] and amenity and biodiversity conservation[142] have been complied with, as well as the NPPF requirements to contribute to and enhance the natural environment[143] and safeguard and improve biodiversity.[144] Like the current development plan, the draft new development plan recognises the importance of the natural environment and its strategic objectives include the conservation and enhancement of natural assets. Whilst the policies that seek to achieve this objective include only limited restrictions on development, they are sufficient to comply with the statutory and policy requirements regarding the protection of environmental interests.

8.2.2 Determination of planning applications

8.2.2.1 Environment Agency consultation

It is unclear how much weight City of York Council gives to the Environment Agency's advice as the Interviewees responded vaguely that they 'probably do take due consideration' of it. In addition to this, their interpretation of the duty to consult the Environment Agency is that it does not create a presumption in favour of compliance with its advice, which, whilst correct, does suggest that City of York Council is quite willing to decide against the Environment Agency's advice. On the other hand, the Interviewees said that although City of York Council did not always agree with the Environment Agency, they were not aware of any occasions where it had decided against the Environment Agency's advice.[145] Indeed, the quantitative data, collected from annual reports published for the years 2005/6 to 2011/12 state that only three planning permissions were granted against the Environment Agency's advice on flooding.[146] It is also the case that although the Interviewees said that City of York Council does consult the Environment Agency on planning applications where there are flood risk issues, and there is evidence of this in the qualitative date, it not possible to establish from the qualitative data whether the Environment Agency is being consulted in every case

[141] Countryside Act 1968, s 11.
[142] Natural Environment and Rural Communities Act 2006, s 40.
[143] MHCLG, *NPPF 2019* (n 108) para 170.
[144] ibid para 174.
[145] Interviews with City of York Council (n 22).
[146] City of York Council, *Annual Monitoring Report 2005/2006* (City of York Council 2006) 44; City of York Council, *Annual Monitoring Report 2006/2007* (City of York Council 2007) 48; City of York Council, *Annual Monitoring Report 2007/2008* (City of York Council 2008) 107; City of York Council, *Annual Monitoring Report 2008/2009* (City of York Councl 2009) 48; City of York Council, *Annual Monitoring Report 2009/2010* (City of York Council 2010) 52; City of York Council, *Annual Monitoring Report 2010/2011* (City of York Council 2011) 57; City of York Council, *Annual Monitoring Report 2011/2012* (City of York Council 2012) 15.

that it ought to be and therefore whether the statutory consultation requirement is always complied with.[147]

8.2.2.2 Sequential Test

As the quantitative data include no refusals of planning permission on the grounds that the development did not comply with the Sequential Test, there is no evidence of City of York Council applying the Sequential Test in the determination of planning applications in accordance with the NPPF requirements.[148] However, neither does the data provide evidence that the NPPF requirements are not being complied with and examination of this issue would require a different research method than the one used in this research project (as discussed in Chapter 9 section 9.2.2.2).

8.2.2.3 Sustainable drainage systems

The data included just four conditions requiring the use of SUDS. It is therefore questionable whether City of York Council is complying with the requirement to ensure that all major development and development within flood risk areas incorporates SUDS. However, it may be that SUDS are being incorporated into development proposals and therefore do not need to be conditioned, or that the exception to the requirement that applies where the use of SUDS is considered 'inappropriate' is being relied on.[149]

8.2.2.4 Have regard to the flood risk and surface water management provisions of the development plan

The planning permissions granted by City of York Council include references to the relevant development plan policies and it therefore appears to be complying with the statutory requirement to take account of the provisions of the development plan.[150] However, as the data collected do not include details of the development, it is not possible to ascertain from the data whether planning applications are being determined in accordance with the provisions of the development plan. The observation that can be made is that there are no clear indications that decisions are not being made in accordance with the development plan.

8.2.2.5 Climate change

It is not possible to establish from the data whether City of York Council is complying with the requirement to ensure that development within areas vulnerable to the impacts of climate

[147] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595, art 18.
[148] MHCLG, *NPPF 2019* (n 108) paras 158 and 160.
[149] ibid paras 163 and 165.
[150] Town and Country Planning Act 1990, s 70.

change manage the risks through suitable adaptation measures.[151] Although the data did include conditions requiring flood risk and surface water management measures, whether these are sufficient to ensure that flood risk is managed is beyond the scope of this research project.

8.2.2.6 Sustainable development

The Interviewees' perception of their role as being to facilitate rather than prevent development indicates an overall compliance with the NPPF presumption in favour of sustainable development in relation to its determination of planning applications.[152] However, 8.2% of the decisions on which data were collected were refusals, indicating that City of York Council does not grant planning permission without consideration and is prepared to refuse to allow developments to go ahead. The discretionary nature of the presumption in favour of sustainable development means that it is capable of being fulfilled despite this percentage of refusals.

8.2.2.7 Housing, communities, and settlement management

The fact that the data include a condition requiring provision of a safe access and egress route and one prohibiting use of the ground floor as bedroom accommodation shows that City of York Council does take steps to address the safety issues relating to flood risk, but the data are not able to show the extent to which it is in compliance with the requirement to ensure safe and healthy living conditions and places and ensure that development functions well for its lifetime.[153]

8.2.2.8 Environmental protection

The data include no conditions for the protection of environmental interests and this may be a reflection of the fact that the development plan only requires the protection of environmental interests in limited circumstances.[154] On the other hand, the data include a relatively large number of planning obligations requiring contributions to the provision of open space, which could suggest that City of York Council is complying with the requirement to have regard to the desirability of conserving natural beauty and amenity[155] and contribute to and enhance values landscapes,[156] particularly in light of the limited nature of these requirement and the low threshold for compliance (as discussed in Chapter 3). A full examination of the extent to

[151] MHCLG, *NPPF 2019* (n 108) para 150.
[152] ibid para 11.
[153] ibid para 95.
[154] City of York Council, *Local Plan 2005* (n 2) paras G12 and G15.
[155] Countryside Act 1969, s 11.
[156] MHCLG, *NPPF 2019* (n 108) para 170.

which these requirements are being complied with is beyond the scope of this research project.

8.2.3 Conclusion

There are a number of obligations relating to flood risk that the current development plan does not appear to be in compliance with. The current development plan was published before the NPPF was introduced, but whether or not the policies accord with the NPPF can affect how much weight they are given in the determination of planning applications.[157] Compliance with some of the duties is also questionable in respect of the draft new development plan, in particular those relating to the SFRA and the Sequential Test. It remains to be seen whether these issues are picked up on by the Planning Inspector in its report on examination of the draft new development plan.

With regard to the determination of planning applications, whilst the data included no clear examples of non-compliance, due to limitations in the extent and nature of the data it cannot be clearly established whether City of York Council is in compliance with its flood risk management related obligations.

8.3 Use of the Flood Risk Management Tools

The data indicate that City of York Council has not made as extensive use of the tools available to it for the management of flood risk as it could have, and there are a number of possible reasons for this:

- The low threshold for compliance with them does not incentivise the wide use of the tools to manage flood risk. The Interviewees commented that 'We could be doing so much more, but legislation doesn't require us to do more.'[158] They felt that going beyond the requirements, whilst being possible, can be difficult to justify.
- The Interviewees were also of the opinion that, overall, the current system gives adequate opportunities for consideration of flood risk through the SFRA and that flooding is being adequately managed by City of York Council.[159] They therefore do not consider it necessary to go beyond what they are required to do in order to effectively manage flood risk.
- There is some evidence of a lack of awareness regarding the potential uses of the tools to manage flood risk. The Interviewees were not aware of the potential use of Article 4

[157] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Plan-making* (MHCLG 2018) para 064.
[158] Interviews with City of York Council (n 22).
[159] ibid.

Directions in the context of flood risk, and the narrow use of planning obligations suggests that there may be a lack of awareness regarding the ways in which they can be used.

- The low use of conditions to require the incorporation of SUDS may be due to perceived weaknesses in the SUDS regime. The Interviewees expressed a belief that much more use could be made of SUDS as a means of managing flood risk in urban settings but clearly felt that the current SUDS regime is inadequate to manage flood risk as it contains no binding standards and made it easy for developers to fulfill the requirements without effectively managing drainage. This is likely to undermine confidence in the SUDS regime and act as a disincentive to requiring developers to use them.
- The lack of policy regarding the provision of soft flood defences and lack of conditions and planning obligations requiring the developer to provide or fund such infrastructure may be due to a lack of public support for such measures. The Interviewees believed the need to be able to establish the cost-benefit of flood risk measures makes the use of some flood risk management measures more difficult to justify to the public than others. They spoke of the need to monetise flood risk measures and were of the view that measures such as formal flood defences where the number of properties protected and the value of assets protected can be more readily ascertained are easier to justify than more informal and natural measures. They also stated that whilst insurers will reduce premiums if a formal flood defence protects a property they will not do so for soft defences. This will reduce public support for informal, natural flood risk management measures. The Interviewees also acknowledged that flooding is a serious and significant issue for York, but they also highlighted that, extensive as the flooding can be, it is only really an issue for a minority of the occupants of York and that on a day-to day basis other issues such as ‘bin collections, pot holes, children’s and young persons’ services’ are the issues that are on people’s minds.
- A failure of developers to apply for planning permission when required reduces the ability of City of York Council to impose conditions and require planning obligations to manage flood risk. The Interviewees were of the view that, for small-scale development in particular, developers did not always apply for planning permission when they ought to. This means that the Council is not able to condition things like the use of permeable surfacing in order to help manage surface water and flooding, and also undermines any removal of permitted development rights through Article 4

Directions or conditions, forcing City of York Council to rely in its enforcement powers instead.

- The Interviewees spoke of staff cuts in recent years and how they felt that a lack of resources is an issue with regard to City of York Council's ability to manage flood risk effectively. The Interviewees also spoke of the fact that the expert advice they receive is sometimes conflicting and therefore does not always give them the clear guidance that they require.
- Pressure from central government to allow development to take place may be reducing City of York Council's perceived ability to prevent development from taking place by either refusing planning permission or imposing requirements that reduce the viability of development. The Interviewees spoke of the emphasis that the NPPF historically put on economic development and now puts on provision of housing. They were of the opinion that the current NPPF has restricted LPAs' discretion so far as planning for development is concerned by becoming 'more pro build rather than protect' and 'putting a lot more evidence requirements on the local authority to determine or show reasons why you can't build'.
- The low number of refusals on flood risk grounds and the low use of conditions may be due to negotiations between City of York Council and the developer resulting in development proposals that include the necessary measures to manage flood risk. The Interviewees referred to applications for planning permission being an 'iterative process' that ensures that 'most issues are ironed out through discussions' and means that not only are refusals of planning permission rare but also that conditions are often not required.

Chapter 9 – Case Study Comparisons and Conclusions

9.1 The Data

9.1.1 Development plans

9.1.1.1 Flood risk and surface water management policy

The current development plans for Allerdale, Birmingham, and South Worcestershire all include flood risk management within their strategic objectives and although the current development plan for York does not, the draft new one does. Whilst strategic objectives do not constitute specific development policy, the extent to which the development plans include flood risk management as a strategic objective is significant because the strategic objectives should set out the broad aims and principles that have been used to establish the specific policies within the development plans and help to guide decision-making under those plans.

With regard to the substantive flood risk management policies, all the current development plans examined in the case studies contain specific flood risk management policies. In the case of the development plans for Allerdale, Birmingham and York (and the draft new development plan for York), these constitute qualified restrictions on development within high flood risk areas or that would increase flood risk elsewhere and vague requirements to mitigate and manage flood risk in relation to development that does take place. The development plan for Worcester is the only one that contains any absolute restrictions on development within functional floodplain and it also contains the most detailed (though no less ambiguous) requirements regarding mitigation and management of flood risk in relation to development that does take place.

In three out of the four case studies, more than one development plan was examined. In the Allerdale Borough Council and Birmingham City Council case studies the current and previous development plans were examined. Whilst the flood risk management policy in the current development plan for Birmingham is more comprehensive than that in the previous development plan for Birmingham, the difference between the flood risk management policy in the current development plan for Allerdale and the previous one is only marginal. In the City of York Council case study, the draft new development plan was examined in addition to the current development plan, and the flood risk management policy in the draft new development plan is more detailed but otherwise very similar to that in the current development plan. It is therefore not the case that development plan policies on the management of flood risk have improved significantly across the board over the time-frame of the case studies.

On the other hand, the current development plans for Allerdale and Birmingham and the draft new development plan for York increased the focus on surface water drainage and contain significantly more comprehensive policies and onerous requirements regarding the use of sustainable drainage systems (SUDS). It is clear, therefore, that there has been an improvement in the understanding of the implications of surface water run-off on the management of flood risk which, as discussed in Chapter 2 (section 2.1.2.3), was one of the key areas for improvement identified in the 2008 Pitt Review.[160] The surface water management policies are also, in the case of the current development plans for Birmingham and South Worcestershire and the draft new development plan for York, more specific and measurable than those relating to flood risk management in general, containing, for example, specific limits on run-off. There is, however, significant variation between the case studies in relation to the policy on SUDS. The Allerdale development plan policy contains little detail regarding either surface water in general or SUDS and includes only a qualified requirement for SUDS to be incorporated into development. This accords with the fact that Allerdale Borough Council does not consider SUDS to be an effective means of managing the area's flood risk. The draft new development plan for York contains stricter requirements regarding drainage and the use of SUDS which, although they are qualified, are less so than those in the Allerdale development plan. The Birmingham development plan contains an unqualified requirement regarding the use of SUDS that reflects the greater confidence in their utility expressed by the Interviewees of Birmingham City Council, and the South Worcestershire development plan makes it very clear that SUDS must be used in all developments.

A significant similarity between all the development plans examined in the case studies is that none of them contain effective provisions for monitoring delivery of the flood risk and surface water management policies. They therefore do not establish the means by which the implementation and effectiveness of their policies can be monitored and evaluated. The implications of this and recommendations for how this can be addressed are discussed in Chapter 10 (section 10.1.5).

9.1.1.2 Other relevant policies

9.1.1.2.1 Climate change

The data indicate an overall increase in the profile of climate change in the development plans over the timeframe of the case studies. However, in each of the case studies, whilst the climate change policies gave some support to the flood risk and surface water management

[160] Sir Michael Pitt, *The Pitt Review: Learning Lessons From the 2007 Floods* (Cabinet Office 2008) ch 6.

policies, their vagueness and lack any specific requirements as to what is to be achieved or how it is to be achieved means that they do not add anything to the flood risk and surface water management policies. Indeed, the Royal Town Planners Institute has found there to be a general failure of local planning authorities (LPAs) to address climate change in their development plans, including a failure to 'consistently delivering the adaptation actions necessary to secure the long-term resilience of local communities.' The Royal Town Planners Institute blames this at least partly on 'a chronic lack of resources in English local government' and the skill shortage that this has resulted in in relation to energy and climate change.[161] This lack of resources is something that the Interviewees referred to in three out of the four case studies and is clearly a limiting factor with regard to what LPAs can deliver in terms of flood risk management and is discussed further in section 9.3.2 and Chapter 10 (section 10.1.5). The failure of LPAs to adequately address climate change in their development plans may also be due to a perception that climate change is a global issue beyond the control of local government (as discussed in Chapter 2, section 2.2.1). Consequently, LPAs' climate change policies are likely to add little to their flood risk and surface water management policies until LPAs recognise that effective climate change adaptation and mitigation requires local as well as national and global action and they are given the resources necessary to enable them to develop and deliver effective climate change strategies and policies.

9.1.1.2.2 Sustainable development

The case studies show that the four LPAs all interpret sustainable development slightly differently and take different approaches to the relevance of flood risk management. This illustrates the point made in Chapter 3 (section 3.2.2) that sustainable development is an inherently imprecise concept that is open to a range of legitimate interpretations. Notwithstanding the different interpretations of sustainable development, all four of the LPAs class flood risk management as within the environmental pillar of sustainable development. (Whilst there was some recognition by the Interviewees from City of York Council that flood risk is not exclusively an environmental issue, this is not reflected in the development plan provisions). This causes difficulties with regard to how it is taken into account in the sustainable development decision making as flooding is not an environmental interest that needs protecting, but rather an environmental issue that impacts on environmental, social and economic interests. This failure to properly recognise where flood risk fits into the balancing

[161] Town and Country Planning Association and RTPI, *Rising to the Climate Crisis: A Guide for Local Authorities on Planning for Climate Change* (TCPA 2018) 6.

of interests that is inherent to sustainable development is discussed further in Chapter 10 (3.2.2). In any event, none of the development plans contain any clear and measurable requirements regarding the achievement of sustainable development and this prevents the sustainable development policies from adding anything substantive to the flood risk management policies.

9.1.1.2.3 Housing, communities, and settlement management

Rather than prioritizing land that is sustainable in the long-term for the location of new development, the current development plans all seek to focus new development within existing settlements and/or previously developed land. The draft new development plan for York expressly provides for flood risk to be taken into account when determining which sites are suitable for development, but the absence of a published strategic flood risk assessment (SFRA) means that it is unclear how much priority has been given to flood risk in the allocation policies in practice. Indeed, all of the case studies clearly demonstrate some of the limitations of the SFRA regime and the Sequential Test discussed in Chapter 3 (section 3.3.2.2). For example, the absence of a published SFRA in respect of the draft new development plan for York and the limited information available from the SFRA in respect of the South Worcestershire development plan raise questions regarding the effectiveness of the development plan consultation procedure. The SFRAs for the Allerdale and Birmingham development plans also demonstrate the way in which SFRAs can be adapted to the LPA's preferred outcome rather than directing development towards the lowest risk areas and the similarly backward-looking way in which the Sequential Test is being applied. It is also the case that the current development plans and the draft new development plan for York all include density requirements for residential development without recognition of the impact that increased development density can have on flood risk. The policies regarding communities and settlement management therefore do meaningfully seek to strategically plan development in a way that reduces, or does not increase, flood risk.

9.1.1.2.4 Environmental protection

All the current development plans recognise that the protection of environmental interests is important to achieving their economic and social objectives as well as their environmental objectives. However, the protection provided by environmental policies is largely limited to sites and species that have some sort of protected status or particular significance and is therefore only applicable to development that would cause environmentally damaging flooding in limited circumstances. They do not restrict development that would result in environmentally damaging flooding to sites or species that do not have any protected status. It

is also the case that any restrictions that the environmental policies do contain regarding development tend to be subject to widely applicable exceptions that allow environmental interests to be outweighed by economic and social interests. In any event, as none of the development plans recognise the environmental damage that can be caused by flooding it is questionable whether the LPAs would use their environmental policies to support decisions to further the management of flood risk. The policies that seek to protect watercourses, wetlands, floodplains and other bodies of water potentially offer greater protection to environmental interests from the impacts of flooding, but only the development plans for Birmingham and York contain any such policies.

There is also some suggestion that the level of environmental protection provided for the in the development plan policies may have decreased over the period that this research investigated in relation to some of the LPAs. The current development plan for Allerdale does not repeat the 1999 Allerdale development plan's reference to the Precautionary Principle, and it allows for economic interests be prioritised over environmental interests. It is also the case that the range of sites and species protected by the draft new development plan for York is narrower than in the current development plan.

9.1.1.2.5 Development design

The data show that there has been a move towards viewing development design as being about more than just the appearance of development, with the current development plans and the draft new development plan for York all referring in their development design policies either to flood risk specifically or to climate change adaptation. However, only the Birmingham and the South Worcestershire development plans actually require development design to be used to manage flood risk or climate change, and even then it is unclear what developers are required to do to fulfill those requirements. Indeed, the only examples in the data of the use of conditions by Birmingham City Council and Worcester City Council to ensure that the development design was used to manage the flood risk aspect of climate change are conditions relating to the ground surfacing and floor levels (see section 9.1.4.4). (However, the data on conditions is subject to the caveat that it does not provide insight into ways in which the design of development already incorporates flood risk management and therefore does not need to be conditioned).

9.1.1.2.6 Infrastructure

All the current development plans recognise the importance of ensuring that development has the infrastructure necessary to support it. However, neither the Allerdale development plan

nor the current York development plan contain any actual requirement for development to have the infrastructure necessary to support it. Whilst the development plans for Birmingham and South Worcestershire and the draft new development plan for York do contain such requirements, they are vague and open to interpretation. They include no clear requirements for development to have the flood risk management infrastructure necessary to support it or to manage the flood risk implications of the development elsewhere.

9.1.1.2.7 Third parties and cross-boundary co-operation

All the current development plans state that the relevant LPA works with the Environment Agency regarding flood risk issues. They also refer to working with water companies (Allerdale, Birmingham, and South Worcestershire) and drainage boards (York), and with the Lead Local Flood Authority where the LPA is not the Lead Local Flood Authority (Allerdale and South Worcestershire). The Interviewees from Allerdale Borough Council, Birmingham City Council and York City Council all expressed some concerns over this need to consult with/obtain advice from third parties. Whilst there was some variation in how they expressed these concerns, they broadly speaking all expressed frustration with the lack of in-house expertise within the LPA which makes it dependent on advice from third parties and leads to difficulties when the advice from third parties is conflicting. Allerdale Borough Council also made reference to the fact that resource issues at the Environment Agency have impacted on the quality and utility of its advice. The issue of Environment Agency resources and the implications of this for the role that the Environment Agency can play in the management of flood risk is discussed further in Chapter 10 (section 10.1.5).

The current development plans and the draft new development plan for York all recognise the (practical and/or statutory) need to co-operate with neighbouring local authorities. However, only the South Worcestershire development plan and the draft new development plan for York recognise flood risk as a cross-boundary issue and, whilst these development plans contain provisions that seek to ensure that individual developments do not cause flood risk issues beyond the development plan area, neither of them contains any strategic policies for management of flooding on a catchment basis. Indeed, the Interviewees from City of York Council were of the opinion that it would be difficult to take such an approach due to the conflicting interests of the different local authorities and they saw development of any co-ordinated approach to flood risk management as being the responsibility of the Environment Agency.

9.1.1.3 Conclusion on development plans

It can be seen that there is an overall lack of focus on the strategic management of flood risk in the development plans. Despite the inclusion of flood risk in the strategic objectives of the development plans, the only provision for the strategic management of flood risk is application of the SFRA and Sequential Test to the allocation of sites for development. The LPAs have not used their development plans to set out their own long-term strategies for encouraging development to take place in areas that have an appropriate level of flood risk, for the provision of strategic flood risk management infrastructure, or for the creation of communities (and individual developments) that are resilient to flooding by for making space to accommodate flood water and rain fall. Neither is there any provision in any of the development plans for a catchment-based or cross-boundary approach to the management of flood risk. Instead, the development plans seek to address flood risk (and related issues) on an individual development basis, encouraging individual developments to take place in the area with the lowest flood risk and the incorporation of flood risk management measures into individual developments. Even the policies regarding the relocation of developments in the Allerdale and South Worcestershire development plans rely on developer initiative in relation to individual developments rather than planning strategically for it. The Interviewees themselves recognised the limitations of this approach and the need for flood risk to be managed strategically,[162] the failure to use the development plans to develop strategic policies may therefore be the reflection of a lack of awareness regarding the ability of development plans to be used in this way and/or of a perception that strategic flood risk management is beyond the remit of LPAs and requires the reintroduction of a regional tier to the planning system (Allerdale Borough Council) or the development of strategies by the Environment Agency (City of York Council).[163]

The flood risk and surface water management policies and many of the other development plan policies discussed above are imprecise and vague. There is a tendency for policy objectives to be inherently discretional and contain requirements that include phrases such as ‘adequate infrastructure’, ‘effective mitigation measures’, ‘where possible’ and ‘where appropriate’. In the absence of any guidance within the development plans as to what these terms mean, the question of whether these requirements have been fulfilled (which feeds into the decision whether to grant planning permission) is decided on a case-by-case basis. This

[162] Interview with Birmingham City Council (7 February 2019); Interviews with Allerdale Borough Council (22 May 2019).
[163] Interviews with Allerdale Borough Council (n 3).

can create issues of transparency, predictability and consistency, and the vagueness of the policies gives developers the opportunity to argue for an interpretation that furthers their interests. When this is combined with LPAs' objective of facilitating development (which encourages them to exercise their discretion in a way that enables rather than restricts development) this is likely to lead to low thresholds for compliance with the policy requirements. The need for policies to be specific and measurable in order avoid this and ensure that they are effective is discussed further in Chapter 10 (section 10.1.5).

A further general criticism that can be made regarding the LPAs' use of the development plans to manage food risk is the failure to fully recognise and address the complexity of the interaction between different policy areas. There is no recognition that taking an approach to development that focuses on meeting immediate and short-term needs is not going to produce sustainable development that meets the long-term needs of the area. Consequently, there is no recognition that failing to properly address flood risk will have a detrimental impact on social and economic interests in the long-term. The LPAs have therefore not fully integrated flood risk management with other policy objectives and the development plans are therefore not able to send out a coherent and consistent message for the direction of development. This is reflective of the failure of the planning system in general to fully recognise the interaction between flood risk and other policy areas and its tendency to take a short-term approach to assessing and meeting development needs. The need to address this in order to enable the effective management of flood risk is discussed further in Chapter 10 (section 10.1.5).

9.1.2 Permitted development rights

9.1.2.1 Article 4 Directions

The case studies reveal that development plan policy on the use of Article 4 Directions focuses on their use as a means of protecting Conservation Areas and controlling houses in multiple occupation, with no reference to their use as a means of managing flood risk. The interview data reveal that the LPAs have not given consideration to the use of Article 4 Directions as a means of managing flood risk and the data on the use of Article 4 Directions in practice show that they have been used for only a limited range of specific purposes that does not include the management of flood risk (predominantly the protection of Conservation Areas and control of houses in multiple occupation, in accordance with the development plan policies).

The data also show that where an LPA issues an Article 4 Direction that covers a large number of properties (such as those relating to houses in multiple occupation), at least 12

months' notice is given of the Direction coming into force, thus preventing the LPA from being exposed to a large number of compensation claims. As it is the cumulative impacts of permitted development such as extensions and the laying of hard-surfacing that increases flood risk, the larger the area they cover the more effective Article 4 Directions removing these permitted development rights will be at managing flood risk. As discussed in Chapter 4 (section 4.2.1), if LPAs consider it necessary to give 12 months' notice of any such Direction coming into effect, this may be counterproductive by encouraging, in the short-term at least, the development that it is seeking to restrict and control. Further discussion of reforms to the Article 4 regime to prevent problems such as this and enable it to be used more effectively as a means of managing the cumulative impacts of small-scale development is set out in Chapter 10 (section 10.1).

9.1.2.2 Local and Neighbourhood Development Orders

The case studies reveal that the development plans only refer very vaguely to use of Local Development Orders and Neighbourhood Development Orders, if at all, and they do not refer to them as a means of managing flood risk. The LPAs' approach to Local and Neighbourhood Development Orders varies, but none of the case study LPAs has made much use of them (with Worcester City Council and City of York Council not currently making any use of them). Furthermore, the only example of such an Order being used in a way that contributes to the management of flood risk was the Local Development Order issued by Birmingham City Council to encourage development that is less vulnerable to flooding within an area at risk of flooding (Flood Zone 2). There is no obvious reason for LPAs making little use of Local Development Orders and Neighbourhood Development Orders and it is therefore likely that LPAs lack awareness of their ability to be used to manage flood risk and the resources needed to enable them to encourage certain types of development to take place in areas where the level of flood risk is appropriate.

9.1.3 Refusal of planning permission

Notwithstanding the LPAs' pro-development approach and willingness to work with developers to resolve any issues relating to development proposals, a significant proportion of the decisions from which data were collected were refusals of planning permission. The percentage of those refusals that were on grounds relating to flood risk was, however, low. Furthermore, of the eight refusals that were on grounds relating to flood risk, six related to an inadequacy of information and the remaining two refusals were due to issues with the application of the Sequential Test. The data therefore contained no examples of planning permission having been refused on the grounds that the flood risk was unacceptable and could

not be adequately managed. This suggests that LPAs tend to see flood risk issues as capable of being addressed through mitigation measures rather than as irresolvable problems that prevent planning permission from being granted. However, it may be the case that applications in relation to which there are flood risk issues are withdrawn or stall and never make it to the decision stage, and the data do not show the extent to which this is the case. A research method based on the collection of empirical data from planning applications rather than planning decisions would be needed to investigate this.

	Refusals as percentage of planning decisions	**Percentage of refusals on flood risk grounds**
Allerdale Borough Council	9.5	0.61
Birmingham City Council	12	0.18
Worcester City Council	8.2	0
City of York Council	8.2	0.5

Table 9.1 Showing the percentage of planning decisions that are refusals and the percentage of those refusals that are on flood risk grounds for each case study

9.1.4 Conditions

None of the development plans refer to the use of conditions to manage flood risk and the data from the interviews indicates that the LPAs take different approaches to the use of conditions in this way. The Interviewees from Birmingham City Council and Worcester City Council said their LPA did use conditions to manage flood risk. On the other hand, the Interviewees from City of York Council stated that they resolved flood risk issues in the negotiation process rather than using conditions, and the Interviewees from Allerdale Borough Council made it clear that they did not see it as their role to use conditions to ensure that developments incorporated property level resistance and resilience measures.

9.1.4.1 Temporary permission

The data indicate that little use is made of temporary planning permission and that when it is used it is usually for reasons connected to amenity and visual impact. Whilst Birmingham City Council has made some use of temporary planning permissions to enable the impacts of the development to be assessed before deciding whether it should be granted permanent

planning permission, it is the only LPA to have done so and there were no examples in the data of it having done so to assess the impacts of the development on flood risk.

9.1.4.2 Environmental protection

The data include no examples of conditions to protect environmental interests from the impacts of flooding. Furthermore, the data indicate that little use is made of conditions as a means of protecting environmental interests at all. This corresponds with the lack of attention given to the protection of environmental interests in the development plans and the LPAs' failure to recognise the adverse environmental impacts of flooding.

9.1.4.3 Materials

A significant proportion of the planning permissions examined contained a condition relating to the external materials to be used in the development.

	Percentage of planning permissions containing condition relating to materials
Allerdale Borough Council	9
Birmingham City Council	30
Worcester City Council	45
City of York Council	55

Table 9.2 Showing the percentage of planning permissions that contained a condition relating to materials in each case study

The data indicate that Allerdale Borough Council and City of York Council only use conditions relating to the materials to be used in the development to control the appearance of the development. On the other hand, the reason for the use of such conditions by Birmingham City Council and Worcester City Council were more widely defined (place making and ensuring compliance with development design requirements) and consequently *may* have included flood risk considerations, particularly as their development plans contain policies that require development design to be used to manage flood risk and climate change. However, without clearer policy requirements and more detailed reasons in the planning permission, it is unclear whether flood risk management was a factor in the use of these conditions.

9.1.4.4 Surfacing and ground levels

All four of the LPAs have made significant use of conditions to control the ground surfacing of developments. All such conditions imposed by Allerdale Borough Council, Worcester City Council and City of York Council were either directly or indirectly for the management of flood risk. Those imposed by Birmingham City Council were for reasons connected with 'place making' and it is therefore unclear the extent to which flood risk management was a consideration.

The data indicate more of a variation in the LPAs' use of conditions to control floor levels to manage flood risk. The data included no conditions relating to flood levels imposed by Allerdale Borough Council, but as Allerdale Borough Council prefers to resolve the issue of floor levels prior to granting planning permission the absence of conditions regarding floor levels does not necessarily mean that it is not taking steps to ensure that floor levels are not increasing flood risk. The data also suggest that Worcester City Council does not use conditions to control floor levels. However, the data for City of York Council included 11 conditions relating to floor levels, all for the purpose of managing flood risk. Birmingham City Council has made the most use of conditions regarding floor levels, but only six of the 47 conditions were for the specific purpose of managing flood risk, with the other 41 being for 'place making' (and which may or may not have included flood risk considerations).

9.1.4.5 Removal of permitted development rights/restrictions on use

Unlike many other aspects of development, removal of permitted development rights is not something that can be incorporated within development proposals or resolved in the negotiation process. Conditions therefore need to be used if an LPA wants to remove permitted development rights (unless there is an Article 4 Direction in place). The data on conditions removing permitted development rights therefore gives a clear picture of the extent to which LPAs are restricting development in this way to manage flood risk. The data indicate that whilst all the LPAs have made use of conditions to remove permitted development rights or otherwise restrict the use of the development, this has rarely been in connection with the management of flood risk, with the data including only four such condition, one imposed by Allerdale Borough Council and three by City of York Council. The lack of conditions to remove permitted development rights to manage flood risk accords with the overall limited recognition by the LPAs of the cumulative impacts of small-scale development on flood risk.

9.1.4.6 Surface water management

As with the development plan policies, there were similarities between the case studies in relation to addressing surface water management in general, but differences in relation to the use of SUDS. Each of the LPAs has made significant use of conditions to manage surface water, and it is also the case that a large proportion of such conditions imposed by each of the LPAs require the LPA to approve a surface water management scheme. Use of such conditions consequently puts an additional burden on LPAs in terms of time and expertise and therefore, given the comments that the Interviewees made regarding the staff cuts and a lack of in-house expertise, it is questionable how effective these conditions are. The issue of LPA resources and the impact on their ability to manage flood risk is discussed further in Chapter 10 (section 10.1.5).

Set out in Table 9.3 below is the percentage of the surface water management conditions that required the use of SUDS for each LPA. The National Planning Policy Framework (NPPF) allows for a range of interpretations of the requirements relating SUDS and the data reveal that the interpretation and approach taken by an LPA is influenced by a range of factors including the particular geographical circumstances of the area and the personal expertise and experience of individuals within the LPA. The Interviewees from Allerdale Borough Council expressed clear reservations about the extent to which the use of SUDS can reduce flood risk in their area given the local geography and the volume of water that flows into the area in the event of flooding. The Allerdale development plan contains only minimal provisions and a qualified requirement regarding the use of SUDS. City of York Council's lack of confidence in SUDS is for a very different reason. The Interviewees from City of York Council made it clear that they considered surface water management to be key to the management of flood risk but that the current legal regime for SUDS does not go far enough in ensuring that SUDS fulfill their potential, an opinion that was informed by the Interviewee's engineering background and expertise in flood risk management. Its development plan contains only a qualified requirement regarding the use of SUDS. On the other hand, the high percentage of surface water conditions requiring the use of SUDS imposed by Worcester City Council reflects its strong development plan policy.

	Percentage of surface water management conditions requiring SUDS
Allerdale Borough Council	4.7
Birmingham City Council	38.4
Worcester City Council	62.8
City of York Council	5.2

Table 9.3 Showing the percentage of surface water management conditions that required the use of SUDS in each case study

9.1.4.7 Other flood risk management conditions

The majority of the flood risk management conditions imposed by Allerdale Borough Council, Birmingham City Council and City of York Council that do not fall within the categories discussed in sections 9.1.4.1 to 9.1.4.6 either required the developer to incorporate the measures recommended in the flood risk assessment or related to warning systems and emergency procedures and routes to be used in the event of a flood. The data include very few examples of the LPAs imposing their own specific requirements regarding the measures to be taken to reduce the probability of flooding and the incorporation of resistance and resilience measures. There are a number of possible reasons for this. In the case of Allerdale Borough Council, the lack of such conditions reflects the Interviewees' approach that it is up to developers to decide whether to include property level resistance and resilience measures, but it may be that such measures are being incorporated into development and therefore do not need to be conditions (this applies to all four of the LPA, not just Allerdale Borough Council). It may also be attributable to the LPAs' lack of specialised knowledge that prevents them from attaching their own conditions and makes them reliant on the recommendations and advice of the flood risk assessments. Furthermore, LPAs need to be able to justify any condition that they attach relating to flood risk to ensure that the developer does not have grounds to appeal against the condition (as discussed in Chapter 4, section 4.4.3.1).[164] This restricts their ability to use standard form conditions without proper consideration of whether they are necessary in each particular case and increases the resources and expertise needed to impose conditions to manage flood risk.

[164] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Use of Planning Conditions* (MHCLG 2014) para 016.

9.1.4.8 Conclusion on conditions

The overall conclusion that can be drawn is that the LPAs are not making extensive use of conditions to manage flood risk, and what use they are making of them is largely in connection with the management of surface water. This is the case for all four of the case studies, irrespective of the development plan provisions and the Interviewees' approach to the use of conditions for the management of flood risk. However, it is not possible to establish from the data whether an LPA not attaching conditions to manage flood risk when determining a particular planning permission is due to a failure by the LPA to identify and seek to address the flood risk issues relating to developments. It may be the case that there were no flood risk issues relating to the development or that the necessary measures have been included within the individual development proposals. The inability of the data to shed any light on this is a limitation of this research and an alternative research method that focuses on the detail of the proposal, the flood risk issues relating to the proposal, and the negotiations between the developer and the LPA would be required to assess the extent to which LPAs are identifying and addressing flood risk issues during the negotiation process.

9.1.5 Planning obligations

Whilst the draft new development plan for York refers to the use of planning obligations specifically in relation to flood risk management measures, the four current development plans do not, which indicates a general failure to recognise planning obligations as a means of ensuring the provision of flood risk management infrastructure. Furthermore, none of the development plans contain any actual requirements to use planning obligations and the evidence from the development plans for Allerdale and York is that viability issues will reduce the extent to which planning obligations are used in practice. Such an approach prevents planning obligations being used as a means of ensuring that the flood risk costs relating to development are borne by the developer, and all the benefits that doing so can have (as discussed in Chapter 4, section 4.5.2.3).

With regard to the use of planning obligations in practice, the data show that the LPAs use planning obligations relatively extensively to ensure the provision of open space, but it is not clear whether flood risk management was a consideration in the open space provision for any of the LPAs. The only clear examples of planning obligations having been used for the management of flood risk are in the data for Allerdale Borough Council and Birmingham City Council, and those examples are few and far between, with just eight such planning obligations having been entered into by Allerdale Borough Council between 2013/14 and 2018/19 and three by Birmingham City Council between 2007 and 2020. To summarise, none

of the LPAs has a clear policy of requiring developers to pay for the measures needed to address the flood risk impact of their development or practice of doing so.

It is also the case that only the data for Allerdale Borough Council included any planning obligations relating to activities on or use of the development site or for the provision of off-site measures by the developer (as discussed in Chapter 4, section 4.5). All other data on planning obligations relate to the funding of off-site measures. Whilst the measures funded by planning obligations varies from LPA to LPA, the way on which each LPA has used planning obligations is very limited. The data does not reveal the reasons for this, but it may be due, at least in part, to LPAs being unfamiliar with the extent of their uses. Indeed, the NPPF takes a narrow approach to the use of planning obligations, seeking to ensure that they do not restrict development.[165] It contains no guidance on or examples of the ways in which they can be used or encouragement for LPAs to think creatively about how they can be applied to enabling and improving development. Planning practice guidance on planning obligations reflects the approach in the NPPF, focusing on their use a means of ensuring the provision of affordable housing, encouraging model agreements and clauses rather than innovation, and further discouraging their use by emphasising the significance of viability as a factor to be taken into consideration when deciding whether to impose planning obligations.[166] The data on the use of planning obligations in practice, like that on the development policy regarding their use, demonstrates that the LPAs are not using planning obligations as a means of ensuring that the flood risk management costs relating to development are borne by the developer. Further discussion of this, and recommendations on how the developer contribution regime could be reformed in order to better ensure that developers bear the flood risk costs relating to development, can be found in Chapter 10 (section 10.1.5).

It is, however, important to note that the lack of data on planning obligations relating to the funding of on-site measures may be due to the fact that on-site measures, such as the provision of emergency access and evacuation routes or flood water storage infrastructure, can usually be provided for through conditions, in which case a condition rather than a planning obligation should be used.[167] Alternatively, it may be the case that planning obligations other than those relating to funding of off-site measures are being entered into but not recorded as the reports published by the Birmingham City Council, Worcester City

[165] Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 56.
[166] Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Planning Obligations* (MHCLG 2019) para 016.
[167] MHCLG, *NPPF 2019* (n 5) para 54.

Council and City of York Council appear to be a form of financial accounting. As the requirement in the Community Infrastructure Levy Regulations 2019 to publish records of financial and non-financial contributions only applies as of 31st December 2020, examining the extent to which the LPAs have made use of planning obligations for other than for financial contributions would have required making further enquiries of the LPAs and even then the information may not be available. It is also worth noting that as at 31st March 2021, none of the case study LPAs had published records in accordance with the Community Infrastructure Levy Regulations 2019.

9.1.6 Community Infrastructure Levy

The data support the generally held view that the current Community Infrastructure Levy (CIL) regime is not working as it was intended.[168] Two of the case study LPAs have not introduced a CIL (Allerdale Borough Council and York City Council). The two LPAs that have introduced a CIL (Birmingham City Council and Worcester City Council) have found their CIL income to be lower than anticipated and insufficient to enable the regime to work as hoped. The CIL data for Birmingham City Council and Worcester City Council also indicate that the CIL has not resulted in the delivery of any infrastructure. It can therefore be seen that the CIL is not being used as a means of ensuring the provision of the flood risk infrastructure needed to serve the area. Recommendations for how the developer contribution regime could be reformed to better enable it to ensure the provision of flood risk management infrastructure can be found in Chapter 10 (section 10.1.5).

9.2 Compliance with the Flood Risk Management Requirements

9.2.1 Development plan

9.2.1.1 Strategic flood risk assessment

There are no issues regarding the case study LPAs' compliance with the NPPF requirement to carry out an SFRA despite the fact that their use of their SFRAs and City of York Council's failure to publish its SFRA alongside its draft new development plan demonstrate many of the limitations of SFRAs discussed in Chapter 3 (section 3.3.1.2.1).[169]

9.2.1.2 Sequential Test

There is no evidence of the Sequential Test having been applied to the allocation policies in the South Worcestershire development plan but this was not picked up by the Planning

[168] CIL Review Group, *A New Approach to Developer Contributions* (MHCLG 2016) para 4.1.
[169] MHCLG, *NPPF 2019* (n 6) para 156.

Inspector on examination of the draft plan.[170] Whilst the draft new development plan for York states that the Sequential Test has been applied, there is no substantive evidence of its application, and it remains to be seen whether this is picked up on its examination. Those case studies in which application of Sequential Test is clearer (Allerdale and Birmingham), the way in which it has been applied demonstrates some of the weaknesses of the Sequential Test. In particular, the Sequential Test has been applied in a backward-looking manner, starting with the preferred sites and seeking to apply the test in a way that can accommodate them. It can also be seen that in the application of the Exception Test common types of development, such as residential development, are regarded as providing 'wider sustainability benefits' that outweigh flood risk. This shows the ease with which the Exception Test can be satisfied and the questionable effectiveness of the Sequential Test as a means of managing flood risk (as discussed in Chapter 3 section 3.3.1.2.2).

The SFRA and the Sequential Test form the core of the NPPF flood risk management policy and these issues regarding their effectiveness fundamentally undermine the effectiveness of the NPPF policy. Recommendations as to how the NPPF flood risk management policy regime could be reformed to address this are discussed in Chapter 10 (section 10.1.5).

9.2.1.3 Flood risk management infrastructure

Whilst the South Worcestershire development plan appears to be compliant with the NPPF requirement for development plans to make sufficient provision for flood risk management infrastructure, it is questionable whether the current development plans for Allerdale, Birmingham and York are.[171] However, as discussed in Chapter 3 (section 3.3.1.2.3), the ambiguous and subjective nature of this requirement means that establishing a breach would be difficult. Furthermore, the Planning Inspector made no mention of the provisions of the Birmingham development plan falling short of the NPPF requirements regarding flood risk management infrastructure in its examination of these development plan. This brings into question the effectiveness of the NPPF requirement to make sufficient provision for flood risk management infrastructure.

9.2.1.4 Safeguard land from development

The allocation policies in the current development plans do not set aside any land for the management of flood risk. However, as the current development plans do all contain policies that could be interpreted as safeguarding land for flood risk management, through setting

[170] Roger Clews, *Report on the Examination of the South Worcestershire Development Plan* (The Planning Inspectorate 2016).
[171] MHCLG, *NPPF 2019* (n 6) para 20.

aside land for open space and green infrastructure (Allerdale) or protecting the flood storage capacity of land (Birmingham, South Worcestershire and York), they arguably fulfill the NPPF requirement to safeguard land for flood management, particularly as there is no guidance or minimum requirements regarding its fulfillment. Furthermore, the Planning Inspector reports on examination of these development plans did not raise any issues regarding compliance with this NPPF requirement.[172] The draft new development plan for York neither sets aside land for the management of flood risk related purposes nor contains any provisions that seek to protect floodplains. It is therefore difficult to see how it fulfills the NPPF requirement to safeguard land for the purpose of flood risk management, and it remains to be seen whether this will be raised by the Planning Inspector during the examination process.

9.2.1.5 Reduce the causes and impacts of flooding

Despite the questionable effectiveness of their flood risk and surface water management policies, the case study development plans appear to be compliant with the NPPF requirement to use development plans to reduce the causes and impacts of flood risk, and none of the Planning Inspectors' examination reports considered there to be any issues relating to compliance with it.[173]

9.2.1.6 Relocation of unsustainable development

The development plans for Allerdale and South Worcestershire both contain some provision for the relocation of development that is unsustainable due to flood risk. Limited though they may be, these provisions appear to fulfill the NPPF requirement to seek opportunities to relocate developments from areas that are unsustainable in the long-term due to flood risk. However, the Birmingham development makes no such provision, nor do the current or draft new development plan for York. It is notable that the Planning Inspector made no comment regarding this in its report on the examination of the Birmingham development plan, commenting instead that the flood risk and climate change provisions were 'justified and effective'.[174] This indicates that neither LPAs nor the Planning Inspectorate interpret this NPPF requirements as requiring LPAs to make any meaningful provision for the relocation of communities away from flood risk areas.

[172] ibid para 157b).
[173] ibid para 157c).
[174] Roger Clews, *Report on the Examination of the Birmingham Development Plan* (The Planning Inspectorate 2016) para 261.

9.2.1.7 Long-term implications of flood risk

The South Worcestershire development plan makes some, very limited, provision for the long-term implications of flood risk, but there is no evidence of long-term implications having been taken into account in the current development plans for Allerdale, Birmingham and York. Like the South Worcestershire development plan, the draft new development plan for York makes some provision for the long-term implications of flood risk, but these provisions are very limited and are requirements for individual developments to mitigate against future climate change risks rather than long-term strategic policies. It remains to be seen whether the Planning Inspector will pick up this in the examination of the development plan. Failure of the planning system to take a long-term approach is a major limitation on its ability to manage flood risk. If LPAs and the Planning Inspectorate were to interpret this NPPF requirement as requiring LPAs to properly take account of the long-term implications of flood risk, this would result in more effective flood risk management strategies and policies. The need for local and central government to take a long-term approach to development is discussed further in Chapter 10 (section 10.1.5).

9.2.1.8 Climate change

There are no clear instances of non-compliance with the statutory or NPPF requirements regarding climate change in the four current development plans.[175] There are, however, questions over the effectiveness of some of the provisions by which the development plans comply with these requirements, demonstrating that LPAs are interpreting the requirements as having a low threshold for compliance. The draft new development plan for York appears to also meet this low threshold and it remains to be seen whether the Planning Inspector considers the more detailed climate change policy in the 2019 NPPF to have raised this threshold. If the Planning Inspectorate were to raise the bar for compliance with the climate change requirements and ensure that LPAs take a genuinely proactive approach to climate change and ensure that communities and infrastructure are truly resilient, this would result in significantly improved management of flood risk.

9.2.1.9 Sustainable development

The current development plan for York (which has never been formally adopted) was not subject to a sustainability appraisal. However, sustainability appraisals were carried out in respect of the current development plans for Allerdale, Birmingham and South

[175] Planning and Compulsory Purchase Act 2004 (PCPA 2004), s 19(1A); Department for Communities and Local Government, *National Planning Policy Framework* (DCLG 2012) para 94; MHCLG, *NPPF 2019* (n 6) para 149.

Worcestershire, and one has been carried out on the draft new development plan for York. The LPAs are therefore complying with the requirement to carry out sustainability appraisals.[176] It is also the case that all the current development plans and the draft new development plan for York fulfill the statutory requirements to have the objective of contributing to the achievement of sustainable development and take account of government policy on sustainable development.[177] The current development plan for York was not subject to examination by a Planning Inspector, but the examination of the Allerdale, Birmingham and South Worcestershire developments plans found those development plans to be in compliance with the NPPF presumption in favour of sustainable development. The Planning Inspectors also found the statutory duty to co-operate in relation to sustainable development to have been complied with in relation to the current development plans for Allerdale, Birmingham and South Worcestershire despite the fact that they do not recognise the cross-boundary nature of flooding and contain no evidence of any attempt to develop a cross-boundary or catchment-based flood risk management strategy.[178] This demonstrates that the duty to co-operate in relation to sustainable development is not being interpreted by either LPAs or the Planning Inspectorate as requiring LPAs to co-operate with neighbouring authorities and take a cross-boundary approach to the management of flooding. Indeed, the fact that all the statutory and policy requirements regarding sustainable development have been complied with without the development plans containing strategies or policies that further sustainable development in a meaningful and effective way demonstrates the limited ability of these requirements to further the achievement of sustainable development in general as well as flood risk management specifically. Further discussion of the need for a change of approach to sustainability and proposals for reform of the planning system to ensure a catchment-based approach to flood risk management can be found in Chapter 10 (section 10.1.5).

9.2.1.10 Housing, communities, and settlement management

The strategic approach taken to the location of new development in each of the current development plans does not appear to accord with the NPPF requirements to ensure that development functions well for its lifetime and ensures safe and healthy places and living conditions. However, as the development plans include provisions that require individual development to be flood resistant and resilient, include mitigation and adaptation measures,

[176] PCPA 2004, s 19(5).
[177] ibid ss 39(2) and 38(3).
[178] ibid s 33A.

and/or safely manage residual flood risk, this arguably ensures compliance with the requirements regarding safety and functionality.[179] This demonstrates a short-term approach to the location of development and the tendency of development plans to address issues on an individual development rather than strategic basis. The draft new development plan for York indicates that its approach to the location of development will take greater account of flood risk, but without being able to view the SFRA it is not possible to ascertain the extent to which this is reflected in the allocation policies.

9.2.1.11 Environmental protection

The extent to which the current development plans and the draft new development plan for York protect environmental interests is limited. Furthermore, as there are no clear requirements regarding the prevention of environmentally damaging flooding, whether the environmental policies are applied in way that includes such a requirement depends on the LPAs' interpretation of them. These policies nevertheless comply with the statutory requirements to have regard to certain environmental interests, as well as the NPPF requirements to contribute to and enhance the natural environment and to safeguard and improve biodiversity.[180] This demonstrates the limited effectiveness of the statutory and policy environmental duties and requirements with regard to the protection of environmental interests in general and to ensure that flood risk is managed.[181] An explicit recognition of the impact of flooding on the environment would increase the scope for development plan environmental policies to enhance the flood risk management policies, but the extent to which they can do so will remain limited until legislation and national policy gives greater priority to environmental interests and introduces firmer commitments to their protection.

9.2.2 Determination of planning applications

9.2.2.1 Environment Agency consultation

The data is unable to show whether the LPAs are complying with the requirement to consult the Environment Agency in respect of all development within Flood Zones 2 and 3 and development within Flood Zone 1 where the Environment Agency has notified the LPA that there are critical drainage problems.[182] Establishing whether this requirement is being complied with would require a research method that identifies development proposals where

[179] DCLG, *NPPF 2012* (n 16) paras 35, 58 and 69; MHCLG, *NPPF 2019* (n 6) paras 91, 95, 117 and 127.
[180] DCLG, *NPPF 2012* (n 16); MHCLG, *NPPF 2019* (n 6).
[181] DCLG, *NPPF 2012* (n 16) para 170 and 174; MHCLG, *NPPF 2019* (n 6) para 109, 114 and 118.
[182] Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595, art 18.

Environment Agency consultation was required and an examination of whether that consultation had taken place. The data does, however, *indicate* that the LPAs do consult the Environment Agency regarding development where there are flood risk issues and that, notwithstanding that there is no requirement for them to do so, LPAs almost always comply with its advice.

The requirement to consult the Environment Agency is the only statutory duty directly relating to flood risk that applies to the determination of planning applications and its limitations as a means of ensuring that flood risk is managed, even where compliance is good, were discussed in Chapter 3 (section 3.4.2.1). The suggestions in the Allerdale case study that advice from the Environment Agency can be insufficient to enable Allerdale Borough Council to make fully informed decisions and to know what conditions they need to attach to planning permission further undermines the requirement. Further discussion of this and proposals for reforms to address the limitations of Environment Agency consultation can be found in Chapter 10 (section 10.1.5).

9.2.2.2 Sequential Test

The data for Allerdale Borough Council, Birmingham City Council, and Worcester City Council include very limited evidence of the Sequential Test having been applied in the determination of planning applications and there is no evidence of it having been applied by City of York Council. However, the lack of evidence of application of the Sequential Test does not necessarily mean that the LPAs are failing to comply with the NPPF requirement to apply it. Investigation into the extent of an LPA's application of the Sequential Test (and compliance with the NPPF requirement) would require a research method that examines all the documents relating to a data set of planning applications and uses data and information on the levels of flood risk within the LPA's area. Such a research method would also enable investigation into how the Sequential Test is being applied and whether it is ensuring that development takes place in the lowest risk areas possible.

9.2.2.3 Sustainable drainage systems

The 2012 NPPF encouraged but did not require the use of SUDS (and only in relation to those developments to which the Exception Test was being applied), and the vagueness of this provision means that non-compliance is effectively impossible to ascertain even in the event of the LPAs failing to use conditions to require development to incorporate SUDS.[183] In any event, the data show that conditions have been used by all the LPAs to require the

[183] DCLG, *NPPF 2012* (n 16) para 103.

incorporation of SUDS and they therefore all appear to have complied with the 2012 NPPF requirements. Compliance with the current NPPF requirement that all major development and development within flood risk areas must incorporate SUDS is more difficult to establish.[184] Although the data for 2019 does include some conditions requiring the incorporation of SUDS, ascertaining whether they are being required in all development covered by the current NPPF would require a research method that identified those developments that are major developments or within flood risk areas. Data would then need to be collected from those developments on the extent to which SUDS are being required through conditions attached to planning permission, the extent to which SUDS are being incorporated into development proposals and therefore do not need to be conditioned, and the extent to which the exception to the requirement to incorporate SUDS that applies where SUDS would be 'inappropriate' is being relied on. Even if this data were collected, the large amount of discretion left to LPAs regarding when to require SUDS means that non-compliance would be very difficult to establish (as discussed in Chapter 3, sections 3.4.2.1.4 and 3.5.2). This difficulty in establishing non-compliance with the NPPF policy regarding SUDS undermines its effectiveness, and the need for clearer and more specific policy requirements regarding the management of flood risk is discussed in detail in Chapter 10 (section 10.1.5).

9.2.2.4 Have regard to the provisions of the development plan

The data include evidence that the LPAs do have regard to the flood risk and surface water management provisions of their development plans when determining planning applications, as required by statute.[185] It is not clear from the data to what extent LPAs are exercising their discretion to determine applications otherwise than in accordance with the flood risk and surface water management policies of their development plan where 'material considerations indicate otherwise',[186] but there is no clear correlation between the strength and status of the LPAs' flood risk management policies in their development plans and their use of the tools to manage flood risk (except in relation to the use of SUDS). A different research method that involved a detailed examination of proposed developments, the negotiations between the developer and the LPA, and the planning permission document would shed more light on the extent to which the development plan flood risk management policies are being applied in practice in relation to individual developments. However, the vague and discretionary wording of many of the development plan policies means that it would be very difficult, if not

[184] MHCLG, *NPPF 2019* (n 6) paras 163 and 165.
[185] Town and Country Planning Act 1990, s 70(2).
[186] PCPA 2004, s 38(6).

impossible, to ascertain whether a planning control decision is in accordance with those policies or not. The discretionary nature of the requirement to determine applications in accordance with the development plan and the vague and discretionary nature of the flood risk management policies means that the extent to which the requirement to determine applications in accordance with the development plan contributes to the effective management of flood risk in practice depends on the LPA's interpretation of the development plan policy and the weight it gives to it.

9.2.2.5 Climate change

Whilst the data include examples of each of the case study LPAs having required the inclusion of flood risk adaptation measures, they are not able to show whether the LPAs are complying with the NPPF requirement to ensure that all development within vulnerable areas include suitable adaptation measures in relation to flood risk (to the extent to which flood risk is an impact of climate change).[187] A research method that identifies developments within areas vulnerable to flood risk and then examines the development proposal, the negotiations between the LPA and the developer, and the planning permission document would be needed to investigate the extent to which this requirement is being complied with. However, due to the vague and discretional nature of the requirement, it would be very difficult, if not impossible, even then to ascertain whether it has been complied with. The ability of the NPPF requirements regarding climate change to contribute to the effective management of flood risk is therefore limited by the NPPF's ambiguous and non-committal language. Recommendations for the development of policy that it clear and specific regarding what it requires of development and how compliance with those requirements can be measured can be found in Chapter 10 (section 10.1.5).

9.2.2.6 Sustainable development

The data indicate that each of the case study LPAs takes a pro-development approach to the determination of planning applications in accordance with the NPPF presumption in favour of sustainable development.[188] This short-term, pro-development approach to sustainable development significantly limits the ability of the principle of sustainable development to ensure that LPAs effectively manage flood risk. It constrains LPAs' ability to make those decisions that may be detrimental to the short-term social and economic interests of the area but that are key to ensuring that flood risk can be managed effectively in the long-term, such

[187] DCLG, *NPPF 2012* (n 16) para 99; MHCLG, *NPPF 2019* (n 6) para 150.
[188] DCLG, *NPPF 2012* (n 16) para 14; MHCLG, *NPPF 2019* (n 6) para 11.

as steering development away from existing settlements and communities that are in high flood risk areas and towards new settlements and communities in low-risk areas. Compliance with the NPPF presumption in favour of sustainable development therefore hinders rather than furthers the management of flood risk. The need for a fundamental change in the way the planning regime interprets and applies the concept of sustainable development is discussed further in Chapter 10 (section 10.1).

9.2.2.7 Housing, communities, and settlement management

The data show that each of the case study LPAs has used conditions to address the safety issues relating to flood risk, but that the occasions on which they have done so are few and far between. This is not, however, sufficient to determine whether or not the LPAs are complying with the NPPF requirements to ensure that their planning decisions create safe places and communities, safe and healthy living conditions, and result in development that functions well for its lifetime.[189] Investigation of this question would have require a research method that looks in detail at development proposals, the negotiations between the LPA and the developer, and the planning permission documentation. Even then, as there are no criteria for establishing whether a place is safe, what constitutes safe and healthy living conditions, or when a development functions well, it would still not be possible to ascertain whether these requirements have been complied with. Therefore, as with many of the NPPF requirements relating to flood risk management, their effectiveness is undermined by the vagueness and ambiguity of the language used and the lack of specific requirements.

9.2.2.8 Environmental protection

The data show that each of the case study LPAs has used conditions and planning obligations to protect and promote environmental interests, but only on a few occasions and there is no evidence of them having done so to contribute to the management of flood risk (other than, perhaps, the use of planning obligations to ensure the provision of open space). However, as the data do not show the extent to which measures to protect and promote environmental interests are included within developments and therefore do not need to be conditioned or subject to a planning obligation, it is not possible to ascertain whether the requirements to have regard to the desirability of conserving natural beauty and amenity[190] and contribute to and enhance valued landscapes are being complied with.[191] Investigation of this question would require a research method similar to those referred to in sections 9.2.2.4, 9.2.2.5 and

[189] DCLG, *NPPF 2012* (n 16) paras 109, 114 and 118; MHCLG, *NPPF 2019* (n 6) paras 95, 117 and 127.
[190] Countryside Act 1968, s 11.
[191] DCLG, *NPPF 2012* (n 16) para 109; MHCLG, *NPPF 2019* (n 6) para 170.

9.2.2.7. In any event, the limited nature of the requirements regarding environmental protection and the low threshold for compliance means that non-compliance would be difficult to establish (as discussed in Chapter 3 section 3.4.2.5). Therefore, in order to effectively contribute to the protection and enhancement of environmental interests in general and to the management of flood risk, the statutory and policy provisions regarding the protection of environmental interests need to include clear and specific requirements, as discussed further in Chapter 10 (section 10.1.5).

9.2.3 Conclusion

It is clear that the statutory and policy flood risk management obligations that LPAs have in relation to their development plans are not resulting in effective flood risk management policies. As there are no clear indications of non-compliance with those duties, this failure of the development plans to include effective policies is not due to LPAs failing to comply with their duties, but rather due to the vague and discretionary nature of many of these obligations and a failure (or inability) of the LPAs to exercise that discretion in a way that prioritises flood risk management. Examination of development plans by the Planning Inspectorate is an opportunity for the LPAs' weak interpretation of their flood risk management duties and requirements to be challenged, but the Planning Inspectorate has accepted the LPAs' approach to the management of flood risk, has not picked up on areas of potential non-compliance with the flood risk management duties and requirements, and has used the examination process as a means of furthering the Government's agenda regarding the provision of housing. Similarly, there are no clear examples of non-compliance with the duties and requirements regarding climate change, sustainable development, communities and settlement management, and environmental protection, and the failure of the development plan policies on these issues to further the management of flood risk is due to a weak interpretation of those duties and requirements by LPAs and the Planning Inspectorate's complicity in such an interpretation. The need for more specific and assessable obligations to manage flood risk in order to avoid such an interpretation by LPAs and the Planning Inspectorate and ensure the effective management of flood risk is discussed further in Chapter 10 (section 10.1.5).

With regard to the duties that apply to the determination of planning applications, the extent to which the statutory duty to consult the Environment Agency and many of the NPPF requirements regarding flood risk and surface water management and related issues have been complied with is unclear. This is partly due to the limitations of the research data as much of the detail of those decisions will be established in the course of negotiations between the developers and the LPA and in the detail of the planning proposal rather than in the

documents examined in this research project. The data can therefore tell us a lot more about compliance with the flood risk management duties and requirements regarding development plans than about compliance with the duties and requirements regarding the determination of planning applications. However, the lack of clarity regarding the extent to which the requirements relating to the determination of planning obligations have been complied with is again partly due to the vague and discretionary nature of those requirements. As with the duties that apply to development plans, the lack of specific and measurable requirements means that what is needed to comply with them is unclear and discretionary, and therefore even with more comprehensive data on the determination of planning applications, non-compliance will usually be difficult to establish. This further emphasises the need for clearer and more specific duties and requirements.

9.3 Use of the Flood Risk Management Tools

Irrespective of the extent to which the LPAs are complying with the statutory and policy requirements regarding the management of flood risk, it is clear that they could make much greater use of the tools available to them to manage flood risk. Whilst the data did not always reveal why they are not making better use of these tools, it did give some insight into possible reasons for this.

9.3.1 General reasons for limited use of the flood risk management tools

There are a number of reasons why LPAs are not making more use of the planning regime in general to manage flood risk.

9.3.1.1 Vague and discretionary statutory and policy requirements

The vague and discretionary nature of the policy requirements regarding the management of flood risk, as well as the statutory and policy requirements relating to climate change, sustainable development and environmental protection, has resulted in a weak interpretation of those requirements by the LPAs. If the planning regime is to effectively manage flood risk it needs to move away from an approach that relies on LPA interpretation of vague, discretionary and qualified requirements and instead establish specific, measurable and enforceable requirements. This is considered in more detail in Chapter 10 (section 10.1).

9.3.1.2 LPA reliance on statutory and policy requirements

The data indicate that Birmingham City Council, Worcester City Council and City of York Council consider the planning system to be sufficiently managing flood risk, and the LPAs therefore do not consider it necessary to go any further than the statutory and policy requirements placed on them by the planning system. Limits on their expertise and resources also act as a constraint on their initiative and make them reliant on the statutory and policy rules and procedures. However, as the discussed in Chapter 3, there are significant limitations to the statutory and policy requirements and if LPAs are to effectively manage flood risk they need to be encouraged to go beyond the minimum needed to comply with them. Additional training of LPAs and ensuring that they have sufficient resources to take the initiative are necessary to address this issue, but a more long-sighted approach to development is also necessary if LPAs are to have the freedom to make requirements of developers that go beyond the minimum needed to ensure compliance with legislation and policy.

9.3.1.3 Planning regime emphasis on meeting short-term development need

The planning regime, particularly the NPPF, places considerable emphasis on facilitating development and meeting short-term social and economic need. Taking steps to ensure that flood risk is managed almost always increases the cost and/or decreases the profitability of development, thus putting those steps in conflict with the NPPF's core principle of enabling development. For LPAs to be able to effectively manage flood risk, the planning regime needs to take a less short-sighted approach to development and recognise that the achievement of development that is sustainable in the long-term can require making decisions of that are more costly in the short-term. This is discussed further in Chapter 10 (section 10.1).

9.3.1.4 Lack of expertise

The Interviewees from Allerdale Borough Council, Birmingham City Council and City of York Council all made it clear that the LPAs' lack of expertise restricts their ability to manage flood risk and makes them reliant on advice from other parties, such as the Environment Agency and drainage boards, when preparing their development plan policies and determining planning applications. However, these parties provide advice and recommendations that accord with their own specific agendas and which does not always accord with the advice and recommendations from the other consultees, meaning that LPAs sometimes need to evaluate and weigh up conflicting advice whilst lacking the expertise necessary to do so. Having one body with responsibility for advising on the different aspects of flooding from all sources would remove the need for LPAs to have to deal with conflicting advice, but LPAs would

also still need to have sufficient internal expertise to evaluate the advice and weigh it up against other development objectives. This issue, and that of LPA resources more generally, is discussed further in Chapter 10 (section 10.1).

9.3.1.5 Lack of access to expert advice

To be able to effectively manage flood risk it is essential that LPAs have access to high quality advice and there is evidence in the case studies that the LPAs do not always receive the quality of advice that is needed for them to make informed decisions. The LPAs attributed this to resource limitations within the EA, Lead Local Flood Authorities and Highways Agencies. The impact of recent Environment Agency resource cuts on the management of flood risk is discussed further in Chapter 10 (section 10.1.5)

9.3.1.6 Public opinion

There is some belief by the LPAs that the public is uncomfortable with certain flood risk management measures, particularly less formal measures that are more difficult to justify financially, unlikely to be result in reductions in insurance premiums, and serve as a visual reminder of the threat of flooding. Public antipathy towards particular flood risk management measures does not prevent LPAs from planning for and requiring their use but does create an additional barrier to them doing so. Ensuring that the public is better informed and educated about flood risk is therefore important, but it also the case that it may be difficult for LPAs to obtain public support for a long-sighted approach to development that involves sacrifices in the short-term. It is therefore important that LPAs have the support and guidance from the Government necessary to enable them to take such an approach.

Reforms to the insurance industry so that it incentivises all forms of flood risk management – including the location of development, the use of formal and informal flood risk management infrastructure, and the incorporation of property level resistance and resilience measures – is a valuable means of producing behavioural changes amongst the general public. However, this is outside the realm of the planning system and therefore beyond the scope of this research project other than with regard to the fact that the current failure of the insurance industry to incentivise the management of flood risk increases the importance of the planning system as a means of doing so.

9.3.2 Reasons for limited use of specific flood risk management tools

In addition to the general reasons why LPAs are not making greater use of their ability to manage flood risk, the case studies identified a number of reasons why they are not making greater use of the specific tools available to them.

9.3.2.1 Development plans

There are a number of reasons why LPAs are not making greater use of their development plans to manage flood risk:

- The vague and discretionary nature of the statutory and policy requirements regarding the use of development plans to manage flood risk means that they are open to a wide range of interpretations. The LPAs have taken an approach that is not only based on a weak interpretation of those requirements, but also focuses on the use of SFRAs and the Sequential Test and largely ignores the other NPPF requirements. This approach has been accepted by the Planning Inspectorate, which has reinforced the perception that this approach is not only a legitimate one but the correct one.
- The quantitative and qualitative data indicate a lack of awareness regarding the ability of development plans to be used to establish policies for the strategic management of flood risk.

A stronger interpretation and stricter enforcement of the statutory and policy flood risk management requirements by the Planning Inspectorate would ensure a stronger interpretation and application by LPAs. LPAs would also benefit from training on how to use their development plans to establish strategic policies for the management of flood risk. This is discussed in further detail in Chapter 10 (section 10.1.5).

9.3.2.2 Permitted development rights

The case studies revealed that factors behind the LPAs' failure to make greater use of their ability to adapt national permitted development rights include:

- A lack of awareness regarding the potential use of Article 4 Directions as a means of controlling the cumulative impacts of small-scale development on flood risk.
- The liability to pay compensation to developers for the removal of permitted development rights by Article 4 Directions.
- A possible lack of awareness regarding the general utility of Local and Neighbourhood Development Orders, suggested by the lack of reference to and use of these Orders.

It is clear that LPAs would benefit from training on how to use Article 4 Directions to discourage inappropriate development and Local and Neighbourhood Development Orders to encourage appropriate development, but reforms to the Article 4 Direction regime are also needed for them to be able to play a meaningful role in the management of flood risk. Proposals for these reforms are set out in Chapter 10 (section 10.1.5).

9.3.2.3 Refusal of planning permission

The case studies revealed that some of the reasons for the low number of refusals of planning permission on grounds relating to flood risk are:

- A lack of clear development policy on if/when development will be refused due to flood risk.
- The emphasis that the LPAs put on their role of enabling rather than preventing development.
- The increased opportunity for developer capture (as discussed in Chapter 4, section 4.4.3.1) due to lack of clear development policy and emphasis that the LPAs put on their role of enabling development.

Clearer development plan policies on when development will not be permitted would provide a stronger justification for refusals of planning permission and reduce the opportunity for developer capture of the regime. The need to address developer capture of the planning regime is discussed further in Chapter 10 (section 10.1). The change to a more long-sighted approach to development discussed in section 9.3.1.3 would also make it easier for LPAs to refuse planning permission on flood risk grounds.

9.3.2.4 Conditions

There are a number of reasons why LPAs have not made more extensive use of conditions to manage flood risk:

- There are no statutory or policy requirements to use conditions to manage flood risk.
- The development plans contain only vague policies regarding the use of conditions in general and there are no clear development plan policies that conditions will be used to manage flood risk. This reduces the demand on the LPAs to use conditions to manage flood risk and increases the ability for developers to negotiate downwards any conditions that the LPAs seek to attach.
- There is evidence that the LPAs do not always consider it their role to ensure that developments incorporate property level resistance and resilience measures, and this will impact on LPAs' use of conditions for this purpose.
- Allerdale Borough Council, Birmingham City Council and City of York Council each expressed concerns regarding the ability of SUDS (within the current SUDS regime) to effectively manage flood risk. This lack of confidence will not encourage the LPAs to use conditions to ensure the use of SUDS.

- The Interviewees indicated that they do not always have the resources to follow conditions up and this may disincentivise them from using them in the first place.
- The case studies revealed that negotiation between the developer and the LPA is a key part of the planning application process and that the LPAs try to ensure that any concerns they have regarding flood risk are addressed during this negotiation process, with the necessary measures being incorporated into the development proposal. The LPAs therefore only use conditions to address those issues that have not been or cannot be addressed in the negotiations.

Clearer, more specific and less qualified development plan policies regarding the use of conditions and the requirements regarding the management of flood risk that development will need to comply with would provide a stronger rational basis for the use of conditions. LPAs would also benefit from training on what their role is in relation to the management of flood risk and the ways in which conditions can be used to fulfill that role. It is also clear that reforms could be made to the SUDS regime to increase LPA confidence in it and help to translate the recent advancement in recognition of the need to address surface water drainage into better management of it in practice. This is discussed further in Chapter 10 (section 10.1.5).

9.3.2.4 Planning obligations

The reasons for the low use of planning obligations to manage flood risk are similar to the reasons for the low use of conditions:

- The lack of statutory or policy requirements regarding the use of planning obligations or provision of infrastructure.
- The development plans contain only vague policies regarding the use of planning obligations to ensure the provision of flood risk management infrastructure.
- The narrow range of ways in which each LPA has used planning obligations also indicates that they may be unaware of the full range of ways in which they can be used (in general, as well as specifically in relation to flood risk management). In particular, there is some evidence of a perception that they cannot be used as a means of providing for flood risk management infrastructure such as floodplains and water retention pools that are close to the source of the water rather than to the development.

Clearer statutory and/or national policy requirements for developers to be responsible for the cost of flood risk management infrastructure and clearer development plan policy on the use

of planning obligations would provide a more rational basis for LPAs to require developers to enter into planning obligations to help manage the flood risk associated with specific developments. It is also clear that LPAs would benefit from training on what planning obligations can be used for, particularly the extent to which they can be used to require developers to contribute towards flood risk management infrastructure located some distance from the development concerned.

9.3.2.6 Community Infrastructure Levy

It is clear from the case studies that the LPAs do not think that the CIL regime is working well, with the result that two out of the four LPAs have not introduced a CIL and the two that have introduced one have found that it is not bringing in enough revenue to fund flood risk management infrastructure. The need for reform of the CIL regime to ensure that it produces sufficient income to cover the cost of flood risk management infrastructure that cannot be linked to individual developments is discussed in Chapter 10 (section 10.1.5).

PART 4 - CONCLUSION

The objective of this research has been to evaluate the potential and actual use by Local Planning Authorities (LPAs) of the legal planning tools available to them to manage flood risk, identify any barriers that may be preventing LPAs from making effective use of these tools, and make recommendations to enable LPAs to better manage flood risk. To achieve this general objective, seven sub-objectives and related research questions were identified, and these are set out in section 1.6 in Chapter 1. Part 1 of this thesis contained an introduction to the research project, providing an overview of flooding in England and the context within which the research has been carried out, setting out the aims and objectives of the project, and reviewing the relevant literature. Part 2 contained the doctrinal research, investigating the obligations that LPAs have to manage flood risk (RQ1) and examining the legal tools that they have at their disposal to enable them to fulfill these obligations and otherwise manage flood risk (O1 and RQ2). Part 3 addressed O2 and RQ3, covering the case studies of four LPAs that were carried out to obtain and analyse both quantitative and qualitative data. Part 4 provides an overview of the findings of this research. It first addresses the research questions, and then outlines the limitations of this research project and identifies areas for further research.

Chapter 10. Conclusion

Before setting out the findings of the research, it is important to highlight the key themes that have been identified and which establish the context of the findings and recommendations. Fundamentally, as the planning system delegates development planning and development control to LPAs, this limits its management of flood risk to within discrete geographically bound areas rather than enabling it to take place strategically across the nation, regions, or catchments. Whilst LPAs are required to co-operate with other LPAs when preparing their development plans and in relation to uses of land and strategic infrastructure that will have an impact on another local authority area, this provides only a very limited degree of strategic flood risk planning and management. Furthermore, the effectiveness of the planning system's provision for the management of flood risk within individual LPA areas is undermined by the fact that the obligations it places on LPAs to manage flood risk are vague and discretionary, are often subject to broad exceptions, and do not require LPAs to take any particular action or achieve any particular outcome. As such, they do not use language that creates justiciable duties and requirements and therefore lack clarity, effectiveness, and enforceability.

The ability of LPAs to manage flood risk is further undermined by the planning system's approach to sustainable development. The interpretation of sustainable development in the National Planning Policy Framework (NPPF) is one that conflicts with the long-term management of flood risk as it considers sustainable development to be about meeting short-term development need and restricts any measures that prevent that need from being met. Consequently, ensuring the economic viability of carrying out development is a key aspect of sustainable development and the balancing of interests that is at the heart of sustainable development decision-making largely comes down to a short-term cost-benefit analysis that takes account of the immediate economic cost to the developer of carrying out the development but does not take account of the wider (off-site) costs and implications of development or the long-term costs to the owner and/or occupier of the development.

These issues with the planning system's approach to flood risk management impact on the extent to and ways in which LPAs make use of the legal planning tools available to them to manage flood risk. This can be seen clearly in LPAs' failure to make use of planning obligations as means of internalising the flood risk costs of development, which is at least partly due to the weak requirements on LPAs regarding flood risk management and the impact that planning obligations have on the economic viability of development.

10.1 Research Questions

Set out below is an overview of the findings for each research question.

10.1.1 RQ1: What legal and policy requirements are there are on LPAs to manage flood risk in their areas?

To answer RQ1, Chapter 3 examined the legal duties and policy requirements that apply to LPAs in relation to their preparation of development plans and determination of planning applications. The legal duties and policy requirements examined were those that relate directly to the management of flood risk, as well as those that relate to climate change, sustainable development, housing, communities and settlement management, and environmental protection.

10.1.1.1 Duties in relation to development plans

In respect of the duties and requirements that apply to LPAs when preparing their development plans, it was found that:

- There are no statutory duties directly relating to the management of flood risk. The obligations that directly relate to the management of flood risk are set out in the NPPF.
- There is no requirement for development plan policies to reduce flood risk or prevent an increase flood risk, and whilst they must manage flood risk, there is no guidance or explanation as to what managing flood risk involves or requires.[1]
- The NPPF's strategy for the management of flood risk through development plans is based on requirements for the impacts of the development plan policies on flood risk to be assessed (in a strategic flood risk assessment (SFRA)) and an application of the Sequential Test (as discussed in Chapter 3, section 3.3.1.2.2). The idea being that this will ensure that policies relating to the location of development direct development towards the lowest risk areas. However, the extent to which SFRAs ensure that development plan policies address flood risk is questionable. Furthermore, the highly discretionary nature of the Sequential Test and the ease with which the Exception Test can be passed undermines their effectiveness as a means of directing development away from high-risk areas.
- The NPPF also contains requirements relating to the provision of flood risk management infrastructure, safeguarding land from development for use for flood risk

[1] Department for Communities and Local Government, *National Planning Policy Framework* (DCLG 2012) paras 100-101; Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019) para 156.

management, reducing the causes and impacts of flooding, the relocation of development at risk of flooding, and dealing with the long-term implications of flood risk. However, these are all vague and highly discretionary obligations and are therefore of questionable effectiveness and largely unenforceable.

- The statutory and policy obligations on LPAs in relation to the mitigation of and adaptation to climate change are lacking in detail, vague, and discretionary. They therefore do little, if anything, to further the management of flood risk.
- The statutory duties on LPAs regarding sustainable development do not include any obligations to deliver sustainable development and constitute more of a recognition of the issue and the need for it to be addressed than a meaningful attempt to further the achievement of sustainable development. Furthermore, the presumption in favour of sustainable development that is central principle of the NPPF essentially constitutes a presumption in favour of development that takes little account of sustainability. As such the NPPF sustainable development policy conflicts with, rather than furthers, the management of flood risk.
- There are no statutory duties on LPAs to ensure the safety and long-term resilience of housing, communities or settlements. Whilst the NPPF contains some requirements for LPAs to ensure that their development plans policies provide for the delivery of development that is safe from flooding for its lifetime, these requirements are of such a vague and discretionary nature as be largely ineffective. Furthermore, the NPPF's strict requirements for LPAs to plan for housing to meet the area's short-term need makes it very difficult for LPAs to include flood risk management policies that seek to ensure long-term resilience, and even limits their ability to include policies for management of flood risk in the short-term, as these will often interfere with LPAs' ability to plan for enough housing to meet the area's need.
- The obligations on LPAs relating to the protection of environmental interests are set out in a variety of legislation and the NPPF. As these obligations protect only a narrow range of environmental interests and are vague and discretionary, they do very little to further the management of flood risk.
- The effectiveness of both the direct and indirect flood risk management obligations on LPAs relating to their development plans is further undermined by the fact that the enforcement of those obligations is largely limited to scrutiny undertaken by the Planning Inspectorate through the development plan examination process. This is a process that furthers the Government's primary agenda by focusing on compliance with the NPPF requirements regarding planning to meet the area's housing need and

the presumption in favour of sustainable development. Whilst it is possible for a member of the public to challenge the validity of a development plan, the requirements regarding when a legal challenge or judicial review claim can be made are such that it is only in very limited circumstances that it is possible for a member of the public to challenge the validity of a development on the grounds that the LPA has not complied with its flood risk management obligations.

10.1.1.2 Duties in relation to determination of planning applications

In respect of LPAs' duties when determining planning applications, it was found that:

- The only statutory duty directly relating to the management of flood risk is the requirement to consult the Environment Agency. Whether this requirement applies depends on the location of the development rather than the impact that the development will have on flood risk. Furthermore, there is no requirement to comply with the Environment Agency's advice and LPAs are therefore free to disregard it in order to prioritise other interests.
- All other requirements relating directly to the management of flood risk come from the NPPF, which seeks to manage flood risk in relation to individual developments through application of the Sequential Test, the relevance of which is significantly limited in the context of determination of planning applications as there will often be no alternative sites available to the developer. The NPPF also requires the impacts of development within Flood Zones 2 and 3 or in Zone 1 where there are critical drainage problems to be assessed. However, the requirements that measures be taken to manage the flood risks identified in the assessment are so vague and discretionary as to be largely unenforceable.
- The indirect statutory and policy obligations on LPAs to manage the flood risk in relation to individual developments that arise through obligations relating to climate change, sustainable development, housing, communities and settlement management, and environmental protection are subject to the same limitations as those that apply in relation to development plans discussed in section 10.1.1.1. Therefore, the obligations relating to climate change and environmental protection do little to further the management of flood risk and the obligations relating to sustainable development and housing, communities and settlement management hinder it.
- The effectiveness of the flood risk management obligations that LPAs have in relation to the determination of planning applications are undermined by the fact they can only be enforced in very limited circumstances.

10.1.2 RQ2: What legal planning tools are available to LPAs to manage flood risk?

To answer RQ2, Chapter 4 examined the legal planning tools LPAs have at their disposal that can be used to manage flood risk, namely development plans, Article 4 Directions, Local and Neighbourhood Development Orders, conditions, planning obligations and the Community Infrastructure Levy. The ways in which these tools can be used to manage flood risk is summarised below.

10.1.2.1 Development plans

Development plans are a means of establishing both strategic policies for the management of flood risk and policies for the management of flood risk on an individual development basis. However, the extent to which development plans can be used to manage flood risk in this way is limited by the NPPF requirement that development plans plan for sufficient housing to meet short-term need and what is essentially a prohibition on policies that undermine the delivery of that housing.

10.1.2.2 Permitted development rights

LPAs can use their ability to adapt nationally applicable permitted development rights to further the management of flood risk. They can use Article 4 Directions to remove permitted development rights over specific sites or areas to discourage inappropriate development and bring back under LPA control the type of small-scale developments that cumulatively can increase flood risk. They can also use Local and Neighbourhood Development Orders to extend permitted development rights over specific sites or areas to encourage the type of development that is appropriate to the level of flood risk of the site/area.

10.1.2.3 Refusal of planning permission

LPAs' ability to refuse planning permission is a highly effective means of preventing inappropriate development from taking place and of sending out a clear message to the public about what the LPA considers to be unacceptable in terms of flood risk.

10.1.2.4 Conditions

Conditions are a means by which LPAs can control the detail of individual developments to ensure that the flood risk associated with them is mitigated and managed. They can be used to require the incorporation of property level resistance and resilience measures, the provision of on-site (and to a limited extent off-site) flood risk management infrastructure, and ensure appropriate use of development.

10.1.2.5 Planning obligations

Planning obligations have the potential to pay a key role in the management of flood risk by ensuring that the flood risk management infrastructure needed as a result of an individual development is provided or funded by the developer. This both ensures that the flood risk costs of developments are not borne by the LPA, the Environment Agency or wider society and incentivises low-risk development.

10.1.2.6 Community Infrastructure Levy

The Community Infrastructure Levy (CIL) regime runs alongside the planning obligation regime and provides a means by which LPAs can obtain funding from developers for the flood risk infrastructure needs arising from development in general. Importantly, the CIL regime explicitly provides for its use in a cross-boundary manner.

10.1.3 RQ3: To what extent and in what ways are LPAs making use of the legal planning tools available to them, and are they fulfilling their legal and policy requirements to manage flood risk?

Four case studies were carried out in order to answer RQ3. The findings of the individual case studies are set out in Chapters 5, 6, 7 and 8, and a comparison of the case studies and the conclusions that were drawn from them are set out in Chapter 9. A summary of the extent to and ways in which LPAs are making use of the legal planning tools available to them and whether they are fulfilling their flood risk management obligations is set out below.

10.1.3.1 Development plans

LPAs are using their development plans to express commendable visions and objectives regarding the management of flood risk, as well as the mitigation of and adaptation to climate change and the achievement of sustainable development. However, their development plan policies do not allow for delivery of these visions and objectives. LPAs are not using their development plans to establish strategic policies for the management of flood risk across their areas (much less cross-boundary or catchment level strategies). Whilst the allocation policies are informed by an SFRA and have applied the Sequential Test, rather than using these to ensure that development takes place in the lowest risk areas, the SFRA and Sequential Test are being applied in a backward-looking way to allow development to take place in areas that have been identified as the preferred sites due to other benefits they offer irrespective of the level of flood risk. (See, for example, the case studies for Allerdale Borough Council in Chapter 5, section 5.1.1.2.3, and Birmingham City Council in Chapter 6, section 6.1.1.2.3). Furthermore, the allocation policies are not clearly shown on a map, let alone mapped against

a flood risk map. This makes it difficult to see the extent to which the allocation policies accord with the SFRA findings. Some protection is being given to existing floodplain (see case studies for Birmingham City Council Chapter 6, section 6.2.1.4, and City of York Council in Chapter 8, section 8.2.1.4), but development plans are not being used to set aside new land for the management of flood risk or otherwise plan strategically for the flood risk management infrastructure that the area needs. Nor are they being used to establish strategic policies that seek to take advantage of the opportunities presented by flooding.

LPAs' use of development plans to manage flood risk therefore focuses on the management of flood risk on an individual development basis. The policies used to do this include some prohibitions on development due to flood risk and requirements for the incorporation of mitigation measures into individual developments, but they lack commitment as they are vaguely worded, qualified, and discretionary. These policies fail to make it clear when development will not be permitted due to flood risk or what mitigation measures a specific development will be expected to include, thereby leaving scope for developers to negotiate with the LPA on these points. LPAs are using their development plans to establish policies regarding the use of sustainable drainage systems (SUDS) as a means of managing flood risk. However, the emphasis on and commitment to SUDS varies between LPAs depending on the geographical circumstances and the drivers on flood risk in the area. (See, for example, the case studies for Allerdale Borough Council in Chapter 5, section 5.1.1.1, and Worcester City Council in Chapter 7, section 7.1.1.1).

The effectiveness of the flood risk management policies in development plans is being further undermined by the failure of development plans to establish policies that provide for meaningful monitoring of the delivery of the flood risk management policies.

10.1.3.2 Permitted development rights

LPAs are not using Article 4 Directions to manage flood risk. They are making some use of Local Development Orders to manage flood risk, but only to a very limited extent and at least some of that use is incidental rather than the primary purpose of the Order (see case study for Birmingham City Council in Chapter 6, section 6.1.2.2). The use of conditions to remove permitted development rights is also very limited. Adaptation of permitted development rights is therefore playing a very minor role in the management of flood risk by LPAs.

10.1.3.3 Refusal of planning permission

LPAs rarely refuse planning permission on flood risk related grounds, and when they do so it tends to be due to a lack of information regarding flooding rather than because of the actual flood risk the proposed development presents (see case studies for Allerdale Borough Council, Chapter 5, section 5.1.3, Birmingham City Council, Chapter 6, section 6.1.3, and City of York Council, Chapter 8, section 8.1.3). The refusal of planning permission is therefore not being used extensively by LPAs as a means of managing flood risk.

10.1.3.4 Conditions

LPAs are making only limited use of conditions to manage the flood risk relating to individual developments. When they are used, it is largely in connection with the management of surface water and they are rarely used to ensure that property level resistance and resilience measures are incorporated into the development or that the proposed use is appropriate to the level of flood risk. LPAs are not making use of conditions to ensure the provision of on-site infrastructure, nor are they using them to make the planning permission temporary so that the impacts of development can be assessed before it is granted permanent planning permission. It is therefore clear that LPAs are not making widespread use of conditions to mitigate the adverse impact of development on flood risk.

10.1.3.5 Planning obligations

Whilst LPAs are making some use of planning obligations to ensure the provision or funding of open space, they are making very little use of them for the specific purpose of ensuring the provision or funding of flood risk management infrastructure off-site (see case study for Birmingham City Council in Chapter 6, section 6.1.5), and the data included no evidence of planning obligations having been used to require developers to contribute towards flood risk infrastructure in different local authority areas. Nor are planning obligations being used to require on-site flood risk management measures or restrict activities on the development site. There is certainly no standard practice of planning obligations being used to internalise the external flood risk costs of individual developments.

10.1.3.6 Community Infrastructure Levy

LPAs are making very little use of the CIL as a means of ensuring the provision of flood risk management infrastructure. LPAs are either choosing not to introduce a CIL (see case studies for Birmingham City Council in Chapter 6, section 6.1.6, and Worcester City Council in Chapter 7, section 7.1.6) or finding that the income from the CIL is insufficient to fund the

flood risk management needed to serve the area in general (see case studies for Allerdale Borough in Chapter 5, section 5.1.6 and City of York Council in Chapter 8, section 8.1.6).

10.1.3.7 Fulfillment of flood risk management obligations

LPAs have no statutory duties requiring them to use their development plans to manage flood risk. With regard to the requirements of the NPPF, whilst there are some issues regarding LPAs' use of SFRAs and application of the Sequential Test, these issues concern the way in which it is possible for LPAs to interpret the relevant NPPF requirements rather than a failure to comply with those requirements. It is also the case that, despite the questionable effectiveness of the flood risk management policies in their development plans, the vague and discretionary nature of the other NPPF flood risk management requirements relating to development plans is such that LPAs appear to be complying with them. This is similarly the case for the statutory and policy obligations regarding climate change, sustainable development, safety and longevity of development, communities and settlements, and environmental protection (so far as they relate to the management of flood risk). In any event, the case studies provided no clear examples of situations where legal action could be taken in respect of LPAs' non-compliance with the requirements to use their development plans to manage flood risk.

As there are no requirements for LPAs to adapt permitted development rights or use the CIL to manage flood risk and the NPPF requirements on LPAs to manage flood risk just refer to the measures to be taken at the plan making stage and in the determination of planning applications, LPAs' lack of use of Article 4 Directions, Local and Neighbourhood Development Orders, and the CIL does not constitute a breach of any obligation.

With regard to LPAs' duties relating to the determination of planning applications, the situation is a little more complicated. Due to the limitations of the data collected for this research project and the vague and discretionary nature of LPAs' requirements to refuse planning permission on flood risk related grounds, it has not been possible to establish whether these requirements are being complied with. Furthermore, the NPPF requirements that LPAs manage flood risk (both directly and indirectly) in relation to developments that are granted planning permission give LPAs discretion as to how to comply with those obligations, including, if, when, and how they use the legal planning tools available to them, and the extent to which they use the negotiation process to resolve flood risk issues. Therefore, the fact that LPAs are making little use of conditions and planning obligations to manage flood risk does not in itself constitute a breach of their obligations to manage flood risk. Investigation of whether the obligations are being complied with would require a

comprehensive examination of the planning documents relating to developments, and this was beyond the scope of the data collected in this research project. Even with more extensive data, the vague and discretionary nature of the obligations to manage flood risk in relation to developments that are granted planning permission means that non-compliance would often be difficult, if not impossible, to establish.

10.1.4 RQ4: What are the barriers to LPAs' use of the legal planning tools available to them for the effective management of flood risk and are there ways in which LPAs could make better use of the legal planning tools available to them to manage flood risk?

A number of legal, policy and practical reasons why LPAs are not making more extensive use of the tools available to them were identified in the doctrinal analysis of the tools in Chapter 4 and the case studies analysis in Chapters 5 to 9 in order to answer the first part of RQ4. In order to answer the second part of RQ4, a number of ways in which LPAs could make better use of the tools available to them to manage flood risk have been identified by comparing the case study data on the LPAs' use of the tools with the findings of Chapter 4 regarding the extent to which the tools can be used to manage flood.

LPAs' perception of their role and the extent to which they prioritise flood risk management constitute general barriers to them making more extensive use of the tools available to them manage flood risk. LPAs consider that their overall role is to enable development: to ensure that development can go ahead whenever possible and keep restrictions on the ability of developers to deliver development to a minimum. With regard to the management of flood risk, LPAs see their role as limited to applying the NPPF. They also largely see their role as being to manage flood risk on an individual development basis and consider strategic flood risk management to be a matter for central government/the Environment Agency. Different LPAs give different priority to the management of flood risk depending, to a large extent, on the frequency and severity of the impacts of past flooding events in the area. However, whilst those LPAs where past flooding events have been most frequent and severe give more weight to flood risk management, flooding is still likely to be outweighed by the desire to meet short-term development needs. Indeed, the priority that planning policy gives to short-term development needs and central government's oversight of LPAs' interpretation and application of planning policy restrict the priority that LPAs can give to flood risk management. Whilst there is some indication of an increase in the profile given to flood risk management by LPAs over the time-frame of the case studies (2007 to 2019), there is no clear indication of an increase in the priority being given to it.

10.1.4.1 Development plans

The reasons for LPAs not making more extensive use of development plans to manage flood risk include:

- A lack of awareness by LPAs regarding if and how development plans can (or should) be used to develop policies for the strategic management of flood risk with their area.
- The lack of clear statutory or policy requirements regarding how and to what extent LPAs must use their development plans to manage flood risk (other than SFRAs and application of the Sequential Test, the limitations and need for reform of which are discussed in section 10.1.5).
- The NPPF presumption in favour of sustainable development and requirements to plan the development needed to meet short-term housing need, and the way in which the Planning Inspectorate requires these to be interpreted, which restrict LPAs ability to priortise, and establish strategies and policies for the long-term management of, flood risk.
- The need for policies to be based on evidence, which restricts the measures that LPAs can take and that they can require developers to take to manage flood risk due to the lack of scientific certainty regarding flooding.
- LPAs are aware of their ability to prepare development plans and other policy documents jointly with other LPAs, and the reasons for their failure to co-ordinate with other LPAs to develop cross-boundary or catchment-based strategies for the management of flood risk are unclear. Whilst the reasons may relate to the additional time and expertise needed to develop such strategies, this is a question that requires further investigation.

The ways in which LPAs could make better use of the tools available to them to manage flood risk include:

- Prioritising long-term flood risk management over meeting short-term housing or other development need. However, this is inconsistent with the NPPF presumption in favour of sustainable development and requirement to plan to meet housing need, and this is something that the Planning Inspectorate will scrutinise when deciding whether to approve a development plan for adoption. Therefore, if LPAs are to be able to make better use of their development plans to manage flood risk by establishing policies that look beyond meeting short-term development need, the reforms of planning policy discussed below in section 10.5.1 are required.

- Including policies that take advantage of the opportunities presented by flooding. At present, flood risk management policies in development plans are based on a position of intolerance towards flooding and perception that it is something we must continue to fight against rather than something we can live with. This creates conflict between the restrictions on and costs of development resulting from the fight against flooding and the need to meet development needs. Recognising some of the opportunities that flooding presents and developing strategies in which development (and growth) and flooding are not mutually exclusive is an important means of furthering the long-term management of flood risk and achievement of sustainable development, particularly in the context of increasing flood risk and the growing demand for housing. Such a fundamental change of approach by LPAs is, however, unlikely without direction and guidance from central Government, and reform of planning policy to provide this is recommended in section 10.5.1.
- Having a clearer understanding of where flood risk fits into the balancing of interests that lies at the heart of sustainable development decision-making. This would enable sustainable development policies in development plans to further the management of flood risk. Whilst flood risk is an environmental issue in that it is a natural hazard, in terms of its impacts it is an economic, social, and environmental issue. LPAs' tendency to categorise flooding as an environmental issue therefore means that its impacts are not being properly accounted for in the balancing of economic, social and environmental interest. An explicit recognition by LPAs of the detrimental economic and social impacts of flooding and the essential role that flood risk management plays in the furthering of sustainable development would ensure that sustainable development policies *promote* rather than *prevent* the management of flood risk. The need for policy guidance on how to evaluate flood risk management measures to enable LPAs do this is discussed in section 10.5.1.
- Moving away from the use of vague and discretionary policies towards policies that are 'SMART', ie specific, measurable, achievable, realistic and time-limited.[2] This could include, for example, setting out specifically the property level resistance and resilience measures that new development should include and a quantification of the level of resilience to be achieved. Policies that quantify their objectives in this way

[2] HM Treasury, *The Green Book (2020)* (HM Treasury 2020) para 4.2

leave much less scope for negotiation by the developer and enable LPAs to monitor and evaluate their implementation.[3]

- Making more extensive provision for the strategic management of flood risk across the area. This could include having allocation policies that give greater weight to flood risk, take account of the vulnerability of different types of development, giving clear protection to sites currently used for the management of flood risk, and establishing strategies for where new flood risk management infrastructure will be installed and how it will be funded. LPAs could also make more extensive use of their ability to co-ordinate with neighbouring LPAs on these strategic policies, which would further increase their effectiveness. The inclusion of maps that map allocation policies against the SFRA findings would make it easier to identify the extent to which the allocation policies accord with the SFRA. (The Government's proposed reforms to the planning system includes proposals that development plans be much more visual and plan-based).[4]

10.1.4.2 Permitted development rights

There are a number of reasons why LPAs are not making more effective use of adaptation of permitted development rights to further the management of flood risk:

- A lack of awareness by LPAs regarding how the removal of permitted development rights that can be used to control the cumulative impacts of small-scale development of flood risk, particularly in relation to Article 4 Directions.
- The potential liability for compensation in respect of the removal of development rights, which prevents Article 4 Directions from being used on the scale necessary to make a significant contribution to the management of flood risk.
- Central government control of the use of Article 4 Directions and Local and Neighbourhood Development Order, which is a further restriction on LPAs' ability to use them on the scale necessary to manage flood risk.
- A lack of the expertise and other resources within LPAs needed to implement and maintain Article 4 Directions and Local and Neighbourhood Development Orders.

With regard to how LPAs could make use of adaptation of permitted development rights to manage flood risk:

[3] ibid para 8

[4] Ministry of Housing, Communities and Local Government, *Planning for the Future White Paper* (MHCLG 2020) 20

- The reasons for LPAs not making use of Article 4 Directions discussed above indicate that reform of the Article 4 Direction regime is required to enable LPAs to use them on the scale necessary to manage flood risk. These reforms are discussed in section 10.1.5.
- With regard to the use of conditions removing permitted development rights in respect of individual developments, permitted development rights need to be removed over large areas to control the *cumulative* impacts of development on flood risk. The removal of permitted development rights in respect of individual properties would therefore be unlikely to have a significant impact on the management of flood risk. However, making more extensive use of conditions to remove permitted development rights for extensions and hard-surfacing in large developments, such as housing estates, would help to further the management of flood risk.
- LPAs could also make much better use of Local and Neighbourhood Development Orders to encourage certain types of development to take place in certain areas to support and supplement the strategic flood risk policies in their development plans. Whilst Local and Neighbourhood Development Orders require an initial investment of time and resources, they reduce the resources needed to process small-scale developments and the technical and procedural knowledge gained can be used to support subsequent Orders. It is also the case that Government funding is available to LPAs to support the preparation of Local Development Orders,[5] and LPAs could be encouraged to make use of this.

10.1.4.3 Refusals of planning permission

LPAs are aware of their ability to refuse planning permission on flood risk related grounds, and the low refusal rate on flood risk grounds is therefore due to reasons other than a lack of awareness, in particular:

- The lack of any clear policy in the NPPF or in development plans as to when planning permission must be refused due to flood risk issues, which makes it harder for LPAs to justify refusals.
- The NPPF presumption in favour of sustainable development and requirements to meet housing need, which restricts LPAs' ability to refuse planning permission on flood risk grounds.

[5] Local Government Association, *Local Development Orders: Case Study Research and Analysis* (LGA 2018) 5-6

As LPAs' ability to make further use of refusals of planning applications to manage flood risk is constrained by the NPPF presumption in favour of sustainable development and policy on housing, policy reforms are needed to remove these constraints and these are discussed in section 10.1.5.

10.1.4.4 Conditions

There are a number of reasons why LPAs are not making more extensive use of conditions to manage flood risk:

- A lack of understanding amongst LPAs as to whether it is their role to ensure that property level flood resistance and resilience measures are incorporated into development.
- A lack of the necessary expertise within LPAs to know what measures are required to effectively manage flood risk in relation to particular developments, such as what type of SUDS would be appropriate and effective.
- A lack of awareness by LPAs regarding if, how and when conditions can be used to ensure that flood risk management measures are carried out on land other than the development site.
- The failure of the NPPF and development plans to set out clear requirements for conditions to be used to manage flood risk or set out what flood risk management measures developments need to include. This means that it is at LPAs' discretion whether to use conditions and what for, which gives significant scope for negotiation by the developer.
- The NPPF presumption in favour of sustainable development and requirements to meet short-term housing need, which restricts LPAs' ability to require developers to take measures to manage flood risk.
- LPAs' preference for using negotiation, rather than conditions, to ensure that development proposals incorporate flood risk management measures.
- Difficulties in obtaining third party expert advice on what flood risk management measures would be appropriate in individual cases.
- LPAs' lack of the resources needed to enforce conditions.
- The reasons for the low use of conditions requiring SUDS varied between LPAs depending, in particular, on the geographical context of the area (which affects the suitability of SUDS as a means of managing flood risk) and the level of technical knowledge and understanding of SUDS.

The ways in which LPAs could make use of conditions for the management of flood risk include, in particular, making more extensive use of conditions to mainstream property level resistance and resilience measures, ensure the provision of flood risk management infrastructure (both on and off-site), and control the use of the land to prevent an increase in flood risk. The effectiveness of such conditions could be maximised by making them more targeted at the specific flood risk issues relating to individual proposed developments and by referring to specific standards that the measures and infrastructure need to comply with. This would require an increase in the level of expertise within LPAs and/or their access to third party advice, and this is discussed further in the recommended reforms in section 10.1.5. It would also be necessary for steps to be taken to address the issue of developer capture of the planning application process, and this is also discussed further in section 10.1.5.

10.1.4.5 Planning obligations

The reasons for LPAs not making more extensive use of planning obligations to manage flood risk include:

- A possible lack of awareness by LPAs of the different ways that planning obligations can be used to manage flood risk.
- A lack of understanding amongst LPAs regarding if, how and when planning obligations can be used to facilitate the provision of flood risk management infrastructure on land that is some distance from the development site (including in other local authority areas).
- The lack of clear requirements in the NPPF or development plans regarding the use of planning obligations or the provision of flood risk management infrastructure. This means that LPAs have discretion regarding what flood risk management infrastructure to provide and how to fund it and makes the planning obligation regime vulnerable to developer capture.
- The impact of planning obligations on the viability of development, which significantly restricts what LPAs can require developers to provide or contribute.
- A lack of the expertise needed to determine what infrastructure or other measures are required to manage the flood risk relating to individual developments and the difficulties in obtaining high quality expert advice from third parties. This prevents LPAs from knowing what planning obligations would be effective.
- The limited LPA resources available for the enforcement of planning obligations, which discourages them from using them.

The ways in which LPAs could make better use of planning obligations for the management of flood risk include:

- Making much more use of planning obligations as a means of internalising the flood risk costs of individual developments by using them routinely to ensure that developers bear the cost of the flood risk infrastructure required as a result of their development. However, issues of viability are a significant limitation on LPAs' ability to do this, and a change of approach by both central and local government as to what viability means and how it is calculated is needed to enable LPAs to make more effective use of planning obligations in the management of flood risk. This is discussed further in section 10.1.5. Developer capture of the planning obligation processes also needs to be addressed if LPAs are to be able to make extensive use of planning obligations, and this too is discussed further in section 10.1.5.
- Making use of planning obligations in a cross-boundary way. The current lack of requirement to co-ordinate their flood risk management strategies with neighbouring LPAs and the limitations on LPA resources and expertise discourage use of planning obligations in this way and the measures needed to overcome this are discussed in section 10.1.5.

10.1.4.6 Community Infrastructure Levy

There were differences between the LPAs in their approach to the CIL in relation to both whether to implement the CIL and the way in which it has been implemented and used, but the reasons for LPAs' failure to make more effective use of the CIL as a means of managing flood risk can be summarised as:

- The discretionary nature of the CIL regime in terms of whether to introduce one, what rate to charge, and what to spend it on.
- The impact of the CIL on viability, which is a significant barrier to LPAs' ability to charge the levy at a rate that is sufficient to fund the flood risk infrastructure required to meet general development needs.
- LPAs' general lack of confidence in the regime.

With regard to the question of the ways in which LPAs could make better use of the CIL to manage flood risk, it is generally agreed by developers, LPAs and the Government that the Community Infrastructure Levy regime is not working as it should and that it needs to be reformed. Discussion of the reforms needed to the regime to enable it to further the management of flood risk is set out below in section 10.1.5.

10.1.5 RQ5: What reforms could be made to the planning system to enable LPAs to better manage flood risk?

This research has examined the potential and actual use by LPAs of the legal planning tools available to them to manage flood risk and identified the barriers preventing LPAs from making more effective use of them. It has therefore been possible to identify a number of reforms that could be made to planning policy, to the regimes relating to the individual tools, and to the operation of the planning system in general, that would enable LPAs to manage flood risk more effectively, thereby answering RQ5.

10.1.5.1 Policy reforms

10.1.5.1.1 Specific, measurable, and achievable policies

Replacing the vague, discretionary and non-committal requirements of the NPPF regarding flood risk management with policies with clear objectives that are specific, measurable and achievable would remove the scope for different interpretations of the policies and set clear thresholds for compliance. This would ensure a more consistent and effective application of those policies by LPAs and reduce the vulnerability of the planning application process to developer capture. The setting of clear quantitative outcomes or indicators that relate to the objectives of the policies would also enable LPAs' application of the policies to be monitored and enforced and the effectiveness of policies to be evaluated[6] whilst still leaving LPAs with discretion as to how they achieved the policy objectives so that they could take account of local circumstances.

10.1.5.1.2 Guidance on how to balance interests

Providing policy guidance on how to balance flood risk with other interests would provide a rational basis for decision-making, making decisions easier to make and justify. Including in the guidance a recognition of the economic and social impacts of flooding and a method for evaluating the benefits flood risk management measures provide would enable flood risk management to be taken into account when it is balanced against other interests.

10.1.5.1.3 Viability calculation

Reforming the approach to viability assessment to take account of the wider costs of the development and the long-terms costs of not taking measures to manage flood risk in the long and short-term, as well as the short-term economic costs to the developer of taking those

[6] HM Treasury (n 2) para 8.

measures would enable LPAs to develop effective, long-term strategies for the management of policies that entail restriction and/or increases in the cost of development in the short-term.

10.1.5.1.4 Sequential Test

Replacing the current sequential approach to the location of development with an approach that begins with an identification of the level of flood risk of the different sites within the area before allocating appropriate development to them (rather than allocating development to sites and then assessing the flood risk and seeking to justify the allocation decision) and takes account of the different levels of vulnerability to flood risk that different development types have would be a more effective means of managing flood risk. Notwithstanding the fact that the Sequential Test is not being applied effectively (as discussed in section 10.1.3.1), as there is not an infinite supply of low-risk land, the Sequential Test has the effect of exhausting the low-risk sites first irrespective of the nature of the development concerned, and is therefore not an effective, efficient, or sustainable means managing the location of development. A better approach would be one that looks at the levels of flood risk of different areas and matches development that is water compatible or less vulnerable to sites with higher flood risk and development that is highly or more vulnerable to those with lower risk. This would also make it easier for LPAs to develop strategies that seek to take advantage of the opportunities presented by flooding. It is also important that any such reforms do not replicate the highly discretionary nature of the Sequential Test. As discussed in Chapter 3 (section 3.3.1.2.2), the current requirement that development be allocated to a lower risk area only applies 'if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding'. This provides a broad exception to the requirement to allocate development to lowest risk area and enables LPAs to prioritise other criteria when deciding what sites development should be allocated to.

10.1.5.1.5 Sustainable development

Reforming the NPPF's interpretation and application of the concept of sustainable development would also increase LPAs' ability to effectively manage flood risk. The following proposed reforms would increase LPAs' ability to achieve development that is sustainable in the long-term and address the fact that the current interpretation hinders rather than furthers flood risk management:

- Introducing a long-term approach to development that addresses how future as well as current development needs can be met.

- Providing policy guidance on what sustainable development is and how sustainability can be measure. This would give a rational basis for LPA decision-making, thereby making decisions easier to make and less vulnerable to developer capture.
- Providing policy guidance on how to value flood risk management measures, including informal measures, in terms of the benefits they provide to economic, social and environmental interests. This is essential to enabling flood risk management measures to be taken into account properly in decision making. At present the only established metric for evaluating the benefit of flood risk management is that used by the Environment Agency, which measures benefit by reference to the number of homes better protected and fails to take account of wider benefits such protection of non-residential properties, infrastructure and social interests.[7]
- Changing the perception of flooding so that it seen as something that we need to find ways to live with rather than as something that needs to be continually fought and defended against. As flood risk continues to increase, the cost of defending against it will continue to increase and therefore, to be sustainable in the long-term, development needs to be able to take place in spite of and alongside flooding.

10.1.5.2 Reform of legal planning tool regimes

10.1.5.2.1 Development plan reforms

The following reforms to the development plan regime would enable LPAs to better manage flood risk:

- Strengthening the duty to cop-operate with other LPAs and increasing the ability of development plans to take a cross-boundary and/or catchment-based approach to flood risk by providing clearer guidance on how LPAs can work together to prepare joint development plans or joint policies on flood risk. This would help to mitigate the geographical constraints of managing flood risk at the LPA level and ensure more effective management of flood risk.
- Relaxing the requirements for development plan policies to be based on evidence to enable policies that take a precautionary approach to the management of flood risk.
- Introducing policy guidance on the NPPF soundness test to ensure that the Planning Inspectorate takes greater account of the consistency of development plans with the

[7] National Audit Office, *Department for Environment and Rural Affairs: Managing Flood Risk* (NAO 2020) para 1.8.

NPPF requirements on flood risk management and the effectiveness of their flood risk management policies.

10.1.5.2.2 Permitted development rights

The following reforms to the Article 4 Direction regime would enable LPAs use them on the scale necessary to further the management of flood risk:

- Amending the rules regarding compensation for the removal of permitted development rights to enable LPAs to impose Article 4 Directions over large areas without being liable to pay large amounts of compensation. Such reforms would require making an exception to the general principle that landowners are entitled to compensation for any loss suffered as a result of an LPA exercising its statutory powers to control development.
- A change of approach by the Government in terms of its oversight of Article 4 Directions so that it does not prohibit the use of Article 4 Directions over large areas.
- In 2008, permitted development rights were removed for hard-surfacing of domestic front gardens of more than five square metres using non-permeable materials in order to address the cumulative impact of such development on flood risk.[8] Therefore, rather than reforming the Article 4 Direction regime, an alternative would be to amend the Town and Country Planning (General Permitted Development) Order 2015 to remove permitted development rights from a larger range of extensions and hard-surfacing. Provision of additional guidance for the public to raise awareness, as well as ensuring that LPAs have the resources necessary to enforce such a rule, would be necessary for such reform to be effective.

10.1.5.2.3 Conditions

The following would increase the ability of conditions to further the management of flood risk:

- Providing policy guidance on how and when conditions can and should be used to manage flood risk (such as requirements regarding the use of permeable surfacing and other property level flood risk management measures). This would clarify LPAs' role in ensuring that developments incorporate property level resistance and resilience measures, help to address the lack of internal expertise, and reduce the scope for developers to negotiate their requirements.

[8] Department for Communities and Local Government and Environment Agency, *Guidance on the Permeable Surfacing of Front Gardens* (DCLG 2008) 6.

- Introducing binding technical standards regarding flood risk management measures, such as SUDS. This would help ensure that the measures required are effective and further reduce the scope for developers to negotiate their requirements.
- Providing policy guidance on the extent to and ways in which conditions can be used to cover land other than the development site. This would enable LPAs to make better use of conditions to require the provision of off-site flood risk management infrastructure where, for example, there is insufficient space in the development site.

10.1.5.2.4 Planning obligations

The following reforms would enable LPAs to make more effective use of planning obligations to manage flood risk:

- Introducing policy guidance on how and when planning obligations can and should be used for flood risk management purposes. This would encourage their use, reduce the time, resources and internal expertise they require, and reduce the vulnerability of planning obligations to developer capture. It could also be used to clarify if, when and how planning obligations can be required in respect of infrastructure to be provided in another local authority area. Improving LPAs' understanding of the ability of planning obligations to be used to contribute to the cross-boundary management of flood risk could potentially significantly improve the management of flood risk.
- Removing or relaxing the necessity element of the statutory test for planning obligations. This would make it easier for LPAs to use them in relation to developments where the impact on flood risk is unclear, as well as in relation to the provision of informal flood risk management infrastructure and measures that have benefits that are less easily measurable.

10.1.5.2.5 Community Infrastructure Levy

It is clear that the CIL regime is not working and that reforms are needed to enable it to contribute to the management of flood risk. Indeed, the Government has proposed reforming the CIL regime by consolidating planning obligations and the CIL into one developer contribution regime, as discussed in Chapter 4 (section 4.6.4). However, as such a regime would not require higher payments to be made in respect of developments that have a higher impact on flood risk, it would not incentivise low-risk development and therefore one of the key advantages of the planning obligation regime would be lost. This research recommends retaining the planning obligation scheme, subject to the reforms recommended in section 10.1.5.2.4, and reforming the CIL regime as follows:

- Making it more forward-looking by requiring LPAs to first identify the infrastructure needed and its cost and then using this to determine levy rate (rather than LPAs basing their charging rate on what they think developers will be prepared to pay). As well as potentially ensuring that sufficient income is generated, such an approach would help ensure that the cost of development more accurately reflects the impact it has on the area. However, the problem with such an approach is that setting a rate that is sufficient to fund the infrastructure required would be self-defeating if it impacts on the viability of development to such an extent that it prevents development from coming forward.
- Allowing LPAs to forward-fund infrastructure by borrowing against future income may allow LPAs to set the levy at a lower, more viable, rate and still enable the timely delivery of flood risk management infrastructure.

10.1.5.3 Additional reforms/recommendations

In addition to the reforms to planning policy and the regimes relating to the legal planning tools, a number of further reforms and recommendations have been identified as a result of this research:

10.1.5.3.1 Raising Local Planning Authority awareness

The case studies revealed that there is some lack of awareness amongst LPAs as to what their obligations are in respect of flood risk and the role that they can play in managing it. It is also clear from the discussion in section 10.1.4 that LPAs lack awareness regarding the ways in which the legal planning tools available to them can be used to manage flood risk. There is therefore an opportunity for LPAs to receive training on what their role and responsibilities are in relation to the management of flood risk and on how they can use the tools available more effectively.

10.1.5.3.2 Increasing Local Planning Authority resources

The lack of technical expertise within LPAs and the impact of this on the ability of LPAs to manage flood risk was discussed in Chapter 4 (section 4.1.3.4) and the case studies provided evidence of this (see section 9.3.1.4). It is clear from the discussion in section 10.1.4 that a lack of technical expertise and other resources within LPAs limits their ability to effectively manage flood risk. The National Audit Office recently reported that local authority spending on planning and development fell by 52.8% in real terms between 2010/11 and 2017/18,[9] and

[9] National Audit Office, *Financial Sustainability of Local Authorities 2018* (NAO 2018) para 12.

the Public Accounts Committee found that 'scarce local authority resources … are barriers to the effective management of flood risk'.[10] Increasing LPAs resources to ensure that they have the internal expertise necessary to enable them to develop effective strategies and policies would therefore increase their ability to manage flood risk. It would also improve LPAs' ability to negotiate successfully with developers and reduce the vulnerability of the planning regime to developer capture. Increasing LPA resources more generally would improve their ability to effectively monitor the implementation and delivery of their development plan policies, follow up and enforce the removal of permitted development rights, conditions, planning obligations and the CIL, and put in place and maintain awareness of Local and Neighbourhood Development Orders.

10.1.5.3.3 Ensuring access to adequate third party advice

As discussed in Chapter 9 (section 9.3.1.5), as well as needing sufficient internal expertise, it is also essential that LPAs have access to expert third party advice. Like LPAs, key consultees suffer from a lack of resources, and it has been reported that the Environment Agency has been starved of funds in recent years,[11] lost 20% of its workforce between 2013 and 2018,[12] and has a shortage of engineers involved in the provision and maintenance of flood defences.[13] It is therefore important that those bodies providing expert advice to LPAs are sufficiently resourced to enable them to provide high quality advice. Having one body that is responsible for all the aspects of flooding from all sources would also improve the effectiveness of the advice the LPA receives and could enable the development of national, regional, or catchment level strategies for management of flood risk.

10.2 Limitations of Current Research and Questions for Future Research

This research has been conducted and written up over a period of three and a half years. Time constraints therefore limited the number of case studies carried out to four. Carrying out further case studies would provide a clearer indication of whether the findings apply across LPAs. Furthermore, the interviews were carried out at an early stage of the research project without the benefit of the insight provided by the doctrinal research or the quantitative case study data. Follow up interviews after an initial analysis of the law and the case studies to

[10] Public Accounts Committee, *Managing Flood Risk* (PAC 2021) para 2.
[11] Michael Donnelly, 'Environment Agency 'Has Been Starved of Funds and Chained to its Desk'' (11 March 2021) ENDS Report.
[12] Zach Boren and Russell Scott, 'Inspections and Pollution Tests Drop as Environment Agency Sheds Thousands of Staff' (*Unearthed*, 2018) <https://unearthed.greenpeace.org/2018/12/08/environment-agency-pollution-inspections-cuts-rivers/> accessed 22 March 2021.
[13] National Audit Office (n 9) para 3.20.

further investigate issues such as why LPAs are not co-ordinating with other LPAs to develop cross-boundary or catchment-based strategies for the management of flood risk would have been useful. However, the time constraints of the research and the disruption to local authorities by the coronavirus pandemic meant that this was not feasible.

Data on the determination of individual planning applications is inevitably limited in what it can reveal about LPAs' approach to the management to flood risk and compliance with their flood risk management obligations. A research method that involved examination of an individual development proposal, any negotiations between the developer and the LPAs, the development granted (or refused) planning permission, and the decision notice in an individual case would yield more substantive information than the research method used here, which was limited to an examination of the decision notices.

It is questionable how complete the data regarding the use of planning obligations is. The publicly available data was limited in terms of the types of planning obligations it related to and the years for which it was available and it is clear that LPAs do not routinely keep comprehensive records of the planning obligations entered into and their fulfillment. Furthermore, none of the LPAs has yet fulfilled the requirements of the Community Infrastructure Levy (Amendment) (England) (No 2) Regulations 2019 to publish an annual report with details of the planning obligations entered into, what they relate to, and whether they have been fulfilled for the financial year 2019/2020 by December 2020.

It had been hoped that the data would show how LPAs' approach to the management of flood risk has changed over the time period of the case studies (2007 to 2019). However, whilst it was possible to do this for three of the case studies in respect of their development plans, data on the use of the other tools were not extensive or comprehensive enough to give a clear indication of if and how their use has changed over time. This is therefore a question that could be investigated in more detail. It is also important to recognise that the reforms and recommendations discussed are limited in the extent to which they can address the flood risk related to existing development. The research focuses on the extent to which LPA decisions in relation to future development can be used to manage flood risk and the question of the extent to which the planning system can resolve the issue of flood risk relating to existing development and address flood risk arising from past poor planning decisions is one that could be investigated further in future research.

One of the key means of furthering the management of flood risk in the long-term is through internalising into the cost of development the external flood risk costs. Planning obligations are a key means of doing this, but all the tools available to LPAs to manage flood risk do this

to some extent if they restrict and/or increase the cost of development. One of the key reasons why LPAs are failing to make more extensive use of these tools to ensure that the flood risk costs of development are internalised is due to the impact that it has on the economic viability of carrying out the development and the need that LPAs have to ensure that they do not prevent the development that is required to meet short-term needs from taking place. A key question for further research is, therefore, how the external flood risk costs of development can be internalised without preventing short-term development needs from being met. Whilst this research project has identified some broad ways in which development can meet short-term development needs whilst also being sustainable in the long-term, in particular by learning to live with water, this question requires further investigation and finding an answer to it is fundamental to effective, long-term management of flood risk. Similarly, although some of the reforms proposed in section 10.1.5 would decrease the vulnerability of the planning system to developer capture, this research does not seek to provide a comprehensive answer to the issue of developer capture of the planning system. This is an issue that requires further specific research.

One of the reforms recommended in section 10.1.5.3 is to have one body with responsibility for all aspects of flood risk from all sources as this would enable a more co-ordinated approach to flood risk management and the development of strategic, catchment-based solutions. This role could be undertaken by the Environment Agency through an extension of its responsibilities. Alternatively, a new body could be created to take on this role, with the possibility of that body being made up of representatives from the Environment Agency, local authorities, drainage boards, and water companies.

10.3 Conclusion

The objective of this research was to evaluate the potential and actual use by LPAs of the legal planning tools available to them to manage flood risk, identify any barriers that may be preventing LPAs from making effective use of these tools to manage flood risk, and make recommendations to enable LPAs to better manage flood risk. The doctrinal and empirical research methods used in achieve this is in accordance with the positivist approach outlined in Chapter 1 (section 1.7.1). The research found that the tools that LPAs have at their disposal have the potential to enable them to significantly further the management of flood risk in both the long and short-term, particularly if used together as part of a co-ordinated strategy for flood risk management. However, there are a number of legal, policy, and practical restrictions that prevent the tools from being used effectively, in particular the impact that strategies, policies and measures to manage flood risk in the long-term have on the economic

viability of carrying out development and meeting short-term housing need. These restrictions do not prevent LPAs from fulfilling their legal and policy flood risk management obligations, due largely to the vague and discretionary nature of many of these obligations which allow, and sometimes require, short-term development needs to be prioritised over long-term flood risk management and sustainable development. They are, however, a barrier to the effective management of flood risk by LPAs, and a number of reforms to planning policy, individual planning tools, and the planning system in general are needed to address the restrictions on them.

Undertaking the reforms and recommendations discussed in section 10.1.5 would increase LPAs' ability to manage flood risk, but what lies behind the reforms and recommendation is the need for a change of approach towards flood risk management and development in general, with a stronger commitment by central and local government to long-term flood risk management and sustainable development. As part of this, there needs to be a change in how the viability and sustainability of development are assessed so that they take into account the wider impacts of development and the benefits of flood risk management measures in order to prevent short-term development need from being so easily able to outweigh the need to manage flood risk. This requires the development of a metric for evaluating the impact of development on flood risk and the benefits that flood risk management measures provide. The use of such a metric would change the way that suitable development sites are identified by LPAs in their allocation policies, as well as how planning applications are determined in terms of what development will be permitted and where. Ensuring that the wider flood risk costs of development are incorporated into the cost of development would give LPAs the ability to require developers to bear the costs of the measures needed to ensure that the development does not increase flood risk elsewhere, any off-site infrastructure or other measures needed to serve the development, and the property level resistance and resilience measures necessary to ensure the long-term sustainability of development. As well as mitigating the impacts of development on flood risk, such an approach would also encourage developers to put forward development proposals that have as little impact on flood risk as possible.

However, in addition to this change of approach to viability and sustainability, there also needs to be an acceptance by all those involved in planning and development that due to the limited amount of low-risk land, the rising demand for housing, and the increasing frequency and severity of flooding, better decision-making about where development takes place and more extensive use of flood risk management infrastructure will not be enough to prevent

flooding from occurring. It is therefore essential for communities to increase their resilience to flooding and this requires more than simply incorporating property level resistance and resilience measures, such as flood gates, on individual properties. The long-term management of flood requires a different approach to resilience, one that is based on learning to live with water rather than fighting a futile battle to keep it out. Inspiration for this could be taken from the approach that has been taken in low-lying countries and this is an area for further research.

Appendix A

PARTICIPANT INFORMATION SHEET – LOCAL PLANNING AUTHORITY

Planning for Floods: An analysis of planning law and planning practice in the management of flood risk

Researcher

Anna McClean, PhD candidate at Newcastle University.

This Project

This research project is a PhD thesis funded by The Economic and Social Research Council. The aim of the PhD thesis is to examine the management of flood risk by Local Planning Authorities (LPAs) through examination of the legal tools which are available to them for use to manage flood risk and an investigation into the extent to and ways in which these tools are used by four different LPAs in England. The project will also aim to identify whether there are any issues of competing objectives, responsibilities and demands, lack of awareness and understanding, or lack of resources which are hindering effective flood risk management by the LPAs.

We expect that the results from this project will improve understanding of the legal tools available to LPAs to manage flood risk and may lead to improvements in the management of flood risk.

Why am I contacting you?

I am interested in inviting Planning Officers from [insert local authority name] to participate in this research by being interviewed in relation to their experience of flood risk management through the planning system as their experience will help me understand what LPAs consider to be their role and responsibilities regarding flood risk management and how these are fulfilled in practice. The Planning Officers will be asked questions regarding their experience and perception of the planning system, and the application of the legal tools within it in relation to flood risk management.

I am contacting you in order to ask you to put me in touch with Planning Officers within [insert local authority name] in order that I can invite them to be interviewed.

Interview procedures

If a Planning Officers agrees to participate, I will arrange to meet them for a single interview at a time and place convenient to them.

It is expected that the interview would last between 45 and 60 minutes.

As a participant, the Planning Officer would be under no obligation to answer any of the questions which they are asked if they do not want to.

The only personal data which will be requested is details of their name, job title/position, length of time in that position, and any previous relevant jobs/positions.

They will have the right to withdraw from participation at any time before, during or after the interview, or to withdraw any specific comments made during the interview, without giving any reason. The right to withdraw is available until 31 March 2021, when it is anticipated that the thesis will have been completed.

If you choose not to put me in touch with any Planning Officers, you will not be approached again for this study.

Confidentiality and anonymity

The interview will be audio recorded, but only with the Planning Officer's agreement. Even if they agree to being recorded, they may choose to have the recorder turned off at any time. They may review the recording if they wish and ask for any recorded matters to be deleted.

The interview will be recorded and transcribed by myself using a confidential coding system in order to ensure that none of the Planning Officer's answers are directly attributable to them. Manual notes may also be taken by myself. The recording and notes will be stored in a accordance with an approved data management plan (which is available on request) for a maximum of six years. Only myself and my two supervisors will have access to the anonymised recording and notes.

The Planning Officer will not be identified by name in the thesis or any other published materials, but anonymised transcriptions, quotations and paraphrases of/from the interviews will be included in the thesis.

Other than any information which is required by law to be disclosed, information about the Planning Officer will not be shared with anyone outside of the research team, which consists of:

- Mrs Anna McClean, Newcastle University (Primary researcher)
- Professor Christopher Rodgers, Newcastle University (Supervisor)
- Dr Ole Pedersen, Newcastle University (Supervisor)

A copy of the research findings will be made available to you and the Planning Officer on request.

Contact details

Anna McClean at A.McClean1@ncl.ac.uk

Professor Rhona Smith, Head of School, Newcastle Law School, Newcastle University at Rhona.Smith@ncl.ac.uk

Appendix B

PARTICIPANT INFORMED CONSENT FORM

Planning for Floods: An analysis of planning law and planning practice in the management of flood risk and flood mitigation

Research concerned: Interviews for the PhD thesis of Mrs Anna McClean examining the management of flood risk by Local Planning Authorities (LPAs) through examination of the legal tools available to LPAs for flood risk management and investigation into the extent to which those tools have been used in practice.

Researchers: Mrs Anna McClean (Primary researcher)

Professor Christopher Rodgers (Supervisor)

Dr Ole Pedersen (Supervisor)

Contact: A.McClean1@ncl.ac.uk

For any concerns or complaints, contact the Head of School, Newcastle Law School, Professor Rhona Smith at Rhona.Smith@ncl.ac.uk

I ……. confirm that I have read the participant information sheet and have had an opportunity to ask questions about the study, and I hereby consent to participating in this study.

In giving my consent, I understand that:

- I may withdraw from the study without penalty at any time by advising the researchers of this decision.
- The project has been reviewed by, and received ethics clearance through, the University of Newcastle HASS Faculty Research Ethics Committee.
- Only the researcher and two supervisors named above will have access to the interview recordings and personal contact data.

- The interview will be recorded and transcribed.
- All recordings and personal data will be securely stored in accordance with an approved data management plan (which is available to view on request). Data will be retained for a maximum of six years. A coding system will be used when transcribing the interviews to ensure that the interview cannot be attributed to me.
- The data will be analysed and used in the thesis.

Participant Signature	Researcher Signature
Date	Date
Print Name	Print name
Signature	Signature

Appendix C

DATA MANAGEMENT PLAN

Data Collection

Data will be collected through a semi-structured interview between the researcher and participant. The data will be recorded on a Dictaphone and transcribed by the researcher.

Anonymity of Participants

Details of participants will be anonymised. After the data has been collected, the researcher will create a key code to anonymise the data that relates to the participants. This key code will be stored on a password protected USB stick that will only be accessible to the researcher and two supervisors. The USB stick will be locked in a secure filing cabinet in Newcastle University Law School's general office.

Data Storage

The paper consent forms from the participants will be kept in a lockable drawer in Newcastle University Law School.

All interview recordings will be stored on two password protected USB sticks. The master copy will be stored in a secure filing cabinet in Newcastle University Law School's general office. Only the researcher and the two supervisors will have access to this. The researcher will retain the second copy in a lockable cupboard in a room in the Law School which is only accessible by postgraduate law students and Law School staff. Only the researcher will have access to this cupboard.

After all the data pertaining to the participants has been removed from the transcripts, the transcripts will be included in the researcher's PhD thesis.

Data Retention

The personal details of the participant and the interview recordings will be retained for 6 years, after which time the three password protected USB sticks will be wiped.

Rights of Participant to Information

Under Section 7(1)(a) of the Data Protection Act 1998, the researcher is obliged to provide the participant with information about how their personal data is being collected and how it will be stored. The researcher has highlighted this in the Participant Information sheet and will explain it to the participant before the interview.

In an effort to go beyond the minimum requirements of the Data Protection Act 1998, the researcher will explain to the participant that they may withdraw from the research at any time and request that their information be destroyed.

No more personal data than is absolutely necessary for the researcher will be obtained from the participant. The researcher will only request the participant's name, position/job title, length of time in that position/job, and details of any previous relevant positions/jobs.

Appendix D

LPA Interview Questions

Introductory Questions

Name:

Position/job title:

Length of time in position:

Previous relevant jobs/positions?

General

What do you consider to be the main purpose of the planning system?

What do you consider your authority's main priority to be?

What do you think its main priority should be?

Why do you think this should be its main priority?

Has the purpose changed over time?

If so, can you describe how it has changed?

Has the priority changed over time?

If so, can you describe how it has changed?

Flooding

Do you consider flood risk management to be a significant issue for your authority?

Do you think that flooding is an increasing problem?

How much priority to do you think that flood risk management is given by your authority?

Do you think that it is given sufficient priority?

What is your authority's role regarding flood risk management?

What are your authority's obligations regarding flood risk management?

Is your authority fulfilling this role?

Is your authority fulfilling these obligations?

What do you think your authority's role *should be* regarding flood risk management?

How does your planning body fulfil its obligations to minimise and mitigate flood risk?

What tools are you aware of that they can/do use to do so?

Do you use any of the following?

1. Planning agreements?
2. Planning conditions?
3. Art 4 Directions?
4. The Community Infrastructure Levy?

If possible can you provide statistics and examples of their use in each of the last 5 years?

How effective do you think these tools are for managing flood risk?

How many planning applications are refused due to unacceptable flood risk?

If possible can you provide statistics and examples of refusals in each of the last 5 years?

On what grounds might a planning application be rejected due to flood risk?

On what basis/in what circumstances does your authority decide a planning application against the advice of the EA?

How does your authority usually respond to the EA consultation response?

<u>Concluding questions</u>

Do you think that your authority is effectively managing flood risk?

If not, in what ways are they not?

And why do you think that this is the case?

Do you think that the current system gives adequate consideration to flood risk management?

Do you feel that any changes are required to the legal tools within the planning system to ensure that flood risk can be adequately managed by your authority?

Bibliography

Statutes

Countryside Act 1968

Countryside and Rights of Way Act 2000

Criminal Justice and Courts Act 2015

Flood and Water Management Act 2010

Localism Act 2011

National Parks and Access to the Countryside Act 1949

Natural Environment and Rural Communities Act 2006

Norfolk and Suffolk Broads Act 1988

Planning Act 2008

Planning and Compulsory Purchase Act 2004

Senior Courts Act 1981

Town and Country Planning Act 1990

Water Act 2014

Wildlife and Countryside Act 1981

Statutory Instruments

Civil Procedure Rules 1998, SI 1998/3132

Conservation of Habitats and Species Regulations 2017, SI 2017/1012

Community Infrastructure Levy Regulations 2010, SI 2010/948

Community Infrastructure Levy (Amendment) (England) (No 2) Regulations 2019, SI 2019/1103

Environmental Assessment of Plans and Programmes Regulations 2004, SI 2004/1633

Flood Reinsurance (Scheme Funding and Administration) Regulations 2015, SI 2015/1902

Neighbourhood Planning (General) Regulations 2012, SI 2012/637

Town and Country Planning (Development Management Procedure) (England) Order 2015, SI 2015/595

Town and Country Planning (Environmental Impact Assessment) Regulations 2017, SI 2017/571

Town and Country Planning (General Permitted Development) Order 1995, SI 1995/418

Town and Country Planning (General Permitted Development) Order 2015, SI 2015/596

Town and Country Planning (Local Planning) (England) Regulations 2012, SI 2012/2613

Cases

Associated Provincial Picture Houses v Wednesbury Corporation [1948] 1 KB 223

Begum v London Borough of Tower Hamlets [2003] UKHL 5; [2003] 2 AC 430

British Airports Authority v Secretary of State for Scotland [1980] JPL 260

City of Bradford Metropolitan Council v Secretary of State for the Environment [1986] JPL 598 (CA)

City of Edinburgh Council v Secretary of State for Scotland [1998] JPL 224

Council of Service Unions v Minister for the Civil Service [1985] AC 374

David Lowe & Sons Ltd v Musselburgh Magistrates [1974] SLT 5

Delta and Design and Engineering Ltd v Secretary of State for the Environment and South Cambridgeshire DC [2002] JPL 726

Eco-Energy (GB) Ltd v First Secretary of State [2004] EWCA Civ 1566 (CA)

George Wimpy & Co Ltd v Secretary of State for the Environment [1978] JPL 776

George Wimpey & Co Ltd v Secretary of State for the Environment [1979] AC 144

Grampian Regional Council v City of Aberdeen DC (1984) 47 P&CR 633

Hall & Co v Shoreham-by-Sea UDC [1964] 1 WLR 240 (CA)

Newbury DC v Secretary of State for the Environment [1981] AC 578

Oxted Residential Ltd v Tanbridge District Council [2016] EWCA Civ 414

R (oao AMVAC Chemical UK Ltd) v The Secretary of State for Environment, Food and Rural Affairs [2001] EWCH (Admin 1011)

R (oao Cheshire East Council) v Secretary of State for Communities and Local Government [2014] EWHC 2824 (Admin); [2015] JPL 185

R (oao Menston Action Group) v Bradford MBC [2016] EWCA Civ 796

R v Bristol City Council, ex parte Anderson [2000] PLCR 104

R v Hilingdon LBC, ex parte Royco Homes Ltd [1974] QB 720

R v South Northamptonshire DC, ex p Crest Homes plc [1995] JPL 200 (CA)

R v SSETR ex p Standley C-293/97

South Cambridgeshire DC v Secretary of State for Communities and Local Government [2008] EWCA Civ 1010

Stringer v Minister of Housing and Local Government [1970] 1 WLR 1281

Suffolk Coastal District Council v Hopkins Homes Ltd and Another [2017] UKSC 37

Tarmac Heavy Building Materials Ltd UK v Secretary of State for the Environment, Transport and the Regions [2000] PLCR 157

Tesco Stores v Secretary of State for the Environment [1995] 1 WLR 759 (HL)

Transport and the Regions [2000] PLCR 157

Walton v The Scottish Minister [2012] UKSC 44

Books

Aarnio A, 'On the Ontology of Law' in Aarnio A (ed), *The Foundations of Legal Thinking* (Springer 2011)

Bell S et al, *Environmental Law* (9th edn, OUP 2017)

Bosselmann K, *The Principle of Sustainability* (2nd edn, Routledge 2017)

Bosselmann K, Grinlinton D and Taylor P (eds), *Environmental Law for a Sustainable Society* (2nd edn, New Zealand Centre for Environmental Law 2013)

Bowes A, *A Practical Approach to Planning Law* (14th Edition edn, OUP 2019)

Bryman A, *Quantity and Quality in Social Research* (Routledge 1988)

Carpenter D and Moss DA (eds), *Preventing Regulatory Capture: Special Interest Influence and How to Limit It* (CUP 2014)

Crawford J and Mehmood A (eds), *Planning for Climate Change: Strategies for Mitigation and Adaptation for Spatial Planners* (Earthscan 2009)

Cullingworth B and others, *Town and Country Planning in the UK* (15th edn, Routledge 2015)

Davoudi S, Crawford J and Mehmood A (eds), *Planning for Climate Change: Strategies for Mitigation and Adaptation for Spatial Planners* (Earthscan 2009)

Davoudi S and Strange I (eds), *Conceptions of Space and Place in Strategic Spatial Planning* (Routledge 2009)

Fisher E, Lange B and Scotford E, *Environmental Law: Text, Cases, and Materials* (OUP 2013)

Gowdy J and O'Hara S, *Economic Theory for Environmentalists* (St Lucie Press 1995)

Grix J, *The Foundations of Research* (2nd edn, Palgrave Macmillan 2010)

Hanson R, *Suburb: Planning Politics and the Public Interest* (Cornell University Press 2017)

Herbert-Young N (ed), *Law, Policy and Development in the Rural Environment* (University of Wales Press 1999)

HM Treasury, *The Green Book (2020)* (HM Treasury 2020)

HMTreasury and Stern Sir N H, *The Economics of Climate Change: the Stern Review* (CUP 2007)

Holder J and McGillavray D (eds), *Taking Stock of Environmental Assessment* (Routledge Cavendish 2007)

Howarth W, *Flood Defence Law* (Shaw & Sons 2002)

King G, Keohane R O and Verba S, *Designing Social Inquiry: Scientific Inference in Qualitative Research* (Princeton University Press 1994)

Masterman R and Murray C, *Constitutional and Administrative Law* (2nd edn, Pearson Education Limited 2018)

Moore V and Purdue M, *A Practical Approach to Planning Law* (13th edn, Oxford University Press 2014)

Naffine N, *Law's Meaning of Life: Philosophy, Religion, Darwin and the Legal Person* (Hart Publishing 2009)

Reid C T, *Nature Conservation Law* (3rd edn, Thomas Reuters (Legal) Limited 2009)

Rydin Y, *The Purpose of Planning: Creating Sustainable Town and Cities* (The Policy Press 2011)

Stookes P, *A Practical Approach to Environmental Law* (2nd edn, OUP 2009)

Walker G, *Environmental Justice: Concepts, Evidence and Politics* (Routledge 2012)

Journal Articles

Bell J and Morrison T, 'A Comparative Analysis of the Tranformation of Governance Systems: Land Use Planning for Flood Risk' (2015) 17(4) Journal of Environmental Planning and Policy 516

Bond A J and Morrison-Saunders A, 'Sustainability Appraisal: Jack of All Trades, Master of None?' (2009) 27(4) Impact Assessment and Project Appraisal 321

Brown, Casey; Meeks, Robyn; Ghile, Yonas; Hunu, Kenneth, 'Is Water Security Necessary? An Empirical Analysis of the Effects of Climate Hazards on National-Level Economic Growth' (2013) 371(2002) Philosophical Transactions: Mathematical, Physical and Engineering Science 1

Bruff GE and Wood AP, 'Local Sustainable Development: Land-Use Planning's Contribution to Modern Local Government' (2000) 43(4) Journal of Environmental Planning and Management 519

Burgess G, Monk S and Whitehead C, 'Delivering Local Infrastructure and Affordable Housing Through the Planning Sysytem: the Future of Planning Obligations Through Section 106' (2011) 5(1) People, Place and Policy Online 1

Calderon EJ and Diez J, 'Spatial Planning Measures for the Enhancement of Urban Resilience Against Flood Risk' (2015) 5 Engineering Geology for Society and Territory 1233

Carter JG, White I and Richards J, 'Sustainability Appraisal and Flood Risk Management' (2009) 29(1) Environmental Impact Assessment Review 7

Coaffee J, ‘Towards Next-Generation Urban Resilience in Planning Practice: From Securitization to Integrated Place Making’ (2013) 28(3) Planning Practice and Research 323

Cooper J, Adamson M and Russell E, ‘Flood Risk Management - Challenges to the Effective Implemenatation of a Paradigm Shift’ (2013) 14(1) Planning Theory and Practice 135

Davoudi S, ‘Resilience: A Bridging Concept or a Dead End?’ (2012) 13(1) Planning Theory and Practice 299

Donnelly M, ‘Environment Agency 'Has Been Starved of Funds and Chained to its Desk'’ (11 March 2021) ENDS Report

Fielding JL, ‘Flood Risk and Inequalities Between Ethnic Groups in the Flood Plains of England and Wales’ (2018) 42(1) Disasters 101

Firth B, ‘Interpretation of the Changes to CIL and Section 106 Legislation and Applying Practical Solutions to Speed Up the Process and Improve Outcomes’ (2016) 44 Journal of Planning and Environment Law 88

Foulds S A and others, ‘Flood-Related Contamination in Catchments Affected by Historical Metal Mining: An Unexpected and Emerging Hazard of Climate Change’ (2014) 476-477 Science of The Total Environment 165

Green C, ‘Competent Authorities for the Flood Risk Management Plan - Reflections on Flood and Spatial Planning in England’ (2017) 10(2) Journal of Flood Risk Management 195

Hayes S, Barker A and Jones C, ‘Flood Management Consideration in Sustainability Appraisal and Strategic Environmental Assessment in England and Scotland’ (2014) 16(3) Journal of Environmental Assessment Policy and Management 1450025

Howarth W, ‘Integrated Water Resources Management and Reform of Flood Risk Management in England’ (2019) 29(2) Journal of Environmental Law 355

Howe J and White I, ‘Like a Fish Out of Water: the Relationship Between Planning and Flood Risk Management in the Uk’ (2004) 19(4) Planning Practice and Research 415

Howell Williams C QC and Murphy M, ‘The Call of Duty’ (2016) 10 Journal of Planning and Environment Law 957

Hutchinson T and Duncan N, ‘Defining and Describing What We Do: Doctrinal Legal Research’ (2012) 17(1) Deakin Law Review 83

Larkham PJ and Chapman DW, ‘Article 4 Directions and Development Control: Planning Myths, Present Uses and Future Possibilities’ (1996) 39(1) Journal of Environmental Planning and Management 5

Leshinsky R, ‘Use of Planning Agreements to Support Sustainability and Environmental Preservation’ (2012) 4(2) International Journal of Law in the Built Environment 157

Lord J and Waring L, ‘Involving Communities at the Earliest Stage of Plans’ (2007) 1704 Planning Practice and Research 27

Minnery J, ‘Planning and Retrofitting for Floods: Insights from Australia’ (2013) 14(1) Planning Practice and Research 121

Morrison-Saunders A and Fischer T, ‘What is Wrong with EIA and SEA Anyway? A Sceptic's Perspective on Sustainability Assessment’ (2006) 8(1) Journal of Environmental Assessment Policy and Management 19

Naess P, ‘Critical Realism, Urban Planning and Urban Research’ (2015) 23(6) European Planning Studies 1228

Neuvel JMM and Knapp WVD, ‘A Spatial Planning Perspective for Measures Concerning Flood Risk Management’ (2010) 26(2) International Journal of Water Resources Development 283

O'Neill E, ‘Neighbourhood Design Considerations in Flood Risk Management’ (2013) 14(1) Planning Theory and Practice 129

Porter L and Davoudi S, ‘The Politics of Resilience for Planning: A Cautionary Note’ (2012) 13(2) Planning Theory and Practice 329

Porter J and Demeritt D, ‘Flood-Risk Management, Mapping and Planning: The Institutional Politics of Decision Support in England’ (2012) 44(10) Environment and Planning 2359

Posas PJ, ‘Exploring Climate Change Criteria for Strategic Environmental Assessment’ (2011) 75(3) Progress in Planning 109

Prior A and Raemakers J, ‘Does Planning Deregulation Threaten the Environment? The Effect of 'Permitted Development' on the Natural Heritage of Scotland’ (2006) 49(2) Journal of Environmental Planning and Management 241

Samuels A, ‘Flooding and the Law’ (2015) 2015(2) Journal of Planning and Environmental Law 133

Scott M, ‘Living With Flood Risk’ (2013) 14(1) Planning Theory and Practice 133

Smedt PD, ‘Legal Instruments in Spatial Planning to Ban Building in Flood Zones: From Water Test to Planological Protection via 'Water Sensitive Open-Air Areas'’ (2017) 14(3-4) Journal of European Environmental and Planning Law 346

Stallworthy M, ‘Sustainability, Coastal Erosion and Climate Change: An Environmental Analysis’ (2016) 18(3) Journal of Environmental Law 357

Viktor Rozer and Swenja Surminski, ‘Current and Future Flood Risk of New Build Homes Across Different Socio-Economic Neighbourhoods in England and Wales’ (2021) 16(5) Environmental Research Letters

Vilcan T and Potter K, ‘Delivering Sustainable Drainage Systems through the English Planning System: A Proposed Case of Institutional Void’ (2020) 13(1) Journal of Flood Risk Management

Walker G and Burningham K, ‘Flood Risk Vulnerability and Environmental Justice: Evidence and Evaluation of Inequality in a UK Context’ (2011) 31(2) Critical Social Policy 216

White I, ‘The More We Know the More We Don't Know: Reflections on a Decade of Planning, Flood Risk Management and False Precision’ (2013) 14(1) Planning Theory & Practice 106

White I and Alarcon A, ‘Planning Policy, Sustainable Drainage and Surface Water Management: A Case Study of Greater Manchester’ (2009) 35(4) Built Environment 516

White I and Howe J, ‘Flooding and the Role of Planning in England and Wales: A Critical Review’ (2002) 45(5) Journal of Environmental Planning and Management 735

White I and Richards J, ‘Planning Policy and Flood Risk: The Translation of National Guidance into Local Policy’ (2007) 22(4) Planning Practice and Research 513

White M, ‘Renegotiating Planning Obligations: An Overview of the Law’ (2013) 10 Journal of Planning and Environment Law 1232

Wilson E, ‘Adapting to Climate Change at the Local Level: The Spatial Planning Response’ (2006) 11(6) Local Environment 609

International Materials

Brundtland G H, *Our Common Future: Report of the World Commission on Environment and Development* (World Commission on Environment and Development 1987)

United Nations General Assembly, *Report of the United Nations Conference on Environment and Development* (Conference on Environment and Development, Rio de Janeiro, 1992)

Central Government Materials

Blanc A, *Independent Review of Flood Insurance in Doncaster* (DEFRA 2020)

Bonfield P Dr, *The Property Flood Resilience Action Plan* (DEFRA 2016)

Browning S, *Household Flood Insurance: Flood Re* (House of Commons Briefing Paper, 8751, 2020)

Cabinet Office, *National Flood Resilience Review* (Cabinet Office 2016)

Chatterton J and others, *The Cost of the Summer 2007 Floods in England* (Environment Agency 2010)

CIL Review Group, *A New Approach to Developer Contributions* (MHCLG 2016)

Department for Business, Energy and Industrial Strategy and Department for Environment, Food and Rural Affairs, *Government Response to the Committee on Climate Change 2017 Report to Parliament - Progress in Preparing for Climate Change* (HM Stationery Office 2017)

Department for Communities and Local Government, *Circular 11/95: Use of Conditions in Planning Permission* (DCLG 1995)

Department for Communities and Local Government, *Valuing Planning Obligations in England: Update Study for 2005-2006* (DCLG 2008)

Department for Communities and Local Government, *National Planning Policy Framework* (DCLG 2012)

Department for Communities and Local Government, *Technical Guidance to the National Planning Policy Framework* (DCLG 2012)

Department for Communities and Local Government, *Fixing Our Broken Housing Market* (DCLG 2017)

Department for Communities and Local Government and Environment Agency, *Guidance on the Permeable Surfacing of Front Gardens* (DCLG 2008)

Department for Environment, Food and Rural Affairs, *Making Space for Water* (DEFRA 2004)

Department for Environment, Food and Rural Affairs, *Future Water - The Government's Water Strategy for England* (DEFRA 2008)

Department for Environment, Food and Rural Affairs, *Local Authority Districts Ranked by Rural and Hub Town (Rural-related) Populations 2011, Using 2011 Rural Urban Classification* (DEFRA 2014)

Department for Environment, Food and Rural Affairs, *Sustainable Drainage Solutions: Non-Statutory Technical Standards for Sustainable Drainage Systems* (DEFRA 2015)

Department for Environment, Food and Rural Affairs, *Evaluation of the Arrangements for Managing Local Flood Risk in England* (DEFRA 2017)

Deaprtment for Environment, Food and Rural Affairs, *A Green Future: Our 25 Year Plan to Improve the Environment* (DEFRA 2018)

Department for Environment, Food and Rural Affairs, *Central Government Funding for Flood and Coastal Erosion Risk Management in England* (DEFRA 2019)

Department for Environment, Food and Rural Affairs, *Flood and Coastal Erosion Risk Management: Policy Statement* (DEFRA 2020)

Department for Environment, Food and Rural Affairs, *Terms of Reference: Flood Insurance Review 2020* (DEFRA 2020)

Department for Environment, Food and Rural Affairs and Department for Health and Social Care, *National Adaptation Programme* (The Stationery Office 2013)

Edmonds T, *Household Flood Insurance* (House of Commons Briefing Paper, 06613, 2016)

Environment Agency, *Flooding in England: A National Assessment of Flood Risk* (Environment Agency 2009)

Environment Agency, *The Cost and Impacts of the Winter 2013 to 2014 Floods* (Environment Agency 2016)

Environment Agency, *Estimating the Economic Costs of the 2015 to 2016 Winter Floods* (Environment Agency 2018)

Environment Agency, *National Flood and Coastal Erosion Risk Management Strategy for England* (Environment Agency 2020)

Environment Food and Rural Affairs Committee, *Future Flood Prevention* (Environment, Food and Rural Affairs Committee 2016)

Finley J, *Autumn and Winter Floods 2019-2020* (House of Commons Briefing Paper, CBP8803, 2020)

Flood Re, *Flood Re Regulation 27: The Quinquennial Review* (Flood Re 2019)

Grimwood GG, *Planning Policy Changes in England in 2020 and Future Reforms* (House of Commons Briefing Paper, 8981, 2021)

Hartwell-Naguib S and Roberts N, *Winter Floods 2013/14* (House of Commons Standard Note, SN/SC/06809, 2014)

House of Commons Standing Committee G 21 Jan 2003, part 1, col 4

Lord D A and others, *The Incidence, Value and Delivery of Planning Obligations and Community Infrastructure Levy in England in 2016-17* (Ministry of Housing, Communities and Local Government 2018)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Community Infrastructure Levy* (MHCLG 2014)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Flood Risk and Coastal Change* (MHCLG 2014)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Use of Planning Conditions* (MHCLG 2014)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: When is permission required?* (MHCLG 2014)

Ministry of Housing, Communities and Local Government, *Planning practice guidance: Housing and economic needs assessment* (MHCLG 2015)

Ministry of Housing Communities and Local Government, *Planning Practice Guidance: Strategic Environmental Assessment and Sustainability Appraisal* (MHCLG 2015)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Local Plans* (MHCLG 2016)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Natural Environment* (MHCLG 2016)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Planning Obligations* (MHCLG 2016)

Ministry of Housing, Communties and Local Government, *Planning Practice Guidance: Plan-making* (MHCLG 2018)

Ministry of Housing, Communities and Local Government, *Planning Practice Guidance: Viability* (MHCLG 2018)

Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (MHCLG 2019)

Ministry of Housing, Communities and Local Government, *Planning for the Future* (White Paper, Aug 2020)

Ministry of Justice and The Rt Hon Robert Buckland QC MP, *Judicial Review consulation launches* (Press release 18 March 2021)

Nathaniel Lichfield, *Review of Permitted Development Rights* (ODPM 2003)

Office of Science and Technology, *Foresight Future Flooding: Executive Summary* (Government Office for Science 2004)

Office of Science and Technology, *Foresight Flooding Scentific Summary: Volume 1 - Future Risks and their Drivers* (Government Office for Science 2004)

Office of Science and Technology, *Foresight Future Flooding Scientific Summary: Volume 2 - Managing Future Risks* (Government Office for Science 2004)

Office of the Deputy Prime Minister and Department for Environment, Food and Rural Affairs, *Government Circular: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System* (DEFRA 2005)

Pitt M Sir, *Learning Lessons From the 2007 Floods: Interim Report* (Cabinet Office 2007)

Pitt M Sir, *The Pitt Review: Learning Lessons From the 2007 Floods* (Cabinet Office 2008)

Priestley S, *Winter Floods 2015-2016* (House of Commons Briefing Paper, CBP7427, 2016)

Priestley S, *Flood Risk Management and Funding* (House of Commons Briefing Paper, CBP07514, 2017)

Secretary of State for Communities and Local Government (Mr Eric Pickles), *House of Commons Written Statement: Sustainable Drainage Systems* (DCLG 2014)

The University of Reading and Three Dragons, *The Value, Impact and Delivery of the Community Infrastructure Levy: Report of Study* (DCLG 2017)

Local Government Materials

Allerdale Borough Council, *Allerdale Local Plan 1999* (Allerdale Borough Council 1999)

Allerdale Borough Council, *Allerdale Local Plan 1999 First Alterations* (Allerdale Borough Council 2006)

Allerdale Borough Council, *Annual Monitoring Report 08/09* (Allerdale Borough Council 2009)

Allerdale Borough Council, *Allerdale Borough Council Strategic Flood Risk Assessment Volume 2 Final Report* (Allerdale Borough Council 2010)

Allerdale Borough Council, *Annual Monitoring Report 09/10* (Allerdale Borough Council 2010)

Allerdale Borough Council, *Annual Monitoring Report 2010/2011* (Allerdale Borough Council 2011)

Allerdale Borough Council, *Allerdale Local Plan Annual Monitoring Report 2011/12* (Allerdale Borough Council 2012)

Allerdale Borough Council, *Lillyhall Local Development Order* (Allerdale Borough Council 2013)

Allerdale Borough Council, *Allerdale Local Plan (Part 1): Strategic and Development Management* (Allerdale Borough Council 2014)

Allerdale Borough Council, *Allerdale Local Plan (Part 1) Sustainability Appraisal/Strategic Environmental Assessment Post Adoption Statement* (Allerdale Borough Council)

Allerdale Borough Council, *Annual Monitoring Report 2012/13* (Allerdale Borough Council 2014)

Allerdale Borough Council, *Annual Monitoring Report 2013/14* (Allerdale Borough Council 2015)

Allerdale Borough Council, *Annual Monitoring Report 2014-2015* (Allerdale Borough Council 2016)

Allerdale Borough Council, *Annual Monitoring Report 2015-2016* (Allerdale Borough Council 2016)

Allerdale Borough Council, *Annual Monitoring Report 2016-2017* (Allerdale Borough Council 2017)

Allerdale Borough Council, *Allerdale Local Plan (Part 2) Site Allocations Sustainability Appraisal Report* (Allerdale Borough Council 2018)

Allerdale Borough Council, *Annual Monitoring Report 2017-2018* (Allerdale Borough Council 2018)

Allerdale Borough Council, *Cumbria Level 1 Strategic Flood Risk Assessment for Allerdale Borough Council Volume II - Technical Report, Final Report* (Allerdale Borough Council 2018)

Allerdale Borough Council, *Annual Monitoring Report 2018-2019* (Allerdale Borough Council 2019)

Allerdale Borough Council, *Allerdale Local Plan (Part 2): Site Allocations* (Allerdale Borough Council 2020)

Allerdale Borough Council, *Allerdale Local Plan (Part 2) Site Allocations: Sustainbility Appraisal Post Adoption Statement* (Allerdale Borough Council 2020)

Amec Foster Wheeler Environment & Infrastructure Ltd, *Birmingham City Council Sustainability Appraisal of the Birmingham Development Plan: Revised Sustainability Report* (Birmingham City Council 2015)

Amec Foster Wheeler Environment & Infrastructure Ltd, *Sustainability Appraisal* (City of York Council 2018)

Association of British Insurers, *Making Communities Sustainable: Managing Flood Risk in the Government's Growth Areas: Summary Report* (ABI 2005)

Berkeley S and McCormack A, *Inspectors' Initial Observations* (City of York Council 2018)

Birmingham City Council, *Aston Advanced Manufacturing Hub Local Development Order Statement of Reasons* (Birmingham City Council)

Birmingham City Council, *Community Infrastructure Levy Regulation 123 List* (Birmingham City Council)

Birmingham City Council, *Birmingham Unitary Development Plan 2005* (Birmingham City Council 2005)

Birmingham City Council, *Annual Monitoring Report 2012* (Birmingham City Council 2012)

Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 1 Strategic Flood Risk Assessment* (Birmingham City Council 2012)

Birmingham City Council and Atkins Ltd, *Birmingham City Council Level 2 Strategic Flood Risk Assessment* (Birmingham City Council 2012)

Birmingham City Council, *Annual Monitoring Report 2013* (Birmingham City Council 2013)

Birmingham City Council, *The Local Development Order for Advanced Manufacturing Hub, Aston* (Birmingham City Council 2014)

Birmingham City Council, *Birmingham Local Plan Authority Monitoring Report 2011-2016* (Birmingham City Council 2017)

Birmingham City Council, *Birmingham Plan 2031* (Birmingham City Council 2017)

Birmingham City Council, *Summary of the Local Flood Risk Management Strategy for Birmingham* (Birmingham City Council 2017)

Birmingham City Council, *Tyseley Environmental Enterprise District Local Development Order* (Birmingham City Council 2017)

Birmingham City Council, *Authority's Monitoring Report 2016-2017* (Birmingham City Council 2018)

Birmingham City Council, *Authority's Monitoring Report 2017-2018* (Birmingham City Council 2019)

Birmingham City Council, *Birmingham Local Plan Authority Monitoring Report 2011-2019* (Birmingham City Council 2019)

Birmingham City Council, *City-Wide Article 4 Direction relating to Houses in Multiple Occupation (HMOs)* (Birmingham City Council 2019)

Birmingham City Council, *Planning Officer Report to Planning Committee* (Birmingham City Council 2019)

City of York Council, *Article 4(2) Directive for East Mount Road* (City of York Council)

City of York Council, *Development Control Local Plan* (City of York Council 2005)

City of York Council, *Annual Monitoring Report 2005/2006* (City of York Council 2006)

City of York Council, *Annual Monitoring Report 2006/2007* (City of York Council 2007)

City of York Council, *Annual Monitoring Report 2007/2008* (City of York Council 2008)

City of York Council, *Annual Monitoring Report 2008/2009* (City of York Council 2009)

City of York Council, *Annual Monitoring Report 2009/2010* (City of York Council 2010)

City of York Council, *Annual Monitoring Report 2010/2011* (City of York Council 2011)

City of York Council, *Article 4 Direction in Relation to Houses in Multiple Occupation* (City of York Council 2011)

City of York Council, *Annual Monitoring Report 2011/2012* (City of York Council 2012)

City of York Council, *Strategic Flood Risk Assessment Revision 2* (City of York Council 2013)

City of York Council, *Confirmed Article 4 Direction in Relation to Punchbowl Public House* (City of York Council 2015)

City of York Council, *Section 106 Agreements - Jan 2016* (City of York Council 2016)

City of York Council, *Article 4 Direction for 79 Fulford Road* (2017)

City of York Council, *Section 106 Agreements - Jan 2017* (City of York Council 2017)

City of York Council, *Local Plan - Publication Draft* (City of York Council 2018)

City of York Council, *Statement to Demonstrate Compliance with the Duty to Co-operate* (City of York Council 2018)

Clews R, *Report on the Examination of the Birmingham Development Plan* (The Planning Inspectorate 2016)

Clews R, *Report on the Examination of the South Worcestershire Development Plan* (The Planning Inspectorate 2016)

Collingwood Environmental Planning and Land Use Consultants, *Climate Change Mitigation and Adaptation Implementation Plan for the Draft South East Plan* (Collingwood Environmental Planning and Land Use Consultants 2006)

East Riding of Yorkshire Council, *Lower Derwent Supplementary Planning Document* (East Riding of Yorkshire Council 2018)

Enfusion, *South Worcestershire Development Plan Sustainability Appraisal Report (Integrated Appraisal)* (Worcester City Council, Wychavon District Council, Malvern Hills District Council 2012)

Enfusion, *South Worcesterhsire Development Plan Sustainability Appraisal (SA) (Integrated Appraisal) Adoption Statement* (Worcester City Council, Wychavon District Council, Malvern Hills District Council 2016)

Fox M, *Report on the Examination into the Swindon Borough Local Plan* (The Planning Inspectorate 2015)

Holland S, *Report on the Examination into the Allerdale Local Plan Part One* (The Planning Inspectorate 2014)

JBA Consulting, *Allerdale Borough Council Strategic Flood Risk Assessment Volume 1 Final Report* (Allerdale Borough Council 2010)

JBA Consulting, *Allerdale Borough Council Strategic Flood Risk Assessment Volume 2 Final Report* (Allerdale Borough Council 2010)

JBA Consulting, *South Worcestershire Strategic Flood Risk Assessment Level 2 Update Final Report* (Worcester City Council 2012)

Lepus Consulting, *Habitats Regulations Assessment of the Birmingham Development Plan: Pre-Submission Version* (Birmingham City Council 2013)

Moore M, *Report to Wealden District Council and the South Downs National Park Authority* (The Planning Inspectorate 2012)

Porter Planning Economics, *Local Plan Viability Final Report* (City of York Council 2018)

Spencer D, *Report on the Examination of Plan:MK* (The Planning Inspectorate 2019)

Troy D, *Report on the Examination of the Allerdale Local Plan (Part 2) Site Allocations* (The Planning Inspectorate 2020)

Whitehead PT, *Report on the Examination into Staffordshire Moorlands Core Strategy Local Plan* (The Planning Inspectorate 2014)

Worcester City Council, *York Place Article 4 Direction* (Worcester City Council 1986)

Worcester City Council, *Developer Contributions Monitor 2017* (Worcester City Council 2017)

Worcester City Council, *Worcester City Council Community Infrastructure Charging Schedule* (Worcester City Council 2017)

Worcester City Council, *Developer Contributions Monitor 2018* (Worcester City Council 2018)

Worcester City Council, *Regulation 62 of the Community Infrastructure Levy (CIL) Regulations 2010 (as amended) Monitoring Report 1 April 2017 to 31 March 2018* (Worcester City Council 2018)

Worcester City Council, *Shrubbery Avenue Conservation Area Article 4 Direction* (Worcester City Council 2018)

Worcester City Council, *Developer Contributions Monitor 2019* (Worcester City Council 2019)

Worcester City Council, *Regulation 62 of the Community Infrastructure Levy (CIL) Regulations 2010 (as amended) Monitoring Report 1 April 2018 to 31 March 2019* (Worcester City Council 2019)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Level 1 and Level 2 Strategic Flood Risk Assessment* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2009)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Annual Monitoring Report 2010* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2010)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Authorities' Monitoring Report 2011/12* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2011/12)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Authorities' Monitoring Report 2012/13* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2012/13)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *South Worcestershire Development Plan* (Worcester City Council, Malvern Hills District Council, Wychavon District Council 2016)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Authorities' Monitoring Report 2017* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2017)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Authorities' Monitoring Report 2018* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2018)

Worcester City Council, Malvern Hills District Council and Wychavon District Council, *Authorities Monitoring Report 2019* (Worcester City Council, Malvern Hills District Council and Wychavon District Council 2019)

WYG Planning and Environment, *Allerdale Borough Council Local Plan Pre-Submission Draft Sustainability Appraisal Report* (Allerdale Borough Council 2013)

Yuille R, *Report to Mendip District Council* (The Planning Inspectorate 2014)

Other Official Materials

Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change, 2015 Report to Parliament* (Committee on Climate Change 2015)

Committee on Climate Change Adaptation Sub-Committee, *UK Climate Change Risk Assessment 2017, Synthesis Report: Priorities for the Next 5 Years* (Committee on Climate Change 2016)

Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change* (Committee on Cimate Change 2017)

Committee on Climate Change Adaptation Sub-Committee, *Reducing Emissions and Preparing for Climate Change: 2017 Report to Parliament: Summary and Recommendations* (Committee on Cimate Change 2017)

Committee on Climate Change Adaptation Sub-Committee, *Progress in Preparing for Climate Change 2019 Report to Parliament* (Committee on Climate Change 2019)

National Audit Office, *Financial Sustainability of Local Authorities 2018* (NAO 2018)

National Audit Office, *Department for Environment and Rural Affairs: Managing Flood Risk* (NAO 2020)

Natural Capital Committee, *Advice to Government on the 25 Year Environment Plan* (Natural Capital Committee 2017)

Public Accounts Committee, *Managing Flood Risk* (PAC 2021)

Other Materials

Grant L, Chisholm A and Benwell R, *A Place for SuDS? Assessing the Effectiveness of Delivering Multifunctional Sustainable Drainage* (Chartered Institution of Water and Environmental Management 2017)

Green and Blue Space Adaptation for Urban Areas and Eco Towns, *GRaBS Briefing Paper 2: Delivering Green Infrastructure Benefits to Communities and Places Through Planning* (TCPA 2010)

Juppenlatz EL, 'Rural Regeneration and Localism: A Case Study of Northumberland' (DPhil thesis, University of Newcastle 2015)

Lichfields, *Planned and Delivered: Local Plan Making Under the NPPF: A Five Year Progress Report* (Lichfields 2017)

The Law Society, *Judicial Review Reform - Government Must Remain Accountable to the People* (Press Release 30th April 2021)

Local Government Association, *Local Development Orders: Case Study Research and Analysis* (LGA 2018)

Met Office, *The Recent Storms and Floods in the UK* (Met Office 2014)

Royal Horticultural Society, *Greening Grey Britain* (RHS 2015)

Royal Town Planning Institute, *Planning Horizons No2: Future-Proofing Society: Why Planners Need to be at the Forefront of Responses to Climate Change and Demographic Change* (RTPI 2014)

RSPB, CIEEM and RTPI, *Planning Naturally : Spatial Planning with Nature in Mind: in the UK and Beyond* (RSPB 2013)

Town and Country Planning Association, *A Crisis of Place: Are We Delivering Sustainable Development Through Local Plans?* (TCPA 2016)

Town and Country Planning Association and RTPI, *Planning for Climate Change: A Guide for Local Authorities* (TCPA 2018)

Town and Country Planning Association and RTPI, *Rising to the Climate Crisis: A Guide for Local Authorities on Planning for Climate Change* (TCPA 2018)

Walker G and others, *Addressing Environmental Inequalities: Flood Risk* (Environment Agency Science Report, SC020061/SR1, 2006)

Newspaper Articles

Bawden T, ‘UK Weather: Floods Could Have Devastating Environmental Impact - As Animals Drown or Die From Lack of Food’ *Independent* (London, 17 February 2014)

Halliday J, ‘Swathes of England's Vital Flood Defences 'Almost Useless'’ *The Guardian* (24 January 2021)

Tidman Z, ‘Boris Johnson says major flooding in North is 'not a national emergency'’ *Independent* (9 November 2019) <https://www.independent.co.uk/news/uk/politics/uk-weather-flooding-boris-johnson-national-emergency-rain-yorkshire-derbyshire-latest-a9196191.html>

Weston P, ‘'The Losses Could be Profound': How Floods are Wreaking Havoc on Wildlife’ *The Guardian* (thegaurdian.com, 1 April 2020)

Websites

Allerdale Borough Council, <www.allerdale.gov.uk/en/planning-building-control/planning-policy/conservation-natural-historic-environment/article-four-directions/> accessed 4 May 2020

Allerdale Borough Council, 'Cockermouth Neighbourhood Development Order' (*Allerdale Borough Council*) <https://www.allerdale.gov.uk/en/planning-building-control/planning-policy/neighbourhood-planning/cockermouth-neighbourhood-development-order/> accessed 25 September 2020

BBC News, 'Muchelney main road raised to stop it flooding' (*BBC*, 2015) <www.bbc.co.uk/news/uk-england-somerset-31547640 > accessed 4 June 2020

BBC News, 'Severn flood defences 'may not be enough' in the future' (*BBC*, 2021) <Severn flood defences 'may not be enough' in the future - BBC News> accessed 17 December 2021

BBC Reality Check team, 'General Election 2019: Have Flood and Fire Services Been Cut by the Conservatives' (2019) <www.bbc.co.uk/news/50395117> accessed 8 June 2020

Birmingham City Council, 'Extra protection for Conservation Areas: Article 4 Directions ' (*Birmingham City Council*) <www.birmingham.gov.uk/info/2055/conservation-_areas/15/extra_protection_for_conservation_areas_article_4_directions> accessed 4 May 2020

Boren Z and Scott R, 'Inspections and Pollution Tests Drop as Environment Agency Sheds Thousands of Staff' (*Unearthed*, 2018) <https://unearthed.greenpeace.org/2018/12/08/environment-agency-pollution-inspections-cuts-rivers/> accessed 22 March 2021

The British Geological Society, 'Flooding in the UK: Ecological Impacts and an Ecosystem Approach ' (2016) <www.britishecologicalsociety.org/flooding-in-the-uk-ecological-impacts-and-an-ecosystem-approach/> accessed 4 October 2018

'Collins Online Dictionary' (*Collins*, 2020) <(collinsdictionary.com)> accessed 14 June 2020

Flood Re, 'Flood Re' <www.floodre.co.uk/homeowners/faq/#question-10> accessed 27 March 2018

Gov.uk <www.gov.uk/government/publications/flood-insurance-review-2020-blanc-review/terms-of-reference-flood-insurance-review-2020> accessed 13 July 2020

Helm D, 'Flood Defence: Time for a Radical Rethink' <www.dieterhelm.co.uk/node/1414> accessed 5 December 2018

London Borough of Islington Council, 'Permitted Development' <www.islington.gov.uk/planning/permitted-development> accessed 3 May 2019

Met Office, 'Record rainfall June -July & May - July 2007' (Met Office) <www.metoffice.gov.uk/climate/uk/interesting/may_july2007> accessed 24 May 2018

Met Office, 'Heavy rainfall/flooding - July 2007' (Met Office) <www.metoffice.gov.uk/climate/uk/interesting/july2007> accessed 24 May 2018

Met Office M, 'Flooding in Cumbria December 2015' (Met Office) <www.metoffice.gov.uk/climate/uk/interesting/december2015> accessed 24 May 2018

Met Office, 'Past Weather Events' (Met Office) <www.metoffice.gov.uk/climate/uk/interesting> accessed 8 December 2017

Quod, 'CIL Rates and Status' <https://cil.quod.com> accessed 22 February 2021

Reach and Rescue, 'Flood Statistics' <https://reachandrescue.com/flood-statistics/> accessed 5 June 2020

Royal Life Saving Society UK, <www.rlss.org.uk/News/did-you-know-you-are-more-likely-to-get-flooded-than-burgled > accessed 5 June 2020

Shailes S, 'How flooding affects plants' (Plant Scientist, 2014) <How flooding affects plants | Plant Scientist (wordpress.com)> accessed 30 November 2020

Unearthed, 'Councils hit by storms plan for thousands of new homes in flood-probe areas' (*Unearthed* 2020) <https://unearthed.greenpeace.org/2020/02/23/storm-ciara-dennis-flooding-new-homes/> accessed 20 August 2020

UK RLSS, <www.rlss.org.uk/News/did-you-know-you-are-more-likely-to-get-flooded-than-burgled > accessed 5 June 2020

Interviews and personal communications

Email from author to ycc@york.gov.uk (13 April 2020)

Email from foi@allerdale.gov.uk, to author (1 July 2020)

Email from foiresponses_NO-REPLY@york.gov.uk to author (22 December 2020)

Email from infogovernance@birmingham.gov.uk to author (7 May 2020)

Interviews with Allerdale Borough Council, (Allerdale, 22 May 2019)

Interview with Birmingham City Council (7 February 2019)

Interviews with City of York Council (17 January 2019)

Interview with Worcester City Council (25 February 2019)