



Land North of Hemingfield Road, Hemingfield, Barnsley

Impact of the Appeal Scheme on Flood Risk and Drainage Elsewhere

Technical Note

Project ref:	6041 Land North of Hemingfield Road, Hemingfield
Prepared by:	Dr Kevin Tilford BSc (Hons) MSc (Eng) PhD MBA C.WEM FCIWEM CEnv Managing Director
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Document Author

- 1. This document has been prepared by Dr Kevin Tilford. I am Managing Director and owner of Weetwood Services Ltd ("Weetwood"), a consultancy firm specialising in flood risk and drainage, a position I have held since 2015.
- I hold a BSc(Hons) in Environmental Science from the University of Lancaster (1986), an MSc(Eng) in Water Resources Technology from the University of Birmingham (1987), a PhD from the University of Salford in Operational Hydrology and Flood Forecasting (1991), and an MBA from the Cranfield School of Management (2006).
- 3. I am a Chartered Water and Environmental Manager, a Fellow of the Chartered Institution of Water and Environmental Management (CIWEM), and a Chartered Environmentalist. I currently serve as an elected member of the CIWEM Professional Standards Committee, a committee responsible for overseeing the maintenance of professional standards and ethics within the water and environmental management profession. Previously, I served as an elected member of the CIWEM Rivers and Coastal Group, the British Hydrological Society Pennines Hydrological Group, and the Royal Meteorological Society.
- 4. I have worked in the field of hydrology, water engineering and flood risk management since 1988, initially as an academic and thereafter as a consultant, initially with large multi-disciplinary consultants. I joined Weetwood in 2010. I have provided flood risk and drainage advice on a wide range of development projects for a wide range of clients.
- 5. Weetwood was initially instructed in relation to this project in 2023 to consider flood risk and drainage matters relating to the development proposals. I am familiar with the site and the proposals.
- 6. I confirm, as a Fellow of the Chartered Institution of Water and Environmental Management, Chartered Water and Environmental Manager, and Chartered Environmentalist, that the evidence and opinions provided in this document are to the best of my knowledge true and correct.

Background

- 7. An application for outline planning permission for the "... demolition of existing structures and erection of residential dwellings with associated infrastructure and open space. All matters reserved apart from access into the site" was submitted by Hargreaves Land Limited, G N Wright, M M Wood, M J Wood and J D Wood ("the appellant") to Barnsley Metropolitan Borough Council on 9 February 2024. The application was validated with the application reference 2024/0122.
- 8. Planning permission was refused by way of a Decision Notice dated 11 December 2024 (CD 2.2). The reasons for refusal relate to: (1) the status of the site in the Local Plan, and (2) a concern that the proposal would have a potential impact on the comprehensive development of the wider site.
- 9. The planning application was accompanied by a site-specific Flood Risk Assessment (FRA) report prepared by Weetwood (CD 3.14). The FRA report assessed flood risk at the site and presented illustrative surface water and foul water drainage schemes. In so doing, the report demonstrated that the proposed development would be safe from flood risk and would not increase flood risk elsewhere for the lifetime of the development, and that the proposed development could be properly drained.



- 10. In relation to flood risk and drainage, the planning officer's report dated 11 December 2024 (CD 2.1) states: "Concerns have been raised by residents in terms of the proposals potential impact upon drainage and flood risk, however the Drainage Officer and Yorkshire Water raise no objections to this application subject to conditions. In terms of flood risk, the site is set within Flood Zone 1, which has a low probability of flooding which is acceptable. The proposed [development] is therefore acceptable with regards to flood risk and drainage considerations in accordance with Local Plan Policies CC3 and CC4".
- 11. This document responds to the concerns of local residents regarding the impact of the Appeal Scheme on flood risk and drainage relating to properties along Briery Meadows and along Garden Grove.

Representations from Local Residents

- 12. Briery Meadows is adjacent to the eastern part of the southern boundary of the site, and Garden Grove is located to the southeast of the site. The concern expressed by some residents is that the proposed development will exacerbate any drainage problems currently experienced by some of the residents.
- 13. There are two aspects to this matter: the management of surface water runoff from the Appeal Scheme; and the management of domestic foul water from the Appeal Scheme.
- 14. Taking each of these in turn:

Surface Water Drainage

- 15. Rainfall falling on the Appeal Site would infiltrate where conditions allow and flow overland if the infiltration capacity of the ground is exceeded. The direction of natural drainage of the current Appeal Site is indicated on **Figure 1**.
- 16. Almost all of the Appeal Site naturally drains in a northeasterly direction, i.e. away from Briery Meadows, Garden Grove, and Hemingfield Road, and from the existing residential development to the west and south of the Appeal Site.
- 17. The exception to this is the southeast corner of the Appeal Site (an area of approximately 0.31 ha). Rainfall falling on this part of the Appeal Site that exceeds the infiltration capacity of the soil would generate surface water runoff that would be expected to flow overland toward properties located along the eastern part of Briery Meadows, and along Garden Grove.

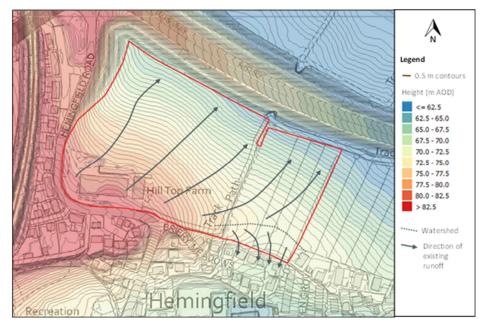


Figure 1 – Existing Drainage Regime of Appeal Site



- 18. The Appeal Scheme would alter the natural drainage regime of this part of the Appeal Site so that post development, surface water runoff would be intercepted by the surface water drainage system. The drainage system would convey the intercepted runoff in a northerly direction, and away from existing residential properties located along Briery Meadows, Garden Grove and Hemingfield Road to the infiltration basin located in the northeast part of the Appeal Site, as illustrated on Figure 2.
- 19. By intercepting and redirecting surface water runoff generated in the southeast corner of the Appeal Site, and conveying it to the north, the Appeal Scheme would not increase off-site flood risk and would actually reduce the risk of flooding to existing residential properties from surface water runoff.

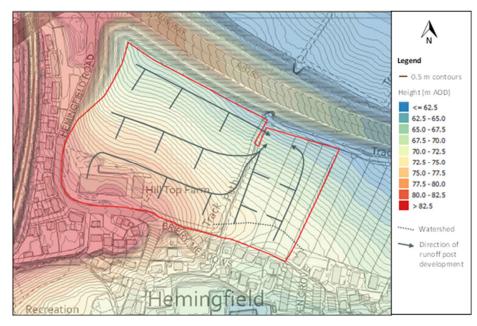


Figure 2 – Illustrative Drainage Regime Post Development

Foul Water Drainage

- 20. Domestic foul water generated by the Appeal Scheme would discharge to the public sewer that crosses the site and heads northeast away from Hemingfield.
- 21. No connection will be made to the sewer system located to the south of the Appeal Site, and no foul water from the proposed development will discharge to that system. As such, no foul water from the Appeal Scheme would discharge to the public sewers that serve properties along Briery Meadows, Garden Grove, and Hemingfield Road

The Submitted Drainage Scheme

- 22. I note that a number of residents have submitted comments stating the drainage plans to be 'vague'. I do not agree. The drainage scheme has been prepared to an appropriate level, sufficient to demonstrate that the proposed development could be appropriately and properly drained, and that the proposals would not increase flood risk elsewhere.
- 23. The level of detail for the appeal application was judged sufficient by all drainage consultees. A detailed drainage scheme will be prepared should the appeal be allowed and planning permission granted, as secured by planning condition.



Concluding Comments

- 24. Based on the above, I can state with confidence that:
 - The Appeal Scheme will not increase any existing drainage problems experienced by local residents;
 - That the Appeal Scheme will not increase off-site flood risk, and will actually reduce the risk of flooding from surface water runoff to existing properties along Briery Meadow/Garden Grove.
- 25. Finally, I believe that drainage scheme presented in the submitted FRA report has been prepared to an appropriate level, sufficient to demonstrate that the proposed development could be appropriately and properly drained, and that the proposals would not increase flood risk elsewhere.



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Economic Benefits

Land North of Hemingfield Road, Hemingfield, Barnsley Construction of up to 180 residential dwellings



Construction Benefits

£37million

Estimated construction investment over five-year build programme **0**

108

Direct construction roles and indirect/induced jobs supported per annum during build phase

£35.3million GVA @

Economic output contribution from jobs supported by activities at the site over five-year build programme (current prices)



Operational Benefits

10



Full-time equivalent jobs

supported in the economy

£402,032

revenue

Estimated annual

increase in Council Tax

190

Economically active and employed residents estimated to live in the new housing



£1.9million Of spend on food & drink, leisure, clothes, household goods etc

£1.1million

Estimated first occupation expenditure. Research suggests that the average homeowner spends approximately £6,000 • within the first 18-months to make their house 'feel like home'

£4.4million Total annual household expenditure

44%

Of employed residents estimated to be working in higher value/higher income occupations

The construction cost has been estimated using the BCIS Online tool and is exclusive of external works, contingencies, supporting infrastructure fees, VAT, finance charges etc. It is based on the average cost of a typical mixed housing scheme in the Yorkshire and The Humber (Accessed 14/04/2025).
GVA, or gross value added, is the measure of the value of goods and services produced in an area, sector or industry.

Research published in 2014 suggests that the average homeowner spends approximately £5,000 to make their house 'feel like home' within 18 months of moving in. Taking into account inflation, this figure is estimated to be around £6,000 as of 2022.

1.1

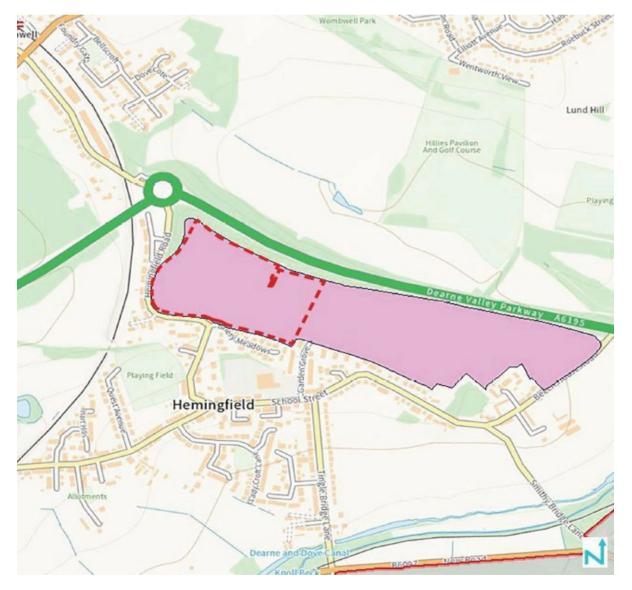


Wider Safeguarded Land Delivery Considerations including a Wider Safeguarded Land Illustrative Concept Plan

SL6 Wider Safeguarded Land Development Considerations

This note accompanies a plan titled 'Wider Safeguarded Land Illustrative Concept Plan' (for ease, referred to as the 'Concept Plan' in this document) which is at **Appendix A** to this note. The Concept Plan has been produced to show how the full extent of the area designated as safeguarded land (reference SL6) can be developed, and how the appeal proposals do not adversely affect the potential development of that land and do not significantly prejudice the future use of it.

This note has been informed by the multi-disciplinary team who acted on behalf of the appellants at the planning application stage including those acting as witnesses at this appeal inquiry.



Development Capacity

The full extent of the SL6 safeguarded land extends to an area of 18.2 hectares (44.97 acres), shown in pink on the extract above taken from the Barnsley Local Plan Policies Map. The site subject to this appeal (edged in dashed red) covers an area of 6.78 hectares (16.75 acres).

The appeal site has an estimated capacity in the region of 165 to 180 homes depending on the eventual housing mix and this would be inclusive of policy compliant affordable housing at 10%. Affordable housing would be provided to a size, mix and tenure split commensurate with local housing needs. This is based on an estimated net developable area of c.11.61 acres.

The full extent of the safeguarded land (inclusive of the appeal site) has an estimated capacity of 412 to 456 dwellings (inclusive of the estimated 165 to 180 dwellings to be provided on the appeal site) depending on the eventual housing mix and this would be inclusive of policy compliant affordable housing at 10%. This is based on an estimated net developable area of c.29.4 acres. This is a realistic assessment figure that is less than the figure the appellants have tested for highways capacity purposes.

The appeal site has a relatively short boundary with the rest of SL6. This is relevant in so far as the balance of the land is as much affected by the existing development of Hemingfield as by the appeal site. Based on a housing mix which is suitable for this market location, and which would provide a range of smaller housing products for first-time buyers and first-time movers, along with an element of larger family housing, it is expected that the full extent of the safeguarded land (inclusive of the appeal site) would accommodate in the region of circa 426 homes.

Estimated Units	Market Homes	Affordable Homes	Total
Appeal Site	151	17	168
Remaining Safeguarded Land	232	26	258
Total	383	43	426

Table 1: Estimated Capacity

The development capacity of the site (even on a worst-case basis at 456 dwellings) is substantially lower than the 518 figure estimated by the Council when it produced the Strategic Housing and Employment Land Availability Assessment (2016) (SHELAA) which informed the local plan.

Key Considerations and Opportunities

The development of the Concept Plan has been informed by a constraints and opportunities analysis. For the appeal site, this has been informed by a full suite of technical reports which were submitted in support of the application seeking outline planning permission.

Key Considerations

- Topography: The appeal site falls from c.85m AOD to c.65m AOD from the south west to the north east where the site meets the Dearne Valley Parkway. The wider area of safeguarded land falls from c.70m AOD to c.55m AOD in the same direction as the appeal site. To reflect the topography, the Concept Plan envisages a series of development parcels which run from east to west along the contours to allow for level development platforms, and minimise cut and fill.
- Services: A foul sewer runs through the appeal site from Hemingfield Road in the west heading in an easterly direction, through the northern part of the rest of the SL6 land before heading in a north easterly direction. The location of this sewer was identified by service records provided by Yorkshire Water as the statutory undertaker. The sewer has also been traced to confirm its exact alignment, which deviates marginally from the service records and is reflected accurately on the appeal site Parameters Plan, along with the appropriate easement. The sewer is available for the rest of the SL6 land to connect to. There are other sewers off site that could also be connected to, and which lie to the north-east.



- Coal Mining History: Mining Remediation Authority (formerly the Coal Authority) records indicate that parts of the appeal site have been surface worked in the past for coal. Within the appeal site, development has been avoided in this area and the area is proposed to be provided as public open space and the location of the drainage basin. Development of the appeal site will have no bearing on the layout of the remaining area of safeguarded land with regards to coal mining legacy.
- Flood Risk: The appeal site is at low risk of flooding from all sources. There are small areas within the site which are identified to be at low risk of surface water flooding and an area along the northern boundary at the lowest point of the site that is to be avoided for all relevant development. The Parameters Plan for the appeal site shows a stand-off from the surface water flood risk pathway which runs along the northern boundary. There is a further small area at low risk of surface water flooding in the southern part of the site which comprises hard-standing associated with the existing agricultural buildings. This area is to be provided as public open space. There are further areas at risk of flooding from surface water in the remaining area of safeguarded land. The Concept Plan illustrates how a similar approach will allow concerns over flood risk to be avoided with no form of development, including access roads, needing to cross areas at risk of flooding from surface water.
- Noise: The noise sources affecting the site relate to traffic on the Dearne Valley Parkway and Hemingfield Road. The orientation of development parcels enables a reduction in noise travelling across the site from the Dearne Valley Parkway and provides screening to gardens. Standard noise mitigation measures can be incorporated into dwellings and secured via condition. A similar approach will be applicable to the rest of the SL6 land and is shown on the Concept Plan.
- Ecology and Biodiversity: The appeal site is of low ecological value and there are no ecological constraints to development. Hedgerows run through the site on a south to north alignment and these are proposed to be retained. Additionally, trees are proposed to be retained (save for the removal of a single low quality tree to facilitate access) with appropriate an appropriate stand off distance from the trees along the northern and part of the eastern boundary which are outside of the site secured by the parameters plan. For the remainder of the site, the Concept Plan illustrates a very similar approach and how hedgerows and trees can be retained. Hedgerow removal to facilitate access can be kept to a minimum with replacement planting secured.
- Public Rights of Way: The appeal site and wider area of safeguarded land are located close to a wide network of public rights of way. Public footpaths run through both the appeal site and wider area of safeguarded land. These also provide a direct and safe walking route from the appeal site to the Ellis Church of England Primary School. The public footpaths are proposed to be retained upon their existing alignment and enhanced. The same approach can be easily applied to the remaining area of SL6.
- Residential amenity: The site and wider area of safeguarded land are located adjacent to a residential area. The Concept Plan shows how dwellings can be positioned to ensure that the residential amenity of existing residents can be satisfactorily maintained. Layout remains a matter reserved for approval and the placement of individual dwellings can be controlled at reserved matters stage.



• Heritage Assets: There are no heritage assets which will be affected by the appeal site. There are heritage assets located to the east which will be visible from the remaining area of safeguarded land. The development of the appeal site has no bearing on the extent to which these do or do not affect the development of the rest of SL6.

Development of the rest of SL6

The Concept Plan shows how the appeal site can be delivered in a way which does not, in the words of Local Plan Policy GD1, either significantly prejudice the future use of, or adversely affect the potential development of the remaining area of safeguarded land.

Highways, Access and Transport

The appeal site will be accessed by way of a new ghost island right turn lane priority T-junction on Hemingfield Road, at the western site boundary. The access is for approval and has been designed in accordance with guidance in the Design Manual for Roads and Bridges (DMRB) and has been subject to a Stage 1 Road Safety Audit. The junction design has been tested to confirm that it would be appropriate to serve the estimated upper limit of the safeguarded land in its entirety, at 520 dwellings. This is more than the realistic capacity of all the SL6 land. This is explained in the Highways Evidence of Mr Wilkins.

Operational assessments in that Highways Evidence have demonstrated that the access has been designed to a standard which provides sufficient capacity to operate safely and accommodate full development of the safeguarded land via a single point of access should that be necessary. Development of the full extent of safeguarded land is not dependent on the delivery of a secondary access from the east.

The Illustrative Masterplan submitted as part of the outline planning application for the appeal site shows an indicative movement framework through the site. This demonstrates the ability to deliver a looped arrangement from a main spine road through the site, running broadly west to east from Hemingfield Road. This internal arrangement is a matter that can be controlled by the Council at the reserved matters stage. At the eastern appeal site boundary, the Parameter Plan shows the locations of two vehicular access points leading to the residual part of the safeguarded land designation (subject to detailed design), which would also provide access between the sites for pedestrians and cyclists (in addition to the existing network of public footpaths which would be retained).

As the planning permission sought as part of this appeal is in outline format, the exact position of the access points into the residual safeguarded land is to be confirmed, when the details of the internal site layout are provided as part of a reserved matters application. The site is clearly capable of accommodating the required standard of access road to serve both the proposed development and further development on the residual part of the safeguarded land in future.

A looped arrangement would provide an efficient and connected road layout, which will provide the best solution to deliver two routes of access to dwellings on the remaining SL6 land and the appeal site from the main spine road, such that an alternative access is available in the event of an emergency.

Footways will be provided to both sides of the proposed vehicular site access junction with Hemingfield Road, aligning with the design guidance contained within the South Yorkshire Residential Design Guide. Subject to reserve matters, the footways will continue along the main access roads through the site up to the eastern site boundary, such that they too can be extended in future to serve further development on the residual part of the safeguarded land.

The South Yorkshire Residential Design Guide is not prescriptive in relation to the maximum number of dwellings that streets can serve, however, it is clear that the Concept Plan allows for appropriate internal road layout solutions.

For clarity, the internal layout (including road layout) of the appeal proposal will remain a reserved matter, and conditions can be imposed to address any future layout requirements

Public Open Space



The Concept Plan demonstrates how the appeal site and the rest of the SL6 land can provide policy compliant public open space, which is useable and follows the landscape-led design approach taken to formulating the appeal proposals. This is evenly spaced and split across the appeal site and the rest of the SL6 land.

An equipped play area would be provided (and is shown on the Parameters Plan) in the western area of the appeal site where it can be easily accessed by new residents and existing residents within Hemingfield. An indicative location for a further equipped play area has been shown in the Concept Plan in the eastern part of the wider area of safeguarded land.

The Concept Plan incorporates a network of informal play space and landscaped areas. These allow for safe walking routes within the site, which connect to the existing public rights of way network, with public footpaths retained and enhanced with the site. Some of these routes are framed around existing hedgerows to preserve them and enhance their setting. Landscaped areas have the ability to incorporate informal opportunities for play, such as trim trails.

Education

As established in the appellant's Education Evidence, the pupil capacity of the nearby primary and secondary schools is significantly above the pupil generation figure of both the appeal site and the rest of the SL6 land.

By the 2028/29 academic year, when pupils from the appeal site will start to need to be accommodated in schools, the Council is forecasting that there will be 112 spare primary school places in schools that directly serve this development. This is the housing equivalent of accommodating 533 new dwellings prior to the schools being full, based on the Council's child yield figures.

From a secondary school perspective, in the 2028/29 academic year, when the development is expected to be starting to accommodate pupils on site. The Council is forecasting that there will be 165 spare secondary school places. This is the housing equivalent of 1,100 new dwellings before the schools are full.

The spare capacity forecast in the system, for both Primary and Secondary School provision, exceeds the expected child yield that would be produced based on the development capacity of the entire area of safeguarded land coming forward, not just the appeal site. On that basis, the school aged children that will be resident on site will not have an impact on the comprehensive development of the rest of the site.

Flood Risk and Drainage

The appeal site is at low risk of flooding from all sources. The Concept Plan demonstrates how the site can be developed while avoiding built form (including access roads) being positioned on any part of the SL6 land at risk of surface water flooding.

Surface water from the remaining area of safeguarded land would be expected to be disposed of to the ground via infiltration in the same way as with the appeal site and the Concept Plan provides illustrative locations for basins informed by the site's topography which are of a suitable size to accommodate the full development capacity of the SL6 land. These basins are evenly spread across the Concept Plan area.

The foul water from the future residential development of the residual part of the safeguarded land could be discharged to the public sewer system via a number of potential points of connection, including to the public combined sewer that crosses the appeal site and passes through the rest of the SL6 land (and which is reflected on the Concept Plan with its associated easement). However, further drainage options are available including to a public combined sewer located to the north and east of Beech House Road.



Conclusion

In approving the appeal proposals, the quality and effectiveness of delivering the remainder of the site in due course will not be compromised. The appeal proposals have been designed with the full extent of safeguarded land in mind. The appellant has pro-actively approached the issue of comprehensivity in all respects. The appellant has addressed all comments from the Council in relation to this topic, which amounted to the Council only seeking more information about highways matters which was addressed and agreed with the Highways Authority.

The delivery of the appeal site will not prejudice the future delivery of the remaining safeguarded land to the north of Hemingfield. In fact, by delivering a new junction, improvements to bus services and bus stop infrastructure as part of this proposal, and access links to the adjoining land, the appeal scheme will actually help facilitate the delivery of the remaining safeguarded land.



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