

Evaluation of delays in technical approval of UK Highways Act s.278 projects

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| Abstract: | <p>This paper attempts to address the causes of delays to the legal and technical approval processes involved in the creation of agreements authorising works to public highways under s.278 Highways Act (1980) specific to Warwickshire County Council, UK, and whether the type of contract (JCT or NEC) or s.278 agreement (minor or major) has any tangible influence. A series of questionnaires and interviews were carried out on a sample group of individuals including designers, developers, construction lawyers, and council engineers with extensive industry experience in relation to s.278 legal, technical, construction and adoption processes. The results revealed the key causes of delays, and therefore the barriers to prompt and efficient approval processes, as the lack of communication between developer and local authority, inexperienced developers' engineers, poor quality drawings, and insufficient information in the local authority's design guide. These key factors are discussed and recommendations are provided to tackle these issues.</p> |
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Act section 278 projects

Abstract

This paper attempts to address the causes of delays to the legal and technical approval processes involved in the creation of agreements authorising works to public highways under s.278 Highways Act (1980) specific to Warwickshire County Council, UK, and whether the type of contract (JCT or NEC) or s.278 agreement (minor or major) has any tangible influence. A series of questionnaires and interviews were carried out on a sample group of individuals including designers, developers, construction lawyers, and council engineers with extensive industry experience in relation to s.278 legal, technical, construction and adoption processes. The results revealed the key causes of delays, and therefore the barriers to prompt and efficient approval processes, as the lack of communication between developer and local authority, inexperienced developers' engineers, poor quality drawings, and insufficient information in the local authority's design guide. These key factors are discussed and recommendations are provided to tackle these issues.

Keywords

s.278 agreement, Joint Contracts Tribunal, New Engineering Contract

19 **1. Introduction**

20 The sustained increase in the UK population causes the demand and need for new housing and
21 associated infrastructure to rise commensurately. Because of the increasing demand, the
22 requirement for housebuilders to develop and access their sites quickly increases. Such demand
23 drives developers to request for early approval to access their schemes to enable development
24 to commence quickly. Indeed, the whole development programme pivots around the site start
25 date. Permission to begin always requires technical approval from the relevant council's
26 highway authority.

27 Highway legislation has changed significantly over the last 100 years. Since the first Highways
28 Act (1835) there have been seven revisions, leading to the Highways Act (1980). A notable
29 change was the introduction of the Compulsory Purchase Act (1965) enabling local authorities
30 to possess and purchase land compulsorily. This facilitated new road junctions to be formed,
31 even where the Local Authority required third-party land to be included. However, this process
32 can be lengthy and expensive so is used relatively infrequently. Often, road and junction
33 improvements are implemented by developers as enabling works to access their new scheme.
34 The Local Authority can then specify certain criteria that developers must meet before technical
35 approval is granted. All connections to existing adopted highways are governed by agreements
36 under Section 278 (s.278) of the Highways Act (1980) which describes “an agreement between
37 the Council and Developer which describes proposed modifications to the existing highway
38 network to facilitate or service a proposed development”. An s.278 agreement can only be
39 entered into if the local (highway) authority is satisfied it will be beneficial to the public.¹

40 Upon technical approval being granted, a Joint Contracts Tribunal (JCT) or New Engineering
41 Contract (NEC) is used to form the legal agreement between the Local Authority and the
42 Developer. The Institution of Civil Engineers (ICE) describes NECs as a “series of contracts

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3 43 designed to manage any project from start to finish”. Similarly, JCT contracts aid the process
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5 44 of delivering a building project by setting out the duties of all the parties within the process and
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8 45 their obligations to one another. These contracts form the basis of the developer’s
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10 46 responsibilities before the new access becomes adopted. Currently, there appears to be a lack
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12 47 of guidance concerning NEC and JCT contracts, their associated advantages, disadvantages
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14 48 and relevance to the s.278 technical approval process. Furthermore, the existing literature and
15
16 49 guidance concerning formulation, management, and implementation of s.278 agreements is
17
18 50 scarce, causing ambiguity and misunderstanding for those involved in the s.278 process,² and
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20 51 hence potential delays in the process.
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25 52 This paper attempts to address the main issues faced during the s.278 technical approval
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27 53 process specific to Warwickshire County Council (WCC), whether the type of contract (JCT
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29 54 or NEC) or s.278 agreement (minor or major) has any tangible influence, and to what extent
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31 55 the Local Authorities’ views on the process align with those of a variety of housebuilders and
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33 56 development solicitors. It suggests how some local authorities might improve this area of
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35 57 service provision, through enhanced communication and collaborative working. It also
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37 58 demonstrates the significant role of the developers in the s.278 process and how their
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39 59 performance can influence the time to attain technical approval.
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44 60 **2. Literature review**

47 61 ***2.1. JCT and NEC contracts***

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51 62 A key question of this research was to discover the importance of JCT and NEC contracts in
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53 63 relation to the s.278 technical approval process. The JCT, first published in 1931, is the UK’s
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55 64 principal building contract. The NEC, launched in 1991, also has a design capable of
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57 65 international use, showcasing a choice of governing law and language. In contrast to the more
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3 66 traditional contracts, having the formal and technical language which is often hard to
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5 67 understand, the NEC avoids the use of complex legal terminology and is also written in plain
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8 68 English and present tense.
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11 69 The way in which each contract deals with 'costs' and 'early warnings' influences the
12
13 70 preference of the type of contract used. JCT contracts do not include a proactive early warning
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15 71 procedure and generally rely on the provisions in the contract to deal with issues when they
16
17 72 occur. Therefore, costs for 'extra-over' compensation events are not accurately quantifiable
18
19 73 and rely on the original contract. Conversely, within an NEC contract, early warning provisions
20
21 74 involve the maintenance of a risk register and place obligations to notify each party if a relevant
22
23 75 issue occurs and to attend and cooperate at a risk reduction meeting. The NEC contracts allow
24
25 76 for flexible and clear allocation of risks in contracts.³ The definition of 'compensation event'
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27 77 in the NEC contract, stated in Clause 60 of NEC3 standard form of contract, entitles the
28
29 78 contractor to additional payment and time as compensation for the effect of events on the price
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31 79 and completion time of the project if the event is not resulted from the contractor's fault⁴. The
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33 80 adoption of NEC contracts in highways and transportation projects by Hampshire County
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35 81 Council allowed for fast agreement of compensation events, valuations, and time extensions.⁵
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41 82 In JCT contracts a master programme is submitted after the contract is executed with no further
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43 83 requirements to submit revisions, whereas in NEC contracts a more detailed programme of
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45 84 works is required to be submitted on a regular basis as determined by the employer. This
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47 85 detailed programme allows for monitoring progress and management of early warnings and
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49 86 compensation events.
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54 87 A way to lessen costs incurred by developers or contractors throughout the s.278 process could
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56 88 be achieved while going through the technical approval process. If the designers, developers
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58 89 and contractors gained a clear understanding of the potential project risks from the outset and
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3 90 ensured the drawings reflected these constraints, foresight would help reduce the implications
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5 91 of costly late discoveries. This would improve the cost and time predictability, reducing
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7 92 favouring an NEC or JCT contract. Early project risk identification minimises unexpected late
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9 93 expenditures and delays. It must be mentioned here that the WCC only uses s.278 Agreements
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11 94 under NEC contracts, despite developers' preferences (who participated in this study).
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15 95 The Developers' Guide to Highway Works Agreements⁶ and Part XIII, Financial Provisions
16
17 96 within the Highways Act (1980) clearly outline that all costs are borne by the developer.
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19 97 Section 278(1) of the Act enables a developer to enter into an agreement with the Highway
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21 98 Authority for works it has the authority to execute, subject to the Developer paying all relevant
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23 99 costs. Section 278(2) confirms the Highway Authority can recover all costs associated with
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25 100 s.278 works. Section 278(3) states that the developer must pay for work maintenance. This is
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27 101 further evidence proving that the developer must bear any payments arising from such highway
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29 102 improvements. This further reinforces why some developers prefer JCT over NEC contracts.
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31 103 The type of the contract may therefore be considered as a potential factor causing delays in
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33 104 technical approval of s.278 projects.
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40 105 ***2.2. Major and minor s.278 agreement***

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43 106 The current literature available regarding s.278 agreements for WCC is limited in its specifics.
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45 107 In terms of defining the differences between major and minor agreements, the Developers'
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47 108 Guide to Highway Works Agreements⁶ states; "This guide is specific to standard s.278
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49 109 highway works where the execution of the highway works will have a significant impact on
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51 110 the day-to-day operation of the public highway either during the construction of the works or
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53 111 upon completion of the development. Typical examples are where roundabouts, traffic signals,
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55 112 or significant temporary traffic management are proposed". While an assumption can be made
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57 113 that the above definition describes a 'major' s.278 agreement, WCC admit they have not
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3 114 formally distinguished between major and minor agreements, nor the timescales associated.
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5 115 WCC have not published definitions and advice to clearly distinguish the differences between
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8 116 what constitutes a major or minor s.278 agreement. Other councils such as Hampshire County
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10 117 Council clarify what they classify as minor or major s.278 agreement. For instance, according
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12 118 to Hampshire County Council,⁷ “Projects involving traffic signals, structures or permanent
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14 119 Traffic Regulation Orders will not be suitable for an s.278 minor works check. For larger or
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17 120 more complex schemes a full s.278 agreement will be required”. Overall, it can be said that
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19 121 major works which are deemed to have a significant impact on the highway network, both in
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21 122 terms of construction, and when completed and open to the public, require major s.278
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23 123 agreements, whereas, minor s.278 agreements are more suitable for minor works which do not
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26 124 have a significant impact to the highway network.
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29 125 Hampshire Council have also produced a checklist and two-step design check process. Once
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31 126 this process has been completed a detailed design check will be required. Their s.278 minor
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33 127 works checklist presents examples of drawings required for a submission. These include street
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36 128 lighting details and calculations, passenger transport facilities, arboriculture reports, tree
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38 129 protection measures, cycle and pedestrian facilities, etc. These lists clarify what is expected of
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41 130 the developer and designer. WCC lack a similar process and documentation, often being
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43 131 unclear as to what is expected of a developer and designer for a detailed drawing submission.
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45 132 This can lead to delays in obtaining technical approvals, especially for those inexperienced
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48 133 with WCC’s processes.
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51 134 Despite the above, WCC have a series of standards that experienced engineers work with.
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53 135 However, this presents an obstruction for those inexperienced in WCC’s method of working.
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55 136 Other local authorities such as Hampshire and Wolverhampton Councils have clearer lists
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58 137 specifying requirements to obtain technical approval, specific to major or minor agreements.
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60 138 WCC cross-check all designs against a set of standards known as Design Manual for Roads

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3 139 and Bridges (DMRB). Within this document, all design specifications to obtain technical
4
5 140 approval are discussed in line with Eurocodes. For instance, the section ‘geometric design of
6
7 141 major and minor priority junctions’ clarifies the process and definition behind what constitutes
8
9 142 a major or minor junction. The classification subsequently influences what agreement each
10
11 143 development will fall under. Subjectivity still exists as the council’s engineer decides the major
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13 144 or minor classification. Furthermore, the design document referred to is extensive with many
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15 145 sections, which can often be hard to simplify. WCC could help by producing a similar
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17 146 simplified document for developers and designers to use as this provides clarity of what is
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19 147 required for designs and lowers the risk of technical approval delays.
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25 148 ***2.3. Current guidance and timescales***

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29 149 To fast-track the agreement to obtain technical approval, the Department for Transport’s⁸
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31 150 Guidance on s.278 agreements, suggests; “Developers contemplating an s.278 agreement
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33 151 should make an early approach to the appropriate agency contact to open preliminary
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35 152 discussions”. The Design Guide to Highway Works Agreements⁶ provides a similar statement,
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37 153 however, it infers a meeting is useful rather than a necessity; “If required, he or she may request
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39 154 a meeting at a mutually acceptable time and location with an appropriate County Council
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41 155 Officer and/or Engineer to discuss such matters”.

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45 156 Developers seeking fast technical approval should initiate contact with the Local Authority as
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47 157 soon as possible and organise meeting(s) to discuss and gauge their requirements. Issues
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49 158 highlighted early in the process give the developer and designer time to ascertain and resolve
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51 159 problems before the site starts. Early engagement also reveals the council’s specific drawing
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53 160 requirements.
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3 161 Often developers will pursue technical approval upon receiving planning permission. However,
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5 162 it is prudent to engage with the council early in the process before the grant of planning
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7 163 permission. The Department for Transport's⁸ Guidance states that; "In most cases, they will
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9 164 follow the grant of planning permission, though occasionally it may be appropriate to prepare
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11 165 an agreed document before the planning permission stage". If drawings are prepared
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13 166 thoroughly for planning permission (for example a 'reserved matters' application) one could
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15 167 form a robust set of drawings, and ascertain the requirements and wishes of the Local Authority
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17 168 facilitating faster technical approval.
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23 169 ***2.4. S.278 Challenges***

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26 170 Many local authorities have considered disaggregation of the client and the design service
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28 171 function of the highway authority, perhaps in response to compulsory competitive tendering,
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30 172 and with the aim of better controlling the costly design services, competing with the private
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32 173 sector, and thus generating more income.² The experience in Liverpool City Council (LCC)
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34 174 suggested that such division caused fragmentation among the engineering specialists involved
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36 175 in the s.278 process, leading to poor coordination and management of certain schemes, and
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38 176 consequently an increase in both costs and delays for developers.² A review of the challenges
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40 177 with the s.278 system revealed that the highway authority was facing difficulties in
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42 178 coordinating between the technical service provider (the hired design specialist) and planning
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44 179 authority in terms of engineering requirements, as well as ensuring the design checks are
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46 180 carried out by competent and experienced engineers. From the developers' perspective, a lack
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48 181 of effective cooperation and coordination between the different departments within the local
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50 182 authority and the consequent conflict of decisions, as well as having to deal with too many
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52 183 people and departments within the council were the main reasons causing delay and increased
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54 184 costs.² The LCC established a new system in 2003, called 'in-house' designs, in which the
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185 local authority undertakes all aspects of the highway improvement works (under Section 278
 186 of the Highways Act) and the developer is responsible for paying the incurred costs to the
 187 highway authority. This approach removes the risk of poor developer performance in the design
 188 process since managing the design process becomes the local (highway) authority's
 189 responsibility. This new system is deemed efficient in minimising delays in the technical
 190 approval process. However, the challenge was managing the developer's expectations in terms
 191 of cost, time, and quality, requiring early engagement and communication with the developer.²

192 From the above discussions, it appears that a lack of clear guidance concerning a set drawing
 193 list to adhere to for formal submission, as well as a lack of engagement with the council early
 194 enough in the process, are the main causes of delays to s.278 agreement approval. Other factors
 195 such as inefficiency of the developer or designer, delayed payment of fees, lack of council's
 196 resources and the council engineer's level of experience and availability to review an
 197 application, are investigated in the following sections. These factors were identified based on
 198 the literature review, the authors' experience of engaging with WCC for s.278 agreement
 199 approval, and informal consultation with other professionals engaged in s.278 projects. Table
 200 1 provides a summary of the potential factors causing delays in s.278 technical approval.

201 Table 1. Potential factors causing delays in technical approval of s.278 projects

| Category | Potential factors |
|---------------------------|---|
| Contract | Type of contract (NEC or JCT), minor or major s.278, size of the s.278 work |
| Developer | Lack of effective communication between the developer and the council, lack of developer's early engagement with the council, size of the developer organisation, poor quality of the design drawings, designer's slow response to the council's queries, less efficient and less experienced developer's legal representation, delayed payment of fees |
| Local Authority (Council) | lack of appropriate support and effective communication from the council team, lack of clarity on the required documents and drawings, council's limited resources and legal representation to review and process applications in a timely manner |

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Third-party | Landowners being non-co-operative

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203 3. Methodology

204 3.1. Questionnaire

205 A questionnaire was designed as the main tool for data collection in this research. The
206 participants involved were carefully selected based on their extensive industry experience as
207 well as experience with s.278 agreements. The data set of respondents included construction
208 lawyers (3), designers (19), adoption specialists (2), housebuilder engineers (9) and WCC
209 employees (5). This selection allows for the representation of a wide range of views and that
210 any potential selection bias is avoided.⁹ Based on the literature review and a pilot study, 10
211 primary variable indicators were assessed, namely poor quality drawings, poor communication
212 between the council and the developer, size of a developer organisation, type of agreement
213 (minor or major), designer's slow response, size of the s.278 works, third party involvement,
214 inexperienced developers' engineers and legal representation, local authority's limited
215 resources, and the type of contract (JCT or NEC). This formed the basis for the design of 15
216 closed (objective) questions.

217 Initially, the Likert scale, a five-point frequency scale including 1 (strongly disagree), 2
218 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree), was adopted to give the questionnaire
219 simplicity. However, to ensure respondents would answer the set questions, and to obtain
220 analysable data, an amendment was made to the Likert scale and the 'neutral' option was
221 removed. As suggested by Naoum,¹⁰ the questions were made brief and precise to minimise
222 the possibility of skipping the questions. Furthermore, the questions were designed in such a
223 way as to ensure that they did not assert blame towards any party, such as the council or
224 designers. Respondents could react negatively and subsequently answer the questionnaire

225 defensively and subjectively meaning discovery of the actual issues arising out of the technical
 226 approval process would remain undisclosed and produce distorted or even invalid responses.
 227 The respondents remained anonymous to preserve confidentiality, adding to the validity of the
 228 questionnaire and the study itself. The accuracy and reliability of the responses to the
 229 questionnaire might be influenced by personal bias and an attempt by the respondents to keep
 230 privacy. To address this issue the questions were considered to be predominately closed
 231 questions, which have been made as objective as possible. However, two open-ended
 232 (subjective) qualitative questions were also set to allow respondents to suggest any ideas or
 233 feelings towards the s.278 process, real causes or problems behind the s.278 delays to approval,
 234 and potential solutions to solve these problems. Table 2 illustrates the discipline and number
 235 of closed and open-ended questions used in the questionnaire. The questionnaire was
 236 subsequently pilot-tested on a focus group of 7 highly experienced professionals to assess the
 237 questionnaire's effectiveness, quality and wording of questions, and coverage of the research
 238 themes. Overall, positive feedback on the questionnaire was received and minor suggested
 239 amendments were applied.

240 Table 2. Discipline, type, and number of questions in the questionnaire

| Discipline | Question Type | Quantity |
|---|---------------|----------|
| Designer performance (technical drawings) | Closed | 3 |
| Local Authority directed questions | Closed | 5 |
| Law-based/contractual questions | Closed | 4 |
| Developer directed questions | Closed | 3 |
| Additional questions | Open-ended | 2 |

242 3.2. Data collection

243 The questionnaire was launched through Coventry University's online survey platform and the
 244 link to the survey was distributed among the target participants via email and social media

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3 245 platforms (e.g. LinkedIn). In line with standard Coventry University ethics practice a
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5 246 participation cover letter was produced. This cover letter outlined the purpose of the survey,
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7 247 assured participants of the confidentiality of the provided information and responses, and made
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9 248 participants aware of their right to withdraw at any point. As stated by Hogg et al.,¹¹ sample
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11 249 sizes greater than 25 or 30 are about the correct number of questionnaires required for a valid
12
13 250 and accurate questionnaire response rate. Given the focus of this research being on the WCC,
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15 251 a large number of respondents with experience on s.278 agreement was not possible. Of the 41
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17 252 questionnaires distributed, 38 were returned, representing a 93% response rate. All returned
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19 253 questionnaires were valid as they included all necessary information. An inaccuracy value (I)
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21 254 of 16% was obtained using the $I = 1/\sqrt{N}$ correlation suggested by Naoum¹⁰ where N is the
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23 255 number of participants or sample size. Interestingly, all questionnaires were returned by
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25 256 designers, housebuilders and adoption specialists. All but one questionnaire sent to the Council
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27 257 were returned. On the whole, Council staff seemed to be very engaged and interested. Out of
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29 258 three questionnaires sent to construction lawyers, only two were returned. This low response
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31 259 rate was ameliorated through one-to-one interviews with specific questions targeted at the legal
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33 260 process.

3.3. Interviews

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45 262 A series of unstructured interviews were conducted to obtain opinionated suggestions and an
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47 263 insight into the subject area which are not easily obtainable via the questionnaire or similar
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49 264 quantitative data collection methods. The combination of questionnaires and interviews
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51 265 increases the reliability of data and reduces the likelihood of biased conclusions.¹² A total of
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53 266 10 interviews were conducted with a range of industry professionals across all disciplines,
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55 267 namely Local Authority (WCC), housebuilders, designers, construction lawyers and adoption
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57 268 specialists. According to Guest et al.,¹³ a saturation percentage of 80% can be achieved from
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3 269 the results of 6 interviews, and with 12 interviews the saturation percentage can even reach
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5 270 90%. Saturation is ‘the most frequently touted guarantee of qualitative rigour offered by
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8 271 authors’¹⁴ and is often used as a criterion to discontinue data collection.¹⁵ All the selected
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10 272 interviewees were affiliated with large to medium-sized companies and were highly
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12 273 experienced with the construction process and contractual agreements, in particular s.278
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14 274 agreements specific to WCC. Questions were focused to provoke discussion and to gain
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17 275 individual opinions to whom the questions were asked. Interviewees were asked to express
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19 276 their opinions on the ease of understanding the legalities around the s.278 agreements, and
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21 277 whether the type of legal agreement has any impact on the speed of obtaining technical
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23 278 approval. Furthermore, the interviewees were asked to comment on whether the developer’s
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26 279 relationship, effective communication, and early engagement with the council, as well as the
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28 280 knowledge, competency, and experience level of the developer’s designer, in particular their
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30 281 familiarity with s.278 agreement process, are influential in obtaining a speedy technical
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33 282 approval. The council’s capacity and resources to operate and communicate effectively, their
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35 283 guidelines on drawing requirements, and their potential plan for improving their s.278
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37 284 agreement approval process formed another theme of the interview questions.

41 285 **4. Results**

44 286 **4.1. Analysis of closed questions**

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48 287 Figure 1 presents the respondents’ views on the effect of poor-quality drawings on technical
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50 288 approval delays. All respondents unanimously believed that poor drawing quality can delay
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52 289 technical approval. Local Authority responded the highest with 100% of their employees
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54 290 strongly agreeing that the fault of slowed technical approvals lies in poor drawing quality. The
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56 291 next highest respondent category was designers, where 70% strongly agreed.

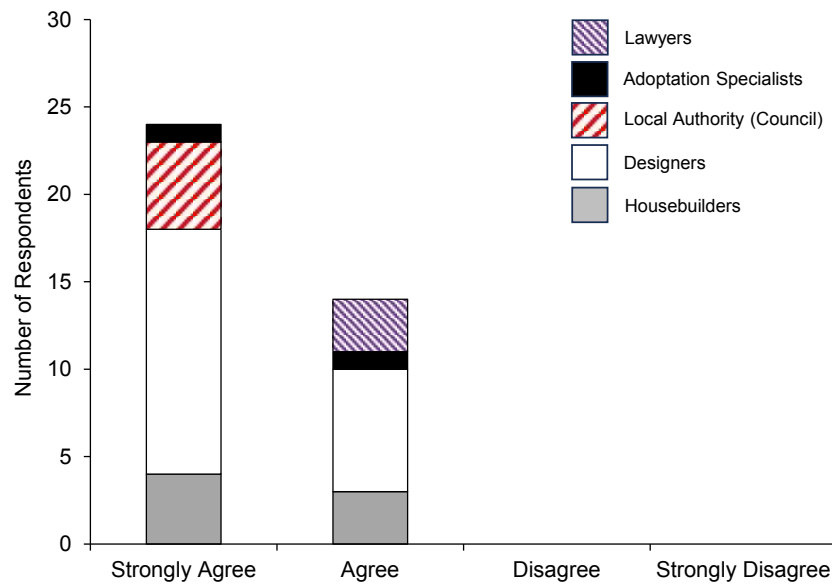


Figure 1. Effect of poor-quality drawings on the technical approval delays

Figure 2 presents the respondents' views on whether technical approvals could be sped up if communication between the council and developers were faster. All but one of the respondents agreed with this statement. The only disagreement was expressed by one of the designers. Housebuilders responded the highest with 88% of their employees 'strongly agreeing' that the fault of slowed technical approvals lies in poor communication between themselves and the council. The responses to this question appear to be reliable, as the question was not directed at either the council or the developer. The next highest respondent category was designers, where 60% strongly agreed.

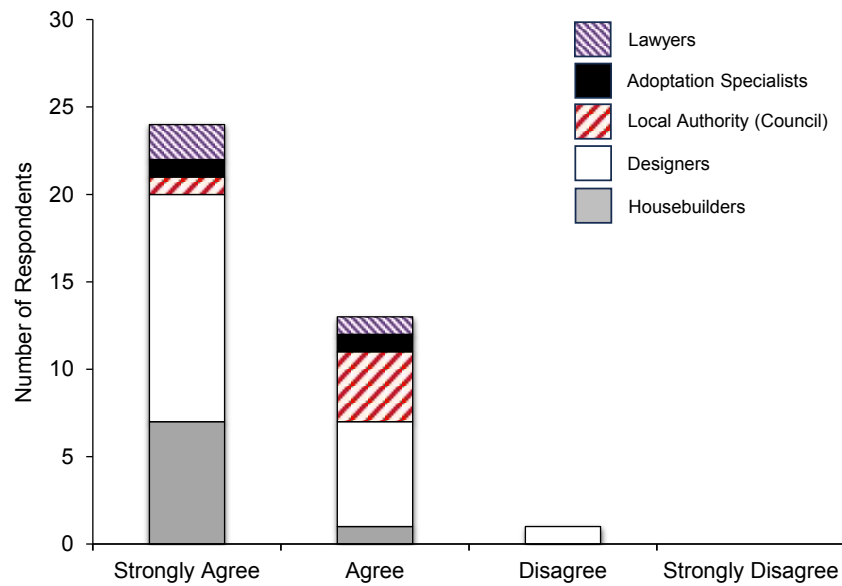
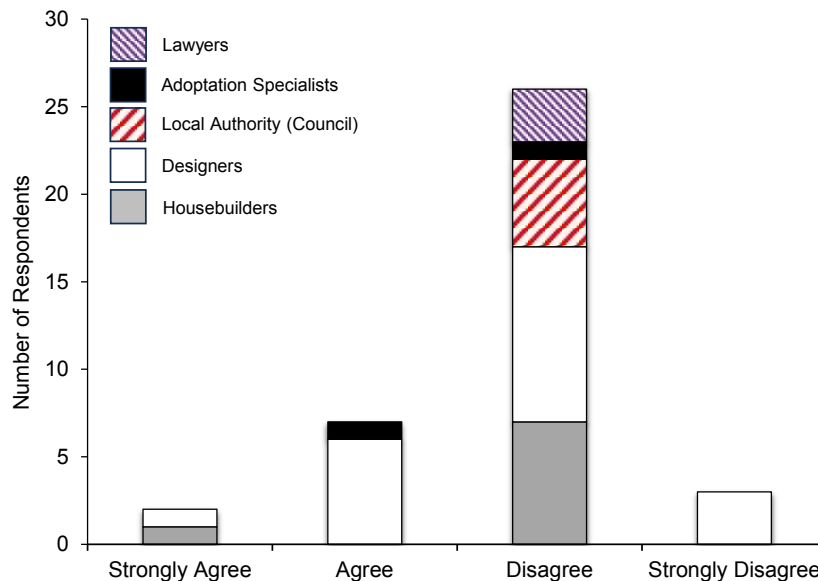


Figure 2. Faster communication between council and developer speeding up the technical approval process

Figure 3 presents the respondents' views on the influence of the size of an organisation on the speed of obtaining technical approval. As is shown, 68% of respondents disagreed and 8% strongly disagreed that the size of the organisation had any impact on the speed of gaining technical approvals. However, this was not an undisputed response as conflicts have been noticed with 18% agreeing and 5% strongly agreeing that the size of the business has an impact. Through some of the open questions within the questionnaire, developers and designers justified their responses by stating that they believed larger house builders had more resources, hence, possessing a greater ability to answer council queries. Conversely, designers and the local authority believed the size of a developer was not necessarily a contributing factor for the delay, more that fault lay with an individual, hence explaining the results collected here. However, the size of the developer could have other effects. For example, larger developers may have more in-house resources to appropriately deal with applications. Equally, their size could lead to those in management relying on their engineers to ensure drawings are

318 satisfactory without review. Therefore, drawing errors may go undiscovered until after council
 319 comments are returned.



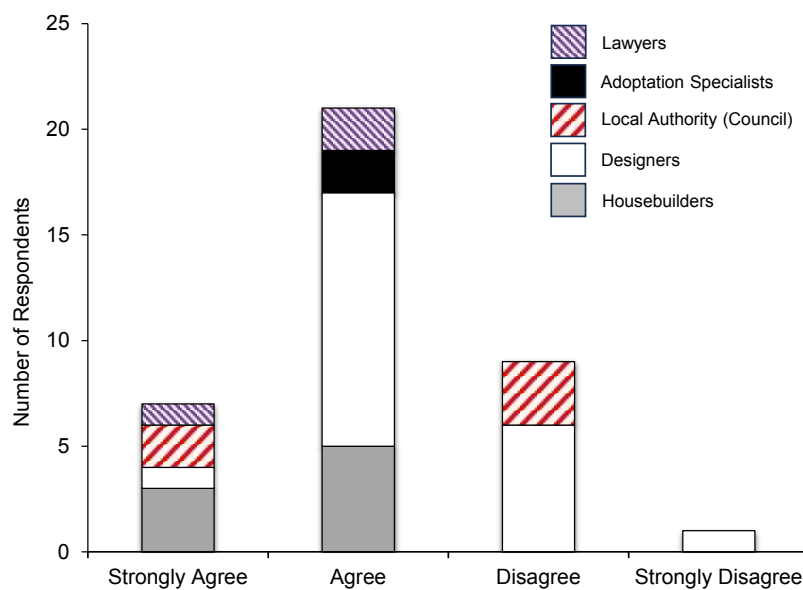
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321 Figure 3. Effect of the size of an organisation on the speed of obtaining technical approval

322 As a general perception, one may say that the s.278 legal and construction process could be
 323 sped up if it was constructed under a minor s.278 rather than a major s.278. However, this
 324 should not imply that to save time, projects should be categorised as minor rather than major
 325 (regardless of size) to reduce the processing and approvals time as it would contradict quality
 326 control and procedural guidelines. Figure 4 presents the respondents' views on this. As it is
 327 shown, 55% of the respondents agreed and 18% strongly agreed that the process is quicker
 328 whilst perusing a minor s.278 agreement rather than a major agreement. This was met with
 329 65% of designers either strongly agreeing or agreeing and all of the developers agreeing in the
 330 same manner.

331 There was a relatively split decision within the council with 40% strongly agreeing and 60%
 332 disagreeing. The questionnaire was sent to both the major and minor highway departments
 333 within the council thus explaining the variation of results. When analysing the other results

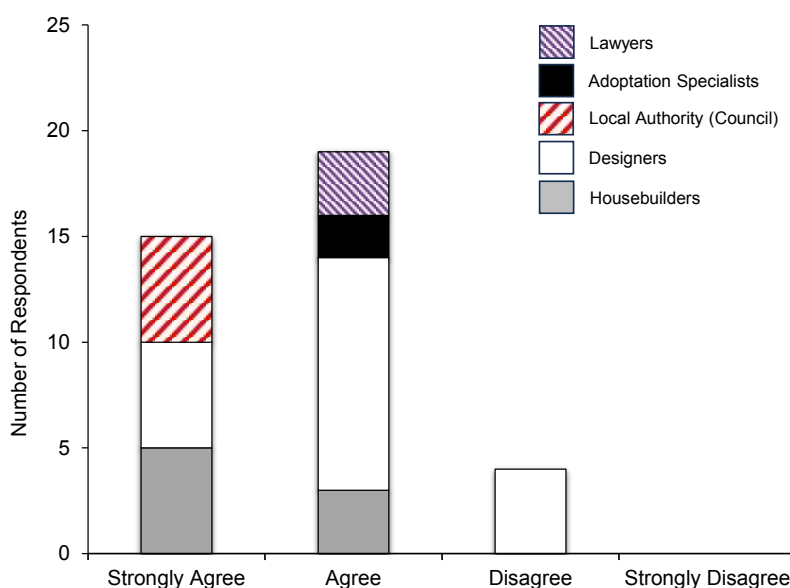
334 24% disagree and 3% strongly disagree that the type of agreement influences the speed of
 335 approvals. The largest spread of answers came from designers. Out of the 20 responses, 5%
 336 answered strongly agree, 60% agree, 30% disagree and 5% strongly disagree. A reason behind
 337 this discrepancy could be attributed to a designer not having worked on a major s.278 thus far
 338 in their career, despite 5+ years' experience. Notwithstanding there being a range of results
 339 within each respondent category the majority (73%) overall agreed that the type of agreement
 340 influences the time to obtain technical approval.



341
 342 Figure 4. Effect of the type of agreement (minor or major s.278) on the speed of obtaining
 343 technical approval

344 Figure 5 presents the respondents' views on the effect of designers' slow response on obtaining
 345 technical approval. Overall, 89% of the respondents agreed that slow responses from the
 346 designer can attribute to slow technical approval. Interestingly, the remaining 11% who
 347 disagreed with this statement were all designers themselves. In contrast, all the council
 348 respondents expressed their strong agreement with this statement. In conclusion, the

349 respondents' views demonstrate that slow technical approval can be attributed to a designer's
 350 inefficiencies or slow responses.



351
 352 Figure 5. Designers slow response causing technical approval delays

353 Figure 6 presents respondents' views on the effect of the size of the s.278 works on technical
 354 approval delays. This was one of the more divisive responses with overall 63% agreeing and
 355 37% disagreeing. One fairly consistent factor was that 80% of the council disagreed that the
 356 size of the s.278 works directly affected the approval process. Interestingly, later conversations
 357 with certain council members inferred that if the works are larger, there are more drawings to
 358 review, causing a potential delay in approvals (see Section 4.3). All housebuilders expressed
 359 their agreement with this statement. It is reasonable, therefore, to conclude that the size of the
 360 works may have an influence, but that other factors may have a larger impact on causes of
 361 delays to approval.

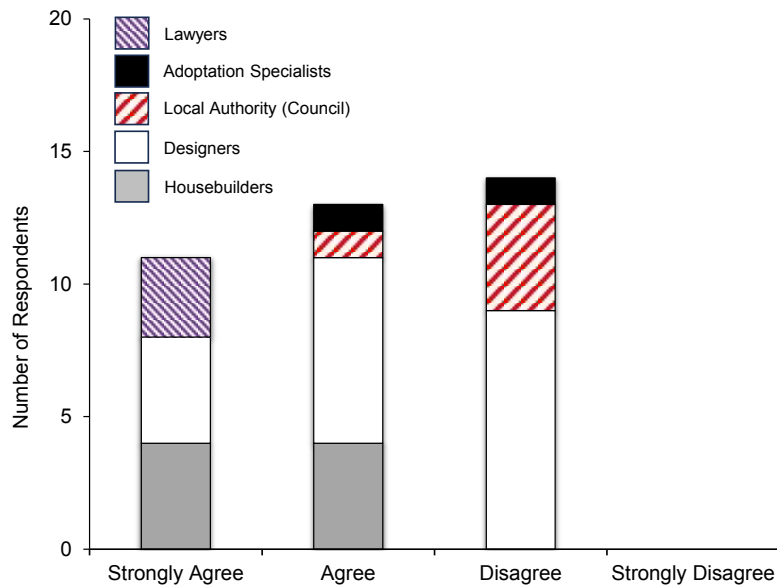


Figure 6. Size of the s.278 works having an impact on the technical approval delays

Figure 7 presents the respondents' views on whether the local authority (council) communicate quickly and efficiently. Overall, 82% of the respondents believed that there is a lack of effective communication between the developers and the council. Not surprisingly, all of the Local Authority respondents believed they communicate effectively with clients. This could be construed as a biased response, as the respondents who await Local Authority technical approval and are dependent on efficient responses all disagreed in some form. Interestingly, all of the adoption specialists also shared the same view as the Local Authority. The adoption specialists' views might be a result of mainly dealing with councils to get schemes adopted, which is a relatively smaller task to complete in comparison with obtaining the technical approval on s.278 agreements.

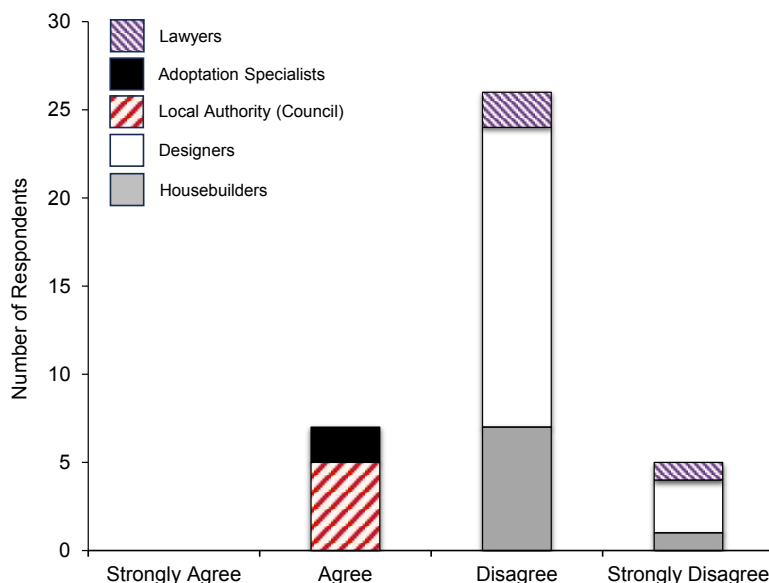
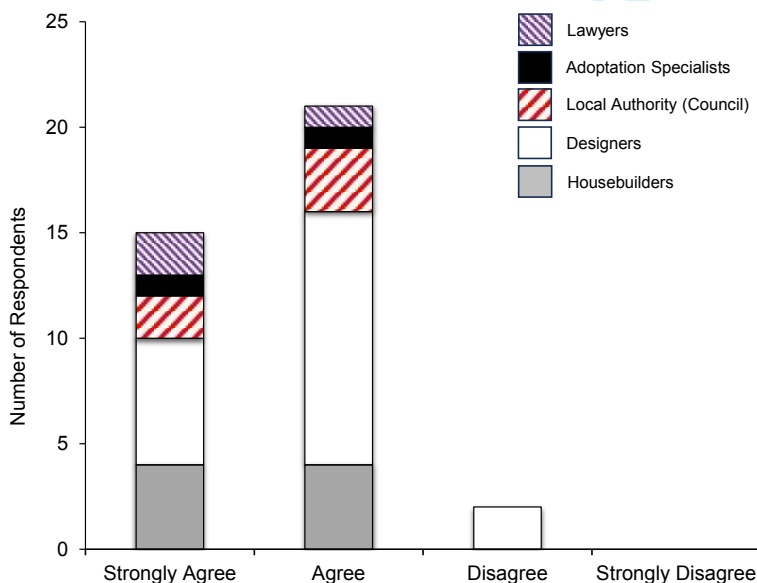


Figure 7. Local authorities communicate quickly and efficiently

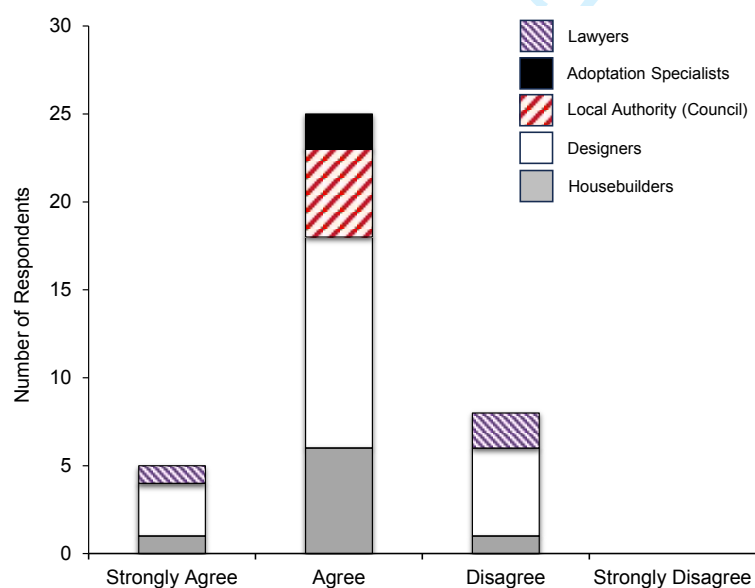
Figure 8 presents the respondents' views on whether agreement signing can be prolonged by other land owners, who are party to the agreement, being non-cooperative. 95% of the respondents expressed their agreement with this statement. It is clear that from these findings one can confidently state that an agreement signing can be delayed by third-party involvement. Minimal conflicts have been noticed with only 5% of the respondents disagreeing that the agreement process can be held up by a third-party involvement.



383 Figure 8. Influence of third parties on delaying the agreement

384 Figure 9 presents the respondents' views on whether the signing of the s.278 agreement could
 385 be delayed by less efficient and less experienced developer legal representation. 79% of the
 386 respondents believed that developers could have better legal representation to avoid delays in
 387 obtaining technical approval. By contrast, 21% disagreed that legal representation had any
 388 impact on the approval process. Only 25% of the construction lawyers agreed with this
 389 statement, allowing one to conclude that 75% of construction lawyers believe the delays to be
 390 associated elsewhere in the process. All adoption specialists and 88% of housebuilders believed
 391 that legal representation could improve the speed of the process.

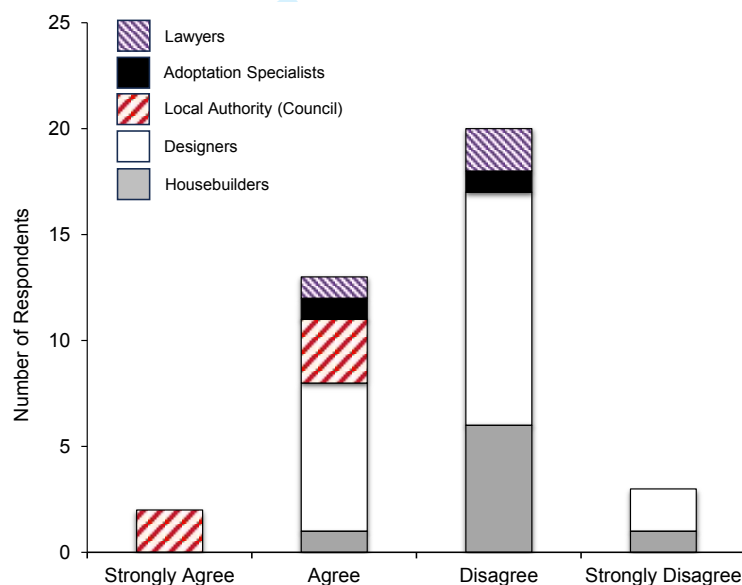
392 One reason for the signing of agreements being held up might be due to anomalies within the
 393 agreement itself. For example, a company, who are party to the agreement, could change their
 394 name whilst drafting the s.278 agreement meaning new engrossments need to be agreed upon
 395 and re-signed by all parties, all the while, elongating the process. While this question is more
 396 associated with the s.278 process post grant of technical approval, it was proposed to ascertain
 397 where flaws could be identified in the process.



398

399 Figure 9. More efficient and experienced developer's legal representation speeds up technical
400 approval

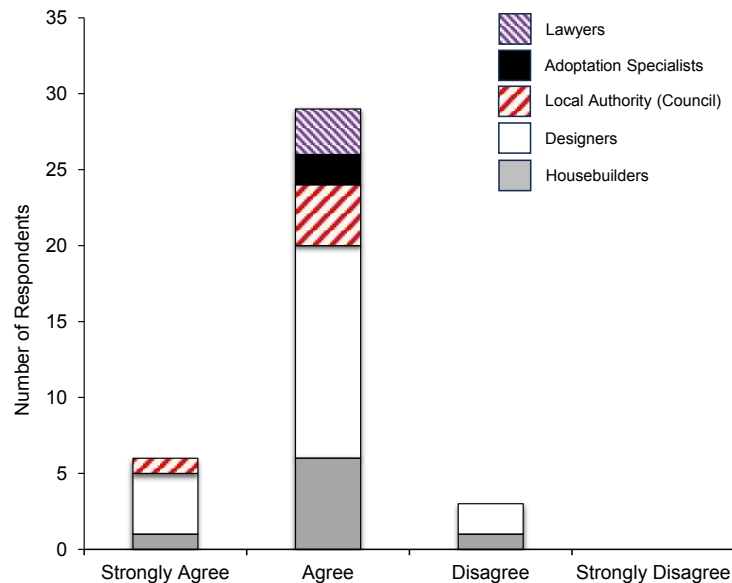
401 Figure 10 presents the respondents' views on whether the local authority (council) do as much
402 as they can to assist their clients with the s.278 agreement. Overall, 61% of the respondents
403 disagreed with this statement. It is evident that the Local Authority do believe they assist their
404 clients to a satisfactory level with all respondents either agreeing or strongly agreeing. 88% of
405 the housebuilders and 65% of the designers believed the local authority are not acting quickly
406 and efficiently. Whether this can be owed to the council's limited resources or the developer's
407 inability to engage early in the process will be discussed through the findings of the interviews.



408
409 Figure 10. Local Authority provide sufficient support to developers perusing s.278 technical
410 approval

411 Figure 11 presents the respondents' views on the effect of developers' poor performance on
412 the technical approval delays. 92% of respondents either agreed or strongly agreed that delays
413 can be associated with poor developer responses. Interestingly, housebuilders seemed to

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3 414 answer this question objectively and 88% agreed or strongly agreed that delays could be
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5 415 associated with their poor organisation or planning.
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29 417 Figure 11. The developer's poor performance, planning, and organisation cause technical
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32 418 approval delays
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35 419 Figure 12 presents the respondents' views on whether an inexperienced designer could cause
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37 420 delays in obtaining s.278 approval. This was the most conclusive response, from all questions
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39 421 posed in the questionnaire. 97% of the respondents either agreed or strongly agreed that an
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41 422 inexperienced designer could be at fault when trying to ascertain technical approval. This could
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43 423 result in many design resubmissions to the council, resulting in delays. The 95% positive
44
45 424 response from the designers admitting that the delays could be attributed to their lack of
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47 425 experience, proves the objectivity and reliability of the survey results. The technical drawings
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49 426 produced by an inexperienced designer may not meet the council's requirements, leading to
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51 427 further delays as also shown in Figure 1.
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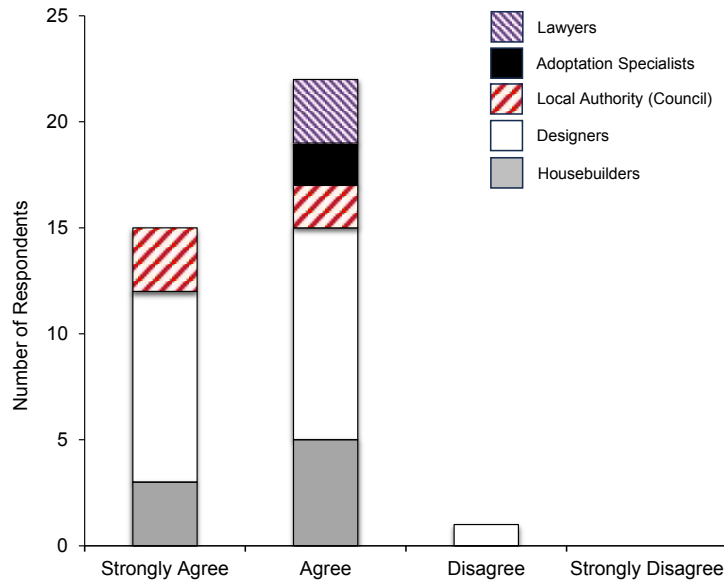
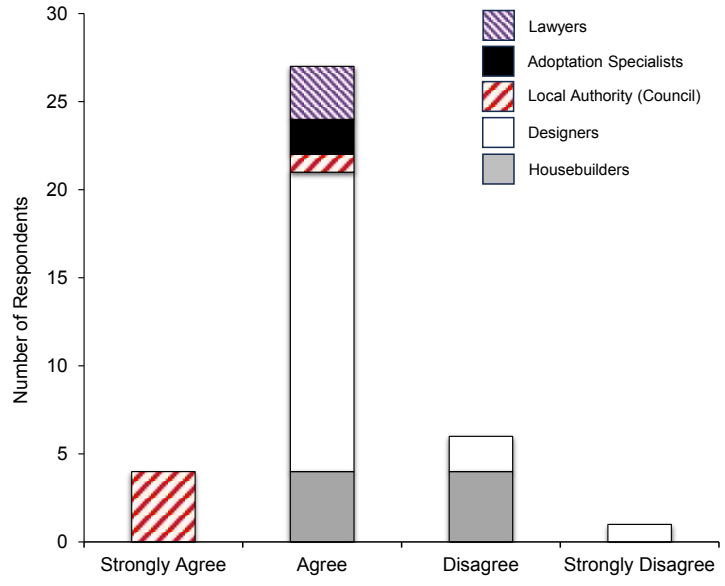


Figure 12. Inexperienced Developer's designer causes technical approval delays

Figure 13 presents the respondents' views on whether WCC's s.278 approval process is easy to follow and understand. Overall, 82% of the respondents believed that the WCC's process is straightforward. Most notably 80% of the Local Authority, who deal with the s.278 agreements on a daily basis, strongly agreed with this statement. Similar responses were received from the designers where 85% of the respondents believed that WCC's process was easy to follow.

There is an even split for housebuilders with 50% agreeing and 50% disagreeing. Observation of such responses could be attributed to the respondents' experience within WCC's s.278 process as those who stated their disagreement ranged in industry experience of 5 to 25 years.

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Figure 13. WCC's legal s.278 process is easy to follow and understand

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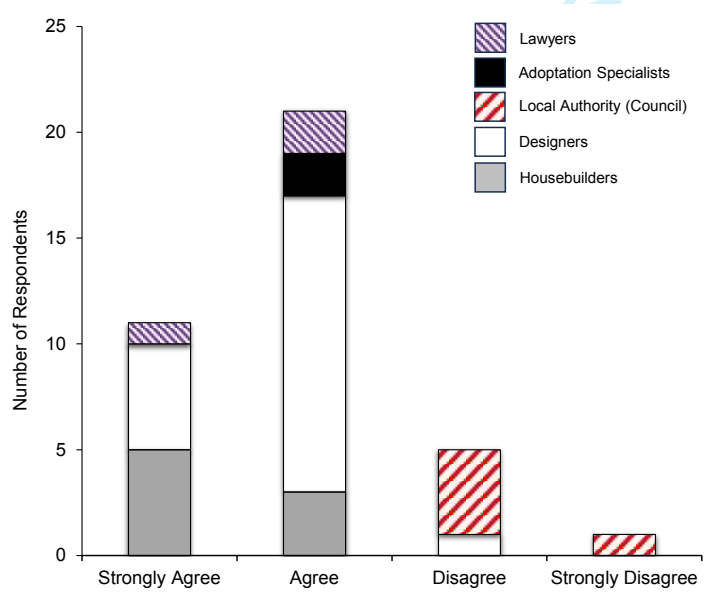
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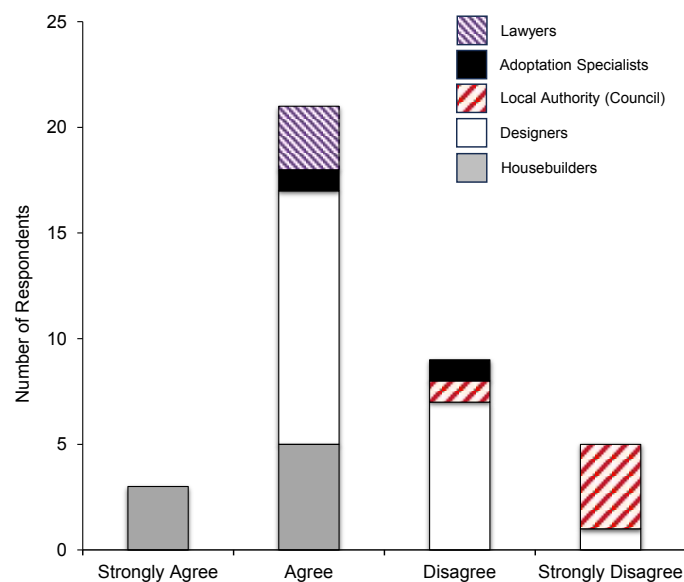
Figure 14 presents the respondents' views on Local Authority having limited legal representation and resources to review all applications. 84% of the respondents either agreed or strongly agreed that the council have limited resources and legal assistance to help progress s.278 applications, leading to applications not being processed and approved in a timely manner. However, the majority of the council (80%) had a different view and believed that they have sufficient resources and are responding within a reasonable timescale.



446

447 Figure 14. WCC's limited resources cause technical approval delays

448 Figure 15 presents the respondents' views on whether the type of contract used (JCT or NEC)
 449 influences how quickly technical approval can be obtained. Overall, 63% of the respondents
 450 agreed that the type of contract influences obtaining technical approval. All of the Local
 451 Authority respondents disagreed that the type of contract has any bearing on the speed of
 452 obtaining technical approval. This might be due to the fact that WCC only use NEC contracts,
 453 as discussed in Section 2.1. 40% of the designers and 50% of the adoption specialists also
 454 shared the same view.



455
 456 Figure 15. The contract type causes technical approval delays

457 A ranking of the causes of technical approval delays based on the survey findings is given in
 458 Table 3. It is observed that the main causes of delays in s.278 agreement technical approval lie
 459 on the developer's efficiency and performance e.g. in producing accurate design drawings,
 460 effective and timely engagement and communication with the local authority, and legal
 461 representation. The type of contract and s.278 agreement do not seem to have a tangible effect
 462 on the speed of obtaining technical approval.

463 Table 3. Classification and ranking of the main causes of delays in s.278 technical approval
 464 based on quantitative results

| Rank | Cause of the delay | Category |
|------|---|-----------------|
| 1 | Poor technical drawings submitted by the designer | Developer |
| 2 | Inexperienced designer | Developer |
| 3 | The developer's slow and ineffective communication with the council | Developer |
| 4 | Non-cooperative third-party landowners | Third-party |
| 5 | Developer's poor organisation and planning | Developer |
| 6 | Designer's slow response to the council's comments | Developer |
| 7 | The council's limited resources and capacity to review applications | Local Authority |
| 8 | The council's slow and ineffective communication with the developer | Local Authority |
| 9 | Developer's less efficient and less experienced legal representation | Developer |
| 10 | Type of s.278 agreement (major or minor) | Contract |
| 11 | Type of contract (NEC or JCT) | Contract |
| 12 | Size of the s.278 works | Contract |
| 13 | Lack of sufficient support provided by the council | Local Authority |
| 14 | Size of the developer | Developer |
| 15 | Difficulty in understanding and following the WCC's s.278 agreement process | Developer |

465 4.2. Analysis of open questions

466 The two open questions were introduced to give each respondent a chance to give their thoughts
 467 and suggestions on the issues associated with the s.278 technical approval process that were
 468 not addressed in the questionnaire. In the first question, the respondents were asked to express
 469 their views on what could be the cause of delays to technical approvals. In the second open
 470 question, the respondents were asked if they were aware of any failures in the agreement
 471 process.

472 By review, many of the respondents had similar ideas on issues relating to the s.278 technical
 473 approval process. All of the answers raised were valid points and reasons behind potential

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3 474 delays in obtaining technical approval. Some of the respondents highlighted the facts such as
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5 475 the Local Authority being under-resourced, poor developer performance, inexperienced WCC
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7 476 engineers, and lack of a drawing checklist and unified protocol in WCC for reviewing the
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9 477 documents as the main causes of delays in obtaining technical approval which were already
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11 478 addressed in the questionnaire.
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15 479 A few suggestions were made by the respondents on issues which were not covered within the
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17 480 questionnaire or the interview questions. For instance, a few scenarios were mentioned where
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19 481 the council believed that they owned the land and subsequently entered into the agreement with
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21 482 the developer, later the land was identified to be owned by another council or third party
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23 483 subsequently causing delays. Lack of joined-up thinking between the internal council
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25 484 departments and delayed payment of fees are the other factors raised that could potentially
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27 485 result in an elongated technical approval process.
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32 33 486 **4.3. Analysis of interviews** 34 35

36 487 From the general questions, the interviewees mentioned that the technical approval speed is
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38 488 often based on region to region rather than the size of the developer. It was also suggested that
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40 489 developers could engage earlier in the process. Furthermore, progressing a series of
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42 490 agreements, for example, an s.184 (which allows installation of a vehicle crossing over footway
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44 491 and verges) and an s.278, concurrently can halt progress. It was also suggested to integrate the
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46 492 planning and technical approval teams so that upon granting planning only minor changes will
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48 493 be required to obtain technical approval.
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53 494 The Local Authority mentioned that changes are due to the Warwickshire Developers' Guide
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55 495 but only concerning s.38 (adoption of new residential highway roads within a development),
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57 496 not the s.278 guidance. The council commented on this and agreed that specific guidance
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3 497 should be released about specific requirements for drawings in relation to s.278 agreements. It
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5 498 was also highlighted that the 'Option A' within the NEC contract drives drawings to be accurate
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8 499 and can elongate the approval process. Another interview with WCC employees revealed that
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10 500 "the reason for using this form of contract is to enable the council to give their contractors more
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12 501 certainty regarding the works information and this should mean that there is more certainty on
13
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15 502 the costs, which should be to the benefit of the developer".

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18 503 Local Authority accepted and attributed their delay to approving drawings, due to the potential
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20 504 future liability of road ownership, more so than the lack of staff. They specified that their
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23 505 number one priority is to ensure that the adopting council are not going to be left with a long-
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25 506 term liability, hence why caution is exercised when technically approving drawings. This
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27 507 further reinforced a recurring theme in relation to the quality of the developer's employed
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30 508 designer. To streamline this process, if the council approve the employed designer, it could
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32 509 lead to fewer comments and faster approval being granted.

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35 510 From interviews with legal professionals, it was inferred that WCC are under pressure and
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37 511 under-resourced, reinforcing a running theme throughout this study. Yet a fresh concept
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40 512 brought to light through such interviews was the notion of 'Planning Performance
41
42 513 Agreements'. These are government-led schemes, where the developer agrees to pay additional
43
44 514 fees and the planners or council give assurances that planning permission will be delivered by
45
46 515 a certain date. This should expedite applications, however, there is limited accountability if the
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49 516 council or planners do not achieve the set targets. Subsequently, the developer could be short-
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51 517 changed and still no further forward with their application or technical approval.

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55 518 The construction lawyers interviewed stated that there is "no hard and fast rule" in relation to
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57 519 the size of the developer and their subsequent technical approval success rate. When asked
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59 520 about the agreement they collectively agreed that it is easy to understand, to those well versed

521 in the process, yet conceded that the s.278 agreements are not written in plain English and
 522 inferred that this could cause delays. A proposal put forward was to have a country-wide s.278
 523 agreement, to standardise the process across the country with the intention for it to be written
 524 in plain English, making the agreement more user-friendly. For this to take effect it would need
 525 to be a government lead initiative and could take time. Table 4 outlines the key findings of the
 526 interviews mapped against the objectives of the study.

527 Table 4. Mapping interview findings against research objectives

| Category | Potential factors causing delays | Interview findings |
|----------------------------------|---|---|
| Contract | Type of contract (NEC or JCT) Type of s.278 agreement (minor or major) | This is not considered a cause of delay in attaining technical approval. “Option A” within the NEC contract necessitates detailed and accurate drawings that may elongate the technical approval process. However, this is a benefit to the developer and should not be seen as a negative factor. s.278 agreements are not written in plain English and may not be easily understood by less experienced designers and planners, potentially causing delays in technical approval. |
| Developer | Lack of effective communication and early engagement with the council Size of the developer organisation Less efficient and less experienced developer’s designer | This is considered as one of the major causes of delays. Early engagement with the council and timely response to the council’s queries can speed up the technical approval process. This does not seem to have a tangible impact on the speed of the technical approval. This is considered as one of the major causes of delays. The quality and accuracy of produced drawings reduce the number of comments by the council engineer and the timescale for technical approval. |
| Local authority (Council) | Lack of appropriate support and effective | Council engineer’s experience, prejudice, subjectivity, and bias can cause delays during the application review process. |

| | | |
|--|--|---|
| | <p>communication from the council team</p> <p>Lack of clarity on the required documents and drawings</p> <p>The council's limited resources and legal representation</p> | <p>This is one of the major contributing factors to technical approval delays. WCC should provide specific guidance on drawing requirements in relation to s.278 agreements.</p> <p>The delays in processing applications were attributed to the potential future liability of road ownership, rather than the lack of staff.</p> <p>The provision of the Planning Performance Agreements scheme can expedite applications.</p> |
|--|--|---|

528 **5. Discussion of the results**

529 The literature review determined the NEC contract showcases the need to understand all
 530 constraints early in the process, but the reason why this occurs was unclear. The interviews
 531 revealed that although the NEC contract's 'Option A' forces the council to ensure accurate
 532 drawings are detailed, and this may elongate the approval until the council is satisfied the
 533 developer has adhered to the requirements, this fact should not be considered as a negative
 534 issue, as contractually it is better to have accurate drawings to avoid difficulties during the
 535 project. Therefore, the requirements of Option A within the NEC contract are not considered
 536 as a cause of delay in attaining technical approval.

537 The WCC design guide was highlighted as insufficient for a developer to submit a sophisticated
 538 drawing pack which WCC would consider acceptable for technical approval without issuing
 539 comments. For example, Warwickshire's Developer's Guide could be updated to state they
 540 require a fire tracking drawing, then specify the drawing size and supply the relevant vehicle
 541 size to track. The WCC acknowledged the design guide needs alteration to enhance the s.278
 542 guidance.

543 Subjectivity is referenced in how the approval is left to a council individual. Their prejudice
 544 could cause an application to go through extensive revisions triggering delay to a planning

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3 545 permission or technical approval. This can be attributed to the engineer's experience in
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5 546 reviewing the submission. Individual bias can arise when another council engineer reviews the
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8 547 same application. They could request other amendments. To overcome this issue, it would be
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10 548 beneficial for WCC to employ more engineers (if possible) to progress the applications and to
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12 549 issue a fully detailed design guide, listing all of the drawings and requirements that could
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14 550 significantly reduce council comments and subsequently enhance time to turnaround technical
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16 551 approvals, provided the developer's engineer is competent. However, employing more
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18 552 engineers prompts the question as to whether the newly employed engineers at the Local
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20 553 Authority work to the same standard or pace. The desire to issue fast approvals may cause bias
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22 554 as to whom the proposals went to within the Local Authority, causing a majority of applications
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24 555 to be dealt with by one engineer. This repeats the same issues, as one engineer would be
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26 556 overworked and the other may not gain the relevant experience to work on applications
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28 557 effectively.

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33 558 A recurring theme is also the lack of engagement and an inexperienced designer, further
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35 559 highlighting how integral the designer's role is in obtaining fast approval. Developers could
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37 560 better brief and supply existing information to their designers to reduce revisions. This study
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39 561 has discovered it often depends on the industry experience, the familiarity of working with that
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41 562 particular Local Authority and understanding its particular requirements. The provision of the
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43 563 in-house design by WCC, as discussed in section 2.4, could be beneficial to eliminate the poor
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45 564 developer performance in the design process, and hence significantly speed up the technical
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47 565 approval process.

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53 566 Through interviewing Local Authority and housebuilders, it came to light that while a faster
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55 567 planning procedure may assist in obtaining a quicker planning permission it does not always
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57 568 necessitate the same to obtain a technical approval. This can be owed to highway planners and
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59 569 the technical approval team reviewing the scheme in varying levels of depth. While the

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3 570 highway planners will still drive developers to ascertain the majority of requirements, such as
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5 571 establishing horizontal deflections and traffic calming measures, it is the technical approval
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7 572 team that has to ensure these are designed correctly. The council's technical team will require
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10 573 sufficient details to ensure the scheme will be built correctly and will not become a liability to
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12 574 the adopting council.

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15 575 As ascertained within the results (Figure 4), developers have a preference for minor s.278 rather
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17 576 than major s.278. This can be attributed to fewer drawings, usually resulting in a faster grant
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19 577 of technical approval. However, it also provides the developer with the ability to use their own
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21 578 chosen contractor, giving greater control over costs, onsite timescales and deliverability.

22 23 24 25 26 579 **6. Conclusions**

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29 580 This study aimed to identify and analyse the causes of delays in the s.278 agreement approval
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31 581 process, and to propose solutions and recommendations to improve the process. The following
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33 582 conclusions can be drawn;

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37 583 - There is a need to have a standardised list of drawings and documents that the WCC
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39 584 require from a developer for a technical approval submission, with the associated
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41 585 standards referenced.
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44 586 - Before any submission, developers should gain a clear understanding of the council's
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46 587 requirements. This could be achieved by organising meetings with the council to
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48 588 discuss the first draft of produced drawings.
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51 589 - The scheme can progress to a technical approval faster under a minor s.278 agreement
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53 590 due to the fewer drawings to review and, in most cases, lower complexity. However,
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55 591 this should not imply that projects, regardless of their size, should be categorised as
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57 592 minor rather than major so a faster technical approval could be obtained.

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3 593 - An improvement in the level of communication within the local authority's departments
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5 594 as well as with the developer can significantly reduce the delays associated with the
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8 595 s.278 technical approval process.
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10 596 - Further investigations should be undertaken across other councils to see whether the
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12 597 same themes occur and if this would influence the ability to have a standardised set of
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14 598 s.278 requirements across the UK.
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