



KERESFORTH ROAD, BARNSELEY ABNORMAL VALIDATION

Planning Reference: 2022/0016



Rebuttal for Viability and cost verification by Thornton Firkin.

Background

All abnormal costs presented within the HEB viability assessment for Keresforth Road sit above and outside the scope of standard BCIS allowances. In accordance with the NPPF and the RICS Financial Viability in Planning guidance, viability assessments must adopt standardised, evidenced inputs, and any cost that falls outside normal BCIS parameters must be clearly identified and justified as an abnormal. Likewise, any planning abnormal arising from specific Local Planning Authority policy requirements must be treated as a development abnormal, consistent with the treatment of Section 106 obligations. In order to compare this we have reviewed a recent appeal decision on viability on a similar sized site in the East Riding at Hornsea.

The Keresforth Road site presents significant development challenges, including extensive access enabling works and complex topographical constraints. In line with RICS guidance requiring the use of reasonable, realistic, and deliverable assumptions, Keepmoat has adopted a favourable and pragmatic position in several areas.

Keepmoat delivers over 1,000 new homes across Yorkshire each year, and our understanding of local ground conditions, market dynamics, and development constraints is extensive. On this basis, and in line with RICS requirements for professional competence and accountability, we are confident in the robustness, justification, and reasonableness of all abnormal costs submitted as part of this viability assessment.

Following further review, Keepmoat have identified that garages are not picked up within the cost base anywhere and these will be provided to all plots that are detached or 4 bedroom properties to achieve the sales prices and expectations of customers.

There are 16 Single detached garages estimated to cost £14,000 costing £224,000 which have been added into the viability appraisal as these had been previously overlooked.

A revised Abnormal Schedule can be found at Appendix 1 of this report and a summary of the main viability appraisal inputs have been tabled within the letter provided by HEB, Keepmoat have responded positively to the points raised by CPV in most cases and have provided justified robust evidence where we cannot accept certain inputs such as Contingency not being reflective of the sites difficulty in delivery.

Below is a summary of each abnormal category, with supporting information and drawings that verify the assumption with justification of how costs have been arrived at, Keepmoat do not believe that Thornton Firkin can state what can and cannot be an acceptable abnormal without justification. We have therefore provided robust evidence from a recent appeal, which included a viability as part of the initial refusal. This was then allowed at appeal with similar assumptions, and these have been referenced below which should be consistent across any planning viability argument.

Abnormal Validations

Substructure – E/O Trench

See foundation zoning plan and schedule by Haigh Huddleston. The foundation calculations spreadsheet shows the following, the backup information can be found at Appendix 2.

- 39 Strip up to 1.4m (extra over cost at 500mm) - Keepmoat allowed 47 in viability.
- 10 Deep Trench (16 assumed)
- 77 Pile (63 assumed in previous viability)

These have now been adjusted, and further foundation detail is continued below.

Substructure – Driven Piles

As above, Keepmoat have underestimated vs the actual foundation schedule. Therefore, costs for piling should be £592,669 not £484,911.

For foundation detail please refer to plans:-

- 7774_201_01 Foundation Zoning Plan Sheet 1 of 2 (002)
- 7774_201_02 Foundation Zoning Plan Sheet 2 of 2 (002)
- 7774_Keresforth Road_Foundation_Schedule (002)

Keepmoat will therefore increase this cost to £592,669 as the previous calculation was incorrect based on design.

Foundation plans can be found at Appendix 2.

Substructure – Reinforcement

For reinforcement, please see 7774_Keresforth Road_Foundation_Schedule (002) which specifies 106 plots with reinforcement.

Given the comments above, an assumption of much less is included within the viability, the cost of this should be applied over 106 plots not 64 plots that is currently assumed. This cost is understated by approximately £44,000.

It is important to note that the SI has advised amber 1 gas protection will be required in some areas of the site, this has also not been factored into the viability to date.

Keepmoat will not increase costs at this stage for the above.

Superstructure – Future Homes Standard

In order to comply with the new regulations, the below specification is anticipated and currently Keepmoats offset to meet new standards.

- ASHP from Gas – Extra over = £5,800
- Upgraded insulation (thermal floors) and larger radiators to comply with ASHP and flow temperature. = £600

This allowance is likely to be lower than market rates given current experience in costs within the market, but Keepmoat have adopted best case for the purpose of the viability review.

Keepmoat can evidence that this is accepted as an abnormal cost element and has been at a recent planning appeal (Planning Reference 22/02891/STPLF, Rolston Road, Hornsea.)

Superstructure – Car Chargers

Car Chargers are an abnormal cost as they are not considered in standard BCIS plot costs.

The cost of these are £718 supply and fit, with circa £450 extra for remote based charges which are not directly attached to the plot itself. These are usually encountered on plots that are detached with garages and corner properties.

Keepmoat can evidence that this is accepted and has been at a recent planning appeal (Planning Reference 22/02891/STPLF, Rolston Road, Hornsea.)

Superstructure – Bike Shed & Hoop

BCIS does not cover the cost for bike sheds and bike hoop within the standard construction costs. Therefore, this is an abnormal external cost which is down to the council's requirement based on planning policy.

Most local authorities do not have this as a requirement, but BMBC do, and therefore any plot without a garage to safely store bicycles will require one.

Therefore, the cost is assumed with concrete base (fixing for bike hoop) and shed for storage. This cost is justified and does not form part of the BCIS standard construction costs so is a justified abnormal, it was also accepted on other Viability assessments undertaken by CPV.

- £262 cost for base
- £475 for the shed

These are based on current rates on comparable Yorkshire sites.

Keepmoat can evidence that this is accepted and has been at a recent planning appeal (Planning Reference 22/02891/STPLF, Rolston Road, Hornsea.)

Externals – Retaining Wall

Cost accepted by Thornton Firkin.

Externals – Screen Walls

Calculations as per the External works drawing are 247U/m of 1.8m masonry walls adjoining highways and to ensure secured by design. These can be viewed on Appendix 3.

Externals – Acoustic Fence

Cost accepted by Thornton Firkin.

Externals – Public Open Space

Cost accepted by Thornton Firkin.

Externals – Elevational Treatments

Uplift in building external treatments

Stone Heads and Cils to all plots = £560 per plot

$£560 * 126 * 50\% = £35,280$ (to 50% of the plot)

GRP Canopy to front highway facing doors = £ 220 a plot

$£220 * 126 = £27,720$.

This could increase if at Reserved Matters the LPA push more unique design but we do not anticipate that given the materials on homes immediately adjoining the site.

Externals – Works to Rights of Way

Cost accepted by Thornton Firkin. Although Keepmoat note this is likely to be low in comparison to actual costs.

Drainage – Carlow Tank

Drainage solutions are not a planning abnormal for any site, they are a development abnormal to any scheme and as such these costs are not represented in standard BCIS build costs. They are required to deliver a compliant scheme in line with the statutory adopting body (Yorkshire Water in this case) and therefore are required to be costed within the scheme and should always be viewed as an abnormal. This is evident as they have been accepted on any previous viability such as High Street, South Elmsall assessed by CPV on behalf of Wakefield Council submitted by Keepmoat Homes.

Due to levels on the scheme, 2 attenuation tanks are required including a pumping station.

The drawing 7774_001-01C Feasibility Plan NORTH shows a tank at 970m^3

Drawing 7774_001-02C Feasibility Plan SOUTH shows a 475m^3 attenuation tank also being required.

These can be seen at appendix 4.

This is £498 per m^3 which includes for installation and is within comparable quotes we are seeing on other sites in Yorkshire.

Keepmoat can evidence that this is accepted and has been at a recent planning appeal as a justified abnormal (Planning Reference 22/02891/STPLF, Rolston Road, Hornsea.)

Drainage – Pumping Station

Due to levels, a pumping station is required and is shown on the feasibility design. A typical detail has been attached for a site recently completed in Barnsley. This can be found on the drawing 'Typical Pumping Station Layout' and on the feasibility '7774_001-01C Feasibility Plan NORTH'.

The rising main is shown pumping through private land which is a oversight by the engineer and an agreed strategy to pump this into F200 manhole is now being utilised.

These can be seen at appendix 4.

Drainage – Extra Over Depth/Diameter

Due to levels on the scheme there is extensively deep drainage across the development. BCIS only factors standard drainage at relatively standard depths of circa 2m and 150mm diameter.

The drainage ranges from 3-5M which would require additional stone and extra excavation, and increased rates when installing. Therefore, the extra over cost for the following types of drainage are:-

Foul – £120,406K – this will provide the extra over difference for 729l/m inclusive of extra-large manholes.

Surface Water – £166,213 – this will provide the extra over difference for 709l/m inclusive of extra-large and deeper manholes. This cost also includes 680 l/m of wider diameter pipes, including a box culvert under 2 connection crossings on the site.

Stone - £94,800 inclusive for additional arisings and extra stone, as the site is in export and not fill given levels, this is required.

Keepmoat can evidence that this is accepted as an abnormal cost and has been at a recent planning appeal. (Planning Reference 22/02891/STPLF, Rolston Road, Hornsea.)

Site Preparation – Cut & Fill

Cost accepted by Thornton Firkin.

Site Preparation – Vegetation Removal

We have provided a quote, on a comparable site with similar works, at the moment we has estimated the cost, and the likelihood is that the cost will be significantly higher. The amount of tree and shrub clearance on the development is extensive. The quote is for approximately 19 acres, with clearance works estimated to be around 50% of the total site area. This is comparable to Keresforth Road, as the area is 25 acres approximately with clearance anticipated to approximately 17 acres.

These can be seen at appendix 5.

Site Preparation – Removing Rock

The extra over for removing rock in areas of deep dig.

This has been identified in the Site investigation within trial pits and bore holes.

Here is a snippet from the SI.

7.8 Excavation Problems

Significant obstructions were not encountered during the site investigation. Some boulders were encountered within the opencast backfill material.

Outside of the opencast areas, strong mudstone was encountered in three locations in the north of the site, at between 2.3 m and 2.6 m bgl. Strong sandstone was encountered in two locations in the south of the site at between 1.6 m and 2.1 m.

Loose material and side collapse was noted within the opencast material. Outside of the opencast the trial pits were found to be generally stable. During the soakaway tests, occasional minor side collapse was observed. Support will be required in accordance with current Health & Safety Regulations wherever access is required to trenches deeper than 1.2 m or less where there is risk of collapse.

Allowance for sewer run excavation including pumping station wet well below 4m, which is a measure of 403 lm hitting rock 4m and below requiring specialist machinery to excavate. £24,750 equivalent to £61 per m.

This cost is underestimated at present but we are being optimistic in respect of viability as the Site investigation has evidenced that the rock is as shallow as 1.6-2m. Which would encounter an additional 2m of specialist excavations.

Site Preparation – Stat Diversions

The diversions proposed on the development have been included in the services folder. These include, Gas, Electricity (both HV and LV), Openreach and Street lighting. The cost of such is an abnormal and has been included within the development abnormals.

Allowances broken down are:-

1. Openreach – £28,600
2. NPG - £19,720
3. Gas – £24,000
4. Street lighting - £5,000

The above includes all related groundworks and reinstatement, including new connection points for the development site. These costs are more than reasonable to enable access and entrance works.

These works do not include diversions that will be required forming part of the Section 278 works off site. These can be seen at appendix 6.

Site Preparation – Substation

A more heavily sized substation will be required to provide capacity for the electric required on future sites due to removal of Gas proposed. Location of such is to be determined by the Statutory adopting body.

Keepmoat can evidence that this is accepted and has been at a recent planning appeal. (Planning Reference 22/02891/STPLF, Rolston Road, Hornsea.)

Highways – Importing Stone for Extra Depth

Purple areas on cut and fill are areas of deep fill of approx. 2.5M.

2,824 sqm of additional 500mm stone capping to the purple areas on the cut and fill model provided.

These areas will require additional stone capping up to 1.2M from the baseline of 600mm which is highway standard in order to achieve CBR to prevent the road sinking and to be suitable for highway requirements.

These can be seen at appendix 7.

Highways – Access Works

The access on site is very difficult and requires a significant earthwork operation, with complex highway retaining walls that runs alongside a culvert. The council have also now requested

offsite works to be completed to widen footways and enable connectivity. The current road formation is tight and difficult in respect of access into the wider Dodworth village.

In order to form the access and offsite works there will be a large requirement for temporary signals for a sustained period of time and these will all act as enabling works which will be costs up front.

The length of highway on the site that is not actually serving any development is significant. There is at least 500 L/m of road which is no sided highway and the majority of the development is on one sided highway which is highly inefficient but is unavoidable given the constraints on site. This acts as a large abnormality to standard construction cost and external costs which we would consider low with this point in mind. The costs provided below are enabling works to access the site, the drawings are provided within the detailed pack of information.

Access Road Abnormal Costs				Cost
Prelims	1	nr		69,950
Maintain access to Wood End Court	1	nr		35,000
Reinstate landscaping to Wood End Court	1	nr		15,000
Take down and rebuild stone wall at entrance	1	Item		10,000
Protection to existing trees	1	Item		5,000
Existing water course protection	1	item		25,000
Tree removal where required	1	Item		20,000
Bulk earthworks to enable access construction	1	Item		89,950
Road construction Standard cost	1	Item		-
Road completion Standard cost	1	item		-
Abnormal drainage element (upsized and over deepened)	1	Item		115,000
Works to existing culvert and SW connection	1	Item		15,000
Highway retaining wall including concrete capping	1	Item		270,569
Commuted sum for highway retaining	1	Item		89,807
Facing bricks/stone to highway retaining wall. Material only	1	Item		14,400
Resurface area of Keresforth rd at entrance	1	Item		9,310
Road sweeping	1	Item		5,000
Traffic management -	1	Item		15,000
Disposal off site of cut material	1	Item		79,992
Disposal off site of topsoil	1	Item		50,544
Vehicle crash barrier to retained highway	1	Item		15,750
Post and rail fence to retaining wall on woodside close side	1	Item		2,750
s278 works to widen existing frontage path	1	item		154,000
Design fees	1	item		15,000
Section 38 fee	1	item		94,802
				1,216,825

A detailed design can be found at Appendix 8.

Legal Issues – Mines & Minerals

This amount is still an estimate, and a final amount can be provided by Keepmoat following agreement, this can be used within a viability mechanism prior to commencement. We expect this to cost up to £1,500 per plot which is comparable to other sites within the Barnsley area.

Summary

The evidence provided is substantiative, and whilst Keepmoat will endeavour to take a practical, pragmatic and best-case view on assumptions, the Keresforth Road scheme is undeliverable with policy requirements for affordable and high levels of contributions. The contributions that have been requested are far greater than other schemes across the borough, and within the immediate vicinity of Dodworth.

Appendices

1) Abnormal Allowances Table

Keresforth Abnormal Schedule		
	Cost	Comments
Substructure		
E/O Trench	£158,496.00	49 plots extra over
Driven Piles	£592,669.00	As per foundation plan
Reinforcement	£67,200.00	
Superstructure		
Future Homes	£762,300.00	Changes to Build regs
Car Charging	£100,800.00	Car chargers to all plots
Bike Shed & hoop	£78,400.00	to 112 plots
Externals		
Garages	£224,000.00	16 Garages
Retaining	£1,181,411.71	As per feasibility
Screen Walls	£90,649.00	As per feasibility
Acoustic Fence	£149,850.00	To address issues in noise report on the M1
POS	£107,059.00	Areas as per masterplan no LAP/LEAP
Elevational Treatments	£63,000.00	Heads Cils and basic Canopy
Works to Rights of Way	£40,000.00	PC Sum - no detailed design
Drainage		
Carlow Tank	£719,610.00	2 x tanks (970+475 m3, as per design)
Pumping Station	£178,024.00	Pump and rising main
Extra over depth/dia	£358,080.00	Deep drainage due to levels
Site Preperation		
Cut & Fill	£529,485.09	PC SUM- QDL Design
Vegetation removal	£50,000.00	PC SUM
Removing Rock	£24,750.00	PC SUM- QDL Design
Stat Diversions	£77,320.00	Stats diversion to enable access
Substation	£81,500.00	Creation of sub for the development
Highways		
Importing Stone where extra deep	£83,404.00	PC SUM
Access Works	£1,201,821.10	Budget Price
Legal Issues		
Mines & Minerals	£189,000.00	PC SUM
Building Safety Levy	£70,206.00	Build safety levy legislation

2) Foundations

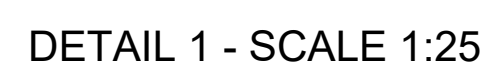


1. Foundation depths based upon difference between proposed FFL and a min 900mm excavation from existing ground level.
2. No gas precautions against hazardous gas are required.

NOTE.
Foundation Depths to be min 900mm unless otherwise stated.
Foundation depths vary over site, see foundation plan indicating min depth.
Concrete strip reinforced with A193 mesh in bottom face.
All steps in foundations to be in accordance with NHBC guidelines.

WHERE FILL MATERIAL IS ENCOUNTERED FOUNDATIONS MUST BE EXCAVATED TO NATURAL STRATA. IF IN DOUBT CONSULT ENGINEER. WHERE EXISTING FOUNDATIONS OR OTHER OBSTRUCTIONS ARE EXPOSED IN FOUNDATION EXCAVATIONS THESE SHOULD BE REMOVED TO ALLOW SUPPORT FROM NATURAL STRATA AND REMOVE THE RISK OF DIFFERENTIAL SETTLEMENT. IN AREAS WHERE BASEMENTS ARE EXPOSED OR FORMERLY EXISTED (SINCE BACKFILLED), THE FOUNDATIONS SHOULD BE STEPPED DOWN TO NATURAL STRATA TO ALLOW CONSISTENT SUPPORT. SEE DETAIL 1.

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS & ENGINEERS DRAWINGS.
2. CONCRETE GRADE RC35 IN ACCORDANCE WITH B.S.5328.
3. MIN COVER FOR REINFORCEMENT 40mm TO ALL FACES.
4. MIN LAPS 40 BAR DIAM FOR MAIN STEEL
300mm FOR MESH PANELS
5. MESH IN TOP FACE TO BE ADEQUATELY SUPPORTED WITH STEEL CHAIRS OR COILED MESH PRIOR TO CONCRETE POUR
6. LOCAL SOFT SPOTS TO BE REPORTED TO HHA.
7. ALL REINFORCED CONCRETE TO BE ADEQUATELY VIBRATED.
8. EXCAVATION TO BE CLEAN AND DRY WHEN CONCRETE IS CAST.



Keepmoat
Development at
Keresforth Road, Barnsley
FOUNDATION SCHEDULE

Plot №	House Type	DPC Level	Approx Existing GL	Affective Tree Ring Depth	Approx Remediation Level	Approx Formation Level	Approx depth below existing GL	Average Depth below DPC	Average Depth below Remediation Level	Foundation Type	House Foundation (mm)		Reinf'ment Required	Gas Requirements	Concrete Mix	Tree Influence/ Suspended Slab heave precaution required? (See Note 18)	Heave Precaution to foundation Required?	Floor Type	Comments
		(m)	(m)	(m)	(450mm)						Depth	Min Width							
1	HALSTE	125.80	125.75		125.35	124.15	1.60	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
2	HALSTE	126.40	125.90		125.95	124.75	1.15	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
3	HALSTE	126.50	126.45		126.05	124.85	1.60	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
4	HALSTE	127.10	126.70		126.65	126.45	1.25	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
5	HARDWI	128.40	128.20		127.95	126.75	1.45	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
6	BAMBUR	128.85	128.25		128.40	127.20	1.05	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
7	WENTWO	129.00	128.40		128.55	127.35	1.05	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Possible shallow coal at surface
8	HARDWI	130.20	130.05	1.50	129.75	128.55	1.50	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
9	WENTWO	129.75	129.55	1.80	129.30	127.75	1.80	2.00	1.55	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
10	BAMBUR	129.45	129.25	1.90	129.00	127.35	1.90	2.10	1.65	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
11	BAMBUR	129.45	129.15	1.90	129.00	127.25	1.90	2.20	1.75	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
12	BAMBUR	129.45	129.00	1.60	129.00	127.40	1.60	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
13	HARDWI	129.00	128.80	1.50	128.55	127.30	1.50	1.70	1.25	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
14	ROTHWA	128.95	128.70	1.90	128.50	127.80	1.90	2.15	1.70	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
15	BELGRA	128.65	128.60		128.20	127.60	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
16	BELGRA	128.65	128.55		128.20	127.60	0.95	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
17	BELGRA	128.20	128.30		127.75	127.15	1.15	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
18	BELGRA	128.20	128.20		127.75	127.15	1.05	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
19	BELGRA	127.75	127.85		127.30	126.70	1.15	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
20	BELGRA	125.75	127.60		125.30	124.70	2.90	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
21	CLIFTON	127.30	127.15		126.85	126.25	0.90	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
22	CLIFTON	127.30	126.95		126.85	126.05	0.90	1.25	0.80	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
23	WENTWO	126.40	126.25		125.95	125.35	0.90	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
24	CLIFTON	125.80	125.85		125.35	124.75	1.10	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
25	DANBUR	125.65	125.85		125.20	124.60	1.25	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
26	DANBUR	125.65	125.75		125.20	124.60	1.15	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
27	HALSTE	125.45	125.55		125.00	124.40	1.15	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
28	HALSTE	125.45	125.50		125.00	124.40	1.10	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
29	HALSTE	125.25	125.30		124.80	124.20	1.10	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
30	HALSTE	125.25	125.25		124.80	124.20	1.05	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
31	HALSTE	124.95	125.10		124.50	123.90	1.20	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
32	HALSTE	124.95	125.00		124.50	123.90	1.10	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
33	DANBUR	124.80	124.75		124.35	123.75	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
34	DANBUR	124.80	124.50		124.35	123.60	0.90	1.20	0.75	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
35	WINDSOR	123.75	124.05		123.30	122.70	1.35	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
36	CLIFTON	124.55	124.55		124.10	123.50	1.05	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
37	CLIFTON	124.55	124.50		124.10	123.50	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
38	CLIFTON	124.55	124.50		124.10	123.50	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
39	CLIFTON	124.55	124.50		124.10	123.50	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
40	BAMBUR	124.55	124.40		124.10	123.50	0.90	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
41	HARDWI	124.55	124.35		124.10	123.45	0.90	1.10	0.65	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
42	HALSTE	126.00	125.65		125.55	124.75	0.90	1.25	0.80	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
43	WINDSOR	126.90	126.00		126.45	125.10	0.90	1.80	1.35	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	Reworked clay at 1.7m
44	WARWIC	126.35	125.95		125.90	125.05	0.90	1.30	0.85	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
45	ROTHWA	127.00	126.80		126.55	125.90	0.90	1.10	0.65	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
46	ROTHWA	127.00	126.95		126.55	125.95	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
47	BAMBUR	127.30	127.20		126.85	126.25	0.95	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
48	BAMBUR	127.30	127.25		126.85	126.25	1.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
49	BAMBUR	127.20	127.35		126.75	126.15	1.20	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
50	BAMBUR	127.20	127.40		126.75	126.15	1.25	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
51	BAMBUR	127.10	127.40	0.90	126.65	126.05	1.35	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
52	BAMBUR	127.10	127.40	1.10	126.65	125.85	1.55	1.25	0.80	Strip	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
53	ROTHWA	127.40	127.40	1.60	126.95	125.65	1.75	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
54	ROTHWA	126.60	126.05	1.80	126.15	124.25	1.80	2.35	1.90	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
55	CLIFTON	125.40	125.45	1.90	124.95	123.35	2.10	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
56	CLIFTON	124.80	125.10	1.70	124.35	122.95	2.15	1.85	1.40	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
57	BELGRA	124.20	124.50	1.30	123.75	122.75	1.75	1.45	1.00	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
58	BELGRA	123.60	124.00	1.10	123.15	122.35	1.65	1.25	0.80	Strip	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
59	BELGRA	123.40	123.25	0.90	122.95	122.25	1.00	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
60	BELGRA	122.80	122.65	0.80	122.35	121.65	1.00	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
61	BELGRA	122.60	121.75		122.15	120.85	0.90	1.75	1.30	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
62	BELGRA	122.00	121.35		121.55	116.85	4.50	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
63	CLIFTON	121.70	120.75		121.25	116.55	4.20	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
64	CLIFTON	121.10	120.45		120.65	115.95	4.50	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
65	CLIFTON	120.35	119.75		119.90	115.20	4.55	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
66	CLIFTON	119.75	119.40		119.30	114.60	4.90	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
67	CLIFTON	119.45	120.05	0.90	119.00	114.30	5.75	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
68	CLIFTON	119.45	120.15	1.80	119.00	114.30	5.85	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
69	CLIFTON	118.30	117.50	0.90	117.85	113.15	4.35	5.15	4.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of op

Keepmoat
Development at
Keresforth Road, Barnsley
FOUNDATION SCHEDULE

Plot No	House Type	DPC Level	Approx Existing GL	Affective Tree Ring Depth (m)	Approx Remediation Level	Approx Formation Level	Approx depth below existing GL	Average Depth below DPC	Average Depth below Remediation Level	Foundation Type	House Foundation (mm)		Reinf'tment Required	Gas Requirements	Concrete Mix	Tree Influence/ Suspended Slab heave precaution required? (See Note 18)	Heave Precaution to foundation Required?	Floor Type	Comments
		(m)	(m)		(450mm)						Depth	Min Width							
96	BAMBUR	119.75	120.00		119.30	110.60	9.40	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
97	CLIFTON	119.20	119.35		118.75	110.05	9.30	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
98	CLIFTON	119.80	119.75		119.35	110.65	9.10	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
99	CLIFTON	120.40	120.25		119.95	111.25	9.00	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
100	CLIFTON	121.00	120.70		120.55	111.85	8.85	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
101	HARDWI	122.75	122.60		122.30	113.60	9.00	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
102	BAMBUR	123.65	122.75		123.20	114.50	8.25	9.15	8.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
103	CLIFTON	123.50	122.50		123.05	120.95	1.55	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2	Yes	No	Beam & Block	In area of opencast workings
104	CLIFTON	123.50	122.50		123.05	120.85	1.65	2.65	2.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
105	DANBUR	123.50	122.50		123.05	121.60	0.90	1.90	1.45	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
106	DANBUR	123.50	122.55		123.05	121.65	0.90	1.85	1.40	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
107	DANBUR	123.50	122.55		123.05	121.65	0.90	1.85	1.40	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
108	CLIFTON	123.50	122.70		123.05	121.80	0.90	1.70	1.25	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
109	CLIFTON	123.50	122.65		123.05	121.75	0.90	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
110	HARDWI	123.50	122.75		123.05	121.85	0.90	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
111	BAMBUR	122.60	122.45		122.15	121.45	1.00	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
112	BELGRA	122.20	122.10		121.75	121.05	1.05	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
113	BELGRA	121.60	121.75		121.15	120.45	1.30	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
114	BELGRA	121.30	121.15		120.85	120.15	1.00	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
115	BELGRA	120.70	120.80		120.25	119.55	1.25	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
116	HARDWI	120.25	120.00		119.80	119.10	0.90	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
117	HARDWI	119.50	118.75		119.05	110.25	8.50	9.25	8.80	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
118	BAMBUR	118.60	118.40		118.15	109.35	9.05	9.25	8.80	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
119	BELGRA	117.80	117.40		117.35	108.55	8.85	9.25	8.80	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
120	BELGRA	117.20	117.00		116.75	111.05	5.95	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
121	BELGRA	116.60	116.35		116.15	110.45	5.90	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
122	BELGRA	116.00	115.40		115.55	109.85	5.55	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
123	HARDWI	114.50	114.95	1.30	114.05	108.35	6.60	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
124	HALSTE	114.50	115.30		114.05	108.35	6.95	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
125	HALSTE	114.50	115.25		114.05	108.35	6.90	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
126	HALSTE	114.05	115.00		113.60	107.90	7.10	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
127	HALSTE	114.05	114.35		113.60	107.90	6.45	6.15	5.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
128	HALSTE	114.05	114.20		113.60	109.90	4.30	4.15	3.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
129	HALSTE	114.05	114.20		113.60	109.90	4.30	4.15	3.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
130	DANBUR	114.85	115.60		114.40	111.70	3.90	3.15	2.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
131	DANBUR	114.25	115.20		113.80	111.10	4.10	3.15	2.70	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
132	WENTWO	113.65	113.95		113.20	112.00	1.95	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
133	DANBUR	113.05	113.15	0.90	112.60	111.40	1.75	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	Shallow coal at surface
134	DANBUR	112.45	112.60	1.30	112.00	110.80	1.80	1.65	1.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
135	WINDSOR	113.05	111.95		112.60	111.05	0.90	2.00	1.55	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
136	DANBUR	112.75	111.00		112.30	110.10	0.90	2.65	2.20	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
137	WENTWO	111.85	110.25	1.10	111.40	109.15	1.10	2.70	2.25	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
138	HARDWI	112.40	110.40		111.95	109.50	0.90	2.90	2.45	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
139	WARWIC	113.85	112.25		113.40	111.35	0.90	2.50	2.05	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	No	Beam & Block	In area of opencast workings
140	HARDWI	114.40	113.45	1.90	113.95	111.55	1.90	2.85	2.40	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
141	BAMBUR	113.50	113.00	1.70	113.05	111.30	1.70	2.20											

Keepmoat
Development at
Keresforth Road, Barnsley

FOUNDATION SCHEDULE

Plot №	House Type	DPC Level	Approx Existing GL	Affective Tree Ring Depth	Approx Remediation Level	Approx Formation Level	Approx depth below existing GL	Average Depth below DPC	Average Depth below Remediation Level	Foundation Type	House Foundation (mm)		Reinf'ment Required	Gas Requirements	Concrete Mix	Tree Influence/ Suspended Slab heave precaution required? (See Note 18)	Heave Precaution to foundation Required?	Floor Type	Comments
		(m)	(m)	(m)	(450mm)						Depth	Min Width							
186	HALSTE	98.95	97.75	2.40	98.50	95.35	2.40	3.60	3.15	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
187	WARWIC	96.90	96.70	1.70	96.45	95.00	1.70	1.90	1.45	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
188	DANBUR	99.20	97.80		98.75	96.90	0.90	2.30	1.85	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
189	DANBUR	99.65	98.55	1.00	99.20	97.55	1.00	2.10	1.65	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
190	BAMBUR	100.55	99.85	1.40	100.10	98.45	1.40	2.10	1.65	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
191	BAMBUR	101.00	100.35	1.70	100.55	98.65	1.70	2.35	1.90	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
192	ROTHWA	102.20	101.55	2.40	101.75	99.15	2.40	3.05	2.60	trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
193	HALSTE	101.55	102.90	2.40	101.10	99.00	3.90	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
194	WINDSOR	100.65	102.40	1.90	100.20	98.60	3.80	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
195	BAMBUR	100.65	103.45	2.40	100.20	98.10	5.35	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
196	BAMBUR	100.65	103.50	2.40	100.20	98.10	5.40	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
197	BAMBUR	100.20	103.55	2.40	99.75	97.65	5.90	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
198	BAMBUR	100.20	103.35	2.10	99.75	97.95	5.40	2.25	1.80	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
G197&G198	DC	99.10	103.15	1.90	98.65	97.05	6.10	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
199	WINDSOR	97.65	101.60	2.40	97.20	95.10	6.50	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
200	HALSTE	98.55	102.10	2.40	98.10	96.00	6.10	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
201	CLIFTON	99.00	102.55	2.40	98.55	96.45	6.10	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
202	CLIFTON	99.60	102.60	2.40	99.15	97.05	5.55	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
203	CLIFTON	100.60	102.75	2.40	100.15	98.05	4.70	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
204	CLIFTON	101.20	103.25	2.40	100.75	98.65	4.60	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
205	BAMBUR	101.80	104.65	2.40	101.35	99.25	5.40	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
206	BAMBUR	102.40	104.75	2.40	101.95	99.85	4.90	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
207	BELGRA	103.00	105.05	2.40	102.55	100.45	4.60	2.55	2.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
208	BELGRA	103.60	105.25	2.00	103.15	101.45	3.80	2.15	1.70	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
209	BELGRA	104.20	105.90	1.30	103.75	102.75	3.15	1.45	1.00	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
210	BELGRA	104.80	106.25	1.40	104.35	103.25	3.00	1.55	1.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
211	BAMBUR	105.40	106.20	1.60	104.95	103.65	2.55	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
212	HARDWI	106.30	106.30	1.70	105.85	104.45	1.85	1.85	1.40	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
213	CLIFTON	107.85	108.80		107.40	106.80	2.00	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
214	WENTWO	108.60	109.00		108.15	107.55	1.45	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
215	DANBUR	109.55	109.30		109.10	108.40	0.90	1.15	0.70	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
216	DANBUR	109.55	110.00		109.10	108.50	1.50	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
217	DANBUR	110.10	110.15		109.65	109.05	1.10	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
218	DANBUR	110.10	110.25		109.65	109.05	1.20	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
219	WINDSOR	109.40	109.75		108.95	108.35	1.40	1.05	0.60	Strip	200	600	A252 Mesh	None	DS - 1, AC2		No	Beam & Block	
220	BAMBUR	108.00	107.75	1.10	107.55	106.65	1.10	1.35	0.90	Strip	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
221	BAMBUR	107.40	107.20	1.40	106.95	105.80	1.40	1.60	1.15	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
222	DANBUR	106.85	105.40	2.30	106.40	103.10	2.30	3.75	3.30	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
223	DANBUR	107.45	105.75	2.30	107.00	103.45	2.30	4.00	3.55	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
224	BAMBUR	108.35	106.75	2.00	107.90	104.75	2.00	3.60	3.15	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
225	BAMBUR	108.95	107.05	1.90	108.50	105.15	1.90	3.80	3.35	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
226	BAMBUR	109.60	107.80	1.80	109.15	106.00	1.80	3.60	3.15	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
227	BAMBUR	109.60	107.90	1.90	109.15	106.00	1.90	3.60	3.15	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
228	DANBUR	109.90	107.95	2.10	109.45	105.85	2.10	4.05	3.60	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
229	DANBUR	109.90	107.95	2.40	109.45	105.55	2.40	4.35	3.90	Piled	550	450	3T20 T+ B	None	DS - 1, AC2		Yes	Beam & Block	
230	HARDWI	110.00	110.70	1.90	109.55	107.95	2.75	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
231	BELGRA	110.50	120.05	1.60	110.05	108.75	11.30	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
232	BELGRA	111.10	120.60	1.60	110.65	109.35	11.25	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
233	ROTHWA	111.70	113.85	1.60	111.25	109.95	3.90	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
234	ROTHWA	112.30	114.50	2.30	111.85	109.85	4.65	2.45	2.00	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
235	BAMBUR	111.10	113.00	1.80	110.65	109.15	3.85	1.95	1.50	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
236	BAMBUR	110.50	112.90	1.80	110.05	108.55	4.35	1.95	1.50	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
237	BAMBUR	110.20	112.70	1.70	109.75	108.35	4.35	1.85	1.40	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
238	BAMBUR	110.20	112.55	1.90	109.75	108.15	4.40	2.05	1.60	Piled	550	450	3T20 T+ B	None	DS-2, AC-2	Yes	Yes	Beam & Block	In area of opencast workings
239	BAMBUR	109.60	112.00	1.60	109.15	107.85	4.15	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
240	BAMBUR	109.00	111.75	1.60	108.55	107.25	4.50	1.75	1.30	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
241	WENTWO	110.15	111.75	2.30	109.70	107.70	4.05	2.45	2.00	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
242	CLIFTON	109.25	110.95	1.80	108.80	107.30	3.65	1.95	1.50	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
243	BAMBUR	108.65	110.00	1.40	108.20	107.10	2.90	1.55	1.10	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
244	BAMBUR	108.05	109.35	1.30	107.60	106.60	2.75	1.45	1.00	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
245	BAMBUR	107.75	108.40	1.70	107.30	105.90	2.50	1.85	1.40	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
246	BAMBUR	107.15	107.50	1.90	106.70	105.10	2.40	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	
247	HARDWI	106.60	106.50	1.90	106.15	104.55	1.95	2.05	1.60	Trench Fill	200	600	A252 Mesh	None	DS - 1, AC2		Yes	Beam & Block	

NOTE

This schedule is prepared from preliminary site investigation reports only, remediation and demolition to be undertaken.
Please note ground conditions may vary between trial holes, if any unforeseen ground conditions are found on site contact HHA immediatley

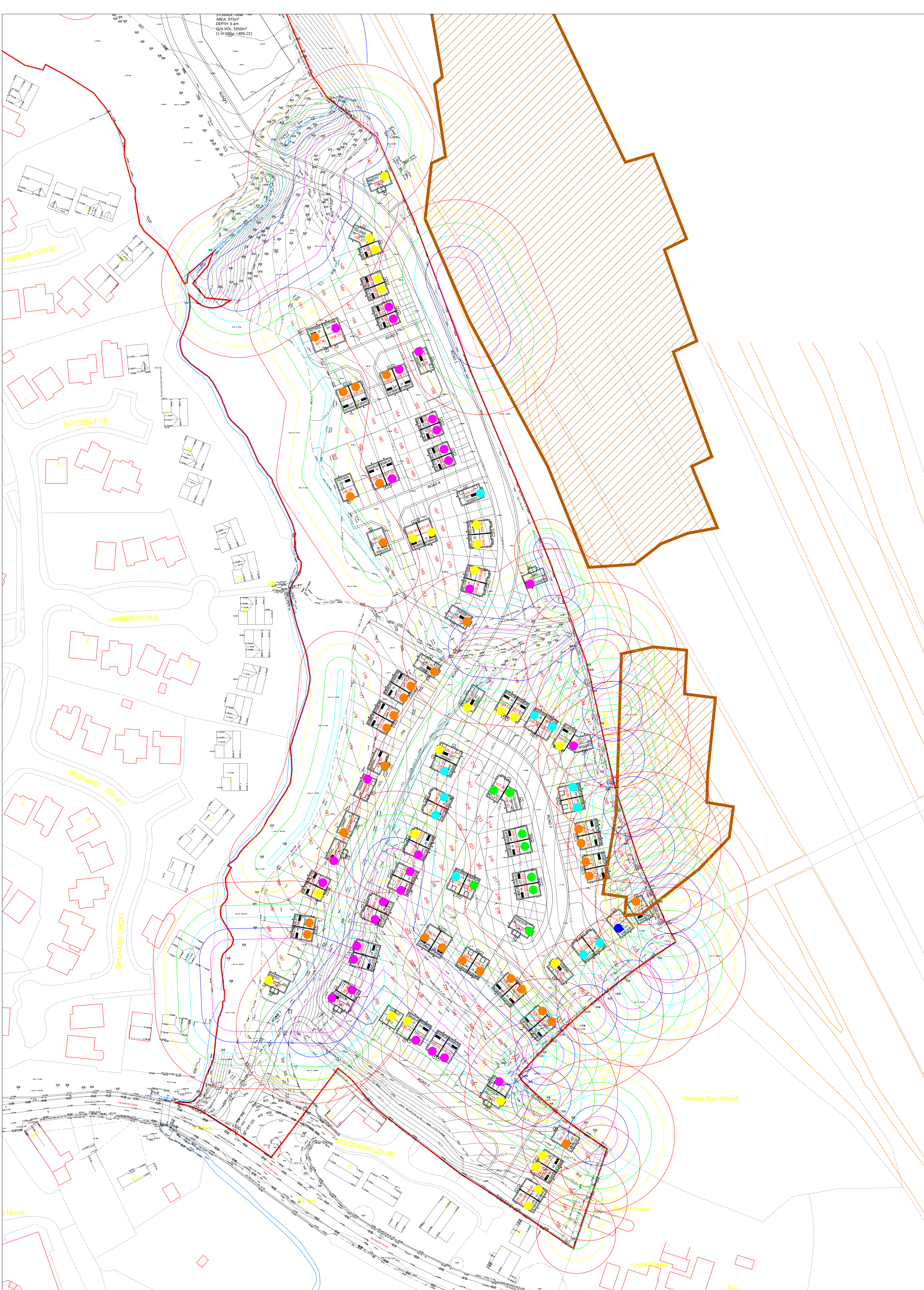
- Foundation widths based on normal 2/3 storey house construction.
- Foundation schedule to be reviewed following remediation and final planning approved drawings.
- Foundation line loadings for all plots to be confirmed to determine width of foundations.
- Foundation width to be based upon a bearing capacity of 100KN/m2. Foundations must wholly sit onto firm clay, mudstone or sandstone strata. Foundations must extend through any soft material.
Where founding strata revealed to be sand foundations to be based upon a vibro-pile solution.
- No gas protection measures required.
- All buried concrete to be design sulphate class DS-1 and ACEC class AC-1. In areas of made ground design sulphate class is DS - 2 and AC - 2.
- Foundations to be deepened locally where private drainage constructed adjacent to foundations.
- Foundation type based on depth below remediation level.
- * Generally no reinforcement required in 600/750mm foundations - however where varying strata encountered at formation use B385 Mesh in bottom face of footing to account for possible differential settlement.Where foundations are 900mm wide A252 mesh must be used. Where Reinforcement required, use RC35.
- Tree depths taken as worse case. Medium shrinkability.
- Proposed tree planting to be reviewed when available.
- Refer to site investigation report - heave precautions required where the depth of foundations within the influence of trees are over 1.5m
- The intended founding level assumes that suitable material will be found at the level stated. If you need to excavate deeper than shown on schedule either due to unexpected ground conditions or as requested by
- A copy of all foundation records is to be provided to Keepmoat.

Keepmoat
Development at
Keresforth Road, Barnsley

FOUNDATION SCHEDULE

Plot №	House Type	DPC Level	Approx Existing GL	Affective Tree Ring Depth	Approx Remediation Level	Approx Formation Level	Approx depth below existing GL	Average Depth below DPC	Average Depth below Remediation Level	Foundation Type	House Foundation (mm)		Reinf'ment Required	Gas Requirements	Concrete Mix	Tree Influence/ Suspended Slab heave precaution required? (See Note 18)	Heave Precaution to foundation Required?	Floor Type	Comments
		(m)	(m)	(m)	(450mm)						Depth	Min Width							

15. All foundations to have a minimum 250mm void to suit the medium shrinkability of clay on site where affected by trees.
16. Where fill material is encountered foundations must be excavated to natural strata. If in doubt consult engineer.
17. Any new planting to be reviewed in conjunction with foundation depth and type.
18. See Sub Station construction details drawing for relevant information.
19. Plot Specific tanking to be designed and inspected on site by third party



KEY

1.2m MIN FOUNDATION DEPTH
BELOW THE LOWER OF EXISTING
OR PROPOSED GROUND LEVEL

1.5m MIN FOUNDATION DEPTH
BELOW THE LOWER OF EXISTING
OR PROPOSED GROUND LEVEL

1.8m MIN FOUNDATION DEPTH
BELOW THE LOWER OF EXISTING
OR PROPOSED GROUND LEVEL

2.1m MIN FOUNDATION DEPTH
BELOW THE LOWER OF EXISTING
OR PROPOSED GROUND LEVEL

2.4m MIN FOUNDATION DEPTH
BELOW THE LOWER OF EXISTING
OR PROPOSED GROUND LEVEL

>2.5m FOUNDATION DEPTH
SPECIALIST FOUNDATION DETAILS
REQUIRED

NOTE:-
FOUNDATIONS TO BE AT LEAST 0.9m
BELOW THE LOWER OF EXISTING
OR PROPOSED GROUND LEVEL.

KEY

0.9 - 1.4

1.4 - 1.8

1.8 - 2.4

2.4 - 3.0 (Deep Strip
otherwise Piled)

> 3.0 PILED

- Notes:
1.

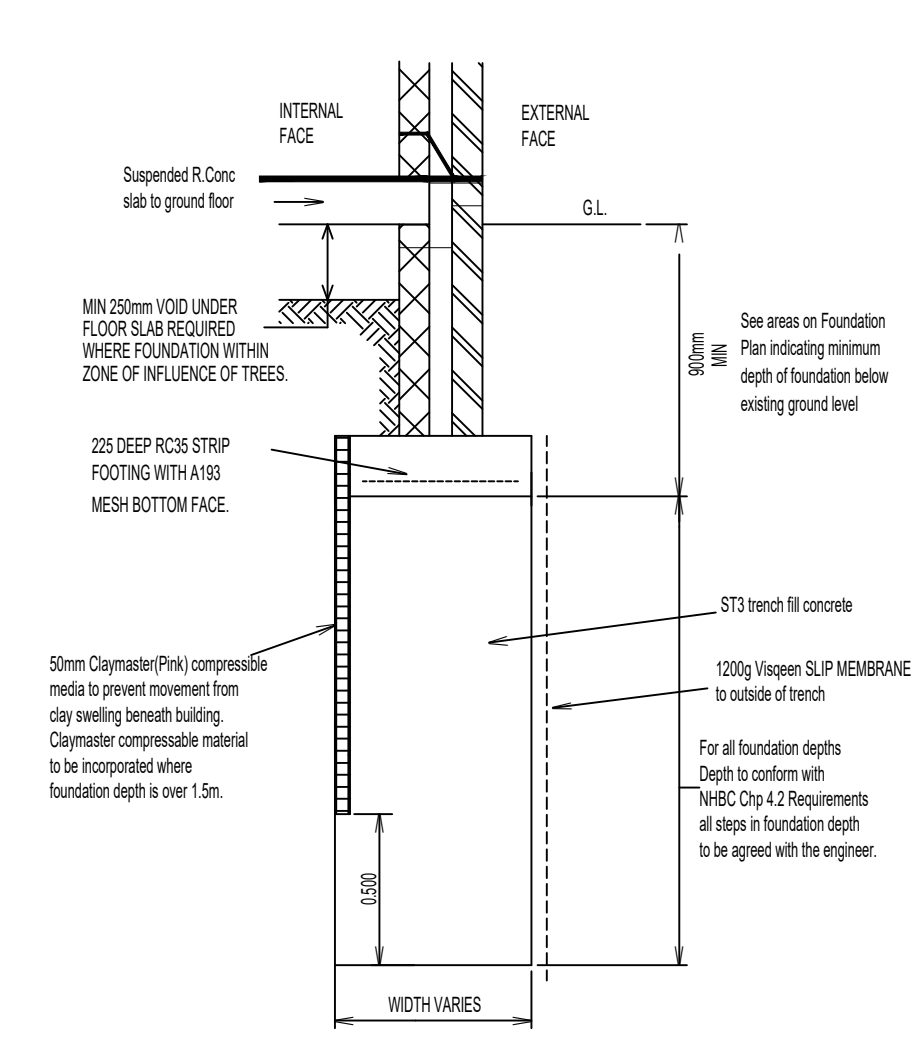
Foundation depths based upon
difference between proposed FFL
and a min 900mm excavation
from existing ground level.
2.

No gas precautions against
hazardous gas are required.

NOTE.
Foundation Depths to be min 900mm
unless otherwise stated.
Foundation depths vary over site,
see foundation plan indicating min depth.
Concrete strip reinforced with A193
mesh in bottom face.
All steps in foundations to be in
accordance with NHBC guidelines.

NOTE.
Where solid mudstone or sandstone
encountered, foundation depths may
be terminated at that level.
If unsure, engineer to inspect.
Foundation must wholly be onto the
same strata to avoid differential
settlement.

- WHERE FILL MATERIAL IS ENCOUNTERED FOUNDATIONS
MUST BE EXCAVATED TO NATURAL STRATA.
IF IN DOUBT CONSULT ENGINEER.
WHERE EXISTING FOUNDATIONS OR OTHER
OBSTRUCTIONS ARE EXPOSED IN FOUNDATION
EXCAVATIONS THESE SHOULD BE REMOVED TO ALLOW
SUPPORT FROM NATURAL STRATA AND
REMOVE THE RISK OF DIFFERENTIAL SETTLEMENT.
IN AREAS WHERE BASEMENTS ARE EXPOSED OR
FORMERLY EXISTED (SINCE BACKFILLED), THE
FOUNDATIONS SHOULD BE STEPPED DOWN TO NATURAL
STRATA TO ALLOW CONSISTENT SUPPORT.
SEE DETAIL 1.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL
RELEVANT ARCHITECTS & ENGINEERS DRAWINGS.
 - CONCRETE GRADE RC35 IN ACCORDANCE WITH B.S.5328.
 - MIN COVER FOR REINFORCEMENT 40mm TO ALL FACES.
 - MIN LAPS 40 BAR DIAM FOR MAIN STEEL
300mm FOR MESH PANELS
 - MESH IN TOP FACE TO BE ADEQUATELY SUPPORTED WITH
STEEL CHAIRS OR COILED MESH PRIOR TO CONCRETE POUR
 - LOCAL SOFT SPOTS TO BE REPORTED TO HHA.
 - ALL REINFORCED CONCRETE TO BE ADEQUATELY VIBRATED.
 - EXCAVATION TO BE CLEAN AND DRY WHEN CONCRETE IS CAST.



DETAIL 1 - SCALE 1:25

Haigh Huddleston & Associates
Civil Structural Engineering Consultants

Firth Buildings, 99 - 101 Leeds Rd, Dewsbury, WF12 7BU t 01924 464342 f 01924 450662
e trevor.haigh@haighhuddleston.co.uk

Client
KEEPMOAT

Project
KERESTHFORTH ROAD, BARNSELY

Detail
FOUNDATION ZONING PLAN – SHEET 2 OF 2

Dwn
CM

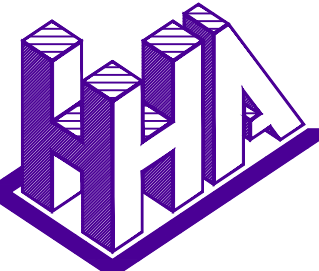
Chkd
MH

Date
OCT'20

Scale
1:500@A0

Dwg No.
E19/7774/202_02

3) Externals Design

**Haigh Huddleston & Associates**

Civil Structural Engineering Consultants

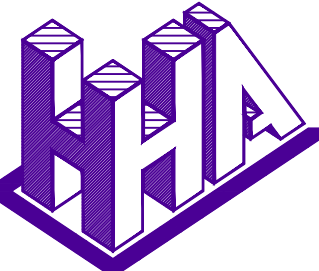
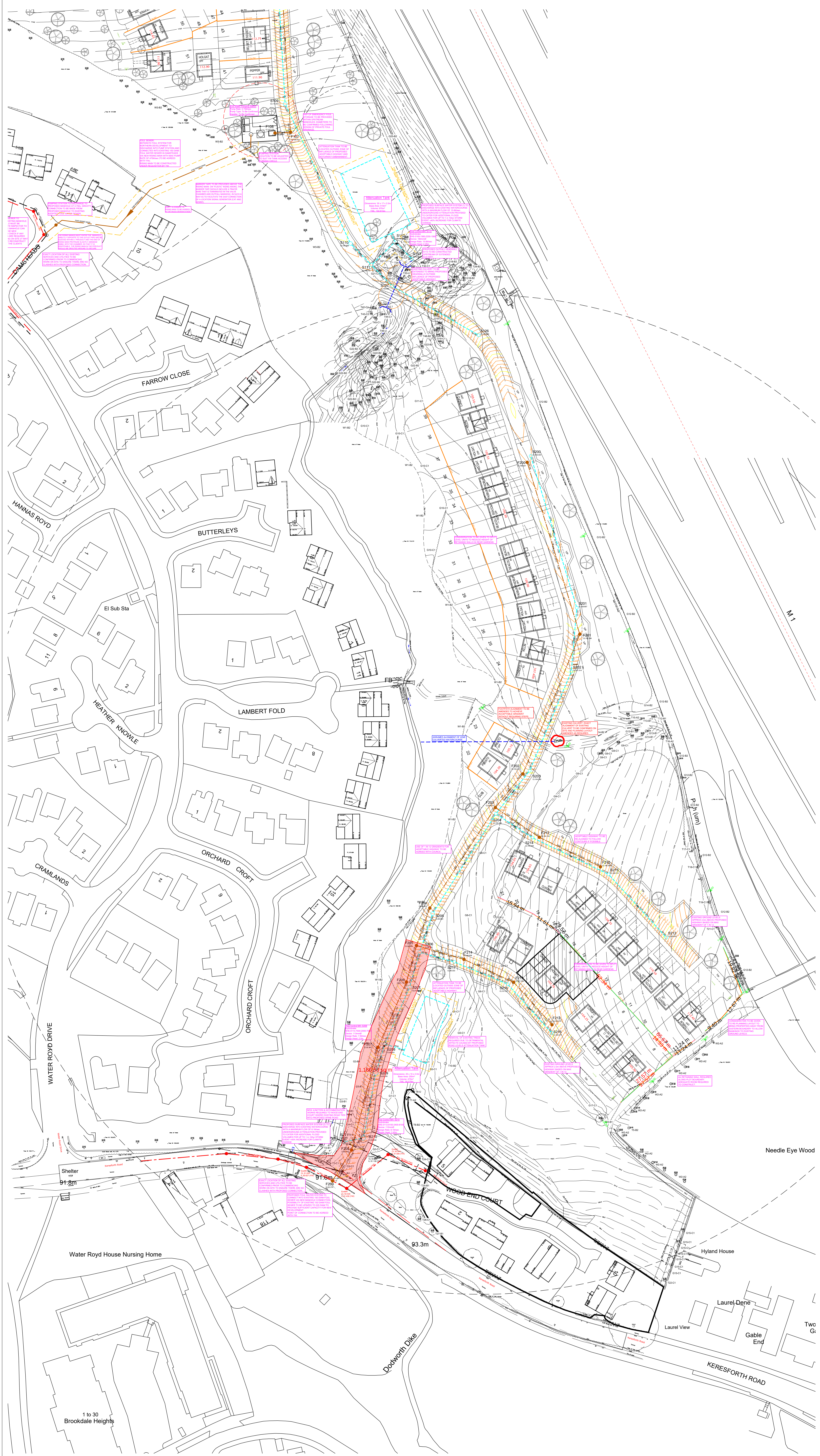
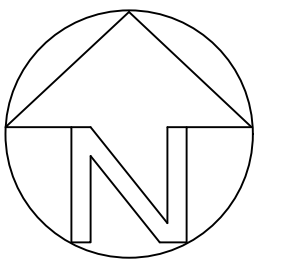
Client
KEEPMOAT

Project
KERESFORTH ROAD, DODWORTH

Detail

PRELIMINARY FEASIBILITY PLAN - NORTH

Dwn	Chkd	Date	Scale	Dwg No.
HH		OCT-20	1:500@A0	E20/7774/001-01B



Haigh Huddleston & Associates
Civil Structural Engineering Consultants

Unit 4, Midgley Business Park, Bar Lane, Midgley, WF4 4JJ 01924 574074
e martin@haighhuddleston.co.uk

Client
KEEPMOAT

Project
KERESFORTH ROAD, DODWORTH

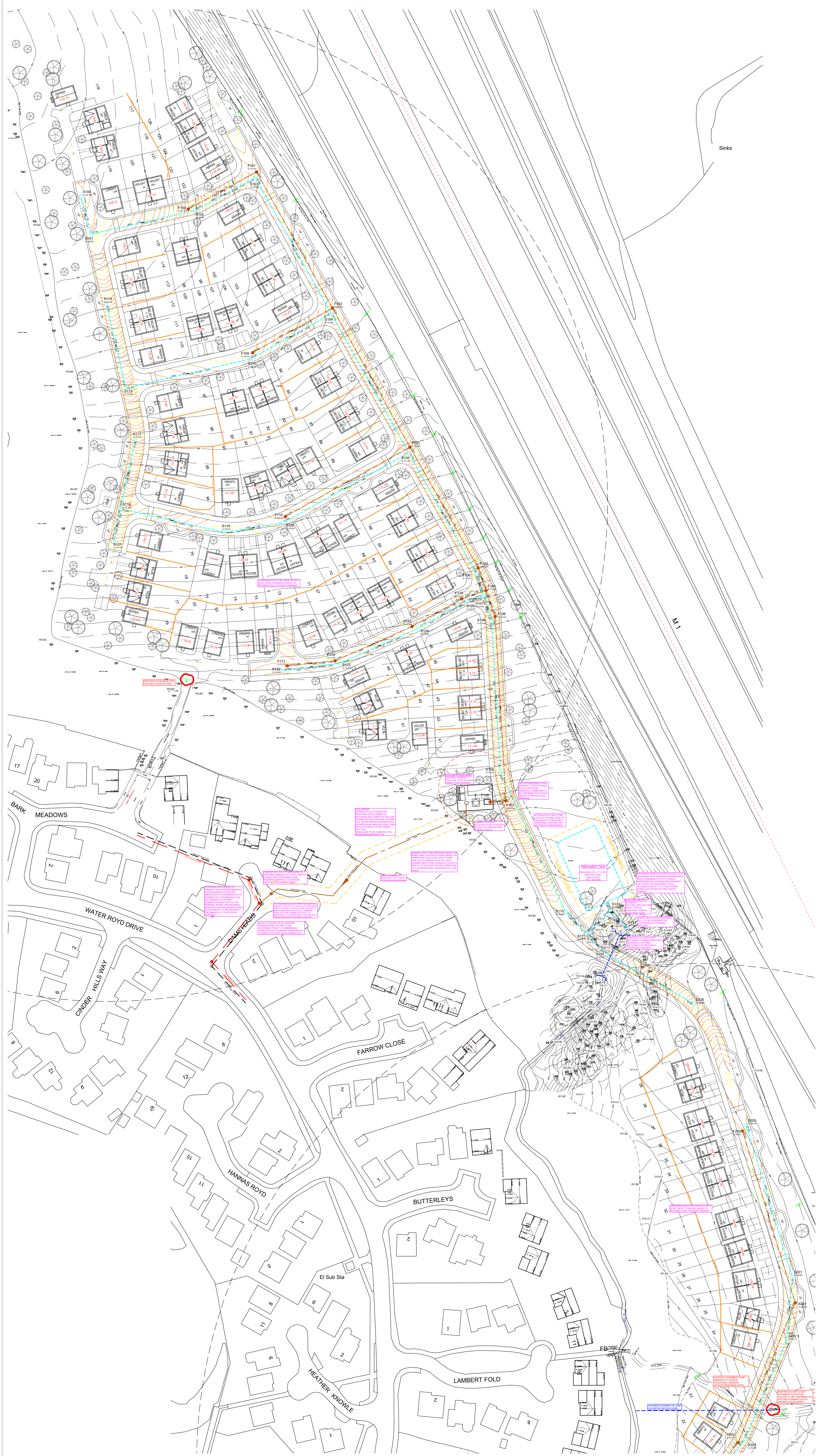
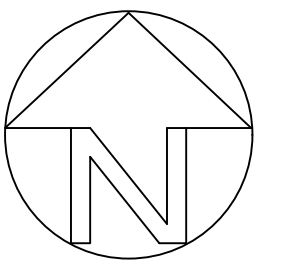
Detail
PRELIMINARY FEASIBILITY PLAN - SOUTH

Dwn	Chkd	Date	Scale	Dwg No.
HH		OCT-20	1:500@A0	E207774/001-02B

Rev B Road & sewer design amended to suit latest planning layout 10.07.25 MD
Rev A Road & sewer design amended to suit latest planning layout 03.03.21 HH

Two G.

4) Engineering Feasibility



Rev C Remainder of plot levels added
Rev B Road & sewer design amended to suit latest planning layout
Rev A Road & sewer design amended to suit latest planning layout

16.07.25 MD
10.07.25 MD
03.03.21 HH



Haigh Huddleston & Associates
Civil Structural Engineering Consultants

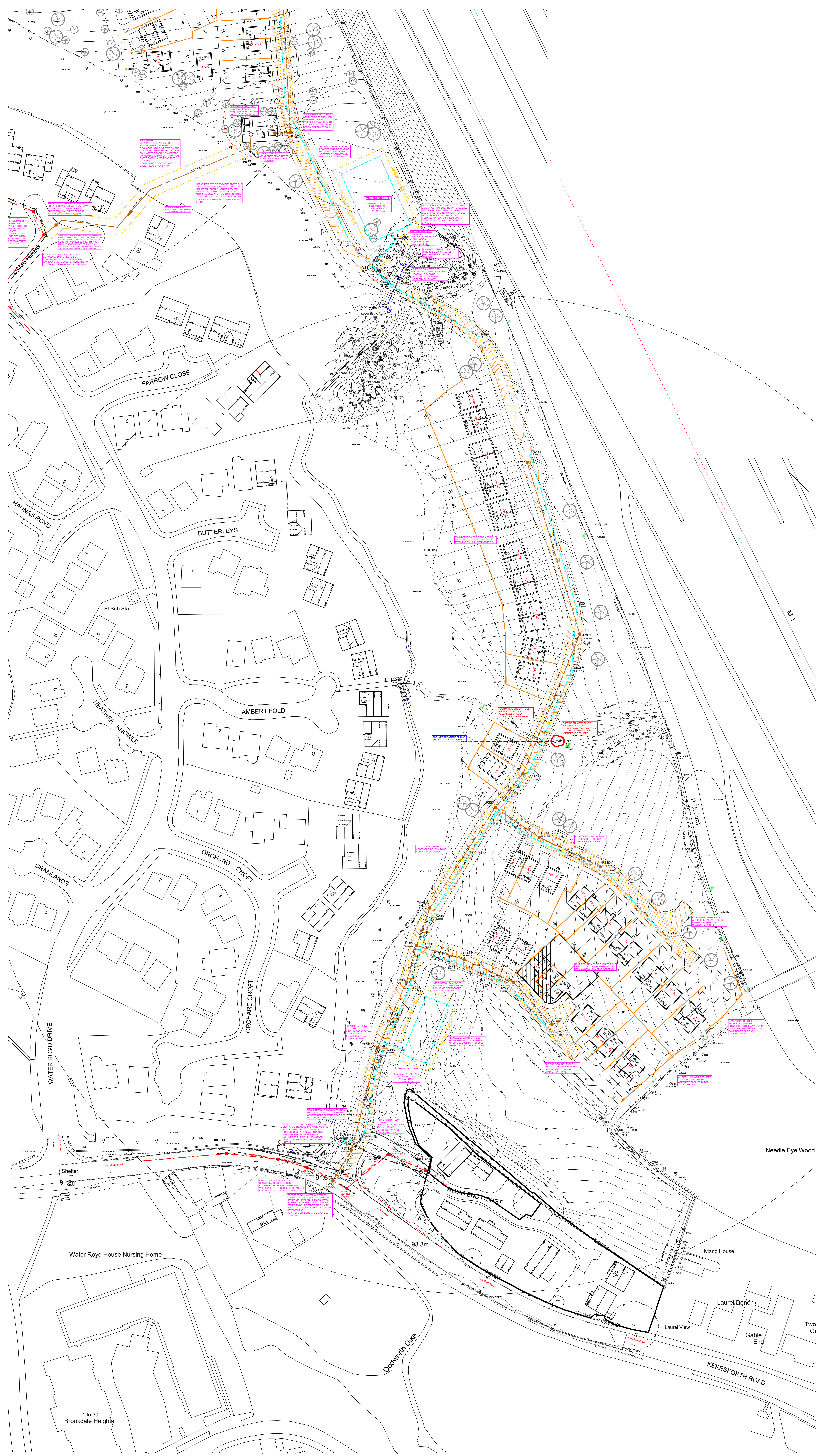
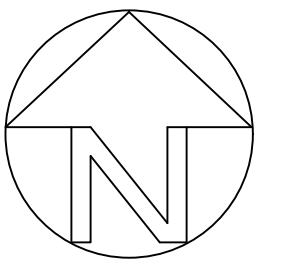
Unit 4, Midgley Business Park, Bar Lane, Midgley, WF4 4JJ t 01924 574074
e martin@haighhuddleston.co.uk

Client
KEEPMOAT

Project
KERESFORTH ROAD, DODWORTH

Detail
PRELIMINARY FEASIBILITY PLAN - NORTH

Dwn	Chkd	Date	Scale	Dwg No.
HH		OCT-20	1:500@A0	E207774/001-01C





Haigh Huddleston & Associates

Civil Structural Engineering Consultants

Unit 4, Midgley Business Park, Bar Lane, Midgley, WF4 4JJ

1 01924 574074

e martin@haighhuddleston.co.uk

Rev C Remainder of plot levels added

Rev B Road & sewer design amended to suit latest planning layout

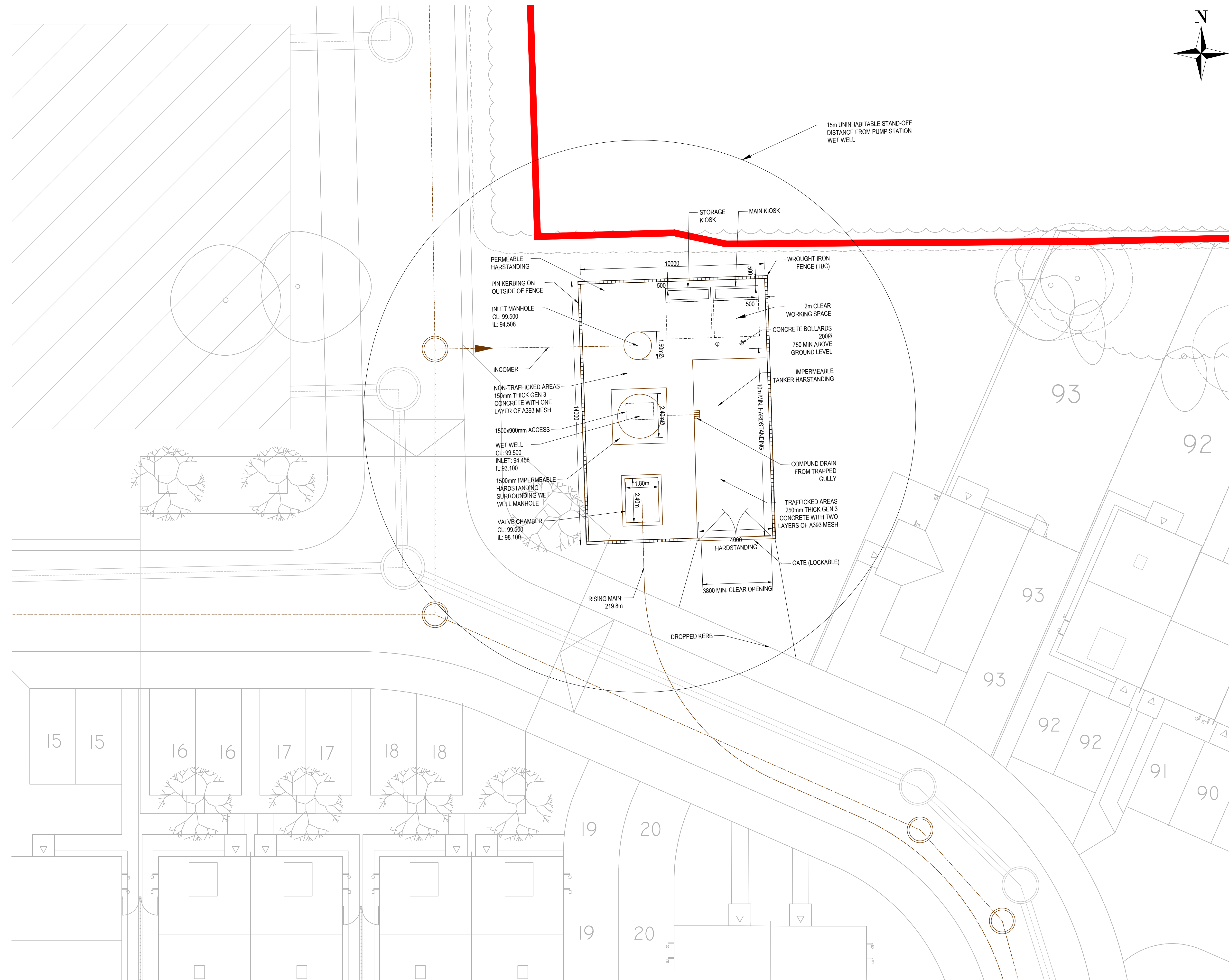
Rev A Road & sewer design amended to suit latest planning layout

16.07.25 MD

10.07.25 MD

03.03.21 HH

Client KEEPMOAT				
Project KERESFORTH ROAD, DODWORTH				
Detail PRELIMINARY FEASIBILITY PLAN - SOUTH				
Own	Chkd	Date	Scale	Dwg No.
HH		OCT-20	1:500@A0	E207774/001-02C



PRELIMINARY

1. DO NOT SCALE
2. ALL DIMENSIONS IN MILLIMETRES. ALL INVERTS IN METRES AOD, UNLESS OTHERWISE STATED
3. REINFORCING BARS TO BE 75mm BELOW SURFACE
4. BENCHING TO BE FORMED AS LAID DOWN IN 'SEWERS FOR ADOPTION' 7th EDITION AND TO 'YV' STANDARDS
5. BENCHING TO BE FORMED AFTER PUMP INSTALLATION
6. SITE PLAN ILLUSTRATIVE IF NO DETAILS PREVIOUSLY PROVIDED
7. CIVIL WORKS ARE INDICATIVE AND SHOULD NOT BE USED FOR CONSTRUCTION
8. GALVANIZED MILD STEEL VENT STACK WITH A MINIMUM DIAMETER OF 100mm FITTED WITH A MILD STEEL MESH AT THE TOP, WHERE LOCATED IN A FENCED COMPOUND THE VENT STACK SHOULD TERMINATE AT THE SAME HEIGHT AS THE FENCED FENCE OR IN RESIDENTIAL AREAS THE STACK CAN BE A MINIMUM OF 100mm OR UP TO THE HEIGHT OF THE FENCE WITH A SWAN NECK
9. COVER TO BE CAPABLE OF BEING LIFTED WITH AN EFFORT NOT EXCEEDING 25kg
10. ALL FITTINGS TO BE STAINLESS STEEL

1. COVER TO REINFORCEMENT TO BE 40mm TO BOTH FACES
2. SPACERS TO BE 1200mm CENTRE TO CENTRE
3. CONCRETE TO BE 30N/mm AT 28 DAYS
4. GROUND BEARING PRESSURE TAKEN AS 500KNN
5. NO DAY WORK JOINTS PERMITTED IN SLABS
6. ALL SOFT SPOTS TO BE REMOVED AND REPLACED BY SUITABLE MATERIAL
7. PROVIDE 50mm BLINDING CONCRETE
8. ALL WORKMANSHIP AND MATERIALS MUST CONFORM TO CURRENT CODES OF PRACTICE AND BUILDING REGULATIONS
9. MINIMUM BAR LAP LENGTH 800mm
10. WET WELL VALVE CHAMBER COVERS TO BE AS SUPPLIED BY PUMP SUPPLIER
11. TO BE READ IN CONJUNCTION WITH THE CIVILS DETAILS
12. ANY OVER BREAK BETWEEN THE LAST ACCESS CHAMBER AND THE WET WELL AND BETWEEN THE WET WELL AND THE VALVE CHAMBER TO BE FILLED WITH LEAN MIX CONCRETE
13. WET WELL TO BE CLEAN AND DRY BEFORE INSTALLATION OF PUMPS COMMENCES
14. DEWATERING TO BE PROVIDED IF NECESSARY AS WORKS PROCEED
15. RISING MAIN TO BE 100 225 400 (TBC) LON. MARKED WITH NON DEGRADABLE MARKER TAPE ABOVE RISING MAIN CONTAINING A TRACE WIRE TERMINATING WITH 1m OF WIRE COLORED THE VALVE CHAMBER. COLOUR OF RISING MAIN TO BE BLACK/ GREY
16. CUT OUT AND CUT IN LEVELS TO BE ESTABLISHED ON SITE BY PUMP SUPPLIER
17. THE BRACKET FOR HOLDING THE DAVIT EQUIPMENT SHOULD BE KEPT IN THE KIOSK
18. ALL REGULAR LEVEL SWITCHES WITHIN THE HAZARDOUS AREA MUST BE 'EX RATED'
19. THRUST BLOCKS TO BE PROVIDED AT CHANGES IN LOCATION
20. STATUTORY SERVICES TO PROVIDE ADEQUATE SERVICES TO PUMP STATION AND KIOSK AND TO ALLOW FOR ALL NECESSARY REQUIREMENTS
21. KIOSK TO BE PROVIDED TO THE LATEST YW SF6A M & E ADDENDUM
22. DUCTS WITHIN THE WET WELL SHOULD NOT BE SEALED WITH FOAM, THEY SHOULD BE SEALED WITHIN THE KIOSK
23. EXTERNAL LEVELS AROUND THE BOUNDARY COMPOUND TO BE AGREED IN A PRE-START MEETING WITH AN INSPECTOR, SO THAT THEY FLOW TOWARDS THE GULLY

WORK IN PROGRESS

P05	UPDATE TO SUIT NEW LAYO	TOP	NT	VB	02.08.19
No.	Revision	Drawn	Job Manager	Project Director	Date

Note: * indicates signatures on original issue of drawing or last revision of drawing

GHD Livgunn Limited
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



Alexandra House, Lawnswood Business Park,
Leeds, LS16 6QY, United Kingdom
T 44 (0)113 487 8600
E UKmail@ghd.com W www.ghd.com

Title	PUMPING STATION LAYOUT
-------	-------------------------------

Scale	1:100	DO NOT SCALE	
Drawn	TCP	Designer	DC
Drafting Check	NT	Design Check	VB

Approved (Project Director)	
--------------------------------	--

Date	
This Drawing must not be used for Construction unless signed as Approved	

Drawing No.	Original Size
11-1070-100-0000	A1

5) Vegetation Quote example

Client: [REDACTED]
 Project: [REDACTED]
 Date: 14 March 2024
 Job Number: [REDACTED]
 Quote Number: [REDACTED]

All Prices Excluding VAT

Cost Summary for Tree and Vegetation Removal Works

Task No.	Description	Quantity	Unit	Rate	Total
1	<u>Tree and Vegetation Removal works</u> ~Fell all trees. 14 Ton Excavator & Tree shear will be used where possible. ~Transport cut material to holding areas where walking floor wagons can reach. ~Using 6 Ton excavator with grab feed trees into whole tree chipper ~All Chip to be removed from site and sent for biomass ~Useable firewood logs to be removed from site for processing. ~Tidy site using tractor and mulcher to leave clear site.	1.00	Item	£54,275.00	£54,275.00
2	<u>Stump Removal</u> ~Excavate stumps >100mm diameter and stockpile in holding areas where walking floor wagons can reach. ~Process using horizontal Shredder into walking floor wagons and remove for low grade biomass. ~Mulch all smaller stumps <100mm down to ground level where access possible ~Mulch using tractor and mulcher	1.00	Item	£24,675.00	£24,675.00
3	<u>Site Welfare</u> ~Towable groundhog unit for site welfare ~Required for duration of works ~Plus Delivery Each way 2 x £125.00	9.00	Weeks	£395.00	
4	<u>Site Security</u> ~Install CCTV tower and commission ~Supply of CCTV tower with monitoring and response. ~Collection and decommission. ~Required for duration of works	9.00	Weeks	£495.00	
<u>Summary</u>					
Total for Works (Ex VAT)					£78,950.00
Agreed lump sum £82,000.00 (Ex Vat)					
Strata 42.31% = £34,694.20					
Keepmoat 57.69% = £47,305.20					
All Prices Excluding VAT					

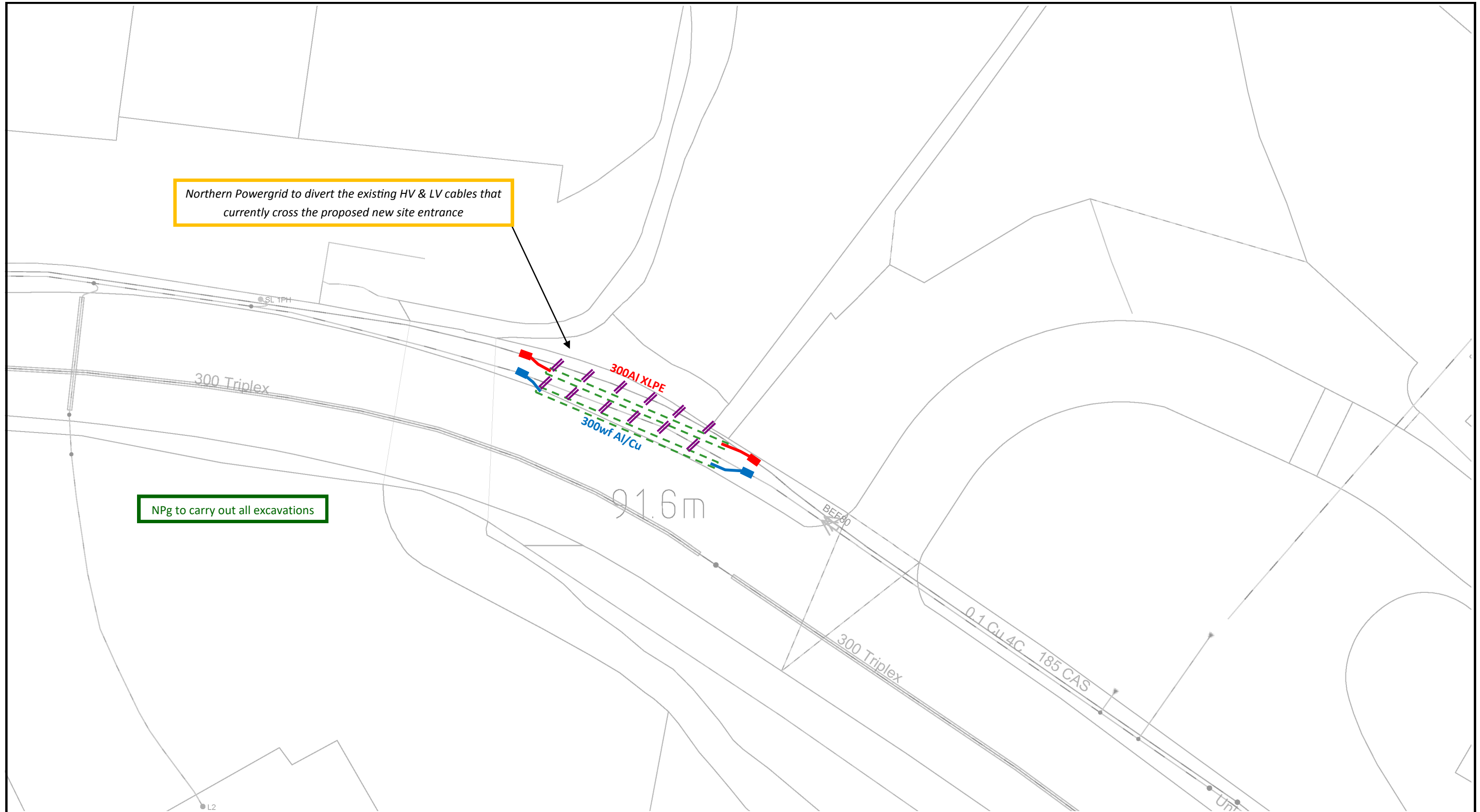
Notes:

- ~Suitable security should be provided on-site for the machines when left overnight/weekends - rates also attached
- ~Welfare to be provided by client - rates also attached
- ~Client to heras fence off the perimeter of the site to prevent public access
- ~Service drawing required before works on site commence
- ~Nimrod to re-use heras fencing on-site to form small site compound
- ~Client to mark out extents of clearance areas prior to start on-site.

By accepting this quote you confirm acceptance of our Terms and Conditions which are attached.
We will send a new copy of our Terms and Conditions for acceptance each time we make a change to them.

Quotation Valid for 30 Days

6) Diversions



This proposal plan must not be used for record puposes or for the location of existing cables.
SafeDig Maps are available by calling 0191 22942295 Mon- Fri 8:30am - 4:45pm

Call Centre Phone Numbers:

If the area is located in: North East call 0800 668877, Yorkshire or North Lincs call 0800 375675.

Northern Powergrid Holdings Company

The position of our equipment is shown on the plan as accurately as possible. It may have changed since the plan was produced. Therefore the position of our equipment, and those services which may not be shown should be established on site. Electricity cables not owned by Northern Powergrid Holdings Company may be laid in this area and may not be shown on this plan. Where private cables are shown, the information should not be regarded as accurate and should be used for guidance purposes only. In all cases, accurate information should be obtained from the owner of such cables prior to the commencement of work on site.

Reference should be made to HSE Guidance, HS(G)47 'Avoiding Danger from Underground Services' and GS6 'Avoidance of Danger from Overhead Power Lines'.

Reproduced from or based upon the Ordnance Survey map by Northern Powergrid Holdings Company by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. Crown (c) Copyright (Northern Powergrid Holdings Company, EL100017931 and EL100036857).

Northern Powergrid Holdings Company, Lloyds Court, 76 Grey Street, Newcastle-Upon-Tyne, NE1 6AF

Legend:

- 20kV
- 11kV
- LV Mains
- LV Service
- Aux
- Unfit For Service / Scrapped
- Existing Underground Cable
- Existing Overhead Line
- Service Position
- Duct (125mm ID unless stated)

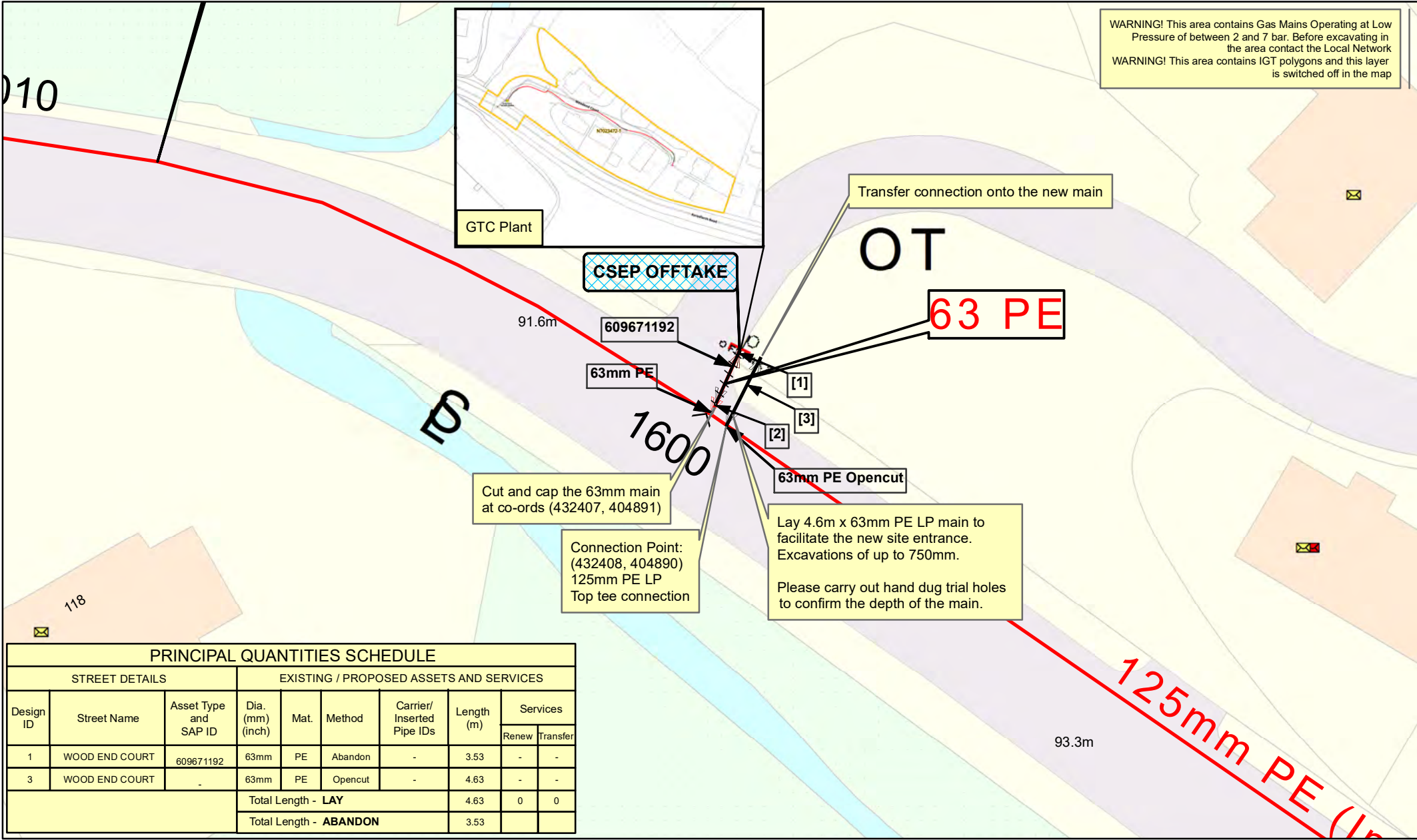
OS Grid Ref: SE3239804901
Printed Size: 1:200 @ A3



Title:

HV & LV Diversions
Keresforth Road
Dodworth

Drawn: SD	Date: 22/03/2022	Revision: A
Drawing No: 1	Sheet No: 1 of 2	
Originator: Simon Davis	NPG No: ENQ23055223	
File Ref: Diversion Proposal		



PRINCIPAL QUANTITIES SCHEDULE									
STREET DETAILS			EXISTING / PROPOSED ASSETS AND SERVICES						
Design ID	Street Name	Asset Type and SAP ID	Dia. (mm) (inch)	Mat.	Method	Carrier/ Inserted Pipe IDs	Length (m)	Services	
								Renew	Transfer
1	WOOD END COURT	609671192	63mm	PE	Abandon	-	3.53	-	-
3	WOOD END COURT	-	63mm	PE	Open-cut	-	4.63	-	-
Total Length - LAY							4.63	0	0
Total Length - ABANDON							3.53		

SCALE: 1:500 @ A4

USER ID: shani.gill

DATE: 18-Aug-2025 17:03:35

INTERNAL USE ONLY

OS Ref: 432406, 404890

CENTRE: <Centre>

L/P GAS MAIN

M/P GAS MAIN

I/P GAS MAIN

H/P GAS MAIN

N/H/P GAS MAIN

PROPOSED PIPE - LP

PROPOSED PIPE - MP

PROPOSED PIPE - IP

ABANDON - LP

ABANDON - MP

Out Of Standard Service

SCHEME: Keresforth Road, Dodworth, S75 3JB

DESIGN: EMGD260083

REVISION: 0

This plan shows those pipes owned by Cadent in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and any other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

EMGD260083

Keresforth Road,

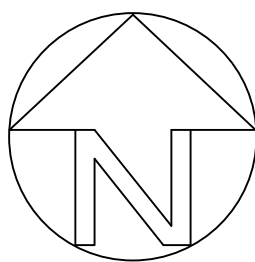
Dodworth,

S75 3JB

Cadent

This plan is reproduced from or based on the OS map by Cadent Gas Limited, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved..

7) Rock



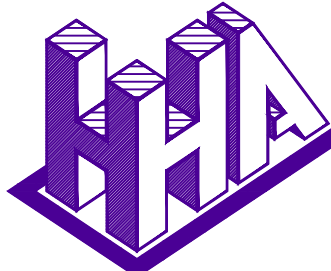
ON-SITE CUT/FILL CALCULATIONS BASED ON DIFFERENCE BETWEEN PROPOSED FORMATION LEVELS AND 300mm BELOW EXISTING SURVEY LEVELS		
CUT/FILL FROM PDS DIGITAL MODEL:		
TOTAL GROSS	CUT (SURPLUS MATERIAL)	FILL (MATERIAL REQ'D)
TOTAL NETT	24584m³	20297m³
	4287m³	

- NOTES:
- CONTOURS INTERVALS SHOW CUT/FILL REQUIRED TO ACHIEVE PROPOSED FORMATION LEVELS FROM 300mm BELOW EXISTING SURVEYED GROUND LEVELS TO ALLOW FOR TOPSOIL REMOVAL
 - FORMATION LEVEL BENEATH ADAPTABLE CARRIAGEWAY BASED ON CURRENT VERTICAL AND HORIZONTAL ALIGNMENTS WITH 740mm DEPTH OF CONSTRUCTION.
 - FORMATION LEVEL BENEATH HOUSES TAKEN AS 450mm BENEATH FINISHED FLOOR LEVEL & SHARED DRIVES SERVING MORE THAN 2 HOUSES.
 - FORMATION LEVEL TO BACK OF FOOTPATH/HARD MARGING/GARDEN AREAS TAKEN AS 300mm BENEATH PROPOSED GROUND LEVEL.
 - BATTER TO REAR OF RETAINING STRUCTURES NOT INCLUDED IN GENERATION OF REDUCED FORMATION LEVELS. EXTENT OF CUT/FILL REQUIRED MAY VARY FOLLOWING DETAILED EXTERNAL WORKS DESIGN.
 - ARISINGS FROM FOUNDATIONS AND DRAINAGE NOT INCLUDED IN CALCULATIONS

CUT Depth Bands	
Band 1	-0.00 - -0.10
Band 2	-0.10 - -0.20
Band 3	-0.20 - -0.30
Band 4	-0.30 - -0.40
Band 5	-0.40 - -0.50
Band 6	-0.50 - -1.00
Band 7	-1.00 - -2.50
Band 8	-2.50 - -5.00
Band 9	-5.00 - -7.50
Band 10	-7.50 -

FILL Depth Bands	
Band 1	0.00 - 0.10
Band 2	0.10 - 0.20
Band 3	0.20 - 0.30
Band 4	0.30 - 0.40
Band 5	0.40 - 0.50
Band 6	0.50 - 1.00
Band 7	1.00 - 2.50
Band 8	2.50 - 5.00
Band 9	5.00 - 7.50
Band 10	7.50 -

Rev A Updated to suit latest planning layout 23.07.25 MD



Haigh Huddleston & Associates

Civil Structural Engineering Consultants

Unit 4, Midgley Business Park, Bar Lane, Midgley, WF4 4JJ
e martin@haighhuddleston.co.uk

t 01924 574074

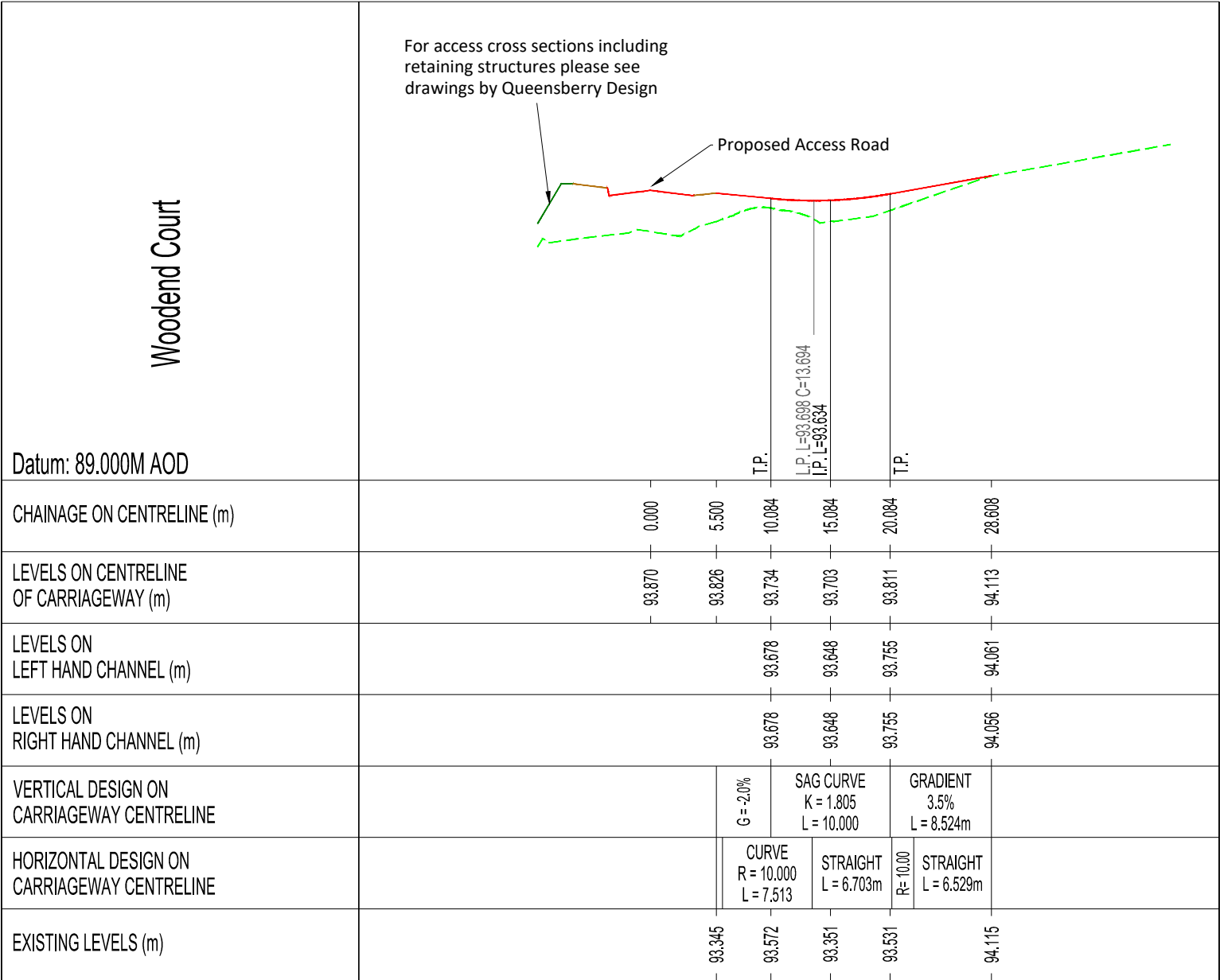
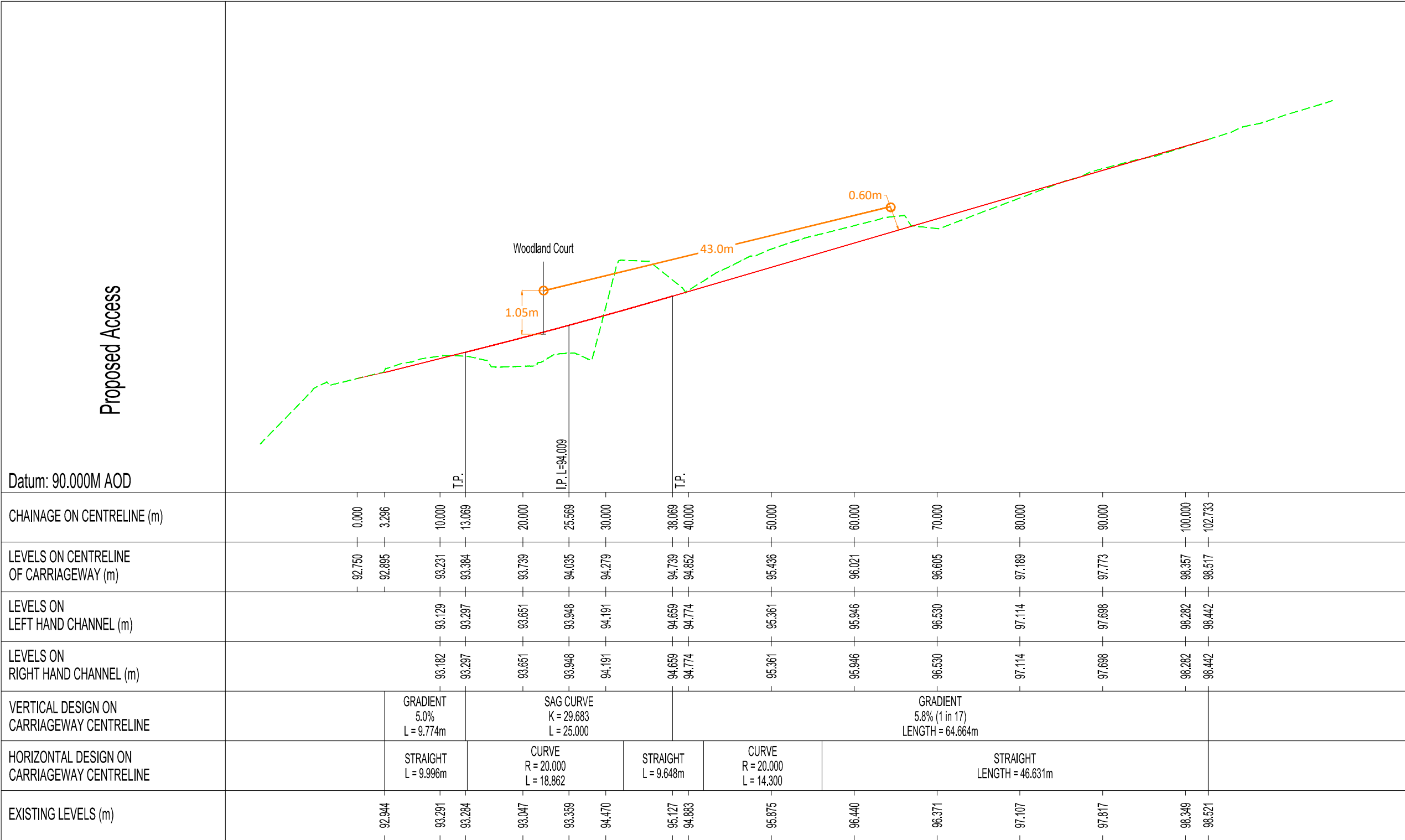
Client
KEEPMOAT

Project
KERESFORTH ROAD, DODWORTH

Detail
PRELIMINARY CUT & FILL PLAN

Dwn	Chkd	Date	Scale	Dwg No.
HH		APR-21	1:1000@A0	E207774/033A

8) Access Designs

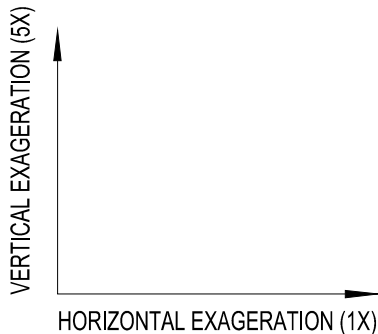


Key:

Proposed Centreline Levels

Existing Levels

2.4mx43m Vertical Visibility Splay measured from driver height of 1.05m to object of 0.6m required by Manual For Streets for 30mph



- Notes:
- Preliminary design layout only - scheme subject to further detailed design.
 - Scheme subject to agreement with local highway authority and other key stakeholders.
 - Checks to be made on existing Statutory Undertakers equipment.
 - Design (including type and size) of structural elements such as retaining structures to be undertaken at detailed design stage. For current details of potential retaining structure see drawings by Queensberry Design.

Disclaimers:-

i. This drawing is copyright and must not be copied in part or in whole unless agreed in writing by Local Transport Projects Ltd.

ii. Reference should be made to the project's drawing register to ensure the latest drawing is being referred to.

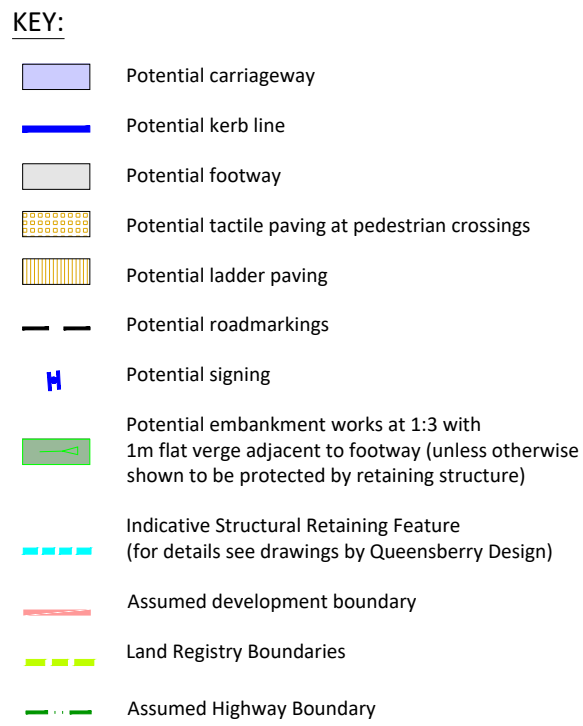
iii. All dimensions are to be checked by the contractor prior to commencement of work. Any discrepancy shall be reported immediately to Local Transport Projects Ltd.

iv. All work shall be carried out in accordance with local authority, statutory authority and health & safety requirements & regulations.

v. This drawing is produced to be printed and read in colour. Reproduction in black and white may prevent correct interpretation of some aspects.

vi. Based on topographical survey supplied by Haycock & Todd Land Survey Consultants Architectural Surveyors.

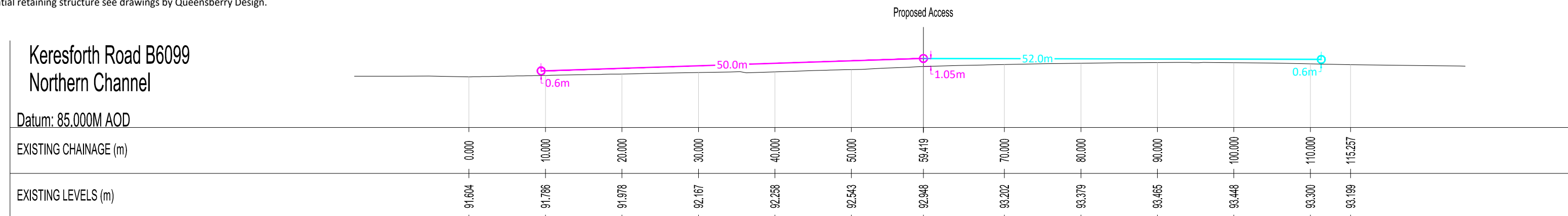
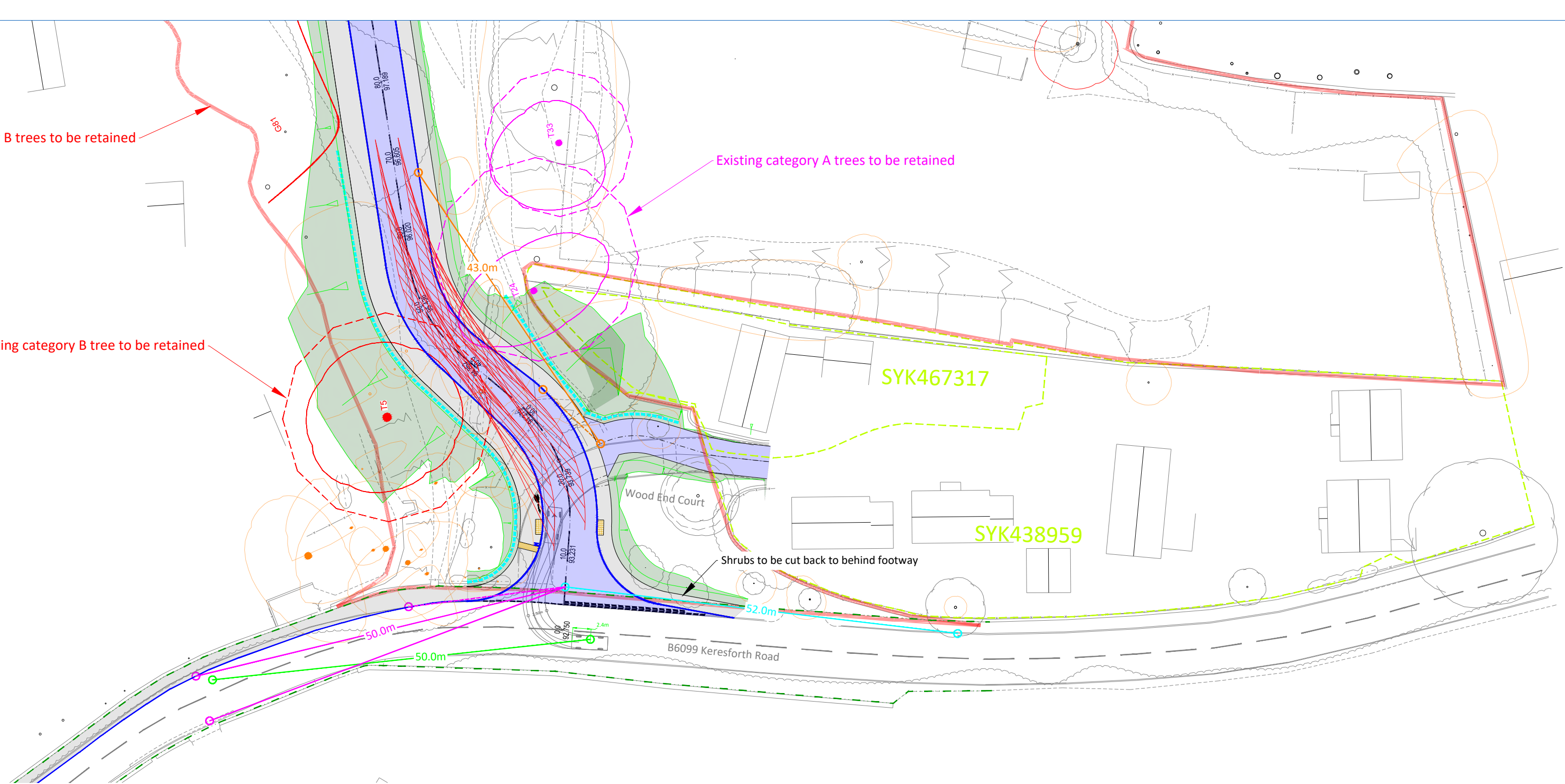
Client	Keepmoat Homes	Title	Potential Residential Access Road Preliminary Design Layout Longitudinal Sections						Drawing number				Rev. Date By Chk Description				local transport projects traffic engineering and transport planning IHE INSTITUTE OF HIGHWAY ENGINEERS 25 000 LIMIT TO HAVE European Road Safety Observer HAS Accredited Contractor www.hse.gov.uk Armstrong House, The Flemingate Centre, Beverley, East Riding of Yorkshire. HU17 0NW. 01482 679 911 info@ltp.co.uk www.local-transport-projects.co.uk Registered No. 5295328							
			LTP / 4283 / P2 / 01 . 02 F						C 01.02.24 JC MR Updated access to avoid tree RPA				D 06.02.24 JC MR Updated access following client comments.								E 05.04.24 JC MR Updated access following BMBC comments.			
Project	Proposed Residential Development, Keresforth Road, Dodworth	Status	PRELIMINARY						Drawn		Date		© Local Transport Projects				10mm				A2			
									SP		15 09 22													
									Scale		Checked		Approved											
									1 : 500		MR		TK											



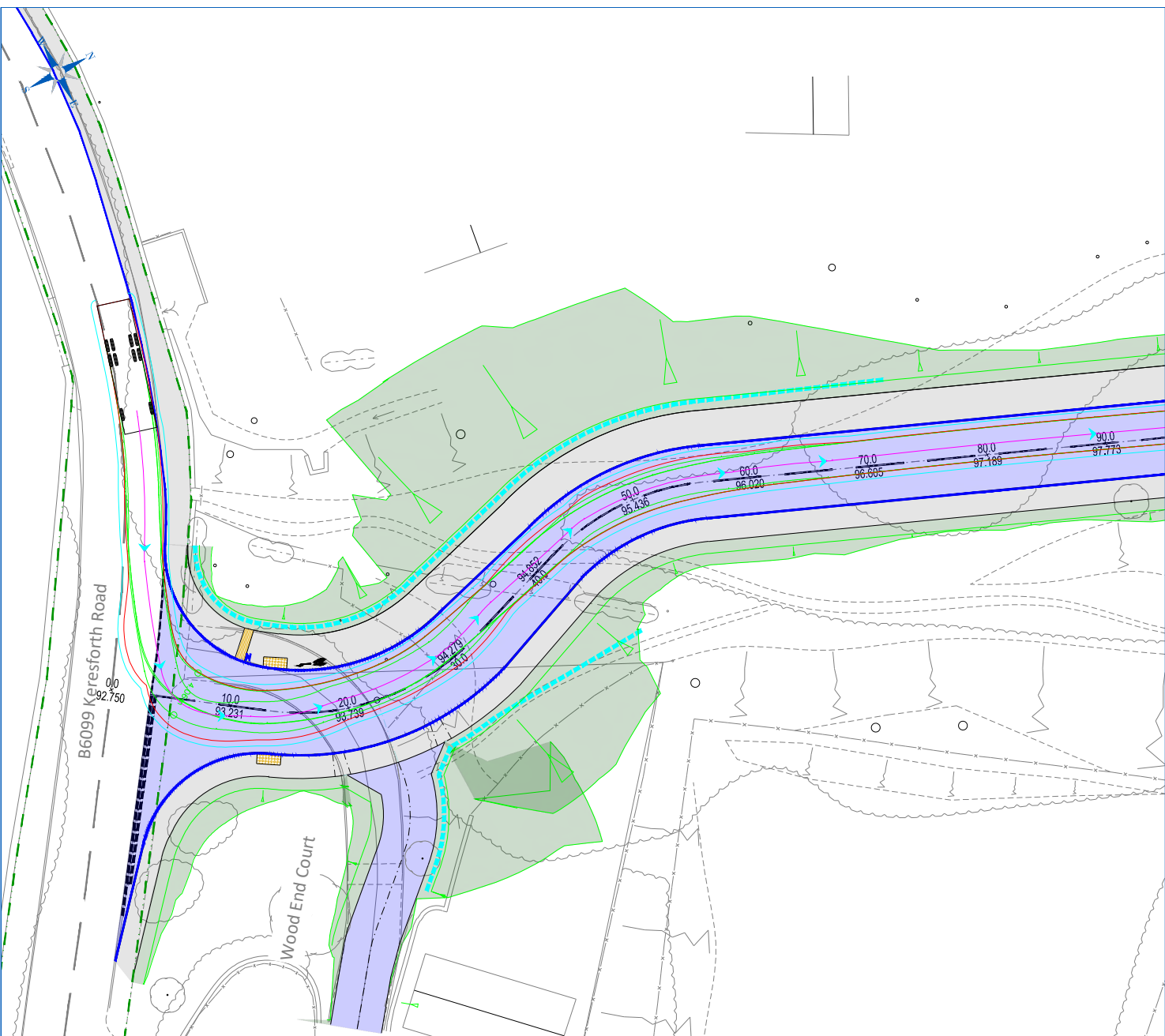
-  Existing category U and category C trees assumed to be okay for removal if required
-  Existing category B tree to be retained
-  Existing category A tree to be retained
-  Root Protection Areas

25m forward visibility splay measured along line offset
1.5m from kerbline at 2.0m intervals required by Manual For Streets for 20mph

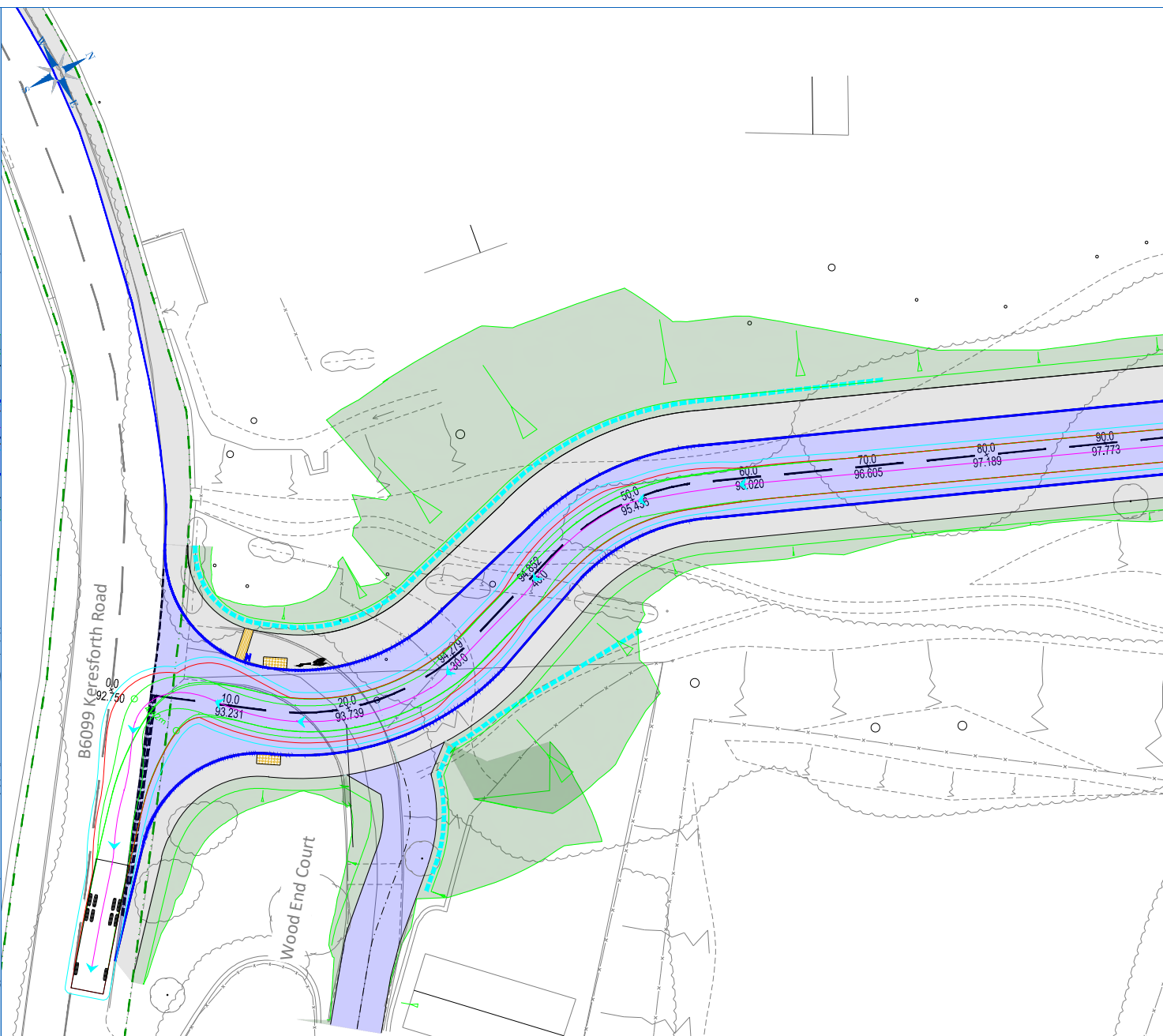
1. Preliminary design layout only - scheme subject to further detailed design.
2. Scheme subject to agreement with local highway authority and other key stakeholders.
3. Checks to be made on existing Statutory Undertakers equipment.
4. Design (including type and size) of structural elements such as retaining structures to be undertaken at detailed design stage. For current details of potential retaining structure see drawings by Queensberry Design.



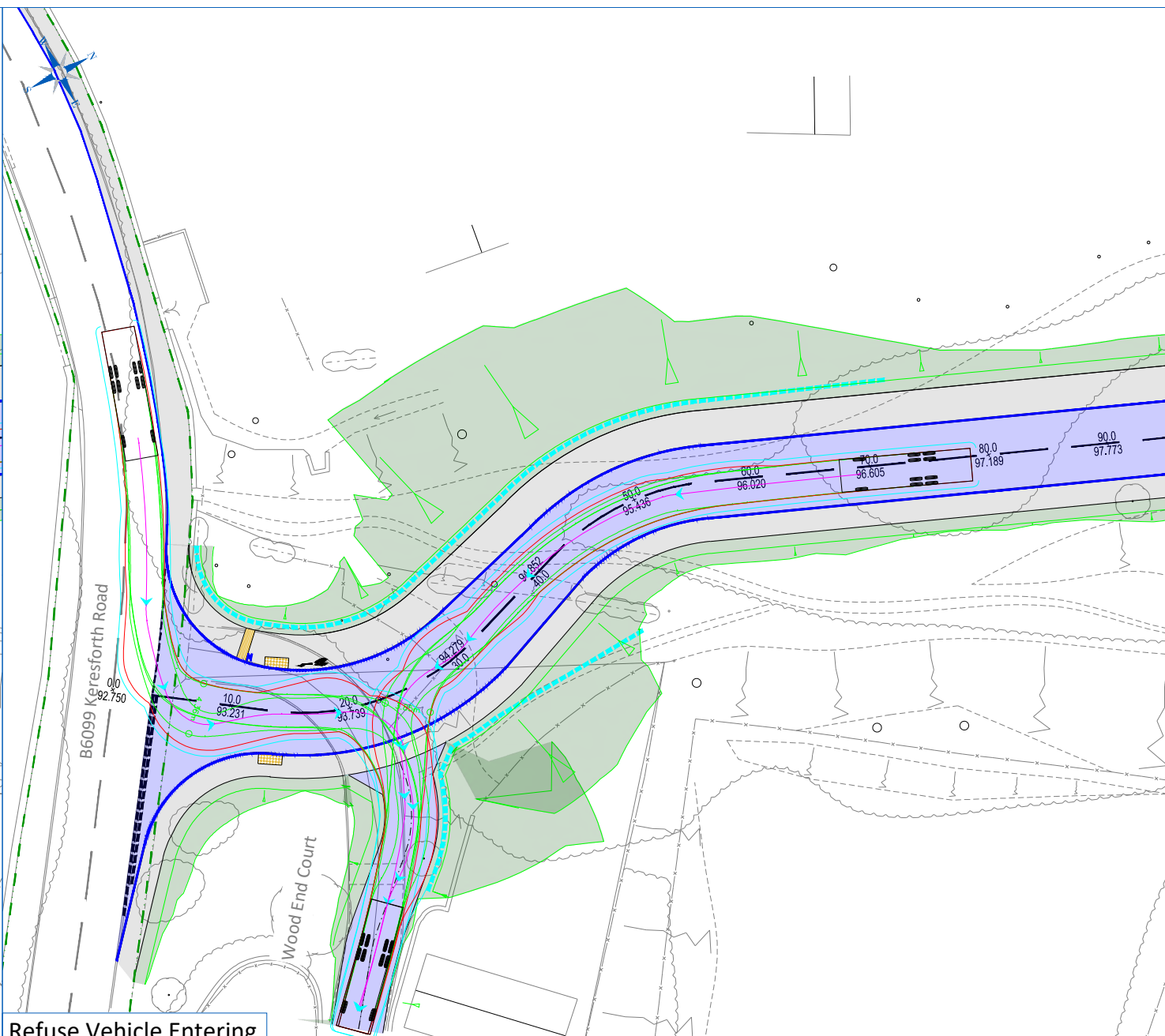
Client	Keepmoat Homes	Title	Potential Residential Access Road Preliminary Design Layout Visibility Splays	Drawing number						Rev.	Date	By	Chk	Description	 traffic engineering and transport planning  INSTITUTE OF HIGHWAY ENGINEERS  25 000 LARGEST TO SAVE  HAS Accredited Contractor www.has.co.uk Armstrong House, The Flemingate Centre, Beverley, East Riding of Yorkshire. HU17 0NW.  01482 679 911  info@ltp.co.uk  www.local-transport-projects.co.uk  Registered No. 5295328						
										I	01.02.24	JC	MR	Updated access to avoid tree RPA							
										J	06.02.24	JC	MR	Updated following client comments.							
Project	Proposed Residential Development, Keresforth Road, Dodworth	Status	PRELIMINARY	LTP /			4283 /	P2 /	01	05	M	K	05.04.24	JC	MR	Updated access following BMBC comments.					
				Drawn			SP			Date			15 09 22								
				Scale			1 : 500			Checked			MR			Approved			TK		
														© Local Transport Projects		10mm		A2			



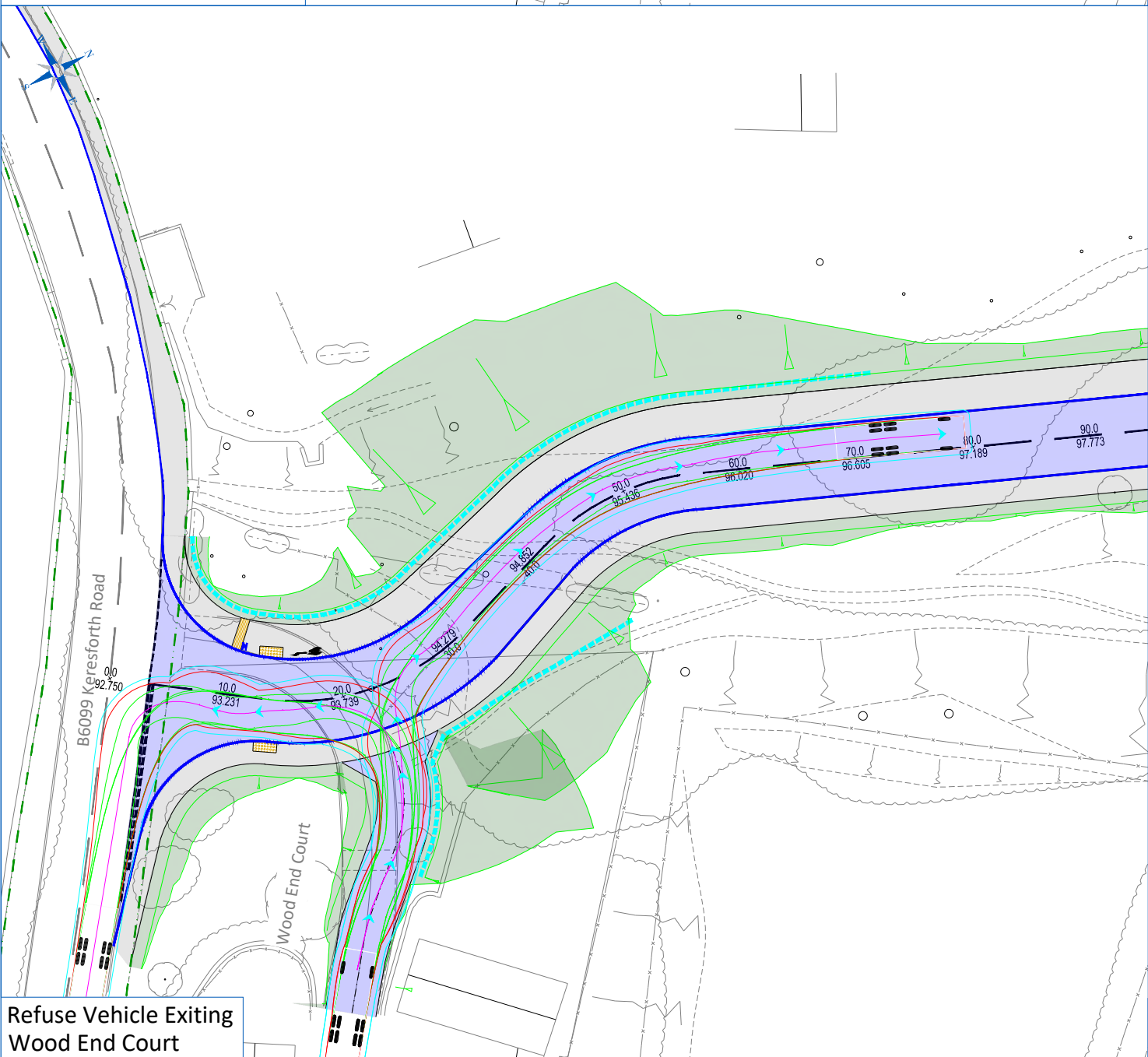
Refuse Vehicle Entering Site



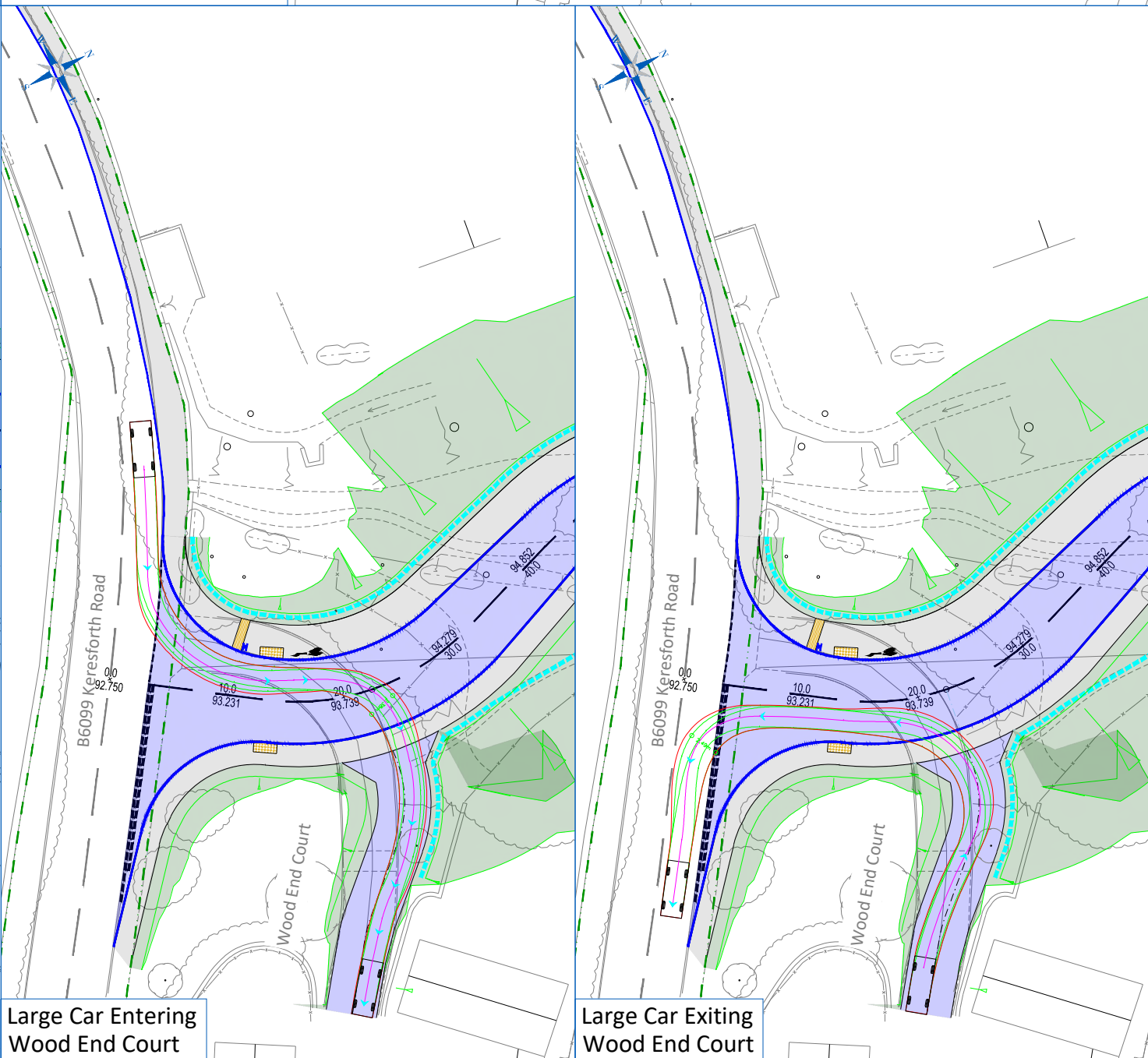
Refuse Vehicle Exiting Site



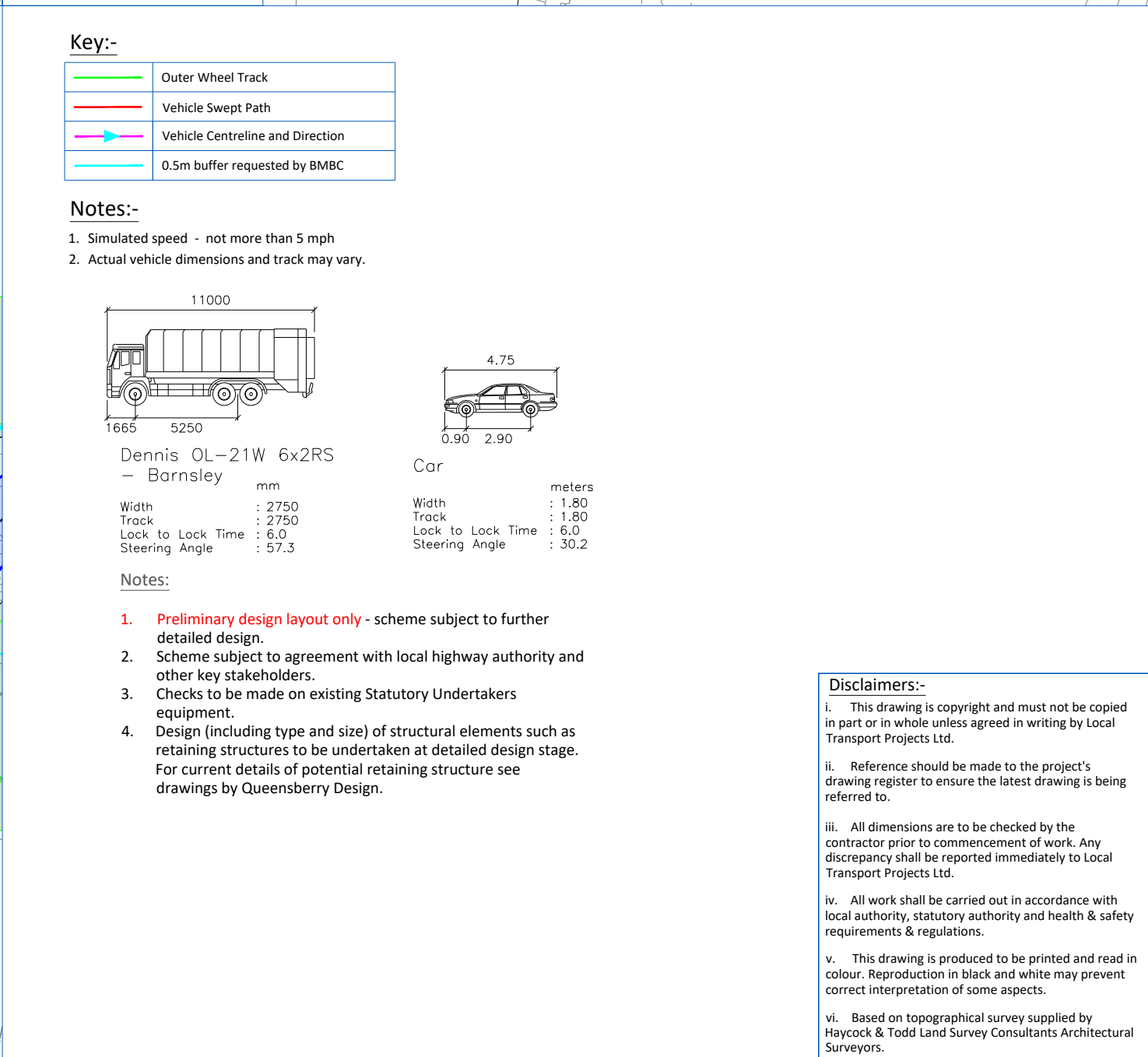
Refuse Vehicle Entering Wood End Court



Refuse Vehicle Exiting Wood End Court



Large Car Entering Wood End Court



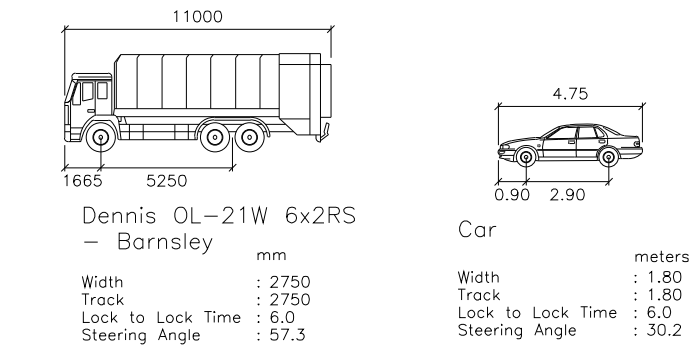
Large Car Exiting Wood End Court

Key:-

	Outer Wheel Track
	Vehicle Swept Path
	Vehicle Centreline and Direction
	0.5m buffer requested by BMBC

Notes:-

1. Simulated speed - not more than 5 mph
2. Actual vehicle dimensions and track may vary.



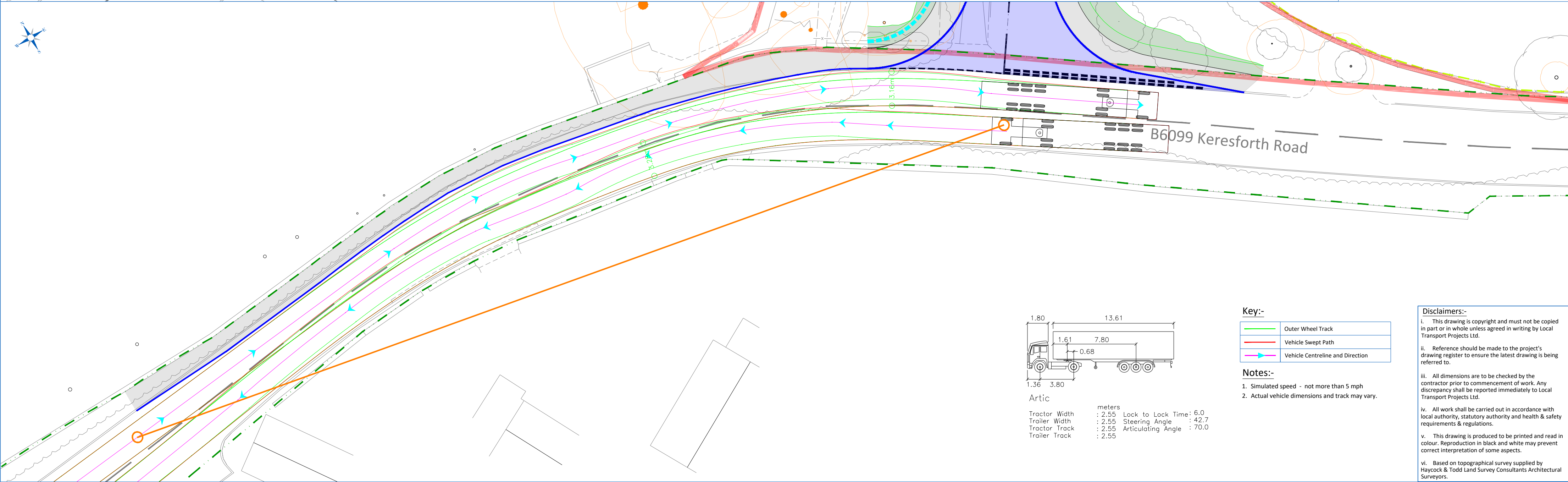
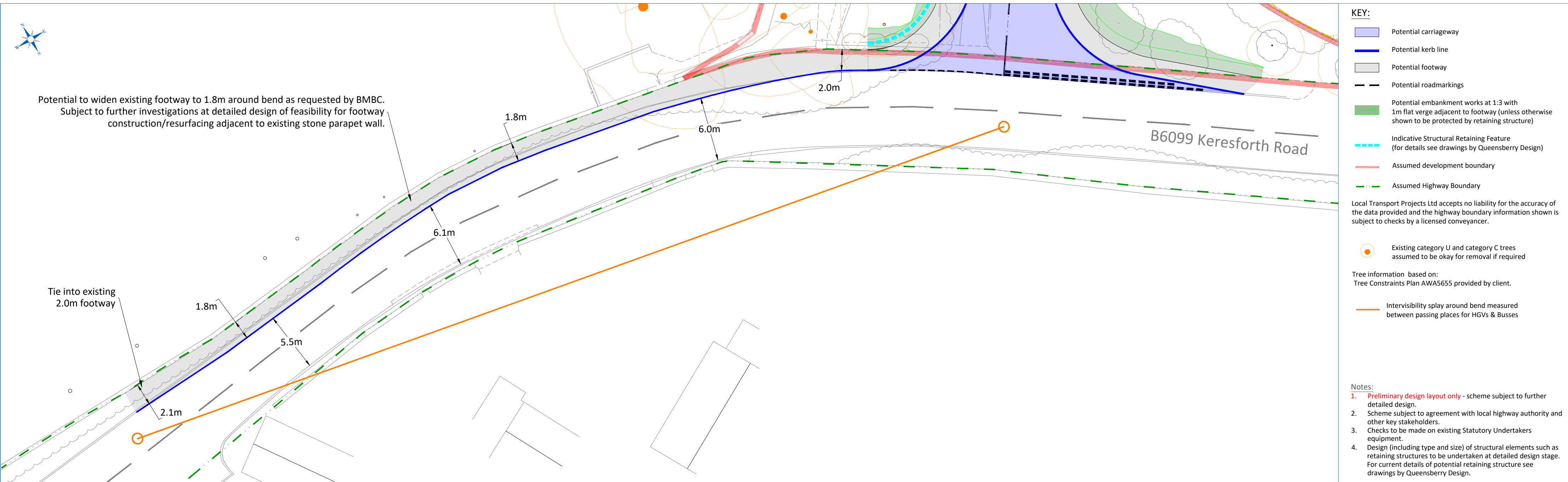
Notes:

1. Preliminary design layout only - scheme subject to further detailed design.
2. Scheme subject to agreement with local highway authority and other key stakeholders.
3. Checks to be made on existing Statutory Undertakers equipment.
4. Design (including type and size) of structural elements such as retaining structures to be undertaken at detailed design stage. For current details of potential retaining structure see drawings by Queensberry Design.

Disclaimers:-

- i. This drawing is copyright and must not be copied in part or in whole unless agreed in writing by Local Transport Projects Ltd.
- ii. Reference should be made to the project's drawing register to ensure the latest drawing is being referred to.
- iii. All dimensions are to be checked by the contractor prior to commencement of work. Any discrepancy shall be reported immediately to Local Transport Projects Ltd.
- iv. All work shall be carried out in accordance with local authority, statutory authority and health & safety requirements & regulations.
- v. This drawing is produced to be printed and read in colour. Reproduction in black and white may prevent correct interpretation of some aspects.
- vi. Based on topographical survey supplied by Haycock & Todd Land Survey Consultants Architectural Surveyors.

Client	Keepmoat Homes	Title	Potential Residential Access Road Swept Path Analysis	Drawing number						Rev.	Date	By	Chk	Description	 traffic engineering and transport planning INSTITUTE OF HIGHWAY ENGINEERS   Accredited Contractor 01482 679 911 info@ltp.co.uk www.local-transport-projects.co.uk Registered No. 5295328		
					Project	Job	Drawing	Sheet	Revision	H	06.02.24	JC	MR	Updated access following client comments.			
Project	Proposed Residential Development, Keresforth Road, Dodworth	Status	PRELIMINARY	LTP / 4283 / P2 / 01 . 06 L						I	05.04.24	JC	MR	Updated access following BMBC comments.			
				Drawn			Date			J	28.05.24	JC	MR	Minor amendments.			
				SP			15 09 22			K	02.06.25	JC	MR	Updated following BMBC comments.			
				Scale			Checked		Approved		L	18.07.25	JC	MR		Updated following BMBC comments.	
				1 : 500			MR		TK		© Local Transport Projects					10mm	A2



Client	Keepmoat Homes	Title	Potential Residential Access Road Preliminary Design Layout Existing Footway Widening	Drawing number						Rev.	Date	By	Chk	Description	
					Project	Job	Drawing	Sheet	Revision	0	-	-	-	-	
				LTP /	4283 /	P2 /	01	.09	0						
Project	Proposed Residential Development, Keresforth Road, Dodworth	Status	PRELIMINARY	Drawn		Date									
				JC		02/06/25									
				Scale		Checked		Approved							
				1 : 250		MR		TK							
										© Local Transport Projects					

local transport projects

traffic engineering and transport planning

IHE

INSTITUTE OF
HIGHWAY
ENGINEERS

25 000

LIVESTOCK

Accredited Contractor

HAS

Accredited Contractor

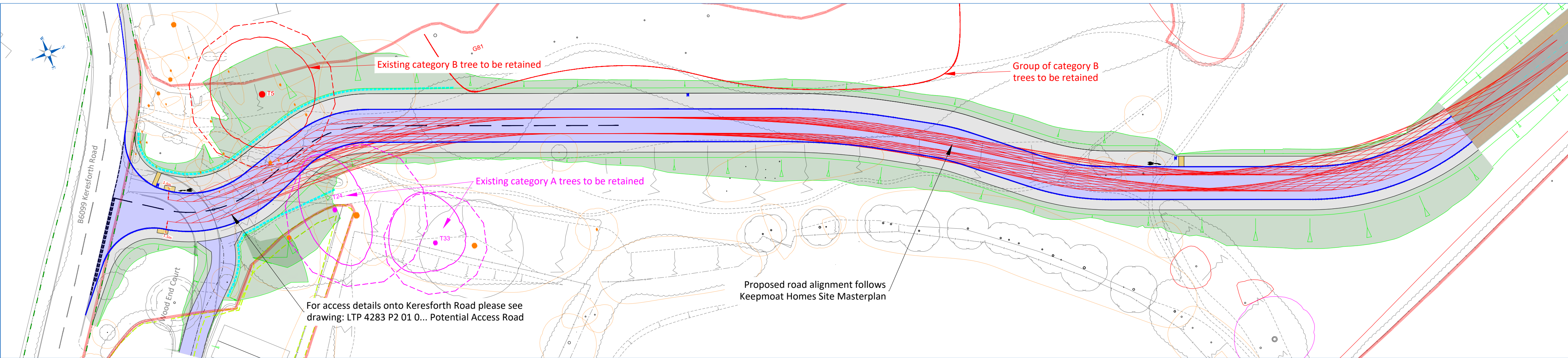
Armstrong House,
The Flemingate Centre,
Beverley,
East Riding of Yorkshire.
HU17 0NW.

01482 679 911

info@ltp.co.uk

www.local-transport-projects.co.uk

Registered No. 5295328



Visibility Splay Key:

43m forward visibility splay measured along line offset
1.5m from kerbline at 3.0m intervals required by Manual For Streets for 30mph

- KEY:
- Potential carriageway
 - Potential kerb line
 - Potential footway
 - Potential tactile paving at pedestrian crossings
 - Potential ladder paving
 - Potential roadmarkings
 - Potential signing
 - Potential embankment works at 1:3 with 1m flat verge adjacent to footway (unless otherwise shown to be protected by retaining structure)
 - Indicative Structural Retaining Feature (for details see drawings by Queensberry Design)

- Assumed development boundary
 - Land Registry Boundaries
 - Assumed Highway Boundary
- Local Transport Projects Ltd accepts no liability for the accuracy of the data provided and the highway boundary information shown is subject to checks by a licensed conveyancer.

- Existing category U and category C trees assumed to be okay for removal if required
- Existing category B tree to be retained
- Existing category A tree to be retained
- Root Protection Areas

Tree information based on:
Tree Constraints Plan AWA5655 provided by client.

- Notes:
- Preliminary design layout only - scheme subject to further detailed design.
 - Scheme subject to agreement with local highway authority and other key stakeholders.
 - Checks to be made on existing Statutory Undertakers equipment.
 - Design (including type and size) of structural elements such as retaining structures to be undertaken at detailed design stage. For current details of potential retaining structure see drawings by Queensberry Design.

- Disclaimers:-
- This drawing is copyright and must not be copied in part or in whole unless agreed in writing by Local Transport Projects Ltd.
 - Reference should be made to the project's drawing register to ensure the latest drawing is being referred to.
 - All dimensions are to be checked by the contractor prior to commencement of work. Any discrepancy shall be reported immediately to Local Transport Projects Ltd.
 - All work shall be carried out in accordance with local authority, statutory authority and health & safety requirements & regulations.
 - This drawing is produced to be printed and read in colour. Reproduction in black and white may prevent correct interpretation of some aspects.
 - Based on topographical survey supplied by Haycock & Todd Land Survey Consultants Architectural Surveyors.

Client	Keepmoat Homes	Title	Potential Residential Access Road Between Keresforth Road and Queensberry Design - Visibility Splays	Drawing number						Rev.	Date	By	Chk	Description	local transport projects traffic engineering and transport planning IHE INSTITUTE OF HIGHWAY ENGINEERS 25 000 LAND TO HAVE European Road Safety Officer HAS Accredited Contractor Since 1998 Armstrong House, The Flemingate Centre, Beverley, East Riding of Yorkshire. HU17 0NW. 01482 679 911 info@ltp.co.uk www.local-transport-projects.co.uk Registered No. 5295328												
				LTP	/	4283	/	P3	/	01	.	03		B		A	12/06/24	JC	MR	Updated carriageway width following client comments.							
																	B	02.06.25	JC	MR	Updated following BMBC comments.						
Project	Proposed Residential Development, Keresforth Road, Dodworth	Status	PRELIMINARY	Drawn						Date						© Local Transport Projects											
				JC						05 06 24																	
				Scale						Checked												Approved					
				1 : 500						MR												TK					
														10mm						A2							