



land south of Church Lane
Wormley, Hertfordshire
Additional Highway Study Summary Report

on behalf of Hertfordshire County Council

July 2016

prepared by Vincent and Gorbing



architecture
town planning
interior design
urban design



VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS

LAND AT CHURCH LANE, WORMLEY

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DRAWINGS

5110/001	Site location plan
5110/012	Development concept
ST-2462-03	Means of Access Options Appraisal
ST-2462-10	Means of Access
ST-2462-11	Swept Path Analysis
ST-2462-12	Flood Zone Analysis

TECHNICAL STUDIES

The following studies have been undertaken:

Stomor Summary Report for Wormley Parkland July 2016

RLF Feasibility Budget Estimate 7 July 2016

Junction 9 Analysis July 2016

MMA Lighting Consultancy Ltd External Lighting Assessment April 2016

1.0 INTRODUCTION

- 1.1 Vincent and Gorbing were commissioned by Hertfordshire County Council to undertake a feasibility assessment to advise on the potential to deliver an 8FE secondary school on the land south of Church Lane, Wormley, Broxbourne. This report was finalised January 2016. This further report should be read in association with this earlier feasibility report.
- 1.2 The original report identified that the site was sufficiently sized to accommodate an 8FE secondary school, but that there were highway issues associated with access being provided via Church Lane and that the most realistic prospect of delivering a suitable access to the site was via the A10 link road to the south. Accordingly, Vincent and Gorbing has been commissioned to explore the potential for an access to be delivered via this alternative route.
- 1.3 An additional issue in respect of the site being a designated Local Wildlife Site was also identified and separate survey work is being undertaken to ascertain the ecological value of the site and will reported following the completion of this work.
- 1.4 Section two sets out the background to the overall assessment and the scope of the additional highways work undertaken.
- 1.5 Section three sets out a summary of the conclusions associated with the additional highways survey.
- 1.6 Section four comprises the summary and recommendations.

2.0 BACKGROUND

- 2.1 The Borough of Broxbourne have identified a Borough growth of approximately 419 dwellings per annum over the emerging local plan period of 2014-2031. This equates to approximately 7,123 homes, which is approximately 2,000 dwellings more than that anticipated prior to the release of the Government's 2015 household projections.
- 2.2 As part of the emerging local plan, a significant need for more primary and secondary provision by 2031 has been identified.
- 2.3 Based on the County Council estimates of 1FE per 500 dwellings, this extent of growth is likely to see a need for an additional 14FE secondary provision over the next 16 years.
- 2.4 The Local Plan Framework was reported to Broxbourne's Cabinet meeting on the 20th October 2015. Within the document, it is noted that there is a need to release Green Belt land in a strategic manner to meet the Borough's development needs.
- 2.5 Following a Strategic Green Belt Review Broxbourne have identified this site, south of Church Lane to accommodate a secondary school. This site continues to be identified within Broxbourne's Regulation 18 Local Plan consultation.
- 2.6 Accordingly, the County Council has undertaken to establish the feasibility of delivering a secondary school on this site.
- 2.7 Further to the initial feasibility work completed in January 2016, the County Council has commissioned further work to ascertain the feasibility of delivering an access via the south and the A10 link road, having regard to topography, capacity, flood risk and costings.

3.0 ADDITIONAL HIGHWAY SURVEY SUMMARY

INITIAL FEASIBILITY WORK

3.1 The initial feasibility work considered all potential access options associated with the potential delivery of an 8FE secondary school on this site. This resulted in 5 access arrangements being reviewed (see Highways and Access Appraisal Plan ST-2462-02):

1. Access off Church Lane, north east corner of the site.
2. Access off Church Lane, opposite Wormley Playing Fields Car Park
3. Access off Huntingdon Close
4. Access directly off the A10.
5. Access off the link between the A10 and the A1170 to the south of the site.

Options 1 and 2 – Church Lane

3.2 Potential issues have been identified as follows:

- Church Lane is too narrow to accommodate 2-way bus/coach movements.
- Widening will have significant impact on conservation area.
- No scope to widen road between The Croft and High Road.
- Narrow carriageway over existing New River Bridge. Priority system required.

3.3 Access from Church Lane has been considered in further detail on drawing ST-2462-03-Means of Access Options Appraisal, identifying the local impact of an access into the site.

Option 3 – Huntingdon Close

3.4 Access off Huntingdon Close is considered to have the following issues:

- Huntingdon Close could be widened to 6.1m with 2No 2m wide footways (subject to survey), to allow 2-way bus movements
- Significant impact on nature of Huntingdon Close.
- New bridge required across New River.
- Significant impact on trees.
- Mini roundabout or signal controls with associated junction enlargement maybe required at junction with High Road.

Option 4 – Access direct from A10

3.5 Potential issues associated with access from the A10 are as follows:

- 70mph dual carriageway. Safety issues with deceleration and acceleration particularly for buses/coaches.
- Significant level difference between site and A10 to be overcome.
- Nearest location for northbound traffic to turn south is 3.8km away at Hoddesdon.
- Proximity of merging lane with slip road for A1170 - risk of accidents due to weaving traffic.
- Significant impact on trees.
- New access to primary and main distributor routes will only be considered where special circumstances can be demonstrated in favour of the proposals. This will include consideration of why alternative proposals are not viable.

Option 5 – Access from Link Road between A10 and A1170

3.6 Access off the link between the A10 and the A1170 to the south of the site is considered to have the following issues:

- Derestricted dual carriageway.
- Safety issues with deceleration and acceleration particularly for buses/coaches.
- TRO likely to be required to reduce speed limit on link.
- Major level difference between site and road to be overcome.
- Proposed road will pass through flood plain. Flood flow routes and flood plain compensation required.
- New access to primary and main distributor routes will only be considered where special circumstances can be demonstrated in favour of the proposals. This will include consideration of why alternative proposals are not viable.
- Significant impact on trees.

3.7 Depending upon the potential flood levels in relation to the proposed access road, an emergency access may be required via Church Lane, to enable vehicular access during flood events.

3.8 Regard was also given to an access via Pembroke Close and a private garage court, due to the above issues associated with Church Lane and the use of third party land, this option was not considered any further.

3.9 Consideration was also given to a combined Option 1 and 3, providing a link through the site between Huntingdon Close and Church Lane. This would create a significant increase in traffic on Huntingdon Close, altering the nature of the road, although major road widening may not be necessary. A new bridge would be required across New River, with a significant impact on trees in this location.

- 3.10 Additionally, consideration was given to a combination of Option 2 and 4, with a link between the A10 and Church Lane. This would have safety issues associated with the deceleration of vehicles from 70mph, along with the nearest location for northbound traffic being at Hoddesdon, some 3.8km away. Reverse traffic merging onto the A10 could be potentially more dangerous than leaving the A10.
- 3.11 Discussions with the Highway Authority occurred. Access from the A10 is unlikely to be acceptable in highway safety or policy terms. It was agreed that access via Huntingdon Close was technically achievable, but that the environmental impact would be significant. The potential for access via Church Lane was considered carefully, however the impact on the conservation area and traffic flows along Church Lane would be significant.
- 3.12 As a result, it was generally considered that access from the Link Road between the A10 and the A1170 would be the most suitable arrangement subject to further detailed consideration and technical work.

FURTHER ASSESSMENT WORK

- 3.13 Upon commencement of the further highway assessment work, it was identified that the land to the south of the feasibility site, land within the flood plain, was not within the ownership of the Borough of Broxbourne.
- 3.14 The aim of the further survey work was to ascertain whether it is feasible to deliver an access to the south from the A10 link road, and if so, what the implications of an access in that location is, having regard to character and appearance of the area, flood mitigation and highway capacity.
- 3.15 The survey work demonstrates that an access could be delivered, as shown on the Means of Access Plan (ST-2462-10) and would include the following:
- Visibility splay of 9m x 120m

- 3.45m wide and 30m long deceleration lane, with associated 10m long taper
 - 20m radii
 - 6.1m wide access road
 - Associated highway signage
 - Road gradient of 1:40 increasing to 1:20 within the site.
 - 3 x 10m lighting columns on the access road.
- 3.16 There is a significant level difference between the site and the link road, this results in the need for a combination of embankments and retaining walls to ensure compliance with 'Roads in Hertfordshire – Highway Design Guide'. The embankments and retaining walls will need to be circa 8m in height and then graded down into the main part of the site.
- 3.17 The proposed access arrangement has been submitted to the Local Highway Authority, who have in turn advised that an access from the link road would be contrary to policy, which states "New access to primary and main distributor routes will only be considered where special circumstances can be demonstrated in favour of proposals." Strong justification for departing from this policy would be required.
- 3.18 The location of an access on this link road will result in all traffic associated with a school needing to U-turn around the A10 roundabout. Accordingly, an initial analysis has been undertaken in respect of the A10 Turnford interchange junction; A1170 double roundabout and; the site access, to ascertain potential capacity.
- 3.19 The assessment demonstrates that that the junctions operate within their theoretical capacity at present and in the horizon year (2022). When

adding the school traffic to the horizon year, most of the junctions assessed operated within their theoretical capacity, but at a level that begins to impact detrimentally on the operation of the roundabout. The northern arm of the A1170 roundabout would exceed its theoretical capacity in the AM peak.

- 3.20 Some minor highway works are likely to be required to ensure the school has a nil-detrimental impact on the highway network.
- 3.21 A comprehensive Transport Assessment would need to be undertaken to fully explore the impact of school traffic on the adjacent highway network. This will need to include consideration of the proposed mix used development to the west of the A10 Turnford junction, which includes an access via this junction.
- 3.22 The proposed access road crosses both a flood zone 2 and a flood zone 3 and would include level raising in these areas. Flood compensation is required where existing ground levels are raised within the flood plain extent associated with the 1 in 100 year (flood zone 3) event plus an allowance for climate change.
- 3.23 Upon assessment, the necessary flood compensation would be a volume of 6134m³. The Flood Zone Analysis plan (ST-2462-12) demonstrates that the compensation zone could be accommodated to the west of the proposed access, through excavation varying between 0.8m and 1.88m.
- 3.24 This level of excavation would result in the height of the embankment and retaining walls being increased by 1.88m, to a height of circa 10m in part.
- 3.25 On the basis of the delivery of the access road and associated drainage, the cost of delivery is anticipated to be £580,000 (including a 5% buffer).

4.0 SUMMARY AND CONCLUSIONS

- 4.1 The initial feasibility report established that the development of an 8FE secondary school could in principle be accommodated on the Church Lane site, as was shown on plan reference 5110/012 Development concept.
- 4.2 A number of site constraints were identified, these included the need to ascertain whether a suitable access arrangement could be delivered to enable access to the site, having concluded that Church Lane is inadequate to serve such a development and has limited scope for improvements.
- 4.3 Additional highway survey works were commissioned and have demonstrated that theoretically a new access could be accommodated and delivered to the south of the site via the A10 link road.
- 4.4 There is likely to be an in principle objection to an access in this location from the Local Highway Authority, as the proposal would result in the formation of a large access from a primary road. In order to overcome this objection, there would be a need to provide a robust case that demonstrated that this was the only site available and that the access arrangement was the only viable option.
- 4.5 Initial capacity assessments have demonstrated that an access in this location, associated with an 8FE school are likely to have an impact on highway capacity and highway improvements are likely to be required to mitigate against this impact.
- 4.6 In addition, regard will need to be given to any traffic generation from the proposed mixed use development to the west of the A10 Turnford junction, which also proposes to access their site via this roundabout.
- 4.7 The introduction of an access in this location would be highly prominent, primarily due to the extent of the structure necessary, but also the need

to remove most, if not all, of the landscaping adjacent to the road to ensure delivery of the required visibility splays.

- 4.8 The loss of this vegetation will result in the 10m high (as a result of flood compensation works) being highly visible and aesthetically out of keeping with the character and appearance of the area.
- 4.9 In addition, the impact of this structure on the New River Corridor would be extensive and contrary to the Local Plan policy. The Waterside Green Chains policy states that planning permission will not be granted for development proposals which would have a materially detrimental effect upon the open character of waterside green chains whether located within the urban area or the countryside. Positive enhancements to the corridor will be supported.
- 4.10 The introduction of such an access road in this location would visually dominate the adjacent river corridor and could only be perceived as detrimental to that setting.

SITE DELIVERY

- 4.11 The site has been identified within the draft Local Plan as a potential allocation for secondary school provision, required in later part of the proposed plan period, to support cumulative growth within Broxbourne generally.
- 4.12 The main part of the site required to deliver the school itself is in public ownership, however, the land required to deliver the access road is owned by a third party and is not known to be available.
- 4.13 The cost of delivering the access road has been estimated at £580,000, additional costs will be associated land purchase and any necessary

highway improvements. Costs associated with the latter are at this time unknown.

- 4.14 If this site is to be considered to be deliverable, and promoted as a site allocation within the proposed Local Plan, it would be necessary to demonstrate that this site is the only viable site for the provision of this school and that the land required for an access is available and deliverable in ownership and cost terms.
- 4.15 In addition, if it is to be promoted via the emerging Local Plan, there is a need to ensure that the highway network has sufficient capacity to accommodate both this proposal and the mixed use development to the west of the A10 Turnford junction. Initial indications are that road improvements are likely to be necessary as the delivery of both sites would result in the theoretical road capacity being exceeded.

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