

**MALDON DISTRICT
LOCAL HIGHWAYS PANEL
MEETING – 24 JUNE 2016**

Council Chamber, Maldon District Council, Princes Road, Maldon – at 9.00am

MINUTES

Present:

Representing Essex County Council – Councillor R L Bass (Chairman)

Representing Maldon District Council – Councillors Mrs B D Harker, M W Helm, Miss M R Lewis and R Pratt (Vice-Chairman)

Officers: J Simmons (Highways Liaison Officer) and Ms S Church (Highways Liaison Manager), Essex Highways, Essex County Council.

1. Apologies for absence

Apologies for absence were received from Councillor R G Boyce MBE, CC and Mrs P A Channer CC.

2. Election of Chairman for the ensuing Municipal Year

RESOLVED that Councillor R L Bass be elected as Chairman for the ensuing Municipal Year.

3. Election of Vice-Chairman for the ensuing Municipal Year

RESOLVED that Councillor R Pratt be elected as Vice-Chairman for the ensuing Municipal Year.

4. Minutes of Meeting – 1 April 2016

RESOLVED that the Minutes of the meeting of the Panel held on 1 April 2016 be approved and confirmed.

5. Matters arising from Minutes of the Previous Meeting:

- (i) Minute 4 – Approved Works Programme Item 1 – IMAL 152003 – Viking Road/Dorset Road/Wordsworth Road.

The Highways Liaison Officer advised the Panel that this would be discussed under Agenda Item 6 - Approved Works Programme.

- (ii) Minute 7 – Items Raised by Panel Members

The Highways Liaison Officer advised the Panel that speed surveys were due to take place along Old Heath Road within the next two weeks.

6. Approved Works Programme

The Approved Works Programme, a revised version of which was circulated at the meeting to Panel Members, contained scheme descriptions and allocated budgets for schemes. Appendix 1 to these Minutes shows the Approved Works Programme and scheme status as discussed at the meeting. Also shown in the Appendix are details of discussions held relating to individual schemes.

It was noted that those schemes shaded grey were cancelled and would be removed from the programme, whereas those items shaded green were completed. Where an update had been provided by Officers, this was shaded in yellow.

Item 1 – LMAL 142003 – Viking Road/Dorset Road/Wordsworth Road – the Chairman advised the Panel that this item was currently on hold. The Highways Liaison Officer showed photographs of the current state of the verges to the Panel and advised that he had recently met with Councillor Mrs P A Channer to discuss this item. Residents would be monitoring the verge parking and there would be a period of 6 months self-enforcement. A letter would be sent to residents and any infringement/damage on the verge would result in the scheme being implemented.

It was agreed to change the status of this scheme to “on hold” and also to reduce the currently allocated budget to £0. This would enable that part of the budget to be allocated elsewhere.

Item 2 – LMAL 142006 – Fambridge Road, Maldon (Limebrook Way RAB to Royal Oak PH) – possible development in vicinity of scheme - it was agreed to change the status of this item to “on hold” – awaiting results of future housing development. May require linking the footway from development to the vicinity of the Public House - allocated budget to be reduced to £0. This part of the budget would then be allocated to another scheme/schemes.

Item 3 – LMAL 142008 – Maypole Road, Heybridge – scheme involves verge planting. Works are being scheduled for Quarter 3 to ensure planting is successful with less maintenance (watering) while it establishes.

Item 4 – LMAL 142001 – B1026 Goldhanger road, Heybridge, near Spricketts Brook - Appendix 1 to the Approved Works Programme provided an update on this item.

Item 6 – LMAL 142029 – King Street/Queens Avenue, Maldon – the Highways Liaison Officer advised that whereas there was no scope to install the two signs that had been required at this location, the New Traffic Signs Regulations and General Directions that came in to force in April 2016 made it feasible for a single sign to be installed which may suffice. The Design Engineer was making investigations.

Item 7 – LMAL 142022 – B1022 Maldon Road, Great Totham – there was now a revised completion date of 2016.

Ms Sonia Church, Highways Liaison Manager, arrived at this point in the meeting.

Item 9 – LMAL 142035 – Maldon Road (the Grange to Beacons Chase), Bradwell on Sea – this item cannot be completed as the criteria for a 30mph or 40mph speed limit

buffer could not be met. The Parish Council had now agreed to this. This item was to be deleted from the Approved Works Programme.

Item 10 – LMAL 151004 – Lower Burnham Road, 600m west of j/w Rectory Lane – completed and has been added to the Potential Schemes List.

Item 11 – LMAL151005 – Woodham Road j/w Lower Burnham Road – completed.

Item 12 – LMAL 151007 – Beckingham Road j/w Festival Gardens – completed – the design was in Appendix 1.

Item 13 – LMAL 152002 – Fish Street – the Chairman asked the Highways Liaison Officer when this scheme would be completed. The Highways Liaison Officer advised that there were issues regarding the width of the junction. The Highways Liaison Manager further advised that any schemes that couldn't be guaranteed for the current year had been pushed back to 2017 / 18. As the panel had at this meeting removed some schemes from the Approved Works Programme, there was some scope to bring other schemes forward to the current year. An update would be provided to the Panel prior to the next meeting of the Local Highways Panel. A further £5k would be added to the budget for this scheme to ensure delivery of it.

Item 17 – LMAL1 52009 – Burnham Road j/w Maldon Road – completed – Appendix 1 refers.

Item 19 – LMAL 152011 – The Avenue – completed. A feasibility study had been carried out and this scheme was now on the Potential Schemes List.

Item 21 – LMAL 152013 – Main Road – the Highways Liaison Officer provided an update on this scheme confirming that the electricity supply to existing signs is a Parish Council one. The request was for a conversion to solar powered lights.

Item 22 – LMAL 152014 – Woodham Road j/w Martins Lane – the feasibility study had been completed and this was now on the Potential Schemes List. A technical note was in Appendix 2 to the Approved Works Programme.

Item 24 – LMAL 152018 – Parish Rooms, Church Street – a feasibility study had now been completed and this scheme was on the Potential Schemes List with the options being set out in Appendix 1 to the Approved Works Programme.

Item 25 – LMAL 152022 – Maldon Road nr Does Corner – a feasibility study had now been completed and this scheme was on the Potential Schemes List. A report was set out in Appendix 1 to the Approved Works Programme.

Item 26 – LMAL 152023 – Crouchman's Farm Road – a feasibility study had now been completed and this scheme was on the Potential Schemes List. Details of the scheme were set out in Appendix 1 to the Approved Works Programme.

Item 47 – LMAL 162027 – B1021 Church Road (j/w B1010 Maldon Road to j/w Marsh Road) Burnham-on-Crouch – Zebra crossing – the Highways Liaison Officer provided an update and advised the panel that a Third Party Agreement would be produced in early August.

Item 53 – LMAL 462084 – Power Washer – this had now been procured.

The Highways Liaison Manager advised the Panel that some schemes on the Approved Works Programme were currently listed for 2017 /18 as they do not have funding for the current year, due to an over-allocation. Those schemes were:

- Item 13 – LMAL152002 – Fish Street – 20mph Speed Limit
- Item 31 – LMAL 162055 – Factory Hill/Brook Road/D’Arcy Road, Tolleshunt Knights
- Item 33 – LMAL 162067 – Loamy Hill Road/Plains Road, Tolleshunt Major, Signage to Business Park
- Item 34 – LMAL 162082 – Beckingham Street/Tolleshunt D’Arcy Road, Tolleshunt Major – Speed signage improvements
- Item 35 – LM 162081 – Brook Road/Tolleshunt D’Arcy Road, Tolleshunt Knights – Speed limit repeater signs and roundels
- Item 38 – LMAL 162062 – The Street (The Sun & Anthon PH to The Star PH), Steeple – Edge of carriageway road markings
- Item 39 – LMAL 162068 – Green Lanes/Highlands Hill/Fxhall Road, Southminster – HGV route signage
- Item 45 – LMAL 162048 – B1026 Maldon Road, Goldhanger – Speed roundels/speed limit repeater signs
- Item 48 – LMAL 162027 – B1021 Church Road (j/w B1010 Maldon Road to j/w Marsh Road) Burnham-on-Crouch – Zebra crossing.

Due to an over-allocation of the budget, some of the schemes fell in to the next financial year. However, when making these allocations, there was an understanding that there may be some slippage. Therefore, some schemes may be brought forward in to the current financial year due to other schemes being cancelled or put on hold for various reasons. The Highways Liaison Manager would look at the schemes and where they fall in to the financial budgets.

7. Potential Schemes List 2016/17

The Chairman advised that schemes on this list were not necessarily for the current financial year. The Potential Schemes List was very large and was, therefore, difficult to deliver in its entirety.

The Chairman began by addressing the Walking Scheme at The Avenue, North Fambridge detailed at Item 1 on page 11 of the Potential Schemes List. The cost of this was prohibitive to it being financed by the Local Area Highways Panel and it must be put to the Essex County Council (ECC) as a major scheme.

The Highways Liaison Officer advised the Panel that this would need to be considered as a Major Scheme similar to that for Asheldham Bends.

Councillor Miss M L Lewis drew attention to the Maldon District Council (MDC) Local Development Plan and the housing allocation for North Fambridge therein. Liaison should be made with the MDC S106 Officer to explore if any funding was available for this scheme.

The Chairman advised that the schemes marked in red on the Potential Schemes List should be addressed to see if they could be deleted. He reminded the Panel that there

was some scope for allocation as £33k had been pulled back from the current allocation.

Traffic Management

Item 3 – B1021 Station Road/High Street, Burnham-on-Crouch – to be deleted.

Item 4 – Hermes Drive j/w Falklands Road, Burnham-on-Crouch – to be deleted.

Item 16 – The Causeway, Maldon – to be deleted.

Item 21 – B1018 Fambridge Road, The Wash, Purleigh to Oak Corner, Maldon – to be deleted.

Item 22 – Main Road, St. Lawrence – to be deleted.

Item 27 – North Street/South Street, Tillingham – to be deleted.

Item 37 – The Street (Near The Mitre Public House), Wickham Bishops – to be deleted, but should be linked to Item 39 – Witham Road/Maypole Road/Kelvedon Road/The Street, Wickham Bishops. The Parish Council are in favour of blocking off one of the roads at the junction in order to facilitate safety in this area. A feasibility study would be undertaken to consider blocking off School Road at j/w Maypole Road and the possibility of making Back Lane one way.

The Highways Liaison Officer advised that the feasibility and design could address the strong concerns that the Parish Council had. At peak times there is heavy traffic through the areas.

In response to a question as to how much the problems would be alleviated when the relief road is opened, there was uncertainty as to the impact. However, the Chairman was of the opinion that this scheme was worth investigating as the Parish Council are pro-active and forward thinking. Therefore, some preliminary work should be carried out.

The Highways Liaison Officer advised the Panel that feasibility could be done during this financial year.

The Chairman further advised that there was consent for some housing which would make a difference to safety implications in this vicinity. There may be a potential scheme for next year's budget arising from the feasibility study.

Item 42 – B1010 Burnham Road near its junction with Marl pits Road, Woodham Walter – there were maintenance issues on this scheme that needed to be addressed. Following this there would be a review and the scheme would remain on the list until that review was completed.

The Chairman asked the Highways Liaison Manager to take another look at the Potential Schemes List in light of the savings that had been made during this meeting. An update would be provided at to the next meeting.

8. Highways Rangers Work Summary – April 2016

The Chairman asked the Panel to note that the Highways Rangers now had the power washer which could be mounted on any vehicle. The Highways Rangers would be asked to produce a programme for cleaning the signs and to cut back any vegetation that was obscuring signage.

In response to a question, the Highway Rangers would also be asked to investigate cleaning the bus stops and bus stop signage.

9. Meeting dates for the ensuing Municipal Year

RESOLVED that the meetings for the ensuing Municipal Year would be held on:

- (i) Friday 23 September 2016
- (ii) Friday 16 December 2016
- (iii) Friday 17 March 2017

10. Any other Urgent Business

Items Requested by Panel Members

- 10.1 The Vice-Chairman repeated his request for a breakdown of the costs incurred for the scheme involving the bus stop at Burnham-on-Crouch, as this had been requested some time ago. The Highways Liaison Manager had hoped to be in a position to report back to the Panel at this meeting, but a response was still outstanding.

The Chairman requested that a detailed analysis and breakdown of costs be circulated to the Panel. He advised that the ECC Scrutiny Committee would in due course be looking into this scheme and their views should be fed back to the Panel.

The Highways Liaison Manager advised that the total overall cost of this scheme was £25,061. However, a final response from Ringway Jacobs as to the breakdown of this was still awaited.

Action:

The Highways Liaison Manager would circulate the response received from Ringway Jacobs to Panel Members as soon as it was received.

- 10.2 Councillor M L Lewis asked for an update on the status of the difficulties at Stock Chase. The Highways Liaison Officer had ascertained that there was an element of public rights of way in this vicinity and he was currently liaising with the Public Rights of Way team. This was an unadopted road and the Highways Liaison Officer would ascertain whether a Public Right of Way was being infringed.

The meeting closed at 9.50a.m.

COUNCILLOR R L BASS
CHAIRMAN

MALDON DISTRICT LOCAL HIGHWAY PANEL

Approved Works Programme – June 2016

Since the 2016/17 capital recommendations at the March Panel meeting, Officers have been working to set the programme for the 2016/17 financial year. The Maldon District Local Highways Panel did allocate up to 160% of their budget and this has allowed the development of a rolling programme of works. The programme now consists of 100% of your 2016/17 capital budget and an additional amount to take into consideration some 'roll over' from last year.

You will see from the Approved Works Programme that some dates appear as 2017/18 financial year, if the Panel wish to make any amendments to the programme they will need to consider the impact on those schemes which will need to be reprogrammed as a result and any abortive costs that could be incurred. For the current financial year the programme dates are shown in quarters, until the road space has been booked and the start date has been confirmed.

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Maldon District Local Highways Panel - Approved Works Programme (June 2016)

Schemes Key	Completed	Cancelled	Update
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Ref. No.	Cost Code	Task Name	Parish	Finish	CMA approved	Scheme Type	Works Description	Allocated Budget	Comments
2014/15 Approved Schemes									
1	LMAL142003	Viking Road/Dorset Road/Wordsworth Road	Maldon	Jun 2017	15/04/2014	Traffic Management	Verge improvements to prevent parking	£23,000	Residents have again requested a period of 6 months of self enforcement to prevent vehicles parking on verges. Photographs have been supplied to show that verges are currently re-growing. Suggestion is to put scheme On Hold for six months, through winter period and to monitor verges, any infringement/damage on verge and the scheme would then be implemented.
2	LMAL142006	Fambridge Road, Maldon (Limebrook Way RAB to Royal Oak PH)	Maldon	On Hold	15/04/2014	Traffic Management	Detailed design of footpath	£6,000	Possible development in vicinity of scheme - Scheme On Hold, awaiting results of future housing development. May require linking footway from development to vicinity of Public House
3	LMAL142008	Maypole Road, Heybridge	Heybridge	Quarter 3	15/04/2014	Traffic Management	Drainage improvement scheme - Verge reconstruction, bollards, kerbing	£50,000	As this scheme involves verge planting. Works are being scheduled for Quarter 3 to ensure planting successful with less maintenance (watering) whilst it establishes.
4	LMAL142002	B1026 Goldhanger Road, Heybridge Near Spicketts Brook	Heybridge	Quarter 4	15/04/2014	Traffic Management	Drainage improvement scheme - Verge reconstruction, bollards, kerbing	£50,000	See report in Appendix 1
5	LMAL142010	Bridge nr Drapers Chase, Goldhanger Road, Heybridge	Heybridge	Quarter 4	15/04/2014	Traffic Management	Drainage improvement scheme - investigation/clearing vegetation	£4,000	Scheme Linked to LMAL142002
6	LMAL142029	King Street/Queens Avenue, Maldon	Maldon	Quarter 3	25/06/2014	Traffic Management	Implementation of 20 mph speed limit	£12,000	New Traffic Signs and General Directions came into force in April 2016 and a pair of speed limit terminal signs no longer required by legislation. Therefore with a robust risk assessment a single sign may suffice. Design Engineer investigating.
7	LMAL142022	B1022 Maldon Road Great Totham	Great Totham	Jul 2017	25/06/2014	Traffic Management	Implementation of Phase 2 of walkable verge	£22,000	
8	LMAL142020	B1021 Tillingham Road, Tillingham	Tillingham	Quarter 4	25/06/2014	Traffic Management	Scheme now to install 40mph speed limit and to install additional bends signs/SLOW road markings	£4,210	Highway Improvement Design team have stated following design works that a 30mph buffer is not feasible but a 40mph buffer is achievable. Parish Council have agreed to the 40mph buffer, TRO to progress.
9	LMAL142035	Maldon Road (the Grange to Beacons Chase) Bradwell on Sea	Bradwell on Sea	NA	25/06/2014	Traffic Management	Scheme for 30mph speed limit between jw B1021 and Delameres Farm and Give Way sign	£9,000	Highway Improvement Design team has now established that location does not meet ECC or DFT criteria for a 30mph or 40mph speed limit buffer. Bradwell on Sea Parish Council have now agreed that the scheme should not proceed.
2015/16 Approved Schemes									
10	LMAL151004	Lower Burnham Road 600m west of j/w Rectory Lane - casualty reduction scheme	Latchingdon	May 2016	25/03/2015	Safer Roads	Feasibility study to alleviate danger posed by adjacent road side pond	£4,000	Completed - design in Appendix 1, scheme added to Potential Scheme List
11	LMAL151005	Woodham Road jw Lower Burnham Road - casualty reduction scheme	South Woodham	Apr 2016	25/03/2015	Safer Roads	To improve signage, junction, traffic islands	£32,000	Completed
12	LMAL151007	Beckingham Road jw Festival Gardens -casualty reduction scheme	Tolleshunt D'Arcy	May 2016	25/03/2015	Safer Roads	To improve the junction	£3,000	Design in Appendix 1
13	LMAL152002	Fish Street - 20mph speed limit	Goldhanger	2017/18	25/03/2015	Traffic Management	To reduce the speed limit to 20mph, will require a CMA	£5,000	New Traffic Signs and General Directions came into force in April 2016 and a pair of speed limit terminal signs no longer required by legislation. Therefore with a robust risk assessment a single sign may suffice. Design Engineer investigating.
14	LMAL152003	Braxted Park Road - VAS	Great Braxted	Aug 2016	25/03/2015	Traffic Management	To install a VAS near the entrance to Braxted Park Estate, will require a CMA	£8,500	
15	LMAL152004	Walden House Road - Creation of lay-by	Great Totham	Sep 2016	25/03/2015	Traffic Management	Works to formalise parking on verge with lay-by	£25,000	

Maldon District Local Highways Panel - Approved Works Programme (June 2016)

Schemes Key	Completed	Cancelled	Update
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Ref. No.	Cost Code	Task Name	Parish	Finish	CMA approved	Scheme Type	Works Description	Allocated Budget	Comments
2015/16 Approved Schemes (Continued)									
16	LMAL152006	Burnham Road - VAS	Latchingdon	Quarter 3	25/03/2015	Traffic Management	To install a VAS on Burnham Road, will require a CMA	£8,500	
17	LMAL152009	Burnham Road jw Maldon Road - Improvements to advanced give-way signage	Mundon	Apr 2016	25/03/2015	Traffic Management	Improvements to advanced give-way signage at A1 Corner	£3,000	Design completed in Appendix 1
18	LMAL152010	Fambridge Road (Lower Burnham Road to Rectory Road) - Study into provision of footway	North Fambridge	Quarter 3	25/03/2015	Traffic Management	Feasibility Study to consider provision of new footway/walkable verge	£5,000	
19	LMAL152011	The Avenue - Study into widening of footway	North Fambridge	May 2016	25/03/2015	Traffic Management	Feasibility Study into widening of footway	£3,000	See Design in Appendix 1, Scheme added to Potential Scheme List
20	LMAL152012	High Street/Station Road/North Street/Burnham Road - 20mph speed limit	Southminster	Quarter 4	25/03/2015	Traffic Management	To reduce speed limit to 20mph, will require a CMA	£10,000	Scheme TRO now progressing following additional automatic traffic counts. Though Station Road does not meet criteria for a 20mph .
21	LMAL152013	Main Road - improvements to traffic calming	St Lawrence	Aug 2016	25/03/2015	Traffic Management	Installation of solar lighting at existing priority working	£10,500	May 2015 - St Lawrence Parish Council confirmed electricity supply to existing signs is a Parish Council one. Request is for conversion to solar powered lights.
22	LMAL152014	Woodham Road j/w Martins Lane - Study into drainage improvements	Stow Maries	Jun 2016	25/03/2015	Traffic Management	Feasibility study into drainage improvements	£5,000	Technical Note in Appendix 2, two drainage improvement options on Potential Schemes List
23	LMAL152017	Church Street - dropped kerbs	Tollesbury	Quarter 3	25/03/2015	Traffic Management	Dropped kerbs to improve access to bus stop	£6,500	Design complete - See Appendix 1 - following Road Safety Audit design now includes build-outs to improve visibility of pedestrians crossing to bus stop. Top up £6,500 required for improved design.
24	LMAL152018	Parish Rooms Church Street - Study into improved access/surfacing	Tollesbury	Apr 2016	25/03/2015	Traffic Management	Feasibility Study into improved access/surfacing	£3,000	Study completed - See Appendix 1 for Option drawings - Option 1 £6,500 kerbs and 1.5m footway . Option 2 £17,100 kerbs and resurface gravelled area now schemes on Potential Schemes List.
25	LMAL152022	Maldon Road nr Does Corner - Study into drainage improvements	Ulting	May 2016	25/03/2015	Traffic Management	Feasibility Study into drainage improvements	£3,000	Report in Appendix 1 and Scheme now on Potential Scheme List
26	LMAL152023	Crouchman's Farm Road - Study into drainage improvements	Ulting	Apr 2016	25/03/2015	Traffic Management	Feasibility Study into drainage improvements	£3,000	Study Completed - see Appendix 1 - Stage 1 - Basic Maintenance - to ensure watercourse, gullies, piped sections flowing freely and clear vegetation £11,400, now on Potential Schemes List , before moving to Stage 2 - detailed design of Engineering Works,
27	LMAL152025	Witham Road/The Street/Maypole Road/Kelvedon Road/Beacon Hill - SID poles and SID	Wickham Bishops	Quarter 3	25/03/2015	Traffic Management	To provide SID poles and SID	£17,500	
28	LMAL152044	Charity Farm Bends, Maldon Road, Goldhanger - Bend Improvements (Signs & Lines)	Goldhanger	Quarter 3	30/06/2015	Traffic Management	Change of Scope for Drainage Improvement Schemes - LMAL142012, LMAL142013, LMAL142014 - original CMA signed 15/04/14. These Drainage Improvement schemes have now been covered by works carried out by Highway Maintenance Team. Panel has now made a recommendation to allocate monies from the three Drainage Improvement Schemes to a Bend Improvement scheme at Charity Farm Bends, Goldhanger.	£12,000	
29	LMAL158001	Bridleway 25 - drainage/surface improvements	Tolleshunt D'Arcy	Sep 2016	25/03/2015	Public Right of Way	To improve bridleway drainage/surface for 300m	£10,800	

Maldon District Local Highways Panel - Approved Works Programme (June 2016)

Schemes Key	Completed	Cancelled	Update
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Ref. No.	Cost Code	Task Name	Parish	Finish	CMA approved	Scheme Type	Works Description	Allocated Budget	Comments
2016/17 Approved Schemes									
30	LMAL165015	Milton Road, Maldon	Maldon	Sep 2016	12/04/2016	Passenger Transport	Provide new metal bus shelter following change in bus route	£6,000.00	
31	LMAL162055	Factory Hill/Brook Road/D'Arcy Road, Tolleshunt Knights	Tolleshunt Knights	2017/18	12/04/2016	Traffic Management	Feasibility Study into mini-roundabout improvements - extension of kerb line/domed RAB/directional signage	£3,000.00	
32	LMAL162083	Church Road (To j/w Mope Lane), Wickham Bishops - Extension of 30mph speed limit	Wickham Bishops	Quarter 4	12/04/2016	Traffic Management	Extension of 30mph speed limit	£2,500.00	
33	LMAL162067	Loamy Hill Road/Plains Road, Tolleshunt Major - Signage to Business Park	Tolleshunt Major	2017/18	12/04/2016	Traffic Management	Improvements to HGV signs to Business Park	£2,500.00	
34	LMAL162082	Beckingham Street/Tolleshunt D'Arcy Road, Tolleshunt Major - Speed signage improvements	Tolleshunt Major	2017/18	12/04/2016	Traffic Management	Improvements to existing speed limit repeater signs (size/frequency)	£5,000.00	
35	LMAL162081	Brook Road/Tolleshunt D'Arcy Road, Tolleshunt Knights - Speed limit repeater signs and roundels	Tolleshunt Knights	2017/18	12/04/2016	Traffic Management	Improvements to speed limit repeater signs and roundels	£6,500.00	
36	LMAL162076	Church Lane (Nr Four Elms/Glebelands), Stow Maries - Kerbing improvements	Stow Maries	Quarter 4	12/04/2016	Traffic Management	Install kerbing and cut drainage grips to prevent water ingress onto adjacent properties	£5,000.00	
37	LMAL162080	The Street/Woodham Road, Stow Maries - Speed roundels and speed repeater signs	Stow Maries	Quarter 3	12/04/2016	Traffic Management	Install 30mph speed roundels and review size/number of speed repeater signs	£12,000.00	
38	LMAL162062	The Street (The Sun & anchor PH to The Star PHO, Steeple - Edge of carriageway road markings	Steeple	2017/18	12/04/2016	Traffic Management	Install edge of carriageway road markings	£2,000.00	
39	LMAL162068	Green Lanes/Highlands Hill/Foxhall Road, Southminster -HGV route signage	Southminster	2017/18	12/04/2016	Traffic Management	Signage to show alternative HGV route avoiding Southminster	£6,000.00	
40	LMAL162052	Village Hall, Steeple Road, Mayland	Mayland	2017/18	12/04/2016	Traffic Management	Improved advanced signage to Village Hall	£3,000.00	
41	LMAL162069	Wantz Road (Between j/w Queens Street and j/w High Street), Maldon - One-way road	Maldon	Quarter 4	12/04/2016	Traffic Management	Installation of One-way road to allow Parking Partnership to install Residents Parking Scheme	£25,000.00	TRO now being progressed, 6-9 months
42	LMAL162031	London Road (Cemetery to start of 30mph limit), Maldon - 40mph buffer	Maldon	Quarter 4	12/04/2016	Traffic Management	40mph speed limit buffer	£8,000.00	TRO now being progressed, 6-9 months
43	LMAL162079	Kelvedon Road j/w Beacon Hill, Little Braxted - Vehicle over-run improvements around War Memorial	Little Braxted	2017/18	12/04/2016	Traffic Management	Implement tarmac over-run areas around War Memorial	£4,600.00	
45	LMAL162048	B1026 Maldon Road, Goldhanger - Speed roundels/speed limit repeater signs	Goldhanger	2017/18	12/04/2016	Traffic Management	30mph carriageway speed roundels and increased number of speed limit repeater signs	£10,250.00	
46	LMAL162078	B1010 Maldon Road, Burnham on Crouch - Speed roundels/speed limit repeater signs	Burnham on Crouch	2017/18	12/04/2016	Traffic Management	30mph carriageway speed roundels and also speed limit repeater signs in section without street lighting	£7,250.00	
47	LMAL162027	B1021 Church Road (Jw B1010 Maldon road to j/w Marsh Road) Burnham on Crouch - Zebra crossing	Burnham on Crouch	TBC	12/04/2016	Traffic Management	Provision of zebra crossing	£45,000.00	Works Still being progressed as possible Third Party Agreement, LHP monies to be used if necessary to ensure scheme proceeds.
48	LMAL162041	Waterside Road, Bradwell on Sea - HGV Signage improvements	Bradwell on Sea	2017/18	12/04/2016	Traffic Management	Improvements to HGV signs to prevent goods vehicles being unable to turn around at end of road	£4,000.00	

Maldon District Local Highways Panel - Approved Works Programme (June 2016)

Schemes Key	Completed	Cancelled	Update
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Ref. No.	Cost Code	Task Name	Parish	Finish	CMA approved	Scheme Type	Works Description	Allocated Budget	Comments
2016/17 Approved Schemes (Continued)									
49	LMAL161008	Woodrolfe Road, Tollesbury - Signage improvements to highlight 30mph speed limit	Tollesbury	Quarter 3	12/04/2016	Safer Roads	30mph repeater signs	£1,500.00	
50	LMAL161009	Braxted Park Road j/w Lea Lane, Great Braxted - Signage/Verge Hazard posts	Great Braxted	Quarter 3	12/04/2016	Safer Roads	Improvements at junction - Side road ahead sign on SE approach, review position of finger post on central island at junction, provide hazard verge marker post on both approaches to junction	£12,500.00	
51	LMAL168005	Footpath 36 (Over railway and off Foundry Lane) Burnham on Crouch - Surface improvements	Burnham on Crouch	Quarter 4	12/04/2016	Public Right of Way	Implement surface improvements on public right of way	£6,000.00	
Revenue Funded Schemes									
52	LMAL162085	Surveys	Various	Quarter 4	12/04/2016	Traffic Management	Ad Hoc Survey Works - Automatic Traffic Counts/Degree of Pedestrian Conflict Surveys/Road Safety Assessments to feed into scheme validations	£10,000	Spend to date - Seven Automatic Traffic Counts £1,750
53	LMAL462084	Power washer	Various	May-16	12/04/2016	Traffic Management	Purchase of power washer to allow Highway Rangers to carry out enhanced sign cleaning	£2,000	Funding to be transferred to MDC

Maldon District Local Highways Panel

Appendix 1 – Approved Works Programme June 2016 Updates

AWP reference 4 - Page 3 to 35

LMAL142002 - B1026 Goldhanger Road, nr Spicketts Brook, Heybridge
Feasibility Study into Drainage Improvements

AWP reference 10 - Page 36 to 47

LMAL151004 - B1010 Lower Burnham Road 600m west of j/w Rectory Lane,
Latchingdon
Design of improvements at pond adjacent to the highway

AWP reference 12 - Page 48 to 55

LMAL151007 - Beckingham Road j/w Festival Gardens, Tolleshunt D'Arcy
Design of junction improvements

AWP reference 17 – Page 56 to 60

LAML152009 - A1 Corner, Burnham Road j/w Mundon Road, Mundon
Design of improvements to advanced give-way signage

AWP reference 19 - Page 61 to 66

LMAL152011 - The Avenue, North Fambridge
Design of footway improvements

AWP reference 22 - Page 67 to 85

LMAL152014 - Woodham Road j/w Martins Lane, Stow Maries
Feasibility Study into drainage improvements

AWP reference 23 - Page 86

LMAL152017 - Church Street j/w B1023 High Street Tollesbury
Design of dropped kerbs to improve access to bus stop

Maldon District Local Highways Panel

Appendix 1 – Approved Works Programme June 2016 Updates

AWP reference 24 - Page 87 to 101

LMAL152018 - Parish Rooms Church Street Tollesbury
Feasibility Study and Design of improved access to Parish Rooms.

AWP reference 25 - Page 102 to 124

LMAL152022 - Does Corner, B1019, Maldon Road, Ulting
Feasibility Study into drainage improvements.

AWP reference 26 - Page 125 to 143

LMAL152023 - Crouchman's Farm Road, Ulting
Feasibility study into drainage improvements.

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Goldhanger Road, Heybridge, Maldon

Feasibility Study
Highway Improvements Design Team (SMO2)
June 15, 2016



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Feasibility Study
Goldhanger Road, Heybridge
Maldon



Document Control Sheet

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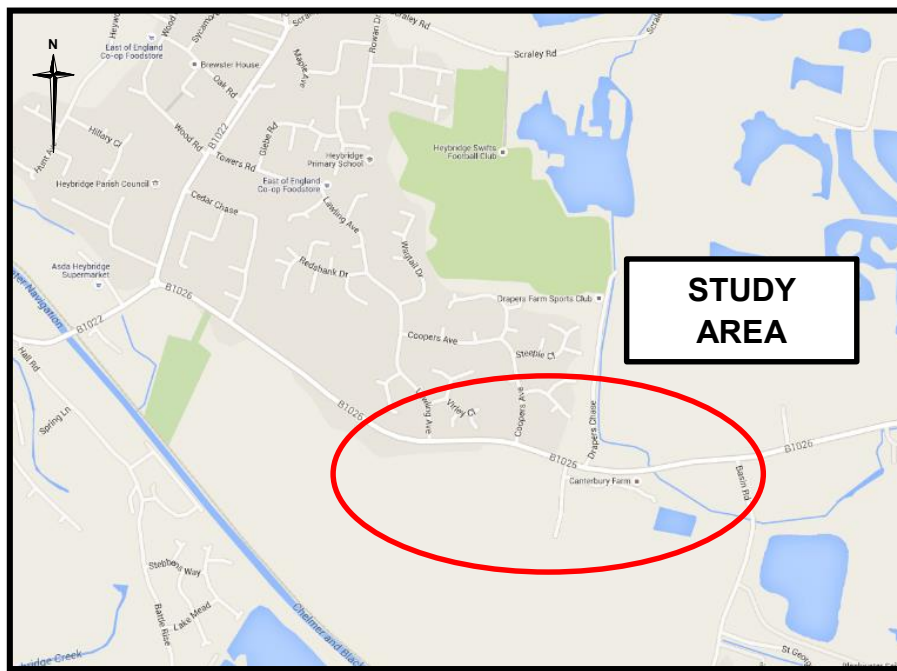
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1.0 Introduction

- This note has been written for and on behalf of Essex County Council (ECC) as part of the Local Highways Panels (LHP) which have been established in all 12 districts of Essex.
- These panels consist of County and District/Borough Members who meet on a quarterly basis to discuss and mutually consider Highways expenditure within their local district or borough boundaries.
- This note is to be presented to the Maldon LHP to review and comment, propose further actions, feasibility of the options and report the findings back to ECC.

Site Location Plan



Goldhanger Road, Heybridge, Maldon

Post code: CM9 4YS

Grid reference: (Easting) 586638
(Northing) 207828

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2.0 Background to the scheme

The Maldon LHP has funded a feasibility study as part of their 2015/2016 budget for drainage improvements along a section of Goldhanger Road, Heybridge, Maldon, from its junction with Lawling Avenue, to its junction with Basin Road.

The SMO2 Highway Improvements Design Team (HIDT) have been commissioned through a design brief to investigate the following:-

- Undertake investigation of existing highway drainage network on Goldhanger Road from its junction with Lawling Avenue to Basin Road.
- Review historical customer reports of blocked gullies, blocked and overgrown ditches and flooding in the road to confirm scope of work completed to date by Highways Maintenance Team.
- Liaise with Essex County Council Flood Management Team Engineer Lee Scencier to review scope of work identified and undertaken and extent of off highway drainage issues.
- Liaise with Jennifer Gudka and Neil Whitlock to review scope of work identified and extent of any potential enforcement issues with water draining into the highway from adjacent land.
- Site visit(s) to confirm extent of works and any site issues, site inventory.
- Identify improvements to drainage network, including emergency, short term and long term solutions.
- Arrange for budget estimates to be completed for long term solution.
- Develop options study, and present to the Maldon LHP.

The investigation of the existing highway drainage is detailed in the following pages, with recommended improvements detailed in section 5.

There were historic reports of blocked gullies recorded, however none of these were recent enough to provide useful data on the system. The historic reports were addressed at the time by the maintenance team (by clearing the gully pots) however in none of these instances where the gully leads or carrier systems inspected or maintained.

The Flood Management Engineer had not specifically investigated the drainage issues in this area, but was fully aware of the issues in Lawling Avenue which may have contributed to the flooding issues in August 2013. He was very

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pleased that we were investigating this section and will be provided with a copy of the completed report for future reference.

There were no outstanding enforcement issues or any recent cases in the vicinity, however the enforcement team provided support in identifying and meeting land owners.

A number of site visits were undertaken during the investigation and these have been detailed in the following pages.

The budgetary estimates for the proposed works have also been included in section 5.

This report will be used to present to the Maldon LHP and will be circulated to affected residents.

3.0 Site Characteristics

Goldhanger Road, Heybridge is classified as the B1026, this route is an important link for residents east of Maldon to gain access to Maldon Town and the primary road network including the A12 and A414.

The western section of this highway is subject to a 40mph speed limit, however just west of Lawling Avenue, a 30mph speed limit applies.

There are residential properties along most of the length, and access roads to further housing and farm buildings within the section.

The extent of the study was from just west of Lawling Avenue up to Basin Road, however as well as the carriageway drainage infrastructure the nature of the study resulted in the inclusion of connecting ditches both remote and adjacent to the highway as these form part of the drainage system.

There is a combination of gully types within the system with arterials and potted gullies both being evident. The carrier system is also a mixture of materials with both plastic and concrete pipe sections. More details on pipe types, size and condition can be found in Appendix 2.

4.0 Outline of Problem

The cover photo shows the results of a significant rain event that occurred in August 2013, this incident resulted in the road being impassable for several hours and the flooding of some adjacent properties.

Following this event the maintenance team undertook gully pot cleansing but this did not resolve the problem.

In 2016 the issue was passed to the Highway Improvements Design Team, for further investigation.

4.1 Initial investigation

Unfortunately there were no records of the existing system so the initial investigation was a visual inspection of the manholes to try to establish the condition and serviceability of the infrastructure and establish the direction of flow.

This inspection revealed that a large proportion of the system was significantly silted up and therefore non-operational. There appeared to be three outfalls within the study section, two to open ditches on private land, and third into Basin Road. These have been shown on the Watercourse Location Plan in Appendix 1.

The westerly out fall has been considered in 3 sections, each with a W prefix, and the easterly outfall in 5 sections with an E prefix.

At the western end of the scheme there is a ditch which runs adjacent to the carriageway (W1) and a pipe that appears to outfall into this ditch. However it also appears that the land drainage from the field (W2) also partially flows towards (W1). This creates a low point between W1 and W2 adjacent to the carriageway. With this information, following a heavy rain event, run off would have nowhere to go but onto the carriageway.

The easterly outfall is just to the east of Drapers Chase (E1) and connects to the highway outfall which is 450mm diameter. However the pipe at this location was obscured by silt for 90 % of the waterway and the ditch was significantly

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over grown, heavily silted and dry which, suggests that it has not carried water in some considerable time.

Following this open section of ditch the next section through 'The Meres' is piped (E2), partially piped through Wayside (E3), and open ditch through Brook Lodge (E4) and open ditch through the field section (E5) to Spicketts Brook.

The Basin Road section (east of Spicketts Brook) flows in an easterly direction, and has been established as operational as part of a previous scheme. The gullies on this section are arterial style without gully pots, which often can result in detritus in the carrier system. Heavy silt was observed in almost all the upstream system and therefore it was noted that this also requires maintenance.

4.2 Secondary investigation

Following the initial investigation further information on the drainage network was required to assess the condition of the existing infrastructure, confirm flow directions, and undertake 'emergency works' to try to get the system working.

This further investigation was undertaken in two phases;

Phase 1 – Jetting and CCTV camera survey

On 10th and 11th of March and the 14th and 15th April FM Conway jetting and CCTV survey teams attended site to assist with establishing the location condition and serviceability of the existing drainage infrastructure, full details of this investigation can be found in Appendix 2.

However in summary 4 buried access chambers which were previously unknown were discovered, 32 blocked gully leads were jetted and made operational and condition information was obtained for all pipe runs where access was possible.

Generally the pipework was in reasonable to poor condition with the ingress of roots on many joints and a significant percentage of silt. For example the road crossing which joins the north and south drainage systems was silted to 98% of capacity – see Appendix 2 for more details.

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The jetting identified that even with a large percentage of the silt and undergrowth removed from the ditch (E1) the section was still holding water suggesting there are further issues downstream causing the flow to back up, and compounding the silt issue.

Unfortunately due to the issues found to the east – there was insufficient time to jet and survey the system east of Spickets Brook, however we intend to include this section when we revisit the site for further investigation upon the completion of the short term measures.

Phase 2 – Topographical Survey

In order to fully assess the flow directions and pipe gradients a full topographical survey was undertaken on the area. All residents were co-operative and willing to allow access to facilitate this survey.

This information allowed us to fully assess the current operation of the system and the measures that would be required to provide a self-cleaning system 100% capacity.

Appendix 3 provides a copy of the base topographical survey – with long sections provided in Appendix 4.

Full details of both the surface and invert levels can be found on these plans, however a brief summary of the findings has been provided below.

In simple terms the change point is mid-way between Coopers and Lawling Avenues with all highway water west of this point heading west up to Spickets Brook, and all highway water east heading east. This point has been identified on the long section.

East of Spickets Brook the highway water heads east to the Basin Road system.

The capacity and operation of the entire system is highly dependent upon the outfalls and therefore the two non-operational outfalls have been considered carefully for each of these outfalls in the following pages:

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Westerly Outfall

The outfall to the west is into a ditch system which is entirely on McCready land, the survey of this system can be found in Appendix 3, with a long section given in Appendix 4 showing both the existing and proposed ditch bed levels.

It can be seen from the existing levels that the ditch is currently very variable and has no positive flow direction. During the site investigation this section was discussed with the land owner who raised his concerns over the levels and the flow direction.

A proposed alignment has been shown on the long section in Appendix 4 and this will be discussed with the land owner, and hopefully implemented shortly.

Easterly outfall

The survey work revealed that some of the ditches required digging out and the pipework which has been used to replace the open ditches by property owners at the rear of the gardens has been installed too high.

Based on the constraints of the levels of the highway drainage outfall (1.57m) and the outfall into Spickets brook (1.43m) the following works to ditches and revised pipe levels are required for the system to work at 100% capacity.

Mr McCready's Ditch (E1)

This section is entirely open ditch, the landowner cleared the water course of vegetation and re-dug the ditch following our request. As can be seen in the long section this portion now follows the full capacity line well, and further works are not required.

The Meres (E2)

This section is entirely piped ditch however as can be seen in the long sections this has been installed to high as follows;

For full capacity the west end should have a level of 1.54m – (actual 1.72m) and the east end 1.52m (actual 1.72m (assumed))

Therefore to achieve full capacity in the upstream system this pipe would need to be dropped by 320mm at the west end and 340mm at the east end.

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These higher levels result in water sitting in E1 ditch upstream, and if the inverts of this section are retained this results in the upstream system only being able to operate at 70% of its full capacity.

Due to similar level issues downstream the capacity of this section of pipe has also been reduced. Although some assumptions have been made (as it was not possible to obtain a level on the covered open ditch) the issues in the next section (E3) further reduce the capacity of E2, and the upstream system.

The water levels indicate that an invert level of 1.96m exists on the covered ditch section at the eastern end, where a level of 1.52m would be desirable this reduces the capacity of the E2 section to 46% of that would be available, details of the remedial measures required to improve this can be found in the (E3) section below.

Based on the existing levels, this issue results in a significant reduction in capacity in the highway outfall, and results in the capacity of the highway outfall being reduced to 36% of its full capacity.

Wayside (E3)

The westerly portion of this section is a covered ditch, which appears to have been constructed with timber bearers over the watercourse, unfortunately this prevents both access and maintenance of the waterway, and for an accurate level to be taken at this point during the survey.

Given the downstream water level, at the invert of E2 its can be concluded that the bed level in this section is 1.96m, suggesting that 530mm of silt needs to be removed from this section to achieve a 100% capacity.

The open ditch portion also needs to be cleaned to a depth 1.52m (currently 1.86m) at west end and to 1.50m (actual is 1.83m) at the east end.

Therefore to achieve full capacity in the upstream system the open ditch would need the surface level reduced by 340mm at the west end and 220mm at the east end.

The pipe section has also been installed too high and would also need to be dropped by 360mm at the east end and 330mm at the west end.

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Reducing the invert levels on this section and the preceding sections to those detailed would remove the upstream standing water and the risk of further silting up. As well as significantly improving the capacity in the highway outfall.

This section currently results in the capacity of the highway outfall being reduced to 36% of its full capacity, and has the most significant effect on the system as a whole.

Brook Lodge (E4)

This section is completely open ditch, however the survey reported high silt levels (1.88m).

To provide the 100% capacity system the levels in this section of ditch should be reduced by 400mm at the western end and 250mm at the Eastern end.

Mr McCready's Ditch (E5)

This section is completely open ditch, however the survey reported high silt levels (1.69m).

To provide the 100% capacity system the levels in this section of ditch should be reduced by 400mm at the western end and 250mm at the eastern end where it outfalls into Spicketts Brook. – clearing this section will prevent standing water in the section E4.

Basin Road

Unfortunately the time and resources did not allow for a full investigation of this outfall – however it will be investigated when further investigation is undertaken following the completion of the short term measures.

5.0 – Remedial Measures

The remedial measures proposed have been grouped into sections as follows;

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5.1 Short term / Emergency measures

These measures have been agreed with a sub-contractor, and the funds are in place. The work is programmed to take place in June and will address some of the issues discovered in the secondary investigation. Also excavation will be undertaken to locate buried access chambers, repair damaged access covers and incomplete pipe runs. The scheme drawing showing all proposed works has been provided in Appendix 5.

5.2 Further investigation works

This has been programmed to follow on from the short term measures detailed above, and will involve another visit from the jetting crew. This will allow the outstanding pipe runs to be surveyed and the condition assessed where access was previously unavailable. This work will also include investigation of the Basin Road system which is hoped will not present the issues of the western and eastern outfalls as it does appear to be operational.

5.3 Long term works

Until all of the short term, and further investigation works have been completed it is not possible to confirm exactly what long term measures are required. This is as a result of buried chambers and pipe blockages which to date have prevented the assessment of the system as a whole.

Also it may be possible to deal with some of the blockages by jetting which would remove the need for excavation and thus would result in a more economical solution.

Therefore following the completion of these works a technical note will be issued detailing exactly what is required, with estimated costs.

However a summary has been provided below of the likely recommendations for long term works based on the currently available information.

- The CCTV survey showed that section between OF1 and CP1 is nearing the end of its useful life, it was only possible to survey 46% of this run and 8 significant condition issues were noted. The run is concrete

sectional pipes which are supplied in short sections butted jointed together. This carrier type is highly susceptible to root ingress, as a result of the regular joints and therefore is not recommended for use in the proximity of trees. These factors result in the conclusion that this section would be uneconomical to repair, and should be replaced between the access chambers with a plastic twin wall pipe of slightly increased size (225mm dia.).

- KO4 to MH2 could not be surveyed due to the damaged pipe – this will be assessed following the pipe repair.
- KO8 and KO9 had issues with the gully lead however until the KO7 to CP4 run can be fully assessed following the uncovering of CP6 conclusions regarding these leads cannot be reached.
- CP4 to CP5 is a vital section of the system as all the system to the east discharges through this section. The large diameter of this section means that a 'sledge jet' is likely to be more successful to clear this section and therefore the problems on this section may be resolved by further jetting at the further investigation stage.
- The service pipe between CP7 and CP9 is likely to be very costly to resolve and therefore as long as CP4 to CP5 can be made fully operational this issue would not be economically viable to resolve.
- The buried chamber/structure at Drapers Chase is possibly the original culvert, this is fully operational and excavation of this would result in a closure of Drapers Chase for at least 3 days therefore, given the limited benefit and the disruption to residents no works are proposed here.
- 22 of the gullies are arterial style, these are without gully pots and thus any debris in the surface water run-off enters the system, as there is no pot for this to be collected in. The gullies without pots should be replaced with standard gullies to address this issue and provide a sustainable drainage system for the future.

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- Also most of the gully leads, are constructed in vitrified clay, which is brittle and therefore not suitable for vehicle overrun. Replacing these leads with plastic twin wall pipe would also provide a more robust infrastructure for the future.
- Now records of the system have been produced, regular monitoring and maintenance is recommended to ensure that the system remains operational into the future.

5.4 Land Owners works

All the property/land owners identified in section 4 are Riparian land owners which means that they have a responsibility to maintain the watercourses as follows;

To maintain the watercourse and to clear any obstructions (natural or otherwise) so the normal flow of water is not impeded.

To accept the natural flow from your upstream neighbor and transfer it downstream without obstruction, pollution or diversion.

To maintain the banks and bed of the watercourse (including trees and shrubs growing on the banks) and any flood defenses that exist on it.

To maintain any structures on your stretch of watercourse including culverts, weirs and mill gates.

To keep the bed and banks clear from any matter that could cause an obstruction and clearing any debris, natural or otherwise, even if it did not originate from your land.

Both the eastern and western highway drainage systems outfall into ditches which are the responsibility of the adjacent riparian land owners, and therefore this infrastructure must also be operational for the highway drainage system to function properly.

Western Outfall

This outfall is into the ditch system farm land in the vicinity is owned by the McCready family, who have been particularly helpful in providing access and maintaining ditches when requested, and have already excavated section E1

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(see Appendix 1 for the location) – further works are required by this land owner (E5, and W 1, 2, + 3) and these have already been discussed. We are confident that with the benefit of the information contained in this report the land owner will re-profile the ditch as detailed. This along with the short term and further investigatory works, will result in this portion of the system being fully operational.

Eastern Outfall

As the pipe work installed by the land owners is not at the correct level, this, and the build-up of silt in the open/covered ditch sections would be viewed as ‘obstructions’ and therefore these land owners have not fulfilled their riparian land owners duties.

In addition to the flooding risk Mrs Shob (The Meres) is allergic to insect bites and therefore is concerned at the current situation with the outfall which results in standing water in section E1, providing an environment which could encourage these insects.

Responsibility for the water course from the highway system egress at E1 is the Environment Agency as this section has been classified as Main River. Therefore any enforcement of the landowners riparian duties would be via the Environment Agency rather than Essex Highways.

6.0 The Next Steps

As the highway drainage system is dependent upon the outfalls, and Essex Highways have completed the investigation, we are willing to meet the riparian land owners to explain the findings and recommended remedial measures.

The changes required to each section to achieve full capacity have been detailed in Section 4 – however it is appreciated that these would result in significant cost and disruption for the residents.

With this in mind clearing the open ditches in E5 and E4, and the open/covered sections in E3 will result in the capacity of the highway outfall being improved from its current 36% to 50% and therefore would result in a reduction to the flood risk.

Essex Highways would like to see these sections addressed as soon as possible to ensure that the highway drainage is operational as flooding on the highway can result in both an increase in accident risk to highway users and flooding risk for property owners.

Following the discussions with the land owners the outcomes will be passed to the Environment Agency with a view to full capacity being achieved in the future.

It should be noted that if no remedial measures are implemented on this section the level issues will result in the system 'silting up' again and soon becoming non-operational, and flooding issues re-occurring.

The short term and further investigatory works have been programmed and these will lead to a conclusion on the required long term measures.

7.0 Executive Summary

The drainage infrastructure in this location was unrecorded and non-operational when the study began.

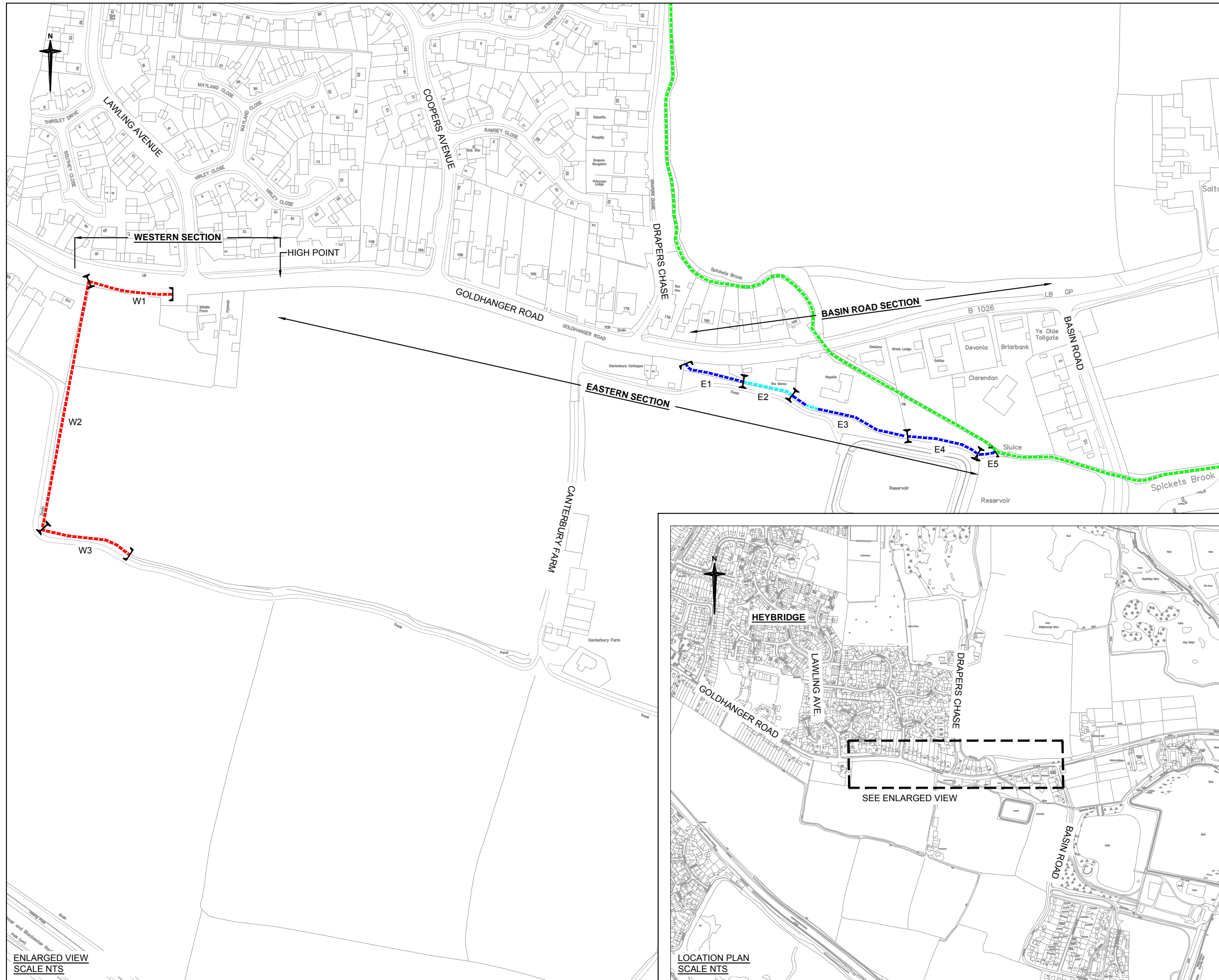
We have been able to establish how the system should work, and have managed to get most of the system operational, although further works by third parties are needed to provide the designed capacity.

If these third party works are not completed and standing water is retained in the system, there is a risk that the system will soon re-silt and will again become non-operational.

Aside from the outfall issues, the system also requires some general maintenance, to ensure the system continues to be operational into the future.

Improvement works have also been proposed to ensure that the system is sustainable into the future.

Appendix 1 – Location Plan



- NOTES**
- DO NOT SCALE FROM THIS DRAWING.
 - Any discrepancies with this drawing should be reported back to the design engineer.
 - This drawing is to be read in conjunction with "Goldhanger Road, Heybridge Feasibility Study".

- KEY**
- W1 Westside open watercourse location (inc. reference number)
 - E1 Eastside open watercourse location (inc. reference number)
 - E2 Eastside piped section location (inc. reference number)
 - Spicketts Brook
 - End of section
 - End of section/start of next section

Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved
A	MAY 16	Amendments to location plan extents, Spicketts Brook and key	LCN	SLS	LCN	MBS

FOR INFORMATION

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Tel: 0345 6037631 © Essex County Council

**MALDON LHP
GOLDHANGER RD, HEYBRIDGE
LMAL142002**

**WATERCOURSE
LOCATION PLAN**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	SLS	LCN	MBS
DATE MAY 16	DATE MAY 16	DATE MAY 16	DATE MAY 16	DATE MAY 16

DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A3 (420x297mm)
AS SHOWN

DRAWING No: **HI-4163-00-002** REV: **A**

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Appendix 2 – CCTV Results

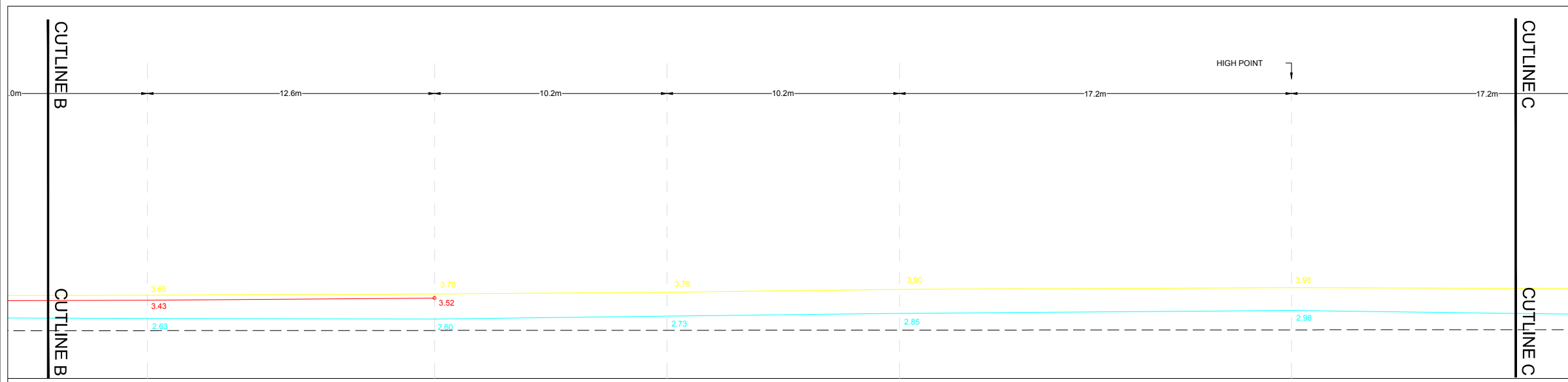
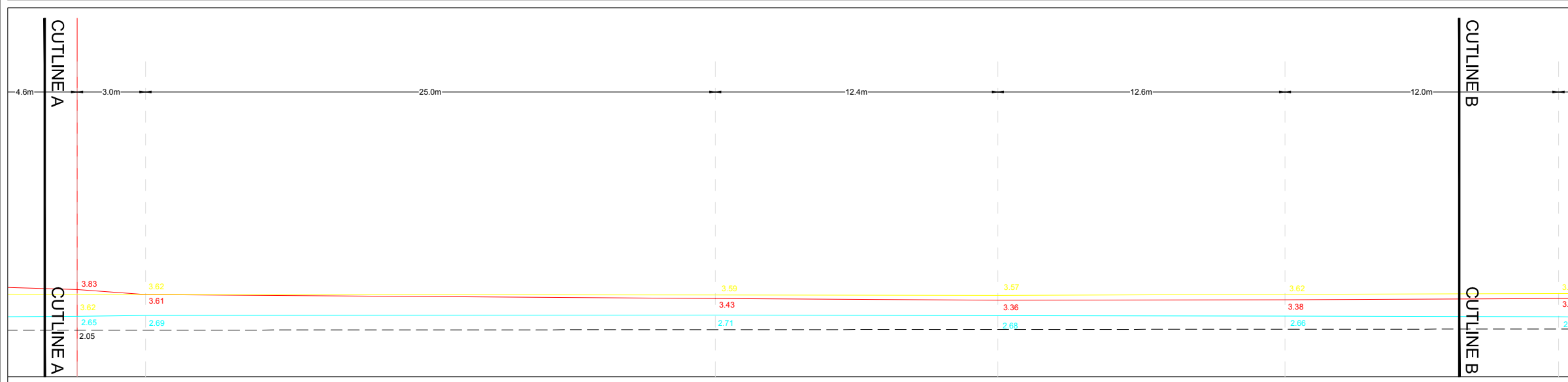
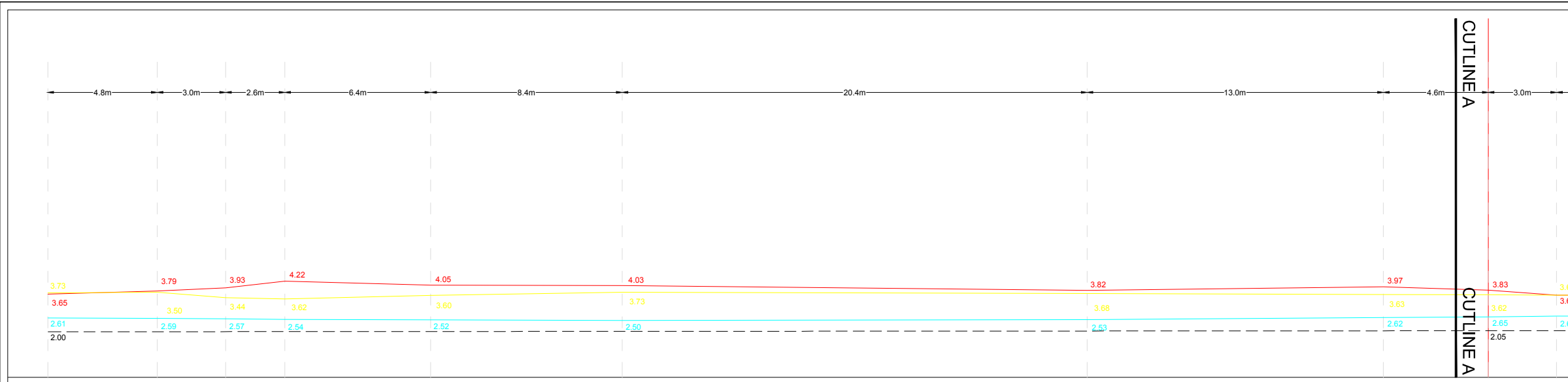
These results can be supplied, though this is a large file and would need to be sent separately.

Appendix 3 – Topographical Survey

Appendix 4 – Long Sections



Appendix 4 – Long Sections



NOTES

- DO NOT SCALE THIS DRAWING.
- This drawing is to be read in conjunction with Goldhanger Road, Heybridge, Feasibility Study.

KEY

- Surface Level (South)
- Surface Level (North)
- Water Level
- Silt Level
- Bed Level
- Watercourse Level
- Pipe Level (inc. dia)
- - - - - 100% Capacity Alignment

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd

DRAWING STATUS

FOR INFORMATION



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 Tel: 0345 6037631
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SCHEME TITLE

**MALDON LHP
 GOLDHANGER ROAD, HEYBRIDGE
 LMAL142002**

DRAWING TITLE

**DRAINAGE IMPROVEMENTS
 LONG SECTION (1)**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	LCN	LCN	MBS
DATE	DATE	DATE	DATE	DATE
APR 16	APR 16	APR 16	APR 16	APR 16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES LEVELS IN METRES

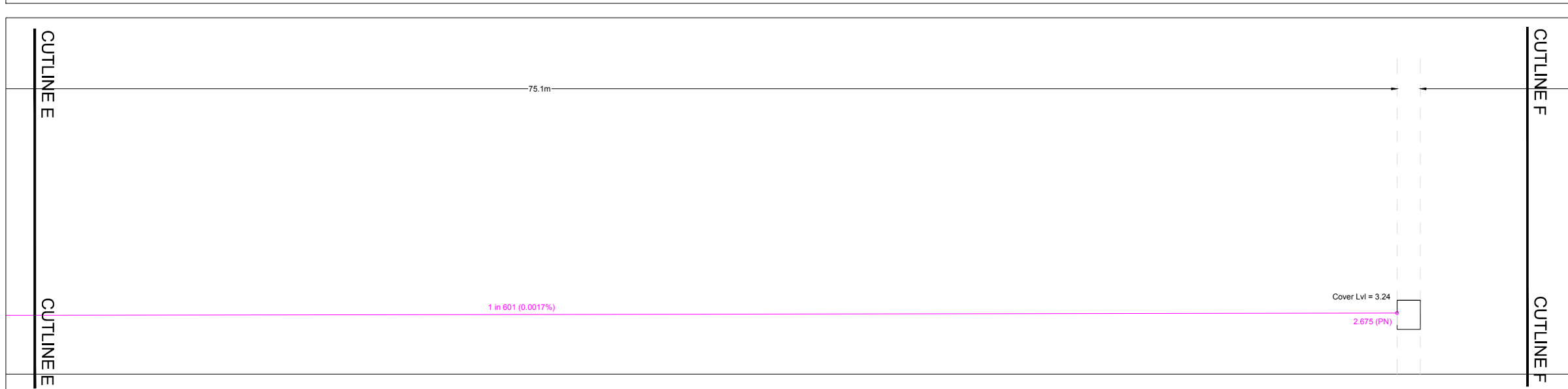
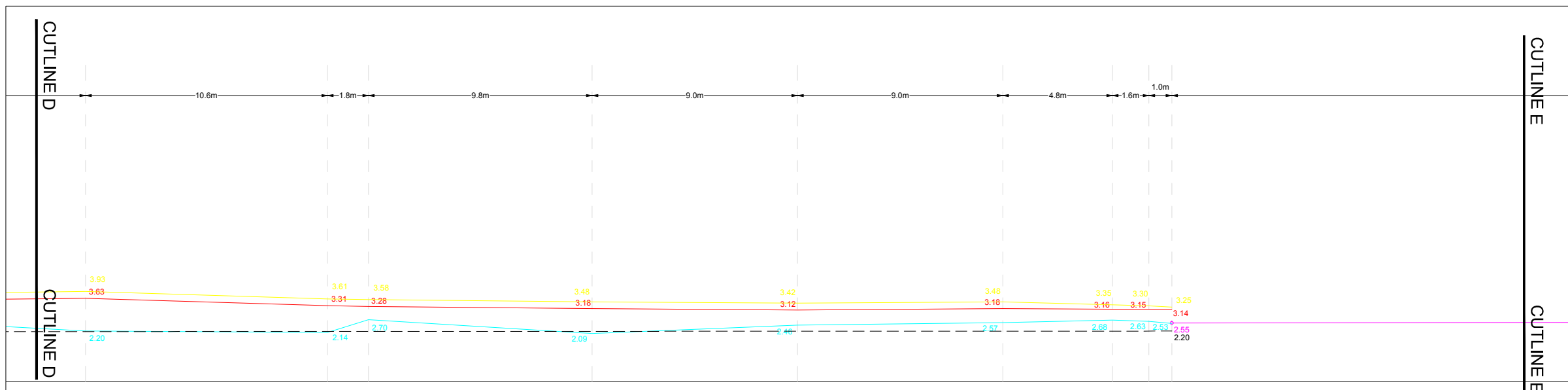
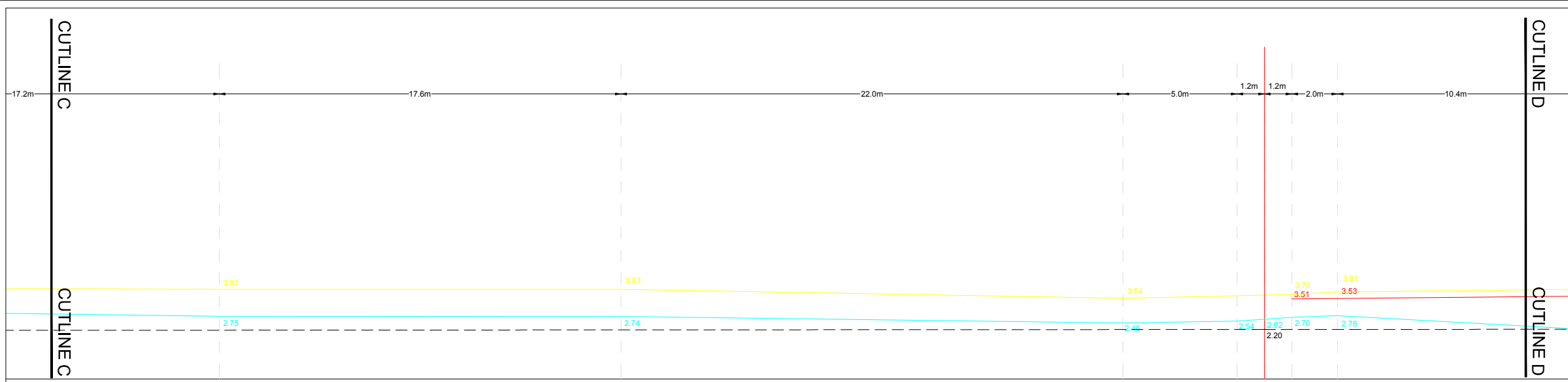
SCALE AT A1 (841x594mm) AS SHOWN

DRAWING No. **HI-4163-SK003**

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NOTES
 1. DO NOT SCALE THIS DRAWING.
 2. This drawing is to be read in conjunction with Goldhanger Road, Heybridge, Feasibility Study.

- KEY**
- Surface Level (South)
 - Surface Level (North)
 - Water Level
 - Silt Level
 - Bed Level
 - Watercourse Level
 - Pipe Level (inc. dia)
 - - - - - 100% Capacity Alignment

Rev.	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS
FOR INFORMATION



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SCHEME TITLE
**MALDON LHP
 GOLDHANGER ROAD, HEYBRIDGE
 LMAL142002**

DRAWING TITLE
**DRAINAGE IMPROVEMENTS
 LONG SECTION (2)**

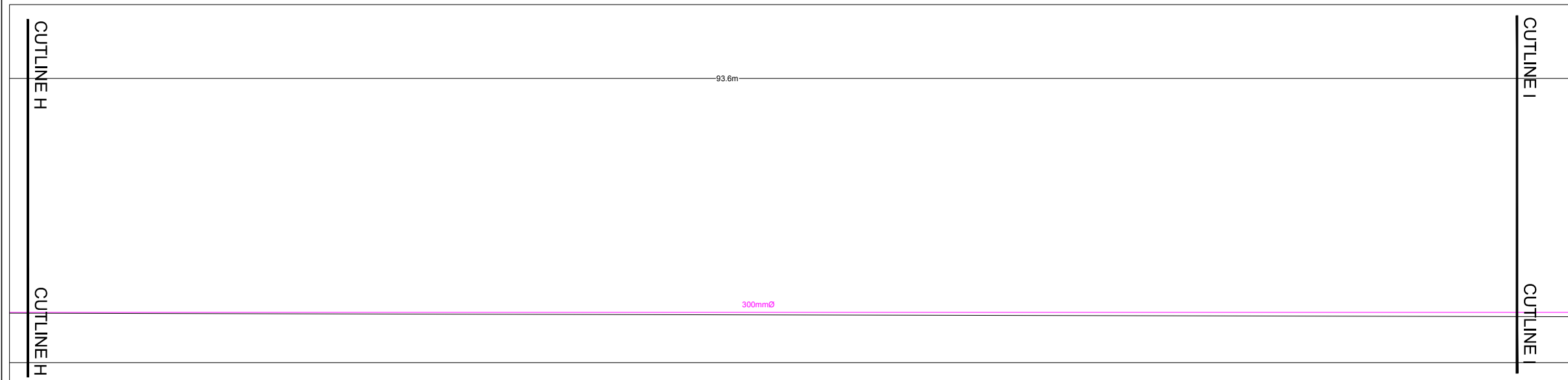
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LCN	LCN	LCN	LCN	MBS
DATE	DATE	DATE	DATE	DATE
APR 16	APR 16	APR 16	APR 16	APR 16

DRAWING UNITS U.K. O.
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 LEVELS IN METRES

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- KEY**
- Surface Level (South)
 - Surface Level (North)
 - Water Level
 - Silt Level
 - Bed Level
 - Watercourse Level
 - Pipe Level (inc. dia)
 - 100% Capacity Alignment

Rev.	Date	Description of revision	Drawn	Checked	Review'd	Approv'd

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LMAL142002**

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**DRAINAGE IMPROVEMENTS
LONG SECTION (3)**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	LCN	LCN	MBS
DATE	DATE	DATE	DATE	DATE
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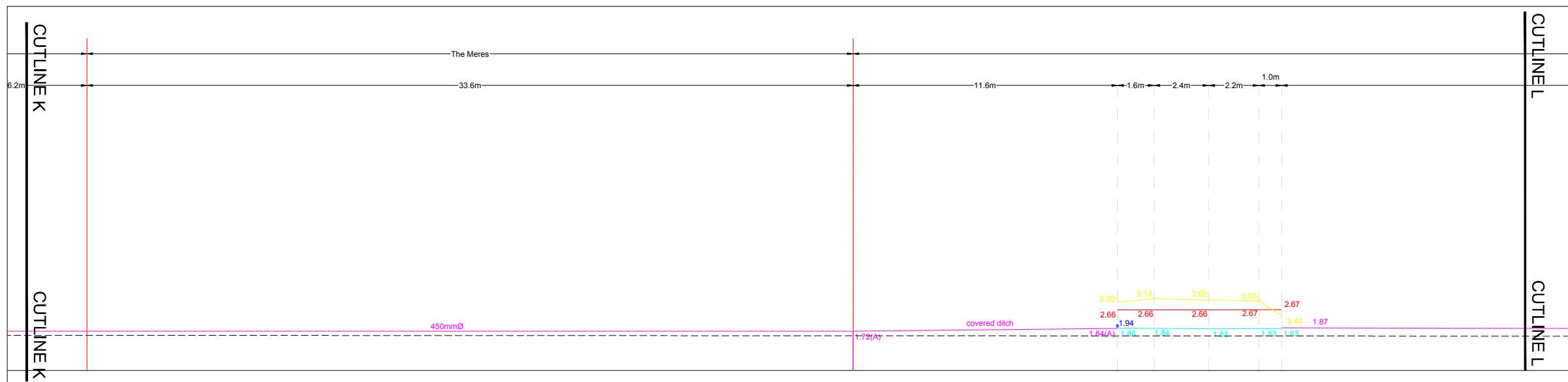
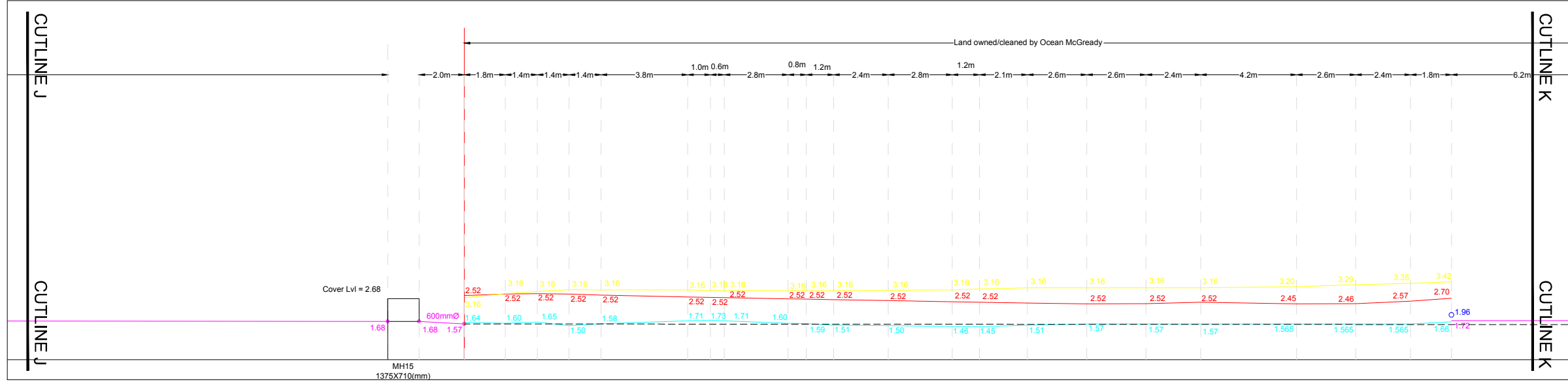
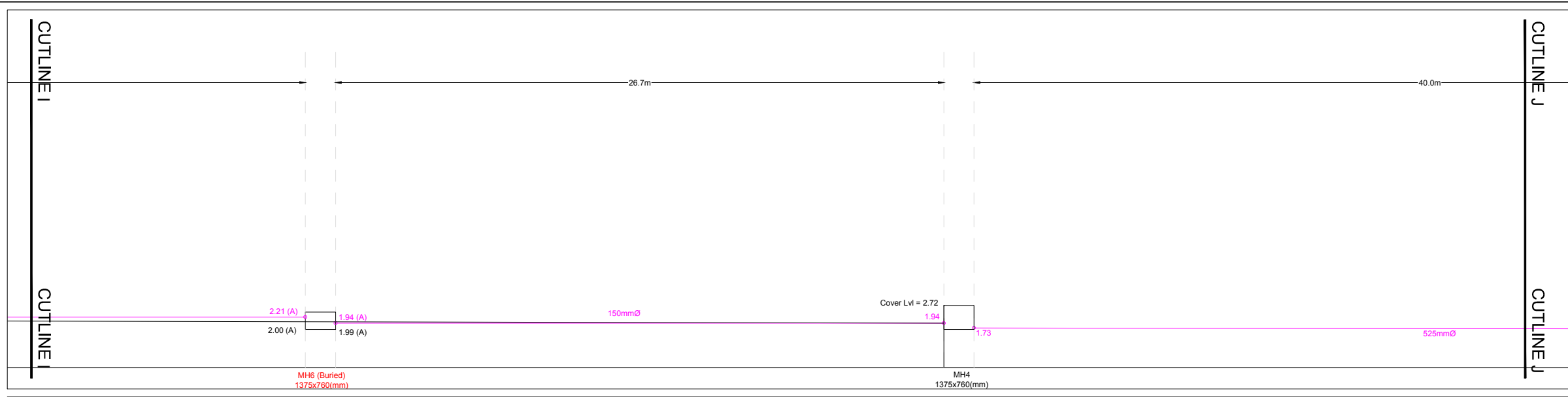
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DIMENSIONS IN MILLIMETRES AS SHOWN

LEVELS IN METRES

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- KEY**
- Surface Level (South)
 - Surface Level (North)
 - Water Level
 - Silt Level
 - Bed Level
 - Watercourse Level
 - Pipe Level (inc. dia)
 - 100% Capacity Alignment

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd

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SCHEME TITLE

**MALDON LHP
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LMAL142002**

DRAWING TITLE

**DRAINAGE IMPROVEMENTS
LONG SECTION (4)**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	LCN	LCN	MBS
DATE	DATE	DATE	DATE	DATE
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DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES LEVELS IN METRES

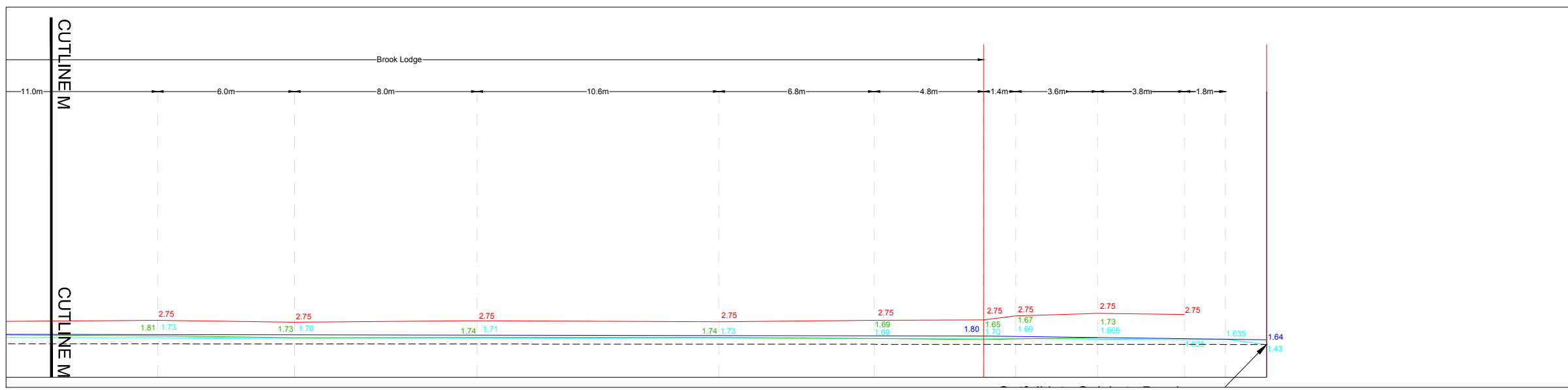
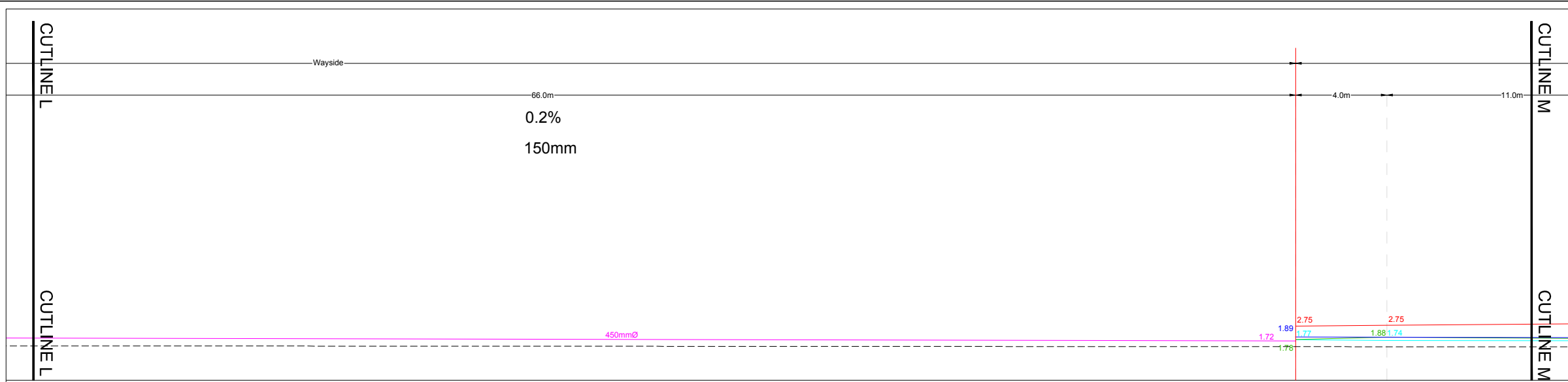
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- NOTES**
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- KEY**
- Surface Level (South)
 - Surface Level (North)
 - Water Level
 - Silt Level
 - Bed Level
 - Watercourse Level
 - Pipe Level (inc. dia)
 - 100% Capacity Alignment

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd

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 LMAL142002**

DRAWING TITLE

**DRAINAGE IMPROVEMENTS
 LONG SECTION (5)**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	LCN	LCN	MBS
DATE	DATE	DATE	DATE	DATE
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DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES LEVELS IN METRES

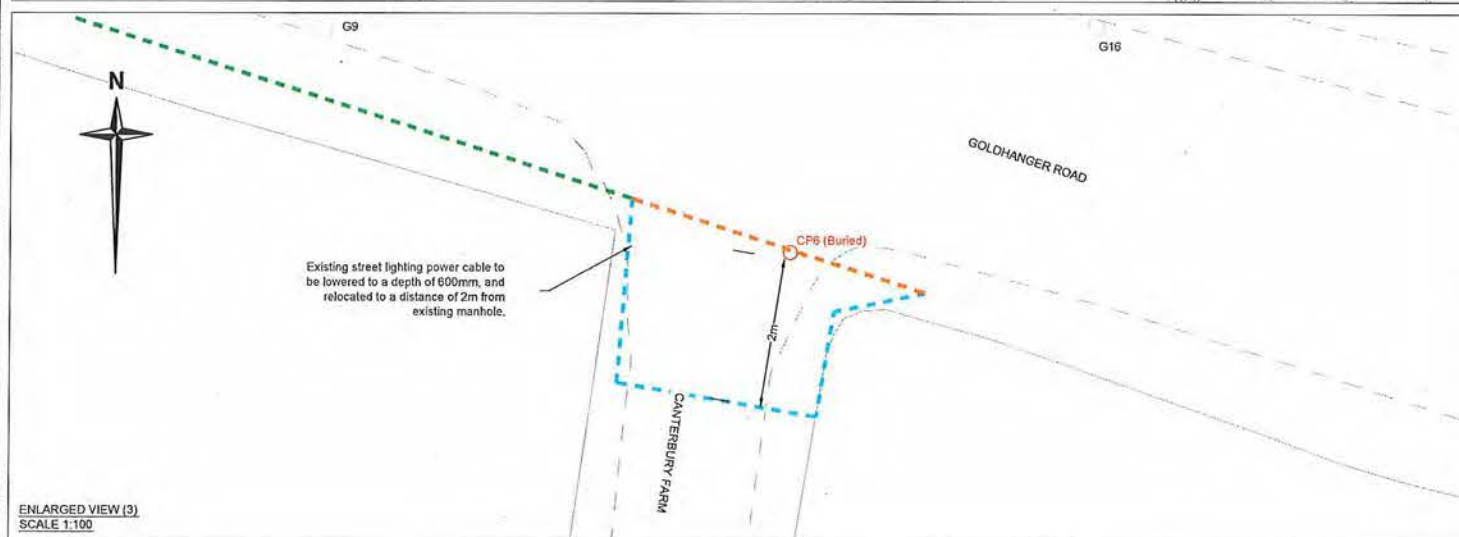
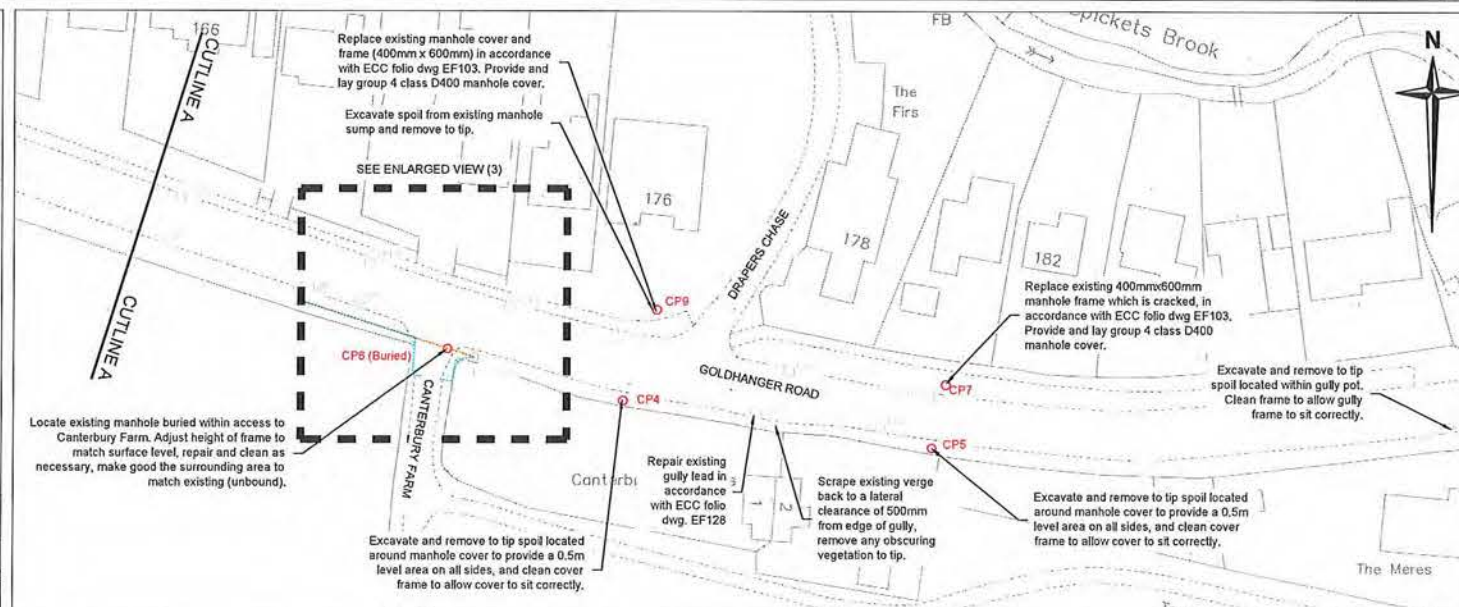
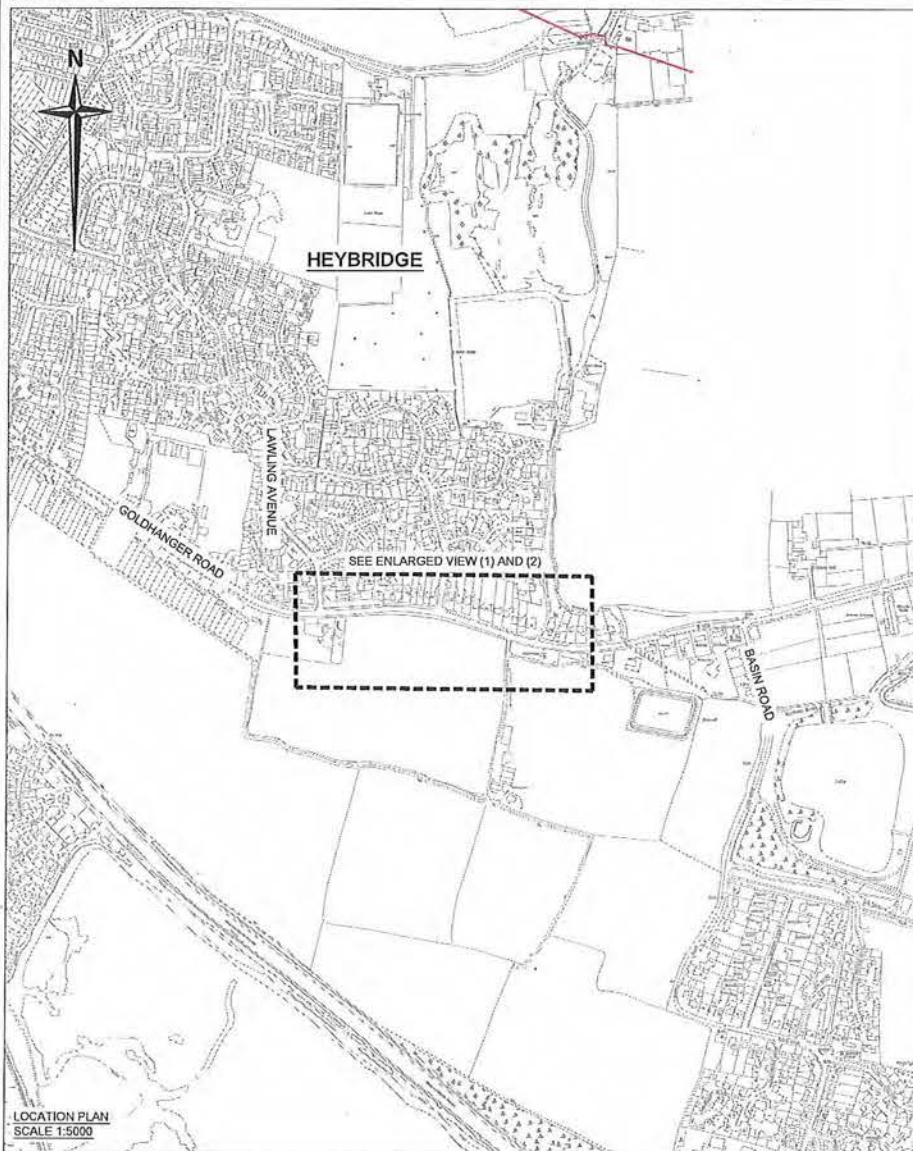
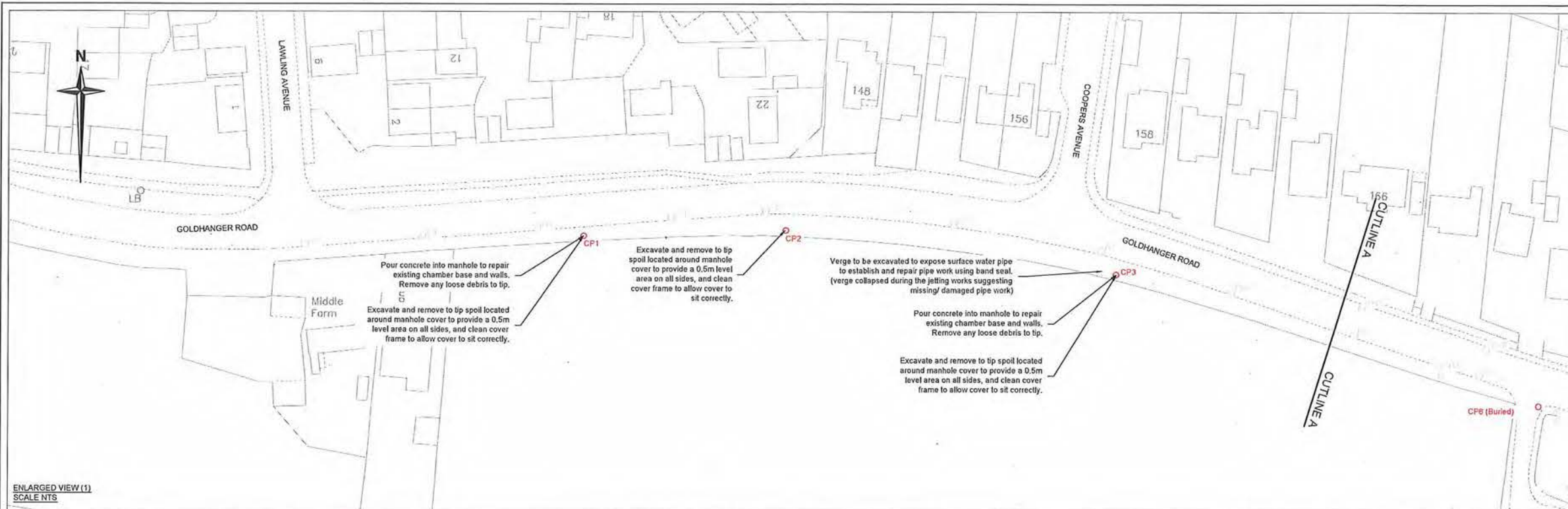
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Appendix 5 – Short Term Measures



- NOTES**
- DO NOT SCALE FROM THIS DRAWING.
 - Any disturbance to existing grassed areas is to be made good with topsoil and seed.
 - All manhole covers to be altered to match existing surface course level.
 - Method of all works to be confirmed by Engineer prior to the commencement of works.

- KEY**
- Existing Gully
 - OCP Existing Catch pit/Manhole
 - Existing Lamp Column
 - Existing cable (to remain)
 - Existing cable to be removed to tip
 - Proposed route of new cable (600mm surface level)

Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS: **FOR TENDER**

RINGWAY JACOBS Integrated expertise | **Essex County Council**

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SCHEME TITLE: **MALDON LHP
GOLDHANGER ROAD, HEYBRIDGE
LMAL142002**

DRAWING TITLE: **SNAGGING WORK
GENERAL ARRANGEMENT**

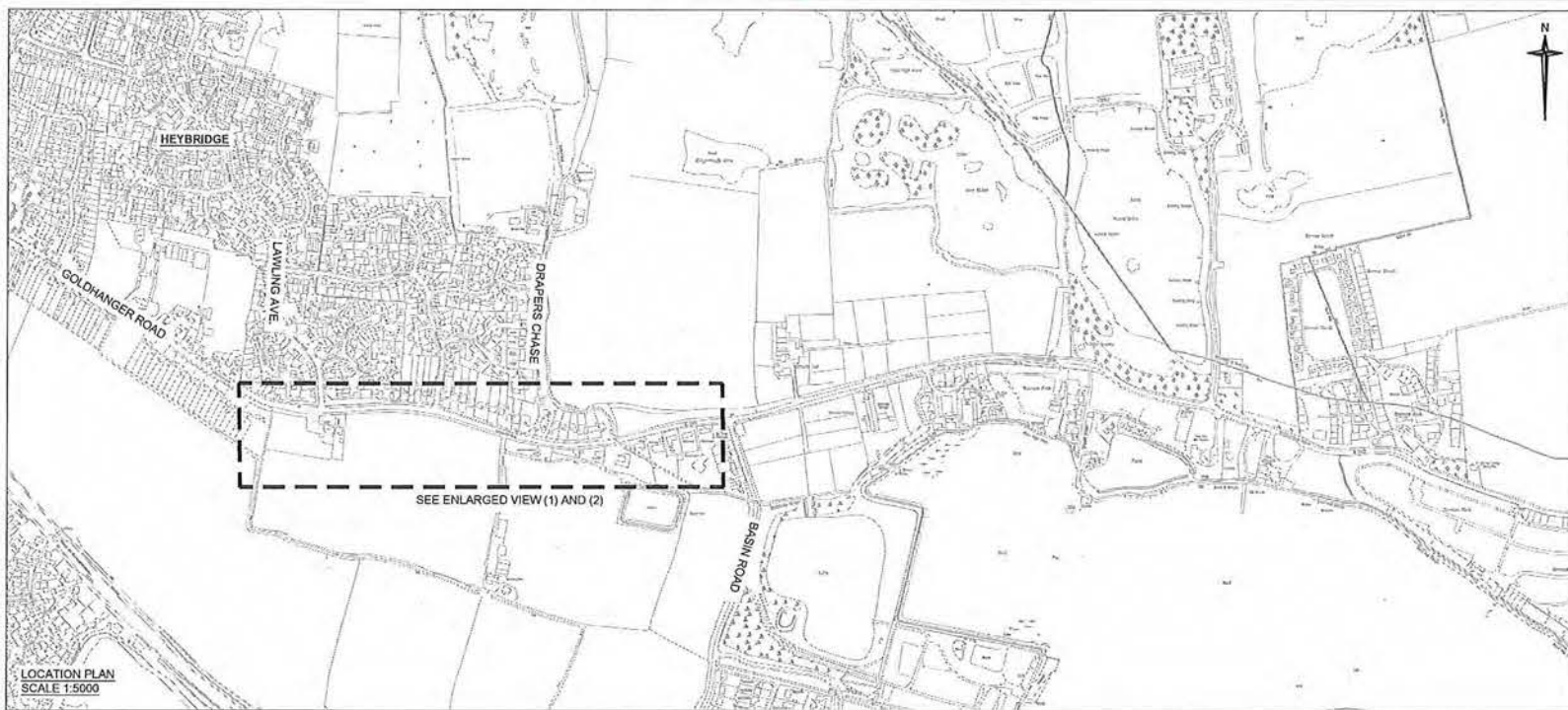
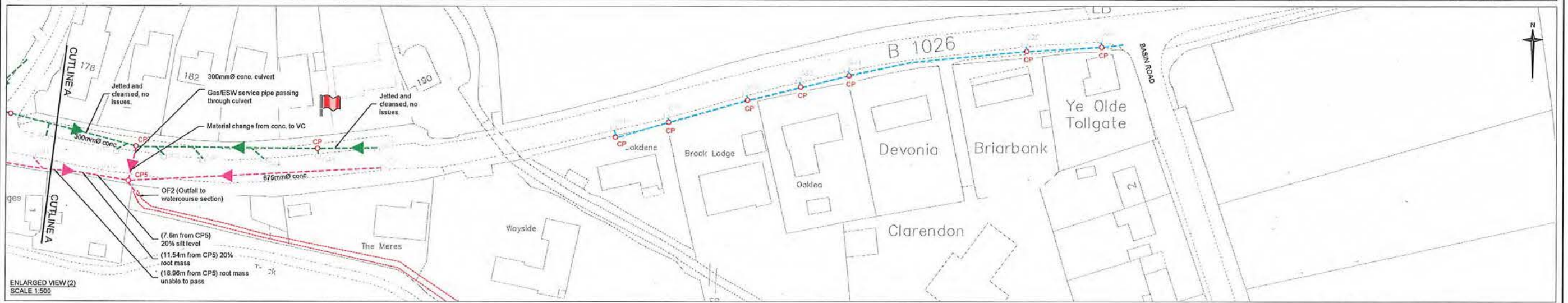
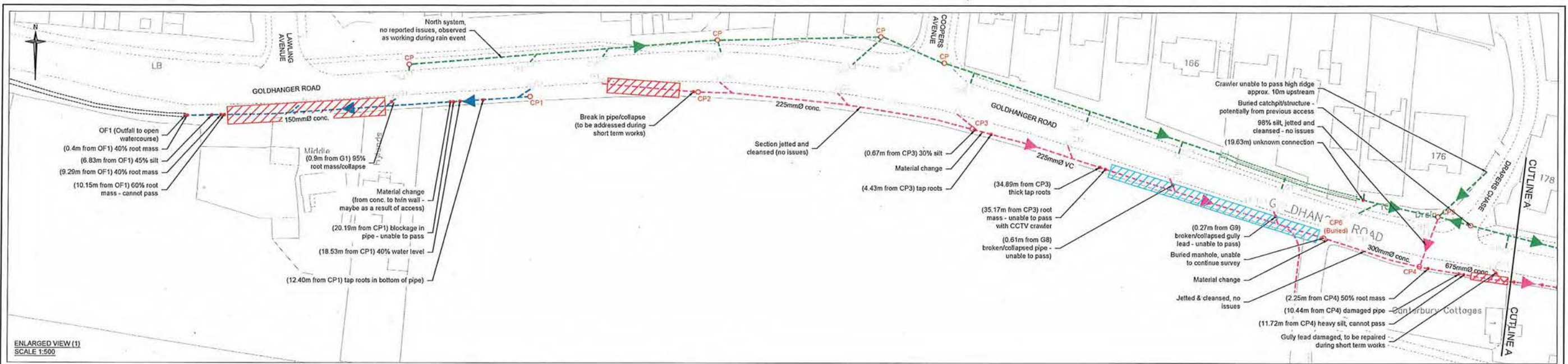
DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	SLS	LCN	MBS
APR 16	APR 16	APR 16	APR 16	APR 16

DRAWING UNITS: DIMENSIONS IN MILLIMETRES / LEVELS IN METRES
SCALE AT A1 (841x594mm): **AS SHOWN**

DRAWING NO: **HI-4163-05-001** | REV: -

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Appendix 6 – Existing Arrangement



NOTES

- DO NOT SCALE FROM THIS DRAWING.
- This drawing is to be read in conjunction with Goldhanger Road Feasibility Report.
- Any discrepancies with this drawing should be reported to the Design Engineer.

KEY

Location of issue (inc. brief description refer to FM Conway report for further information)	--- (Green dashed)	Northern piped drainage section (300mm dia. no reported issues)
Gully (inc. number)	--- (Blue dashed)	Westerly piped drainage section (short term works to be completed)
Catchpit (inc. number)	--- (Red dashed)	Eastern piped drainage section (short term works to be completed)
Lamp column (inc. number)	--- (Cyan dashed)	Basin Road piped section (to be jettied, cleansed and assessed upon completion of short term works)
Concrete pipe (inc. diameter)	--- (Blue dashed)	Unable to survey area
Unverified clay pipe (inc. diameter)	--- (Red hatched)	Section to be surveyed upon completion of short term works
	--- (Green dashed)	Northern open watercourse section
	--- (Red dashed)	Eastern open watercourse section
	--- (Blue dashed)	Western open watercourse section

Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS

FOR TENDER

RINGWAY JACOBS
Integrated expertise

Essex County Council

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SCHEME TITLE

**MALDON LHP
GOLDHANGER ROAD, HEYBRIDGE
LMAL142002**

DRAWING TITLE

EXISTING ARRANGEMENT

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	SLS	LCN	MBS
DATE	DATE	DATE	DATE	DATE
JUN16	JUN16	JUN16	JUN16	JUN16

DRAWING UNITS: U TO 0 DIMENSIONS IN MILLIMETRES LEVELS IN METRES SCALE AT A1 (841X594mm) AS SHOWN

HI-4163-05-002

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B1010, Lower Burnham Rd, Maldon

Executive Summary – Feasibility Study

Highway Improvements Design Team (SMO2)

May 20, 2016

Date: 20 May 2016

Author: Jacobs Reachback for (HIDT SMO2)

Executive Summary

- Jacobs Reachback have provided a Feasibility Study with regards to the alleviated danger poised by roadside pond at B1010, Lower Burnham Road, Maldon
- 3No. drawings have been provided (see Appendix 'A')
- Two options have been provided:-
 - Option 1 – Replacing existing post and rail
 - Option 2 – Set back of pond
- A provisional cost estimate has been provided:-
 - Option 1: £10,000 approx. (£7,126 plus traffic management)
 - Option 2: £TBC

Prepared by:	Jacobs Reachback (Dublin)	Date:	20 May 2016
Approved by:	Mike Shearcroft	Date:	20 May 2016

Date: 20 May 2016
Author: Jacobs Reachback for (HIDT SMO2)

**Scheme Reference: HI 4007
FEASIBILITY STUDY REPORT
B1010 Lower Burnham Road, Maldon**

Appendix A – Drawings

Please refer to drawing numbers found below for further information regarding the detailed design.

HI- 4007-00-001	Option 1 General arrangement
HI- 4007-02-002	Option 1 Site Clearance
HI- 4007-00-001	Option 2 General Arrangement

HIDT initial review of supplied third party scheme design

Whilst the scheme works are being provided to the LHP for consideration, the points raised by the reviewing HIDT Engineer will need to be addressed prior to any scheme implementation:-

For option 1:

- Standard practise for barriers is to have a P1 terminal at the start and P4 terminal at the end – the study suggests using p4 terminals at both ends.
- This option proposes to relocate a field gate and entrance – this would need to be checked and agreed with the land owner
- This option will block off a field access to the west of the pond – the study has not acknowledged this.
- The barrier is shown as going round the unofficial lay-by – I would suggest that maintaining the barrier on a straight line is better (angle of impact etc)
- This option proposes to relocate the no overtaking signs, that are the subject of a different scheme – DC3149
- An N2W2 barrier requires a 1.2m setback and 0.8m WW – I am not sure this can be achieved across the pond as the verge appears rather narrow
- There could be problems with working over water during construction
- Ensuring that the barrier foundations pass the push pull testing on the narrow verge across the pond might be difficult.

For option 2:

- I agree with the study that this option is difficult to assess
- I am not sure that the ecological constraints have been fully considered by the study – what if there are Newts etc?
- The level of the land might be the reason that the pond is located where it is – Hence moving it could require a lot of design and construction efforts.

**Date: 20 May 2016
Author: Jacobs Reachback for (HIDT SMO2)**

B1010 Lower Burnham Road,

Essex County Council

Feasibility Study - Alleviate Danger Posed by Roadside Pond

1 | 0

27 April 2016

HI4007

DRAFT



B1010 Lower Burnham Road,

Project No: HI4007
Document Title: Feasibility Study - Alleviate Danger Posed by Roadside Pond
Document No.: 1
Revision: 0
Date: 27 April 2016
Client Name: Essex County Council
Client No: HI4007
Project Manager: Bill Senior
Author:
File Name: G:\JI\HW\RJ-Essex\File 05 - Projects\B3553L19 - LHP Schemes\B3553L23 SM02\Priority 3\Group C\HI4007 B1010 Burnham\02_Documents\HI4007 Feasibility Study-B1010 Lwr Burnham Rd.docx

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Document history and status

Revision	Date	Description	By	Review	Approved

Contents

1.1 Brief 3

1.2 Site Description 3

1.3 Collision Events 4

1.4 Options Appraisal 4

1.5 Conclusion 5

Appendix A. Feasibility Design Drawings

Appendix B. Cost Estimates

Appendix C. Road Safety Audit

Appendix D. Collision Data

1.1 Brief

Jacobs have been tasked with undertaking a feasibility study to improve the safety at a site along the B1010 Lower Burnham Road in the District of Maldon. There is a roadside pond located in a field adjacent to the south side of carriageway approximately 1km west of the junction at Rectory Lane. As stated in the Internal Scheme Request Form dated 25th February 2015, Essex Police have highlighted two recent accidents at this location whereby a vehicle had left the road and gone into the pond. The vehicle sank and driver was rescued by passers-by. There are concerns about the severity of these incidents and the outcome if there wasn't a passer-by on hand to assist.

This feasibility study will investigate possible options to improve safety at this sight. The object of this study is to increase safety at this site and provide a cost effective solution with minimal disruption to the road users and the local landowner.

1.2 Site Description

Lower Burnham Road/B1010 is classified as a main distributor (PR1) route under Essex Route Hierarchy. The route connects South Woodham Ferrers to Burnham-on-Crouch located in Latchingdon, Essex. The road is a single carriageway, two way, with a regulatory speed limit of 50mph. A pond is located on the offside of the carriageway at the edge of a field on the south side of the carriageway approximately 1km west of Rectory Lane.



Figure 1 – B1010 Lower Burnham Road – View from Eastbound Lane



Figure 2 – B1010 Lower Burnham Road - Eastward View

1.3 Collision Events

Collision data was retrieved for the period 01/01/2005 to 31/10/2015 and is included in Appendix D. From the data, 16 collisions have occurred in the vicinity of the proposed works. The Internal Scheme Request identifies two recent accidents at this location. According to the collision data, one “serious” accident occurred at the site pertaining to this Feasibility study. The vehicle was travelling eastward and veered across the road and left the carriageway entering the pond. There was only one vehicle involved in the occurrence. The collision factor identified for the vehicle involved in the collision is states as “Swerved”, “Loss of Control”, “Fatigue” and “Illness or disability, mental or physical”.

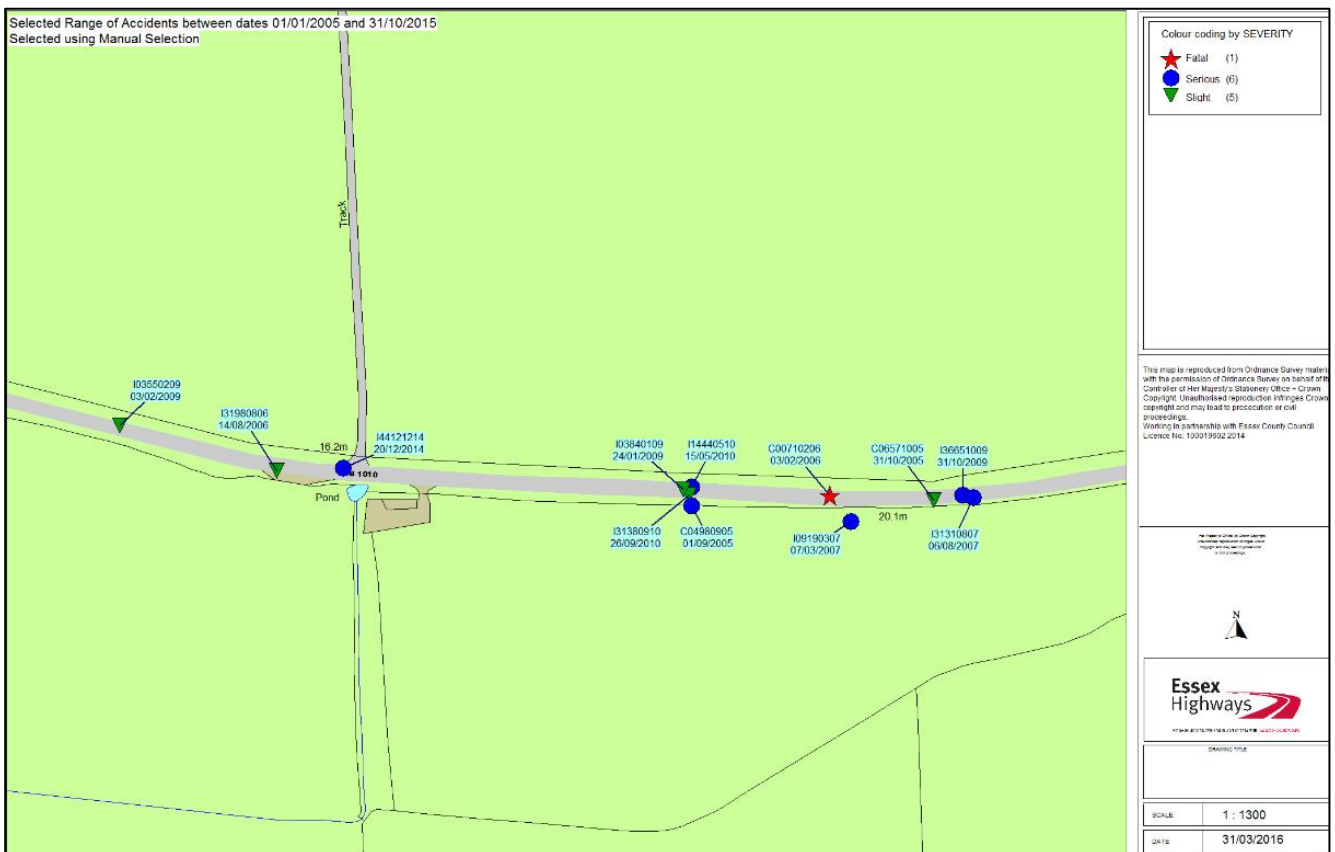


Figure 3 – Accident Data Map

1.4 Options Appraisal

Two options were recommended by the Road Safety Engineering Team outlined in the Internal Scheme Request. Installing a safety barrier at the hazard was proposed for Option 1 and relocating the pond was proposed for Option 2.

A Road Safety Stage 2 Audit was undertaken and the results are included along with the designer’s responses to the auditor’s comments in Appendix C of this report. We have outlined our findings in the two options below.

Option 1 proposes replacing the existing post and rail fence and installing a 60m N2W2 Safety Barrier at full height for 30m each side of the hazard with P4 Terminal ends. As a result of the safety barrier placement a field access gate and entrance, east of the hazard, will require relocation.

Option 2 proposed two possible scenarios with the first option to setback the pond 20m from the carriageway. The second option is to reduce the pond size by partially filling in the pond and creating a narrow v-shaped channel, and join the existing ditch along the field boundary which is to be widened to hold more field run off.

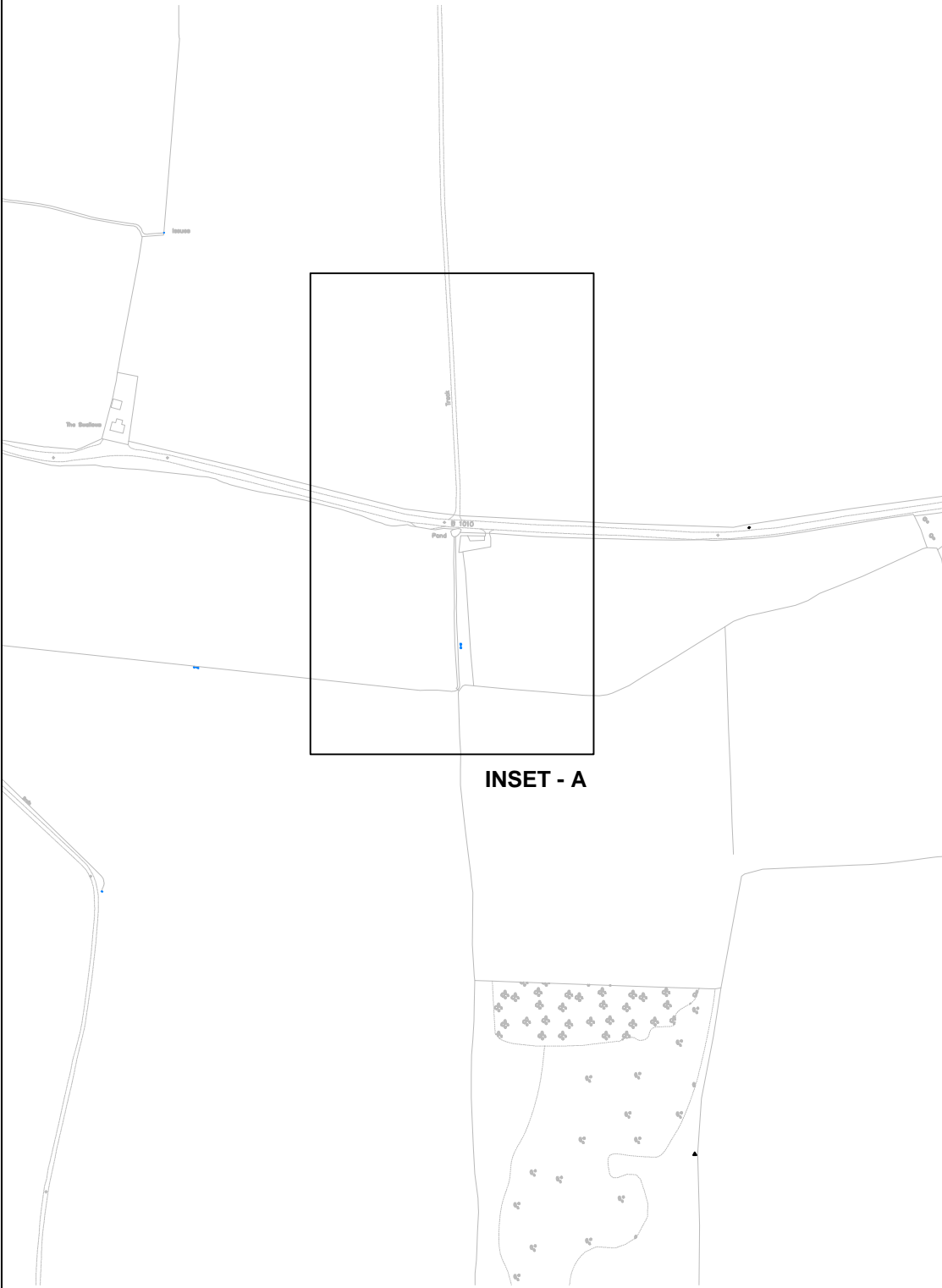
These are only conceptual proposals at this stage as without topographical survey and drainage data it is difficult to determine the feasibility of relocating the pond or reducing the pond size. Additionally, when making changes to the watercourse, consent from the Essex Watercourse Regulation is required.

1.5 Conclusion

The construction requirements for each option reflect the effect each option has on the landscape within the area and the amount of land impact affected. Option 1 has minimal impacts to the area. Option 2 will require land agreements for both 2.1 and 2.2 and therefore will have the most impact on the area.

With the need for topographical survey, watercourse regulation site visit & approval and comprehensive drainage data, Option 2 cannot be fully considered at this time. Additional to the drainage design and realignment, a landowner agreement would be required for Option 2.

Option 1 provides a safe solution with the least impact on the landscape and at a lower cost. Therefore, it is recommended that **Option 1** be progressed to the next stage of design.



INSET - A



SCALE - 1: 5000

INSET - A
SCALE - 1: 500

Notes:

1. Do not scale.
2. This drawing is to be read in conjunction with all other contract drawings and documents.
3. All statutory undertakers apparatus, street furniture, signage and existing carriageway elements to remain as existing unless otherwise shown.
4. Safety Barrier in accordance with DMRB TD 19/06 and BS EN 1317-2:2010

Key

- Proposed N2W2 Safety Barrier
- Proposed P4 Terminal End
- Proposed Road Sign
- Proposed Edging Kerb
- Gate / Fence to remove from store, for removal of existing gate refer drawing no. HI4007-OPT01-02-001

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd
0	Apr16	Draft	GS	BB	LC	BS

DRAWING STATUS
FEASIBILITY STUDY



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SCHEME TITLE
**SAFETY IMPROVEMENTS B1010
LOWER BURNHAM ROAD, WEST
OF RECTORY ROAD**

DRAWING TITLE
**GENERAL ARRANGEMENT
(Option-1)**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	GS	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

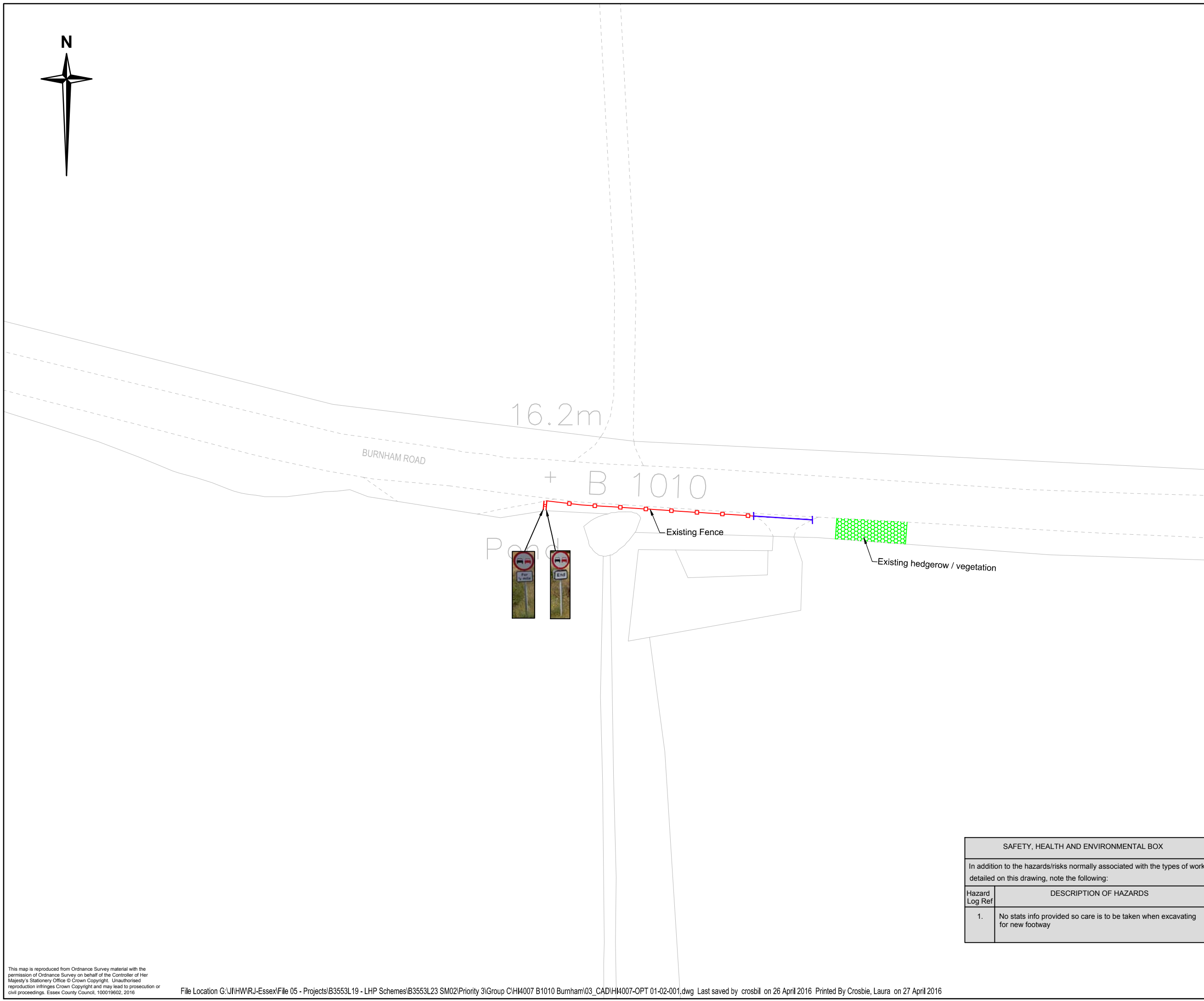
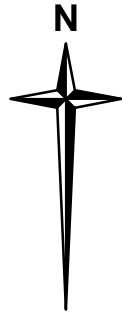
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DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A3 (420x297mm)
As shown

DRAWING No.	REV.
HI4007-OPT01-00-001	0

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:	
Hazard Log Ref	DESCRIPTION OF HAZARDS
1.	No stats info provided so care is to be taken when excavating for new footway

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- Notes:**
1. Do not scale.
 2. This drawing is to be read in conjunction with all other contract drawings and documents.
 3. All statutory undertakers apparatus, street furniture, signage and existing carriageway elements to remain as existing unless otherwise shown.

- Key**
- Existing fence to be removed to tip off site
 - Traffic Signs removed to store. For reinstatement and relocation of signs please refer drawing HI4007-00-001
 - Removed existing hedgerow / vegetation to tip of site
 - Existing Gate / Fence to remove to store, for relocation / reinstatement refer drawing no. HI4007-OPT 01-00-001

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approved
0	Apr16	Draft	GS	BB	LC	BS

FEASIBILITY STUDY



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SAFETY IMPROVEMENTS B1010 LOWER BURNHAM ROAD, WEST OF RECTORY ROAD

SITE CLEARANCE (Option-1)

SAFETY, HEALTH AND ENVIRONMENTAL BOX

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

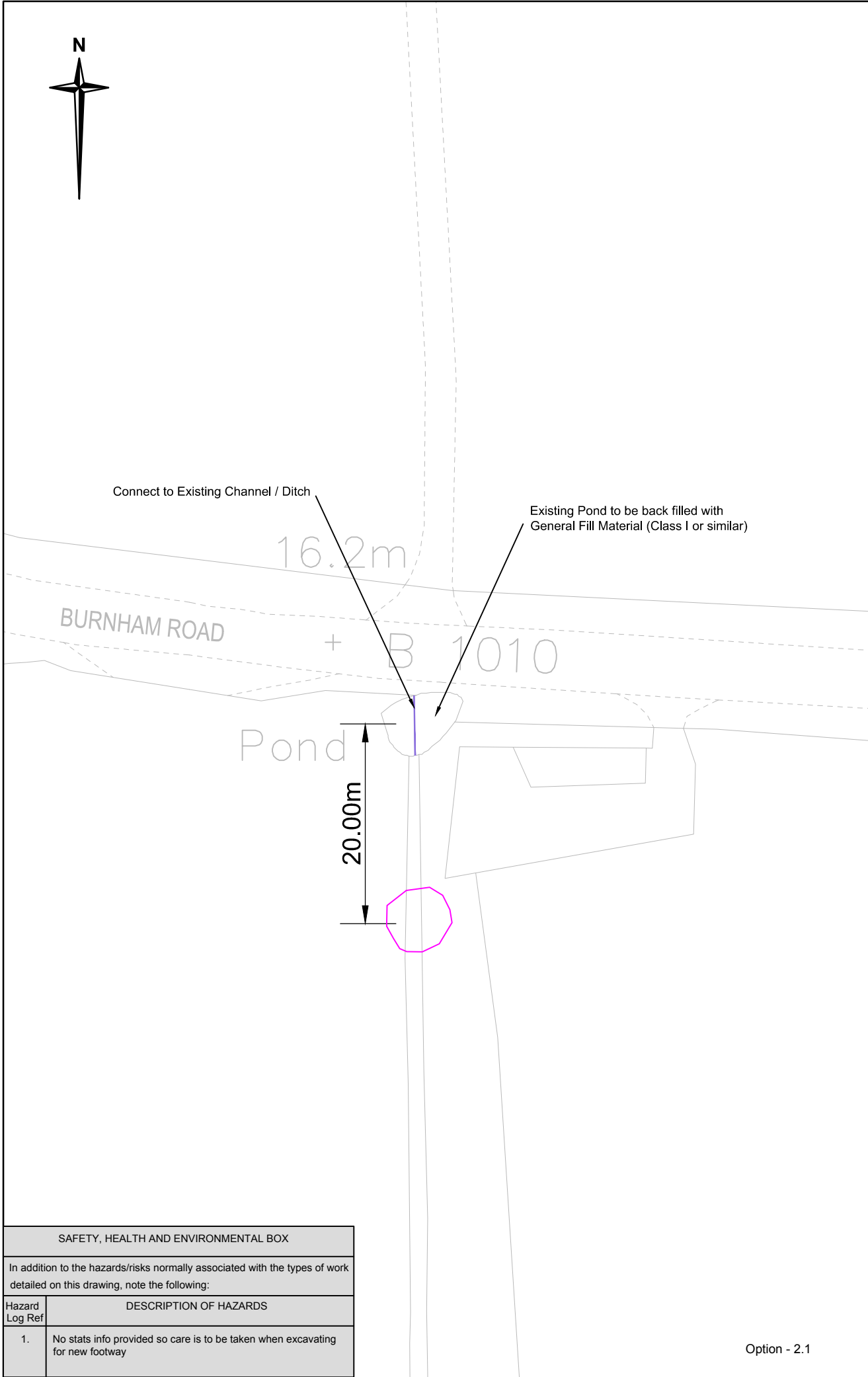
Hazard Log Ref	DESCRIPTION OF HAZARDS
1.	No stats info provided so care is to be taken when excavating for new footway

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	GS	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

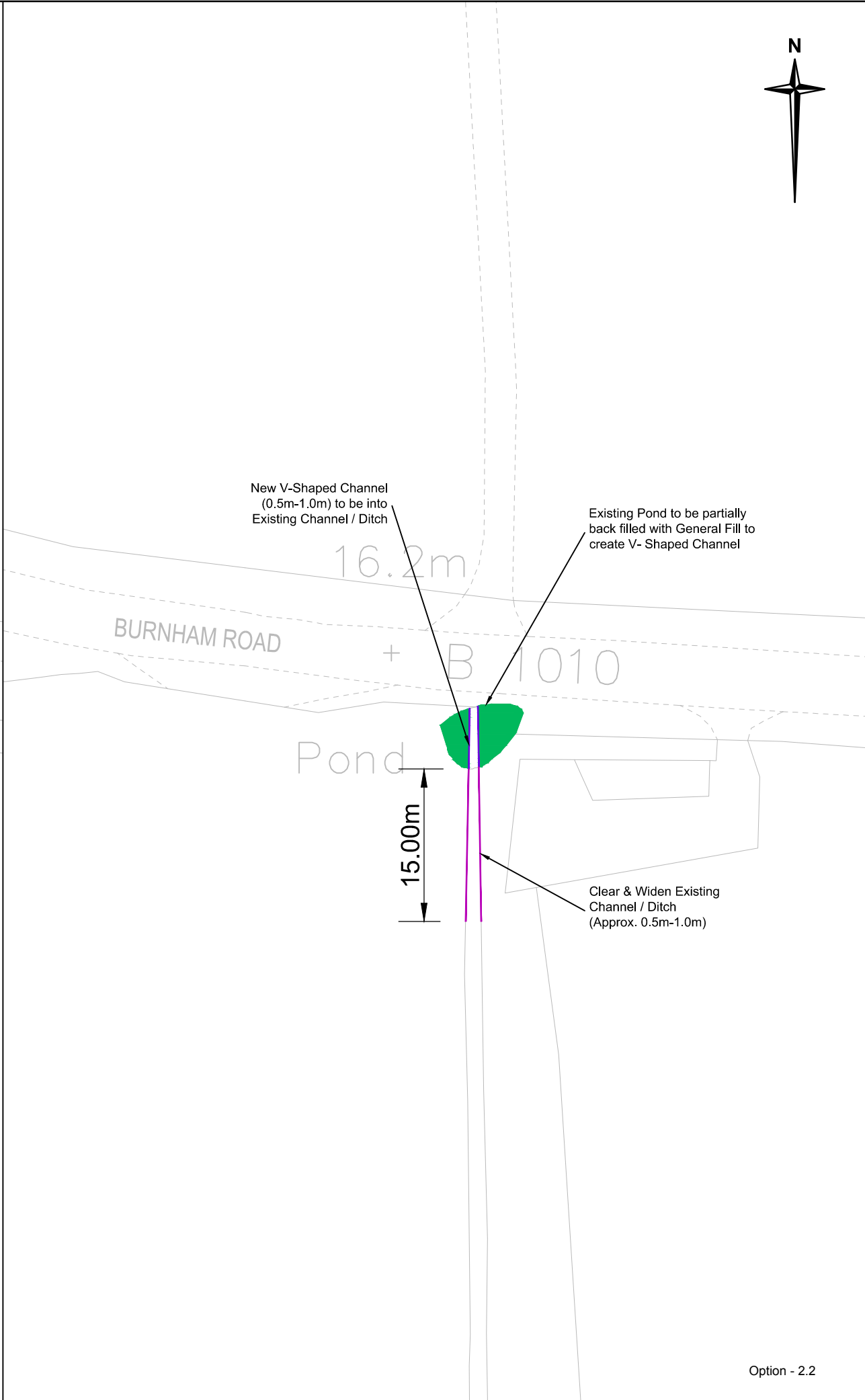
DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES
 LEVELS IN METRES SCALE AT A3 (420x297mm) **1:500**

DRAWING No. **HI4007-OPT 01-02-001** Page 46 of 112 REV. **0**

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Option - 2.1



Option - 2.2

Notes:

1. Do not scale.
2. This drawing is to be read in conjunction with all other contract drawings and documents.
3. All statutory undertakers apparatus, street furniture, signage and existing carriageway elements to remain as existing unless otherwise shown.
4. New pond to be set back 20m from carriageway.
5. Agreement to be reached with landowner in advance of either Option 2.1 or 2.2 being implemented.

Key

- Proposed V-Shaped Channel / Ditch (5.98m)
- Proposed Widened Channel / Ditch (15.20m)
- Proposed Filter Drain (5.96m)
- Existing Pond (35.86m²)
- Proposed Pond (32.43m²)

Rev.	Date	Description of revision	Drawn	Checked	Reviewed	Approved
0	Apr16	Draft	GS	BB	LC	BS

FEASIBILITY STUDY



Mark Rowe, Service Director, Highways
Seax House, Victoria Road South, Chelmsford, CM1 1QH.
Tel: 0345 6037631 © Essex County Council

SAFETY IMPROVEMENTS B1010 LOWER BURNHAM ROAD, WEST OF RECTORY ROAD

GENERAL ARRANGEMENT (Option-2)

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	GS	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES SCALE AT A3 (420x297mm) LEVELS IN METRES 1:500

DRAWING No. **HI4007-OP102-00-001** Rev. -

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:	
Hazard Log Ref	DESCRIPTION OF HAZARDS
1.	No stats info provided so care is to be taken when excavating for new footway

Beckingham Rd j/w Festival Gardens, Maldon

Essex County Council

Feasibility Study - Junction Improvement

1 | 0

20 April 2016

HI 4008

DRAFT



Beckingham Rd j/w Festival Gardens, Maldon

Project No: HI4008
 Document Title: Feasibility Study - Junction Improvement
 Document No.: 1
 Revision: 0
 Date: 20 April 2016
 Client Name: Essex County Council
 Client No: HI 4008
 Project Manager: Bill Senior
 Author:
 File Name: G:\JI\HW\RJ-Essex\File 05 - Projects\B3553L19 - LHP Schemes\B3553L23 SM02\Priority 3\Group C\HI4008 Beckingham\02_Documents\HI4045 Feasibility Study-Beckingham Rd j-w Festival.docx

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Document history and status

Revision	Date	Description	By	Review	Approved

Contents

1.1 Brief 3

1.2 Site Description 3

1.3 Collision Events 3

1.4 Appraisal 4

1.5 Conclusion 5

Appendix A. Feasibility Design Drawings

Appendix B. Cost Estimates

Appendix C. Road Safety Audit

Appendix D. Collision Data

Appendix E. Highway Boundary

1.1 Brief

Jacobs have been tasked with undertaking a feasibility study to improve the safety at the junction of Beckingham Road and Festival Gardens in Maldon. The scheme has been requested by the Road Safety Engineering team as this site has experienced a fatal collision. The study addresses the observations made during their site visit.

The object of this study is to identify the safest and most cost effective solution with minimal disruption to the local community and road users.

1.2 Site Description

Beckingham Road is classified as a secondary distributor (PR2) route under Essex Route Hierarchy and is located in Maldon. The road is a single carriageway, two way road with a regulatory speed of 30mph.

Festival Garden forms a T junction with Beckingham Road 110m west of B1026 Maldon Road. Festival Gardens is at an end point of a residential housing estate. Residents have raised issues related to the lack of visibility when exiting out of Festival Gardens onto Beckingham Road. Visibility is limited by the horizontal alignment of the carriageway and vegetation on the north side of the carriageway at the west side of the T junction.



Figure 1 Beckingham Rd j/w Festival Gardens Eastbound



Figure 2 Beckingham Rd j/w Festival Gardens Westbound

1.3 Collision Events

Collision data was retrieved for the period 01/01/2005 to 31/10/2015 and is included in Appendix D. From the data, seven collisions have occurred in the vicinity of the proposed works. The chart on the following page outlines the severity of each collision.

Casualties	Fatal	Serious	Slight	Total	Accidents	Fatal	Serious	Slight	Total
Vehicle	1	1	3	5	Motorists	1	1	4	6
Cyclist	0	0	1	1	Bicycle	0	0	1	1
Pedestrian	0	0	1	1	Total	1	1	5	7
Total	1	1	5	7					

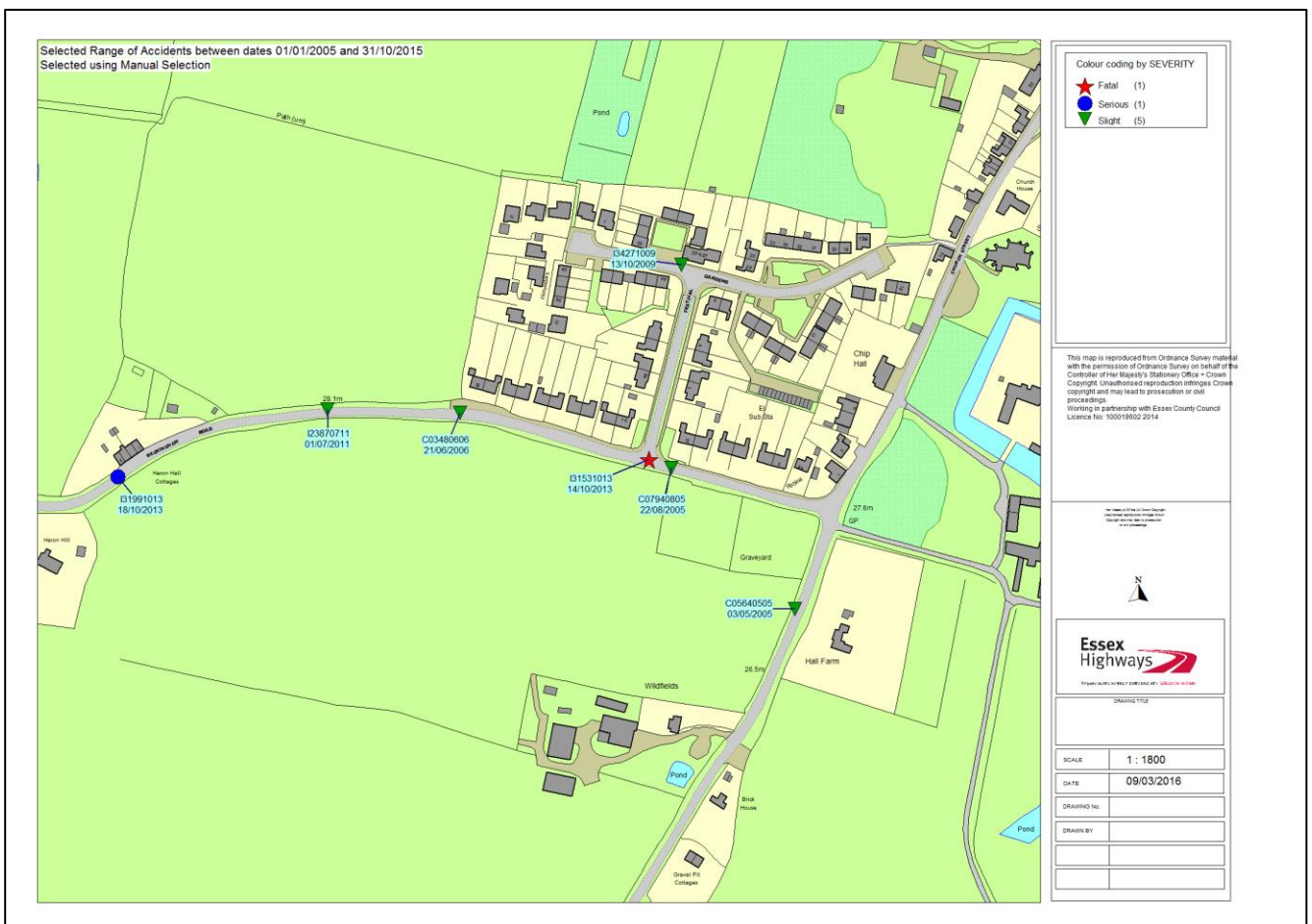


Figure 3 – Accident Data Map

Based on these collision records, one collision occurred as a direct result of vehicle movement at the junction and resulted in a fatality. Two vehicles were involved in this collision where one vehicle was taking a right turn from Festival Gardens on to Beckingham Road and the second was traveling eastward along Beckingham Road. The collision factor identified for the vehicle involved in the collision is stated as “Stationary/parked vehicle” and “Careless/Reckless”.

1.4 Appraisal

Road drivers require adequate visibility in each direction to see oncoming traffic in sufficient time to make their manoeuvres safely. Drivers approaching a junction shall have unobstructed visibility as this allows them to slow down or stop if necessary and the same for drivers approaching from a minor road. The visibility distance, at a junction, is measured typically 9m back from edge of carriageway in the centre of the minor road (x

distance) and based on a the design speed of 30mph the y distance is 70m along the major road from the centre line at the T junction. The triangular section created from this measurement is the visibility required and is outlined as the Visibility Splay on the drawing. Due to this junction being lightly trafficked, the x distance can be relaxed to 4.5m. The Visibility Splay shown on drawing HI4008-00-001 outlines the area.

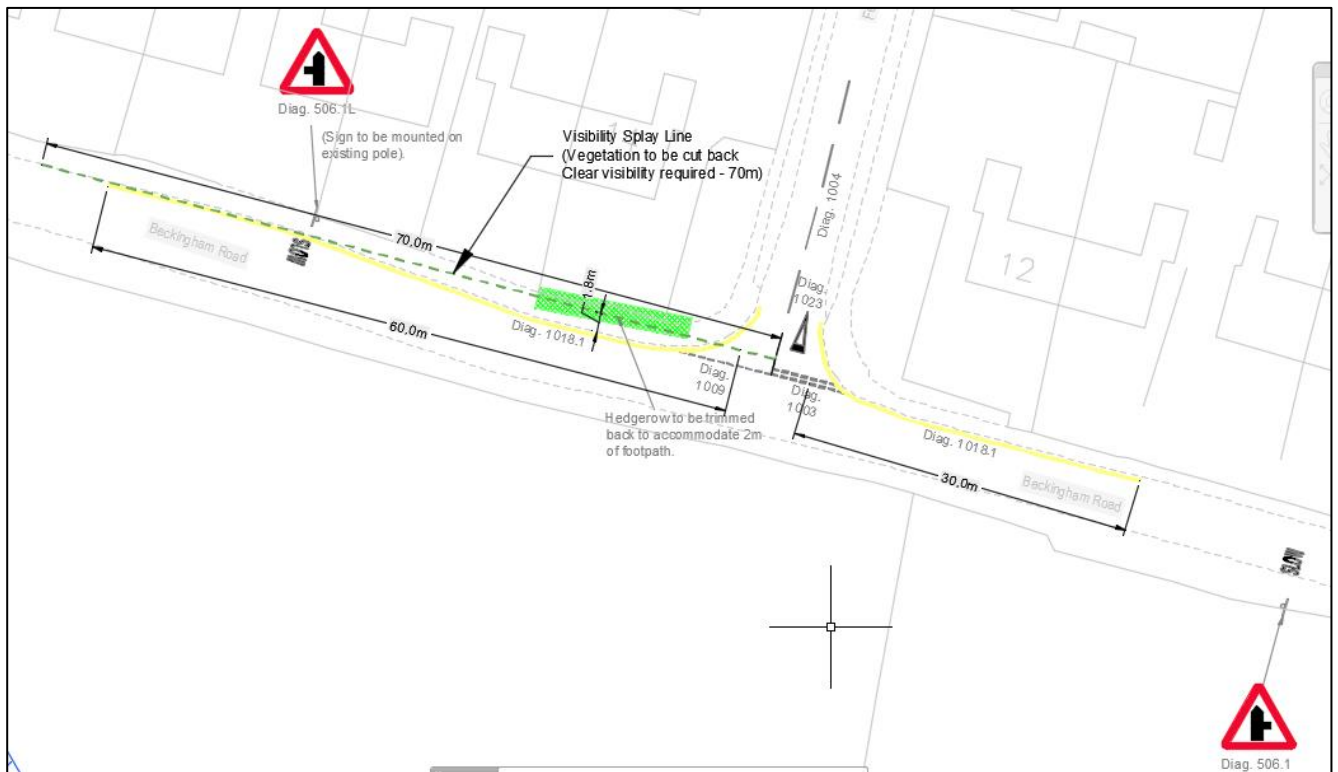


Figure 4 – Visibility Splay Outline

Obstructions identified within the visibility splay lines are:

- Hedgerow
- Parked Vehicles along carriageway

It is proposed that the hedgerow at 14 Beckingham Road be trimmed back as it is obstructing visibility for motorists. Additionally, the hedgerow is encroaching on the highway boundary.

Parked vehicles obstruct the visibility at the T junction of oncoming traffic for road users exiting from Festival Gardens and simultaneously for road users moving east and west along Beckingham Road. In order to provide further adequate visibility, it is proposed that double yellow lines be installed on both sides of the junction where vehicles impede visibility. 60m of parking restriction is proposed on the west side from the junction and 30m on the east side from the junction.

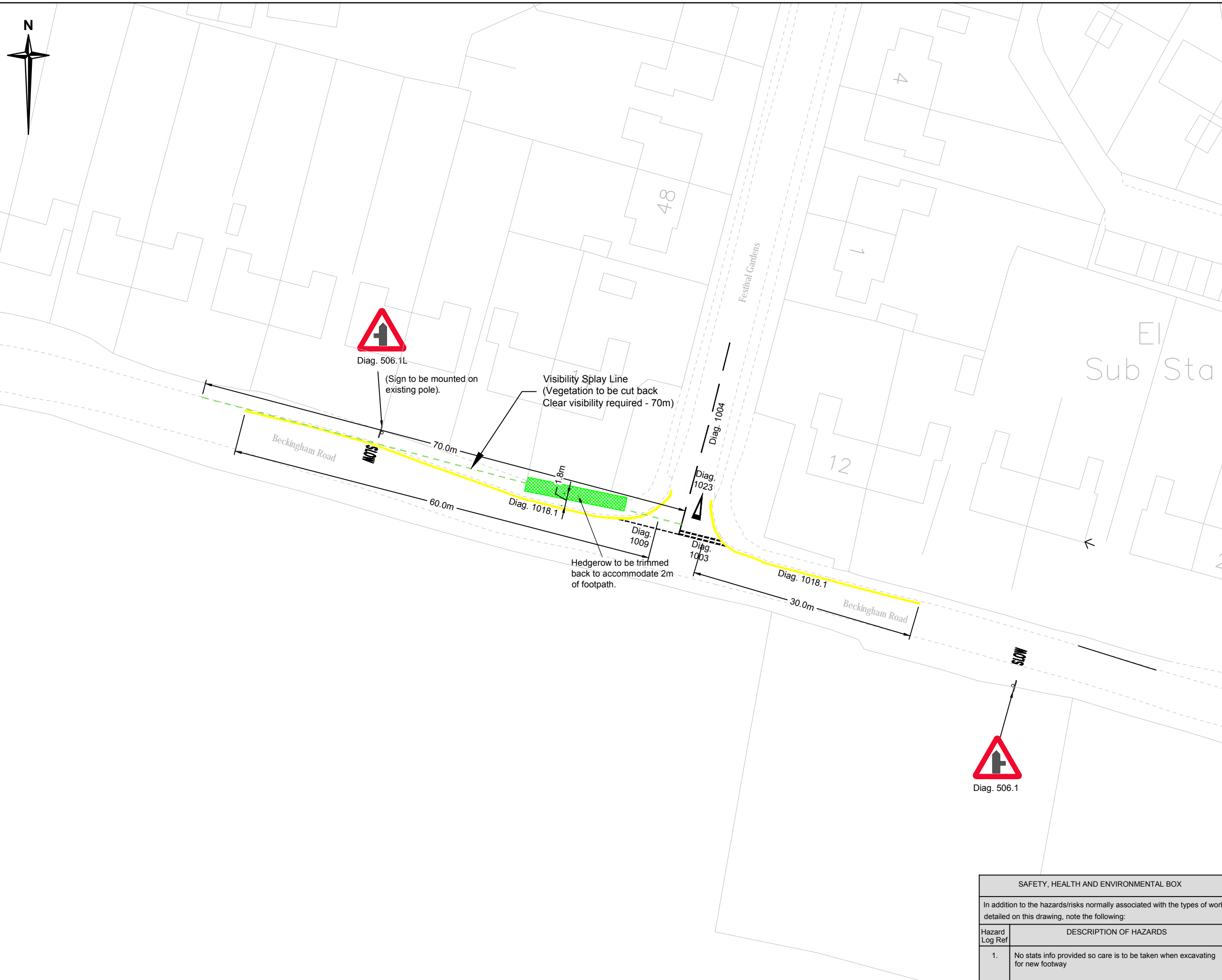
In terms of further safety, ‘Slow’ road markings with corresponding warning signage are proposed. Give way markings and centre lines will be refreshed at the Festival Gardens T junction.

An indicative construction cost estimate has been drafted and is included in Appendix B.

1.5 Conclusion

In terms of engineering this option will not adversely impact the existing layout and as the works required are relatively minor (trimming hedges, line marking and signage), very little traffic management (TM) will be required. There is no land impact associated with the works. The minor amendments proposed can be implemented as Highway Maintenance with little cost, improving visibility and traffic movements.

It is therefore recommended that this proposal be progressed to construction as proposed Highway Maintenance Works trimming back the Hedgerow at 14 Beckingham Road and installing markings and warning signage. This option provides minor improvements at minimal cost with minimal difficulty during construction stage.



- Notes:**
1. Do not scale.
 2. This drawing is to be read in conjunction with all other contract drawings and documents.
 3. All Traffic Signs in accordance with Traffic Sign Manual (TSM) and the Traffic Signs and Regulations and General Directions (TSRGD)

- Key**
- Hedge row to be trimmed back
 - Proposed Road Signs
 - Diagram 1003 - Give Way Double Line, 600mm mark, 300mm gap, 200mm wide.
 - Diagram 1009 - Edge of Carriageway Line, 600mm mark, 300mm gap, 100mm wide.
 - Diagram 1004 - Warning Line, 4000mm mark, 2000mm gap, 100mm wide.
 - Diagram 1018.1 - Double Yellow Line, Continuous, 100mm gap, 100mm wide.
 - Diagram 1023 - Approach triangle at Give way marking
 - Diagram 1024 - 1600mm wide.

Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved
0	Apr16	Draft	AG	BB	LC	BS

FEASIBILITY STUDY



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 County Hall A2 Annex, Chelmsford. CM1 1QH
 Tel: 0845 6037631 © Essex County Council

BECKINGHAM ROAD J/W FESTIVAL GARDEN JUNCTION SAFETY IMPROVEMENT

GENERAL ARRANGEMENT

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	AG	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
13.04.16	13.04.16	13.04.16	14.04.16	14.04.16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES LEVELS IN METRES SCALE AT A3 (420x297mm) 1:500

DRAWING No. **H14008-00-001-143** REV. **0**

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
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Hazard Log Ref	DESCRIPTION OF HAZARDS
1.	No stats info provided so care is to be taken when excavating for new footway

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Burnham Road j/w Mundon Road

Proposed mini roundabout

Executive Summary – Outline Design

Highway Improvements Design Team (SMO2)

May 20, 2016

Date: 20 May 2016

Author: Jacobs Reachback for (HIDT SMO2)

Scheme Reference: HI 4013
OUTLINE DESIGN REPORT
Burnham Rd, Maldon Rd j/w Mundon Rd
Maldon District

Executive Summary

Jacobs Reachback have provided an Outline Design Report with regards to the proposed mini roundabout at the junction of Burnham Road, Maldon Road and Mundon Road in the Maldon District

- Road safety audit – Stage 2 plus designers reponse
- 2No. drawings have been provided (see Appendix ‘A’)
- Two options have been provided:-
 - Option 1 – ‘Mini roundabout’ – NOT TO POLICY
 - Option 2 – Do minimum
- A provisional cost estimate has been provided:-
 - Option 1: £114,2212
 - Option 2: £10,328

Prepared by:	Jacobs Reachback (Dublin)	Date:	20 May 2016
Approved by:	Mike Shearcroft	Date:	20 May 2016

Date: 20 May 2016
Author: Jacobs Reachback for (HIDT SMO2)

**Scheme Reference: HI 4013
OUTLINE DESIGN REPORT
Burnham Rd, Maldon Rd j/w Mundon Rd
Maldon District**

Appendix A – Drawings

Please refer to drawing numbers found below for further information regarding the detailed design.

HI- 4013-00-001	Option 1 – Mini Roundabout - General Arrangement
HI- 4013-00-001	Option 2 – Do minimum - General Arrangement

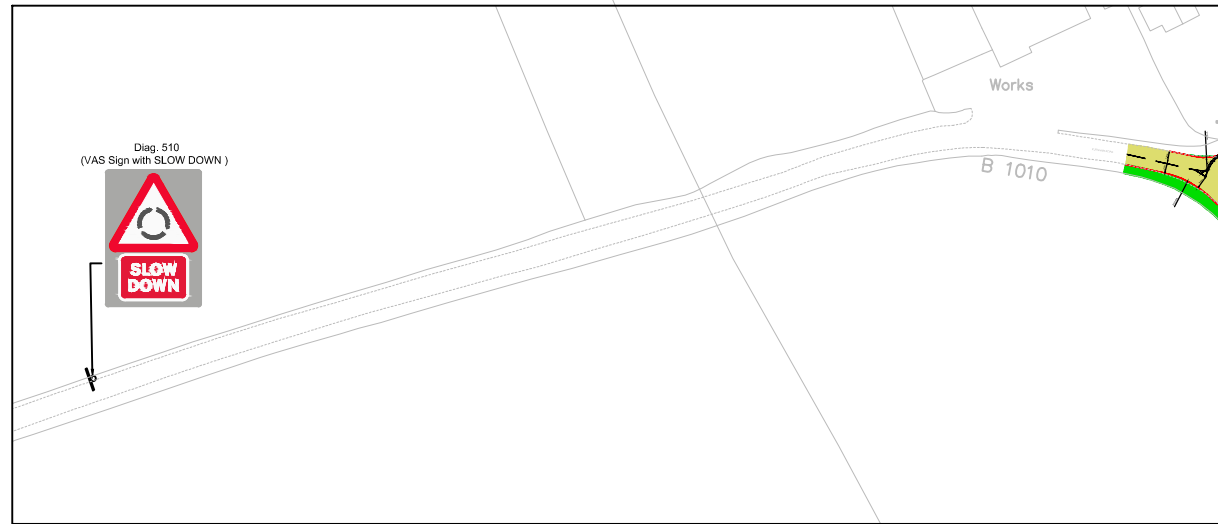
HIDT initial review of supplied third party scheme design

Whilst the scheme works are being provided to the LHP for consideration, the points raised by the reviewing HIDT Engineer will need to be addressed prior to any scheme implementation:-

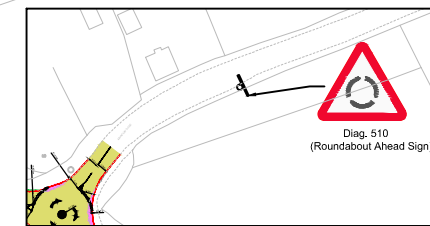
Please note that the road safety auditor has indicated that Option A mini-roundabout should not be progressed to construction. We have accepted this recommendation.

Nothing wrong with the outline do minimum option per say. Some more detailed drawings are required to review this properly.

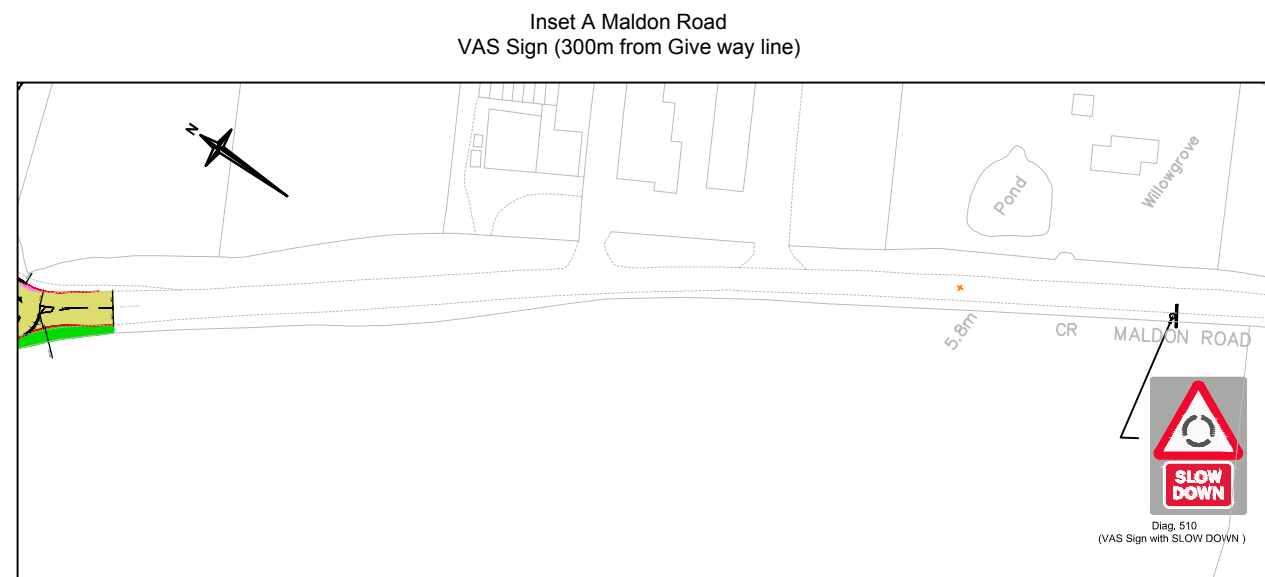
**Date: 20 May 2016
Author: Jacobs Reachback for (HIDT SMO2)**



Inset B Burnham Road
VAS Sign (300m from Give way line)



Inset C Mundon Road
510 Sign (50m from Give way line)



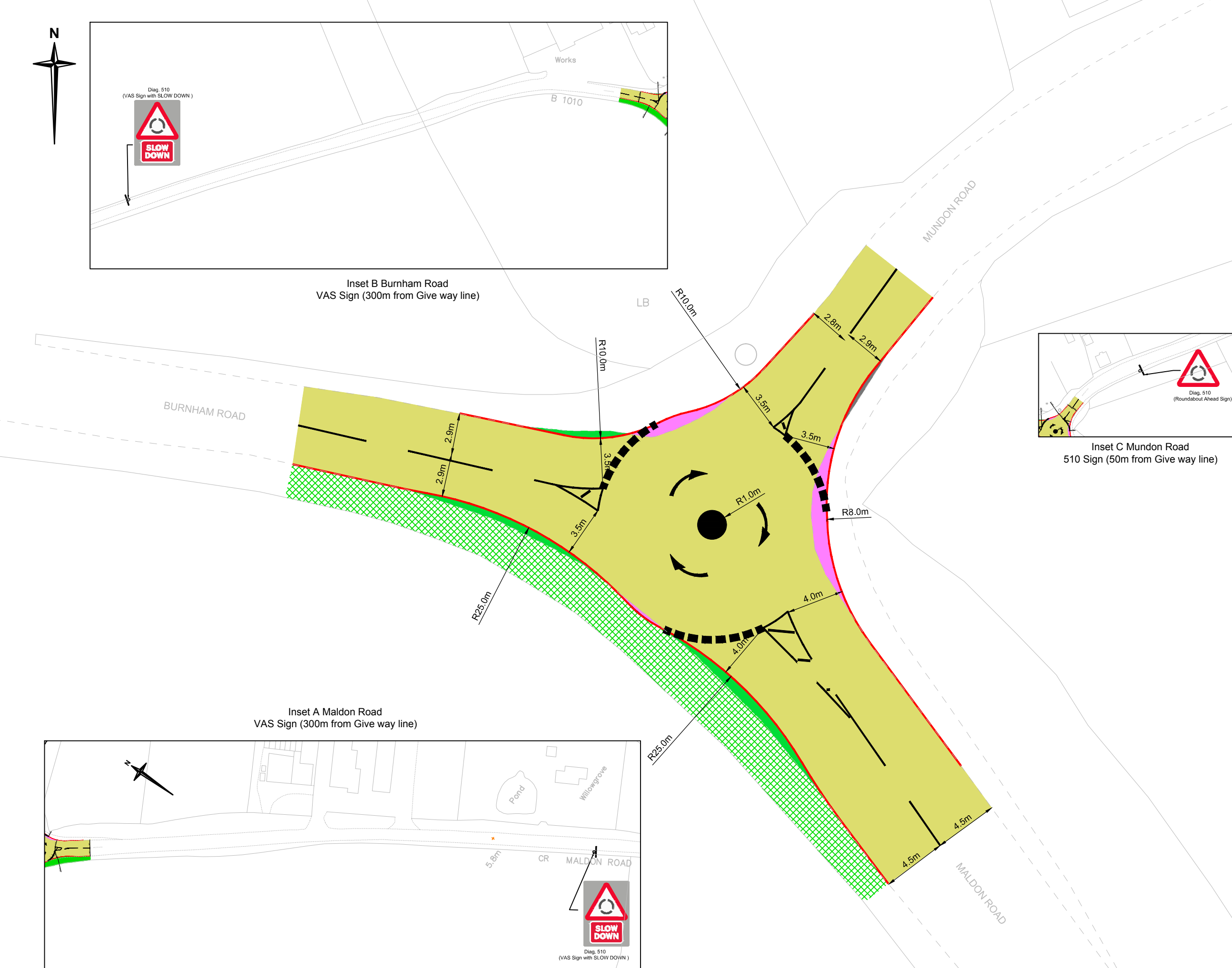
Inset A Maldon Road
VAS Sign (300m from Give way line)

Notes:

1. Do not scale.
2. This drawing is to be read in conjunction with all other contract drawings and documents.
3. VAS Signs part of associated speed reduction measures to mini Round-about to avoid isolated traffic calming measure.

Key

- Proposed Kerb
- Proposed Footway widening
- Existing Verge
- Proposed Carriageway
- Proposed Verge
- Proposed Road Marking
- Proposed Traffic Signs



Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved
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DRAWING STATUS
OUTLINE DESIGN



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SCHEME TITLE
**BURNHAM ROAD / MALDON ROAD
JUNCTION WITH MUNDON ROAD
IMPROVEMENT**

DRAWING TITLE
**MINI ROUNDABOUT
OPTION 1**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
JS	MKS	SR	LC	BS
DATE	DATE	DATE	DATE	DATE
19.02.16	19.02.16	19.02.16	03.03.16	03.03.16

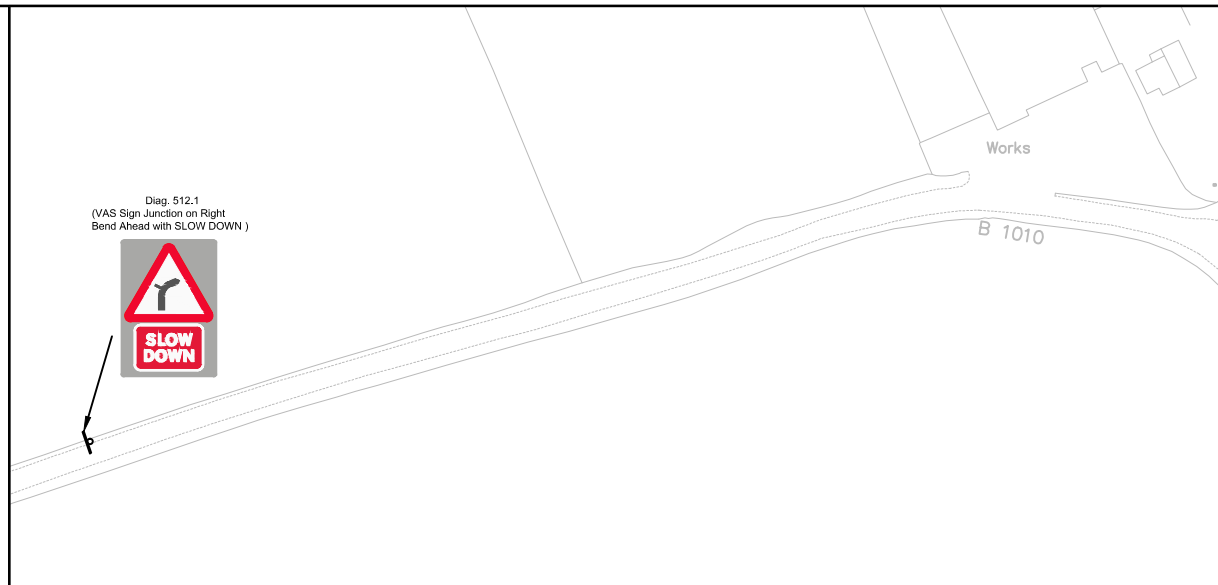
DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A3 (420x297mm)
1:250

DRAWING No.	REV.
HI4013-OP1-1901001	-

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Inset B Burnham Road
VAS Sign (300m from Give way line)










Inset A Maldon Road
VAS Sign (300m from Give way line)

Notes:

1. Do not scale.
2. This drawing is to be read in conjunction with all other contract drawings and documents.
3. VAS Signs part of associated speed reduction measures to mini Round-about to avoid isolated traffic calming measure.

Key

-  Proposed Kerb
-  Proposed Footway widening
-  Existing Verge
-  Proposed Carriageway
-  Proposed Verge
-  Proposed Road Marking
-  Proposed Traffic Signs

Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved

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OUTLINE DESIGN



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SCHEME TITLE
**BURNHAM ROAD / MALDON ROAD
JUNCTION WITH MUNDON ROAD
IMPROVEMENT**

DRAWING TITLE
**DO MINIMUM
OPTION 2**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
JS	MKS	SR	LC	BS
DATE	DATE	DATE	DATE	DATE
19.02.16	19.02.16	19.02.16	03.29.16	03.29.16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES
LEVELS IN METRES SCALE AT A3 (420x297mm) 1:250

DRAWING No.	REV.
HI4013-OP1-02-001-001	-

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- Notes:**
- Do not scale.
 - This drawing is to be read in conjunction with all other contract drawings and documents.
- Key**
- Proposed Precast Concrete HB2 Kerb as per Essex folio EB100
 - Proposed Edging Kerb (EF 150) laid flush with footway as per Essex folio EB102
 - Proposed Precast Concrete Transition Left / Right as per Essex folio EB101
 - Proposed Precast Concrete BN Kerb laid with 6mm upstand as per Essex folio EB100
 - Proposed Footway Construction:
20mm, AC 6 dense surf 100/150
40mm, AC 20 dense bin 100/150
85mm type 1 sub-base

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd
0	Apr16	Draft	MK	BB	LC	BS

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SCHEME TITLE
**FOOTWAY WIDENING
THE AVENUE, NORTH FAMBRIDGE**

DRAWING TITLE
GENERAL ARRANGEMENT

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	MK	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A3 (420x297mm)
1:500

DRAWING No. **HI4015-00-001** Page 6 of 143
REV. **0**

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:	
Hazard Log Ref	DESCRIPTION OF HAZARDS
1.	Works under near overhead/underground low voltage and high voltage line.
2.	Works near water main supply
3.	Works near BT overhead/underground telecom apparatus.

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Notes:

1. Do not scale.
2. This drawing is to be read in conjunction with all other contract drawings and documents.

Key

- Proposed Precast Concrete HB2 Kerb as per Essex folio EB100
- - - Proposed Edging Kerb (EF 150) laid flush with footway as per Essex folio EB102
- Proposed Precast Concrete Transition Left / Right as per Essex folio EB101
- - - Proposed Precast Concrete BN Kerb laid with 6mm upstand as per Essex folio EB100
- Proposed Footway Construction:
20mm, AC 6 dense surf 100/150
40mm, AC 20 dense bin 100/150
85mm type 1 sub-base

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd
0	Apr16	Draft	MK	BB	LC	BS

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**FOOTWAY WIDENING
THE AVENUE, NORTH FAMBRIDGE**

GENERAL ARRANGEMENT

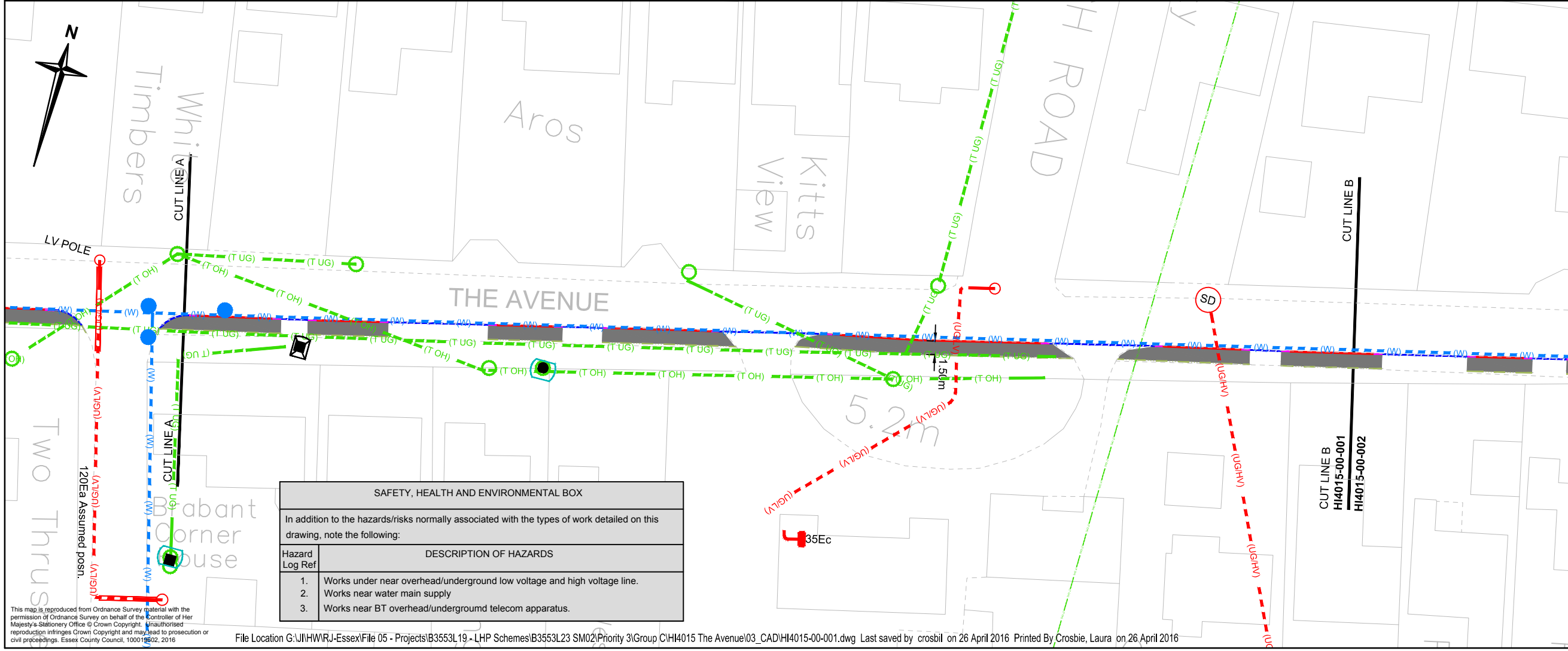
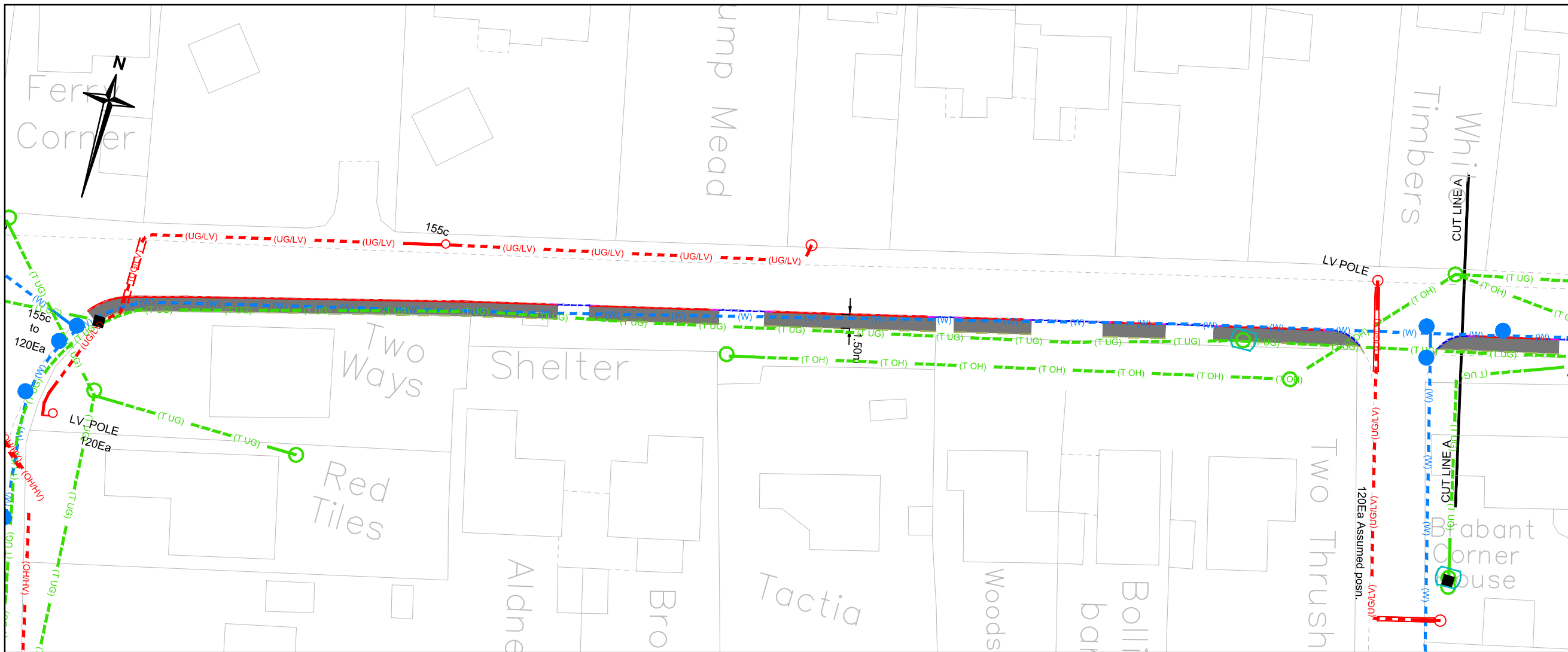
DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	MK	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES
LEVELS IN METRES SCALE AT A3 (420x297mm) 1:500

DRAWING No. **HI4015-00-002** Page 6 of 143 REV. **0**

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:	
Hazard Log Ref	DESCRIPTION OF HAZARDS
1.	Works under near overhead/underground low voltage and high voltage line.
2.	Works near water main supply
3.	Works near BT overhead/underground telecom apparatus.

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 - Proposed Precast Concrete BN Kerb laid with 6mm upstand as per Essex folio EB100
 - Proposed Footway Construction:
20mm, AC 6 dense surf 100/150
40mm, AC 20 dense bin 100/150
85mm type 1 sub-base
- Key Stats**
- (UG/LV) --- Underground Low Voltage line
 - (UG/HV) --- Underground High Voltage line
 - (OH/HV) --- Overhead High Voltage line
 - (W) --- Essex and Suffolk Water (Water Main)
 - (T UG) --- BT Underground Line
 - (T OH) --- BT Overhead Line
 - MH (Water Main)
 - /□ Joint box / Distribution point
 - Joint box
 - ⊠ Cabinet

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approved
0	Apr16	Draft	MK	BB	LC	BS

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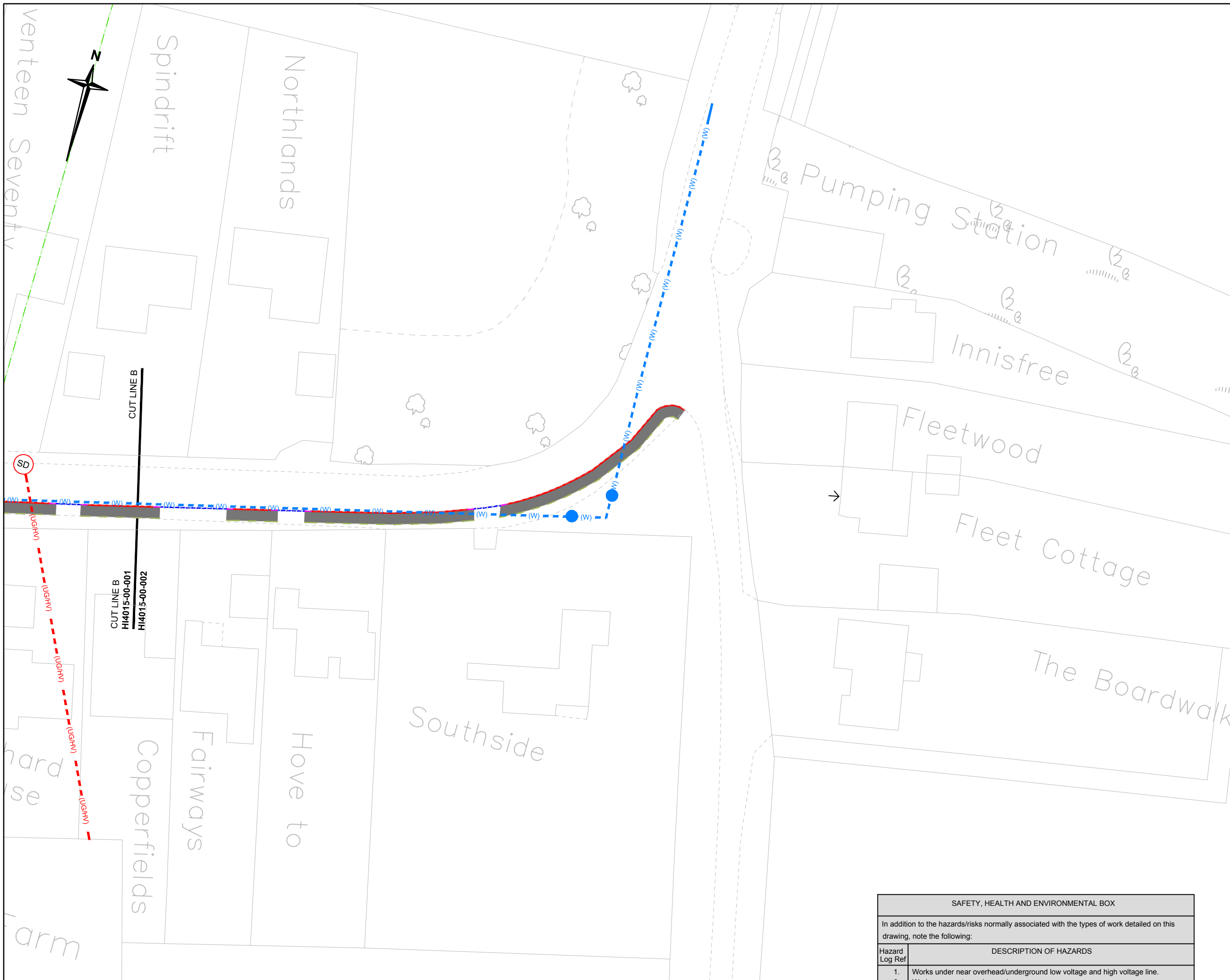
**FOOTWAY WIDENING
THE AVENUE, NORTH FAMBRIDGE**

**GENERAL ARRANGEMENT
WITH CONSTRAINT**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	MK	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16
DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES LEVELS IN METRES			SCALE AT A3 (420x297mm) 1:500	
DRAWING No. HI4015-00-003				REV. 0

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
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1.	Works under near overhead/underground low voltage and high voltage line.
2.	Works near water main supply
3.	Works near BT overhead/underground telecom apparatus.

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Key

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- Proposed Edging Kerb (EF 150) laid flush with footway as per Essex folio EB102
- Proposed Precast Concrete Transition Left / Right as per Essex folio EB101
- Proposed Precast Concrete BN Kerb laid with 6mm upstand as per Essex folio EB100
- Proposed Footway Construction: 20mm, AC 6 dense surf 100/150 40mm, AC 20 dense bin 100/150 85mm type 1 sub-base

Key Stats

- (UG/LV) - Underground Low Voltage line
- (UG/HV) - Underground High Voltage line
- (OH/HV) - Overhead High Voltage line
- (W) - Essex and Suffolk Water (Water Main)
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- Cabinet

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0	Apr16	Draft	MK	BB	LC	BS

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FOOTWAY WIDENING THE AVENUE, NORTH FAMBRIDGE

GENERAL ARRANGEMENT WITH CONSTRAINT

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	MK	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES
LEVELS IN METRES
SCALE AT A3 (420x297mm)
1:500

DRAWING No. **HI4015-00-004** Page 6 of 143 REV. **0**

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
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2.	Works near water main supply
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- Notes:**
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 - This drawing is to be read in conjunction with all other contract drawings and documents.
- Key**
- Existing Kerb to be removed to tip off site
 - Existing verge to be excavated up to a depth of 145mm for new footway construction.
 - Existing footway to be excavated up to a depth of 145mm for new footway construction.
 - Existing Telegraph Pole to be disconnected and removed to tip off site.
 - Existing Road Sign removed to store for reinstatement and relocation.

Rev	Date	Description of revision	Drawn	Checked	Review'd	Approv'd
0	Apr16	Draft	MK	BB	LC	BS

FEASIBILITY STUDY



Mark Rowe, Service Director, Highways
 Seax House, Victoria Road South, Chelmsford, CM1 1QH.
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**FOOTWAY WIDENING
 THE AVENUE, NORTH FAMBRIDGE**

SITE CLEARANCE

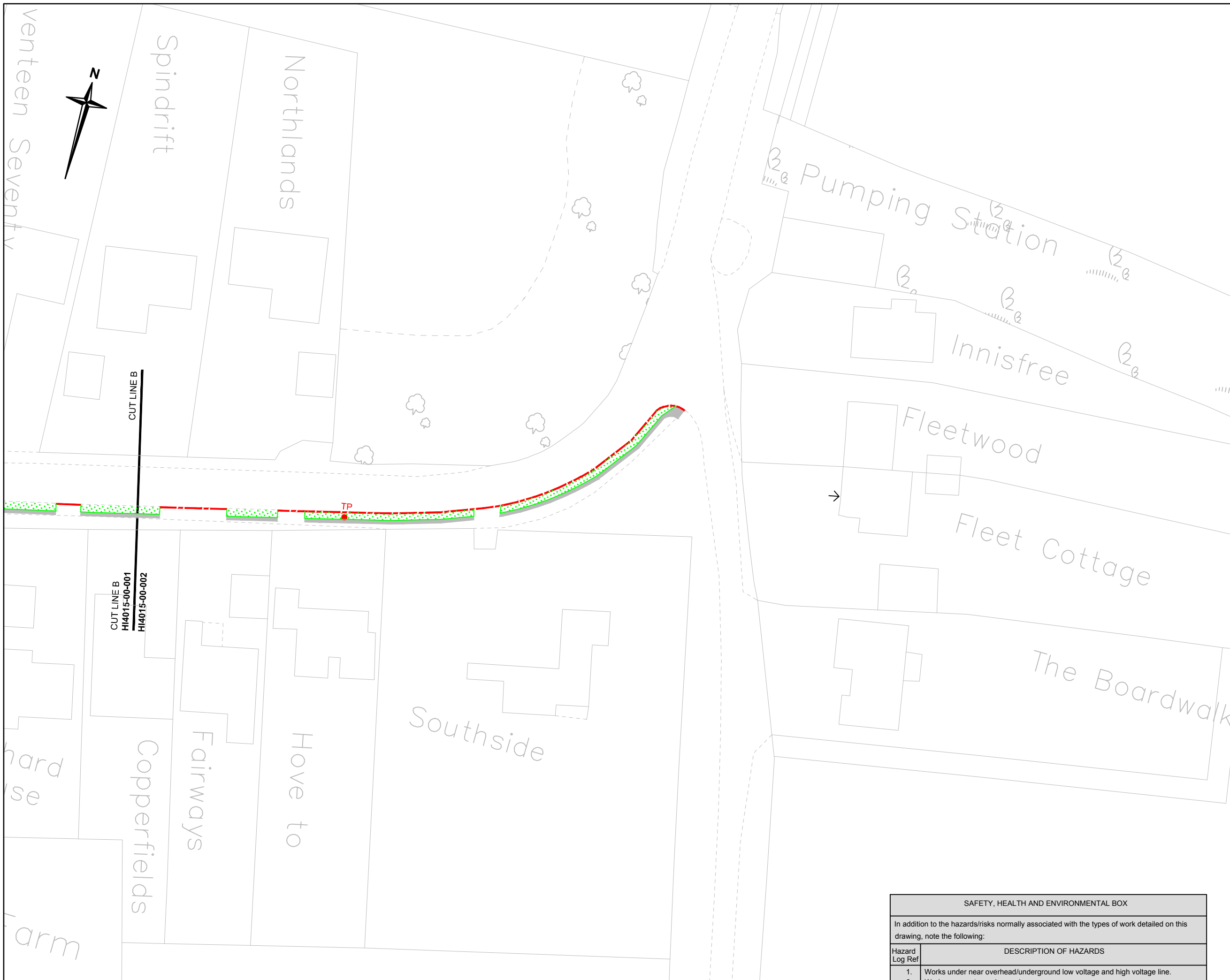
DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	MK	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES
 LEVELS IN METRES SCALE AT A3 (420x297mm) 1:500

DRAWING No. **HI4015-02-001** REV. **0**

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1. Do not scale.
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Key

- Existing Kerb to be removed to tip off site
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Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved
0	Apr16	Draft	MK	BB	LC	BS

DRAWING STATUS
FEASIBILITY STUDY



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SCHEME TITLE
**FOOTWAY WIDENING
THE AVENUE, NORTH FAMBRIDGE**

DRAWING TITLE
SITE CLEARANCE

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
RS	MK	BB	LC	BS
DATE	DATE	DATE	DATE	DATE
21.04.16	21.04.16	21.04.16	26.04.16	26.04.16

DRAWING UNITS U.N.O. SCALE AT A3 (420x297mm)
DIMENSIONS IN MILLIMETRES 1:500
LEVELS IN METRES

DRAWING No. **HI4015-02-002** Page 66 of 143 REV. **0**

SAFETY, HEALTH AND ENVIRONMENTAL BOX	
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1.	Works under near overhead/underground low voltage and high voltage line.
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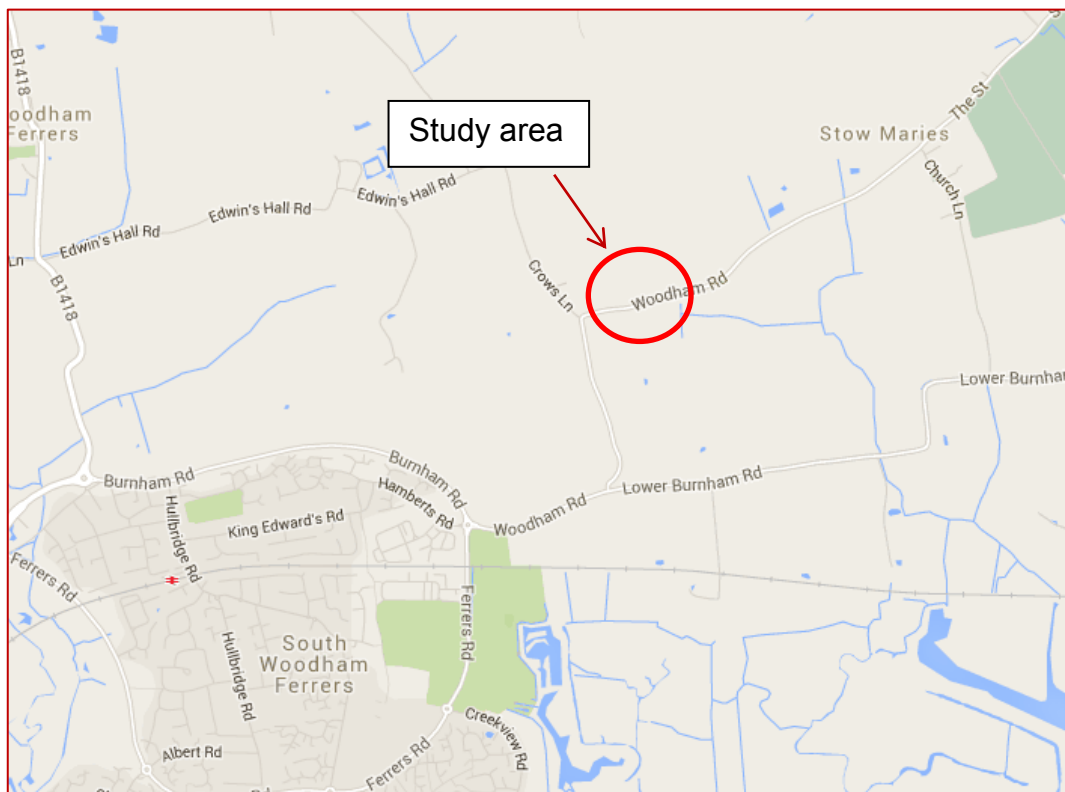
HI4017 - Woodham Road junction with Martin's Lane, Stow Maries Drainage investigation Briefing Note

Date: 26th May 2016
Author: Simon Stubbings (HIDT, SMO2)

Location

Woodham Road in vicinity of Martin's Lane bridleway, approximately 400m west of Stow Maries village, Maldon district, Essex.

Figure 1 – Location Plan



Brief & scope of investigation

This investigation was instigated by Stow Maries Parish Council and was submitted to the Local Highways Panel (LHP) on 5th August 2014.

The Essex Highways Design Team was subsequently commissioned by the LHP to carry out a "review of the existing drainage system to facilitate surface water removal" commencing February 2016.

This note is to be presented to the Maldon LHP and is intended as a summary of the investigation and recommend potential remedial options.

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Date: 26th May 2016
Author: Simon Stubbings (HIDT, SMO2)

Site description

Woodham Road is a single, two way carriageway, and is classified as a PR2 in Essex's Functional Route Hierarchy.

The carriageway is rural, bounded by raised grassed verges on both sides, is unlit, and is subject to the national speed limit (60mph).

Figure 2 – Woodham Road facing westbound

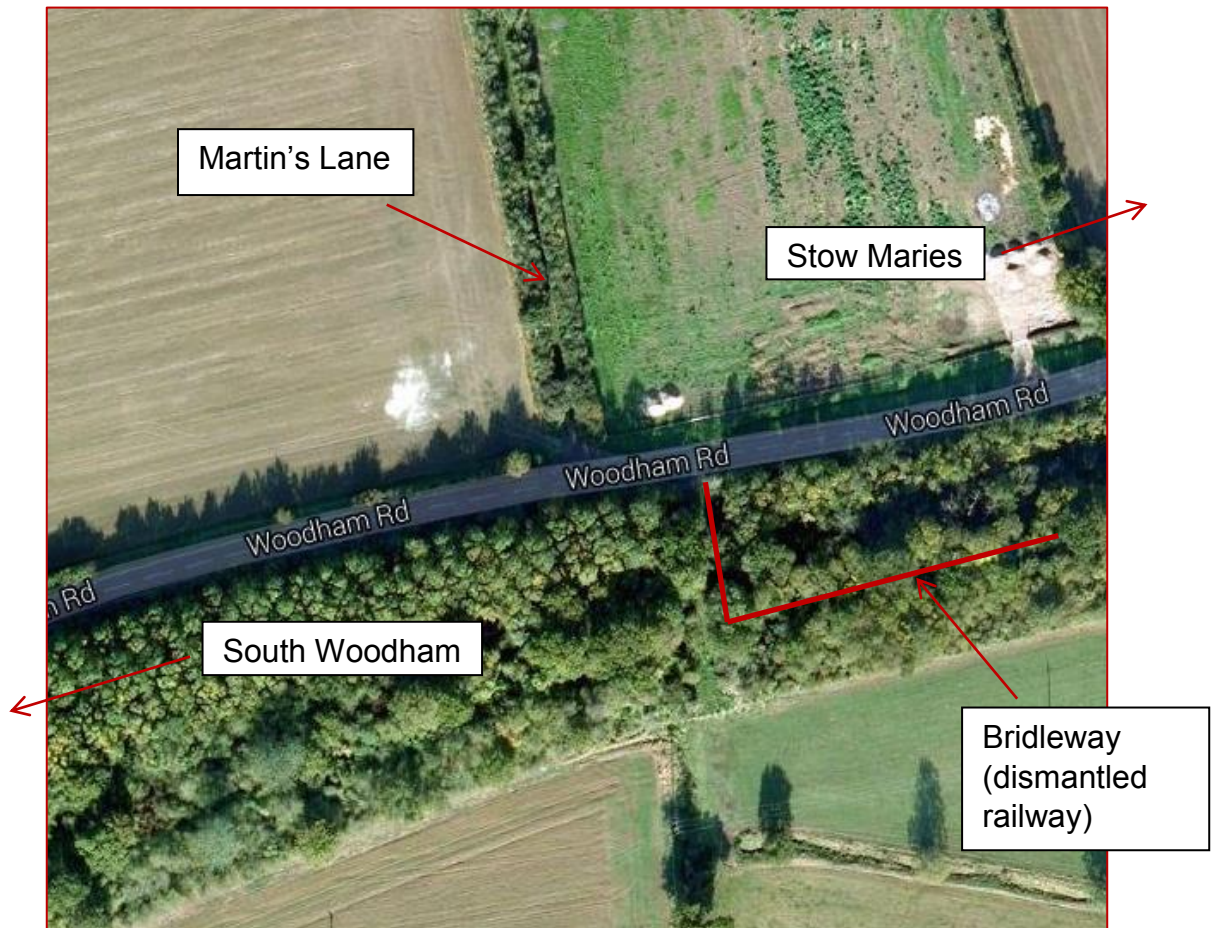


The bridleway is staggered continuing on the south side of Woodham Road approximately 25m east of Martin's Lane, then continuing along the dismantled railway east towards Stow Maries.

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Figure 3 – Ariel view of site



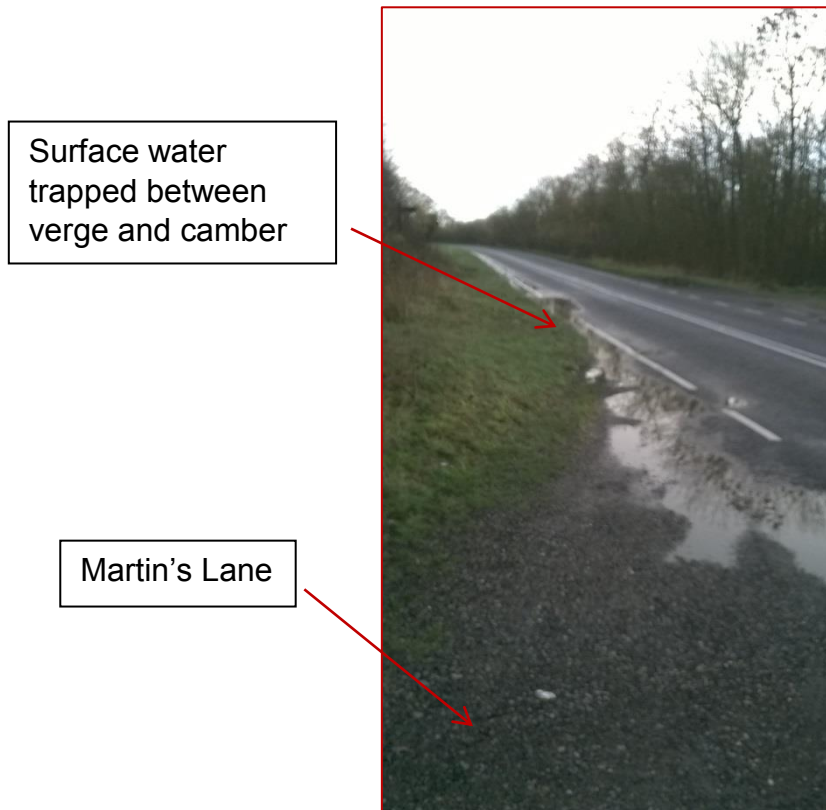
Land to the north is made up of open fields and a vineyard north of that which appears to be the highest point of the natural catchment area approximately 40m above Woodham Road. Land between Woodham Road and the dismantled railway to the south is wooded with farm land south of that.

The carriageway has a balanced crossfall of approximately 2.5% with some rutting / edge deterioration along the nearside of both running lanes, particularly between the two sections of bridleway where surface water collects (see Figure 4 overleaf). Although surface water eventually dissipates into the verge it does so more slowly after periods of heavy rainfall or during winter months where the ground becomes saturated.

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Figure 4 – Standing water on carriageway (from Martin's Lane facing towards Stow Maries village)



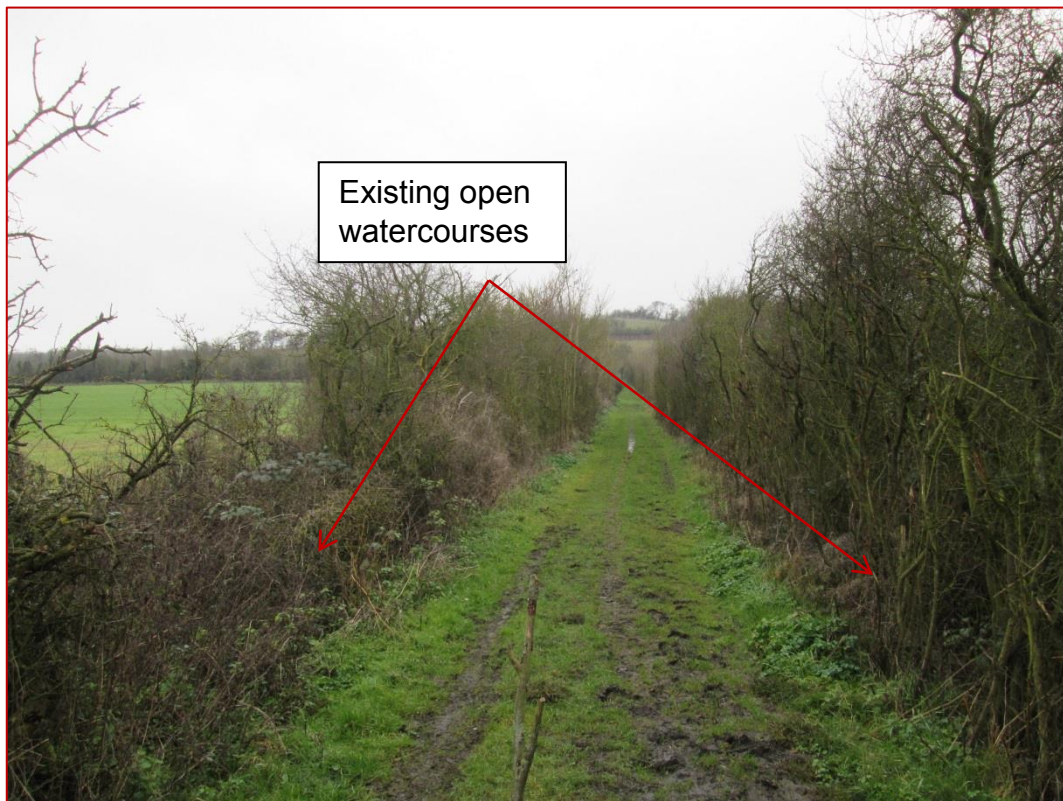
The section of Woodham Road between the two sections of bridleway forms a low point / area (sag). Verges on both sides of the carriageway are raised preventing over edge drainage.

Martin's Lane is an unmade Bridleway which varies between 2 and 3m in width and is on an incline. The bridleway is likely to form a drainage pathway increasing the rate at which surface water reaches Woodham Road. The bridleway is bounded by ditches / hedge lines on both sides (see Figure 5 overleaf).

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Figure 5 – Martin's Lane bridleway



The open ditches on both sides of the bridleway are poorly maintained with a lot of vegetation limiting attenuation.

Flood history

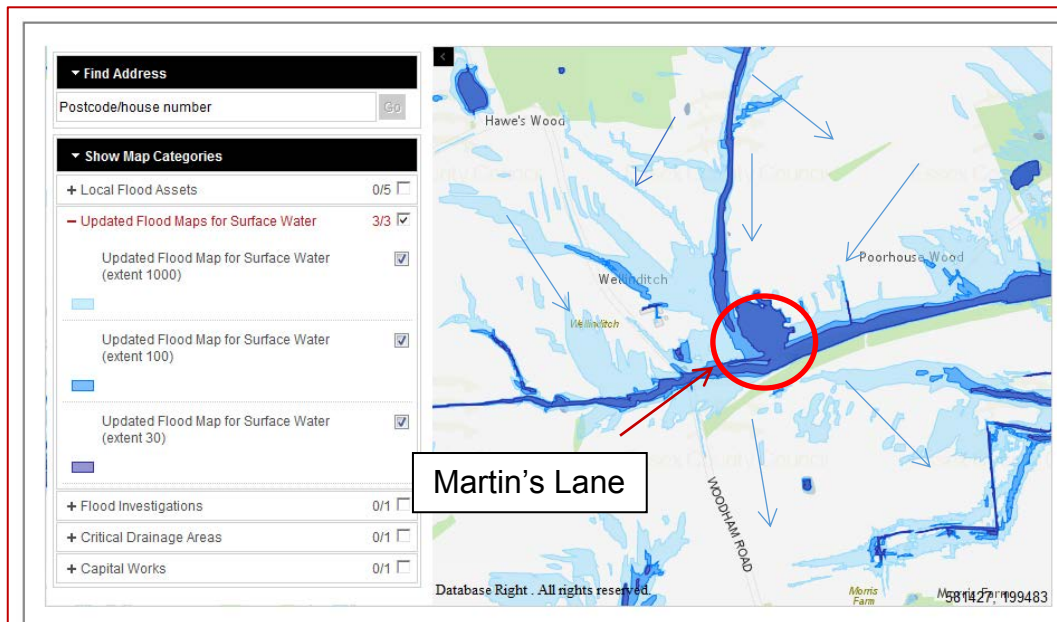
There are few recorded incidents of flooding with the exception of:

1. Surface water flood maps (Environment Agency) show that the area in question is prone to Surface Water Flooding (see Figure 6 overleaf).

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Figure 6 – Surface Water Flood Map from Environment Agency website (approximate direction of flow in natural catchment shown by blue arrows)



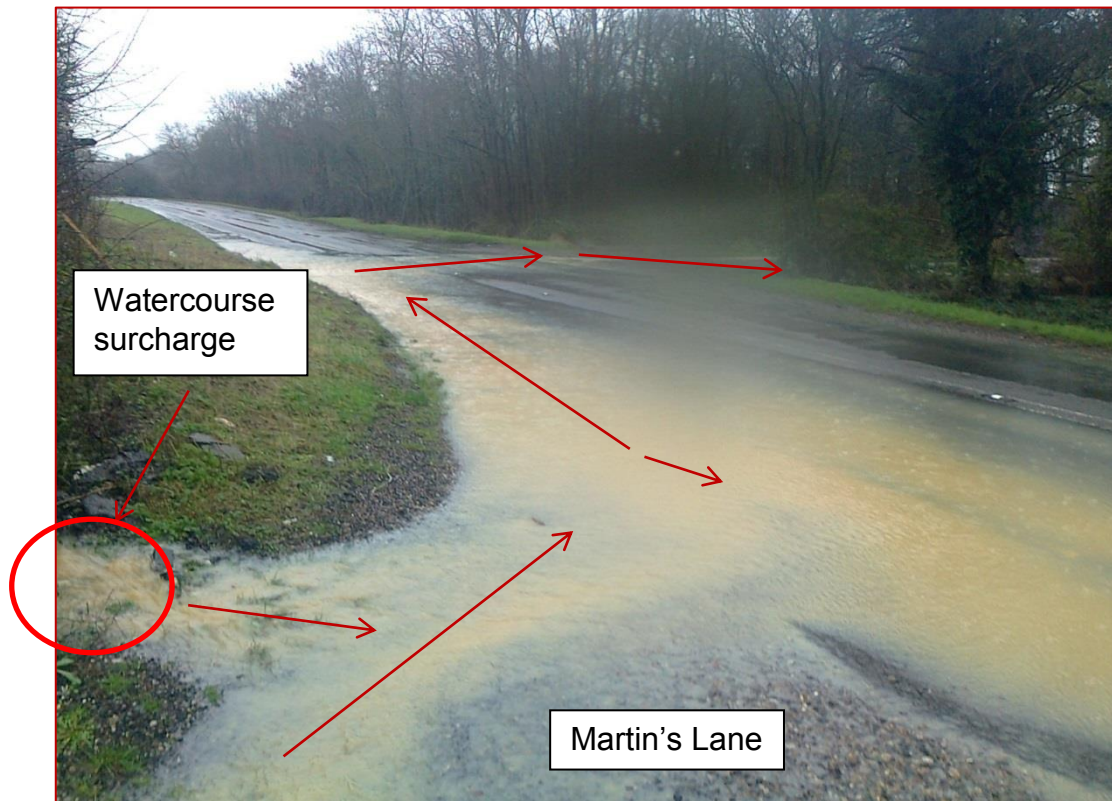
Topography of the area is north to south-east towards to the River Crouch. This supports flood maps which suggests that Martin's Lane is the focal point of the catchment area and therefore where most of the surface water is likely to accumulate.

2. Minutes from the Stow Maries Parish Council meetings dated 16th November 2015 and 26th January 2016 identified issues with flooding making reference to the culvert under Woodham Road at the bottom of Martins Lane being insufficient to take surface water in winter months, also stating "it is not blocked".
3. Photos provided by one of the adjacent landowners shows this section of carriageway flooded (see Figure 7 overleaf). The exact circumstances of the event are unknown therefore there may be extenuating factors which contributed (i.e. lack of maintenance of upstream watercourse).

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Figure 7 – Photo provided by owner of Martin's Lane Estates



Surface water appears to make its way down the bridleway and off adjacent fields and due to the lack of attenuation in adjacent watercourses; the culvert under Woodham Road is unable to manage the flow resulting in subsequent surcharge of the watercourse. Once surface water reaches Woodham Road it is trapped between the verge and the camber of the road until the level is sufficient that it can flow across the carriageway into the watercourse on the south side of Woodham Road. Any remaining surface water on carriageway will remain until it can dissipate into the verge.

Assessment of existing drainage system

The comments below are from a combination of initial site observations, and assessment of the existing drainage system made during the CCTV survey carried out in April 2016.

Ditches running parallel to Woodham Road, Crows Lane and Lower Burnham Road all appear to flow at near full capacity during periods of heavy rainfall but are working.

The existing gulleys in vicinity of Martin's Lane are located outside of the carriageway sag. During the initial site visit, most of the existing gulleys were near to or completely blocked – these were cleared at the same time as the CCTV survey was undertaken in

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April 2016. As verges are raised above carriageway level, there is no mechanism to remove surface water from the problem area.

The existing piped sections of ditch are in a generally good state of repair, i.e. no evidence of collapse, blockage or silting up of pipes.

The ditch on the east side of Martin's Lane has been poorly maintained – part of the watercourse is clearly defined within approximately 10-15m of Woodham Road but north of that is very shallow and is barely visible through the vegetation (see Figures 8 and 9 below and overleaf).

Figure 8 – Headwall / 150mm pipe at bottom of Martin's Lane (east side)



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Figure 9 – Martin's Lane east side watercourse further away from Woodham Road

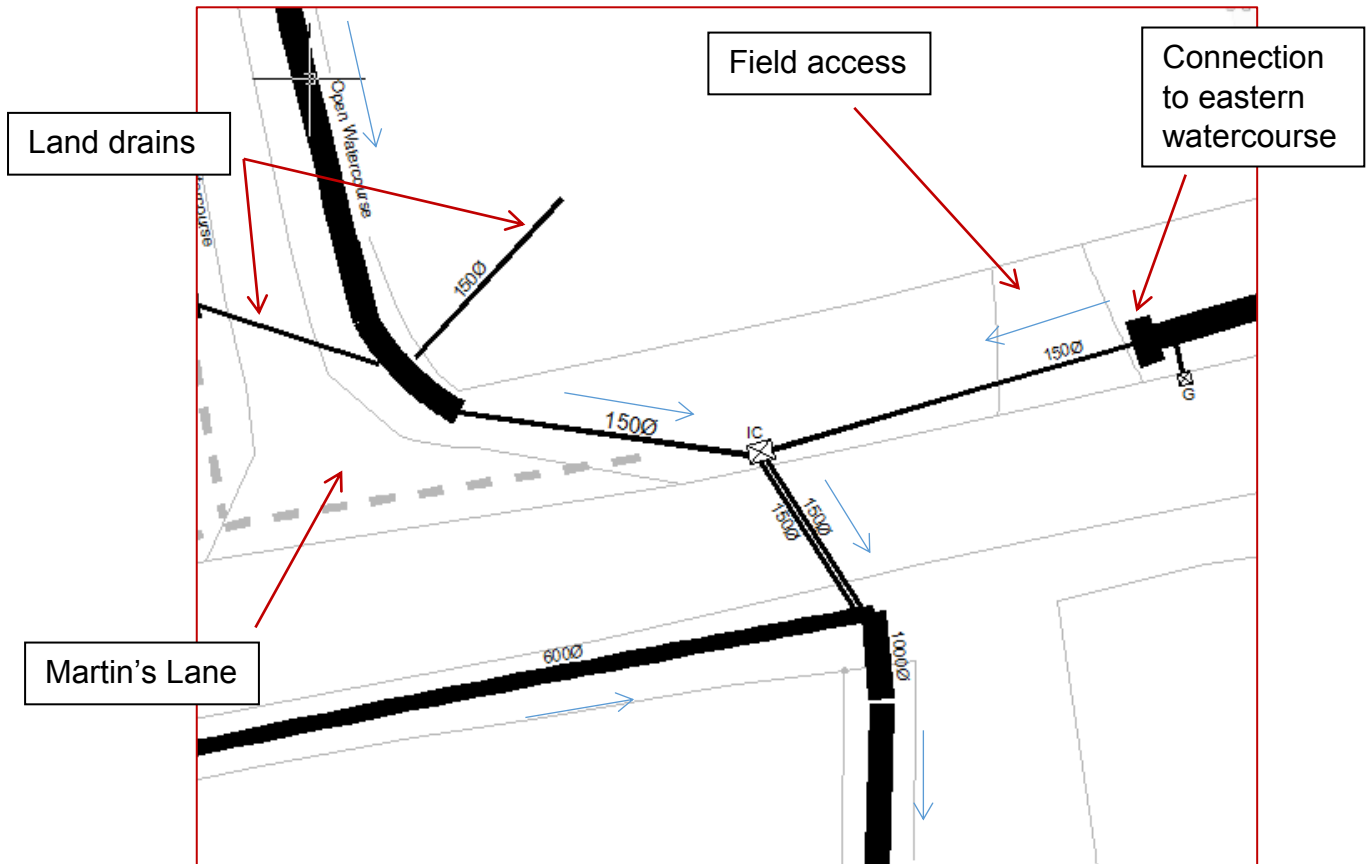


The 150mm pipe at the bottom of the open watercourse (see Figure 8 on previous page) discharge into an inspection chamber on the north side of Woodham Road (between Martin's Lane and field access).

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Figure 10 – Existing drainage system (east side of Martin's Lane; direction of flow shown in blue)



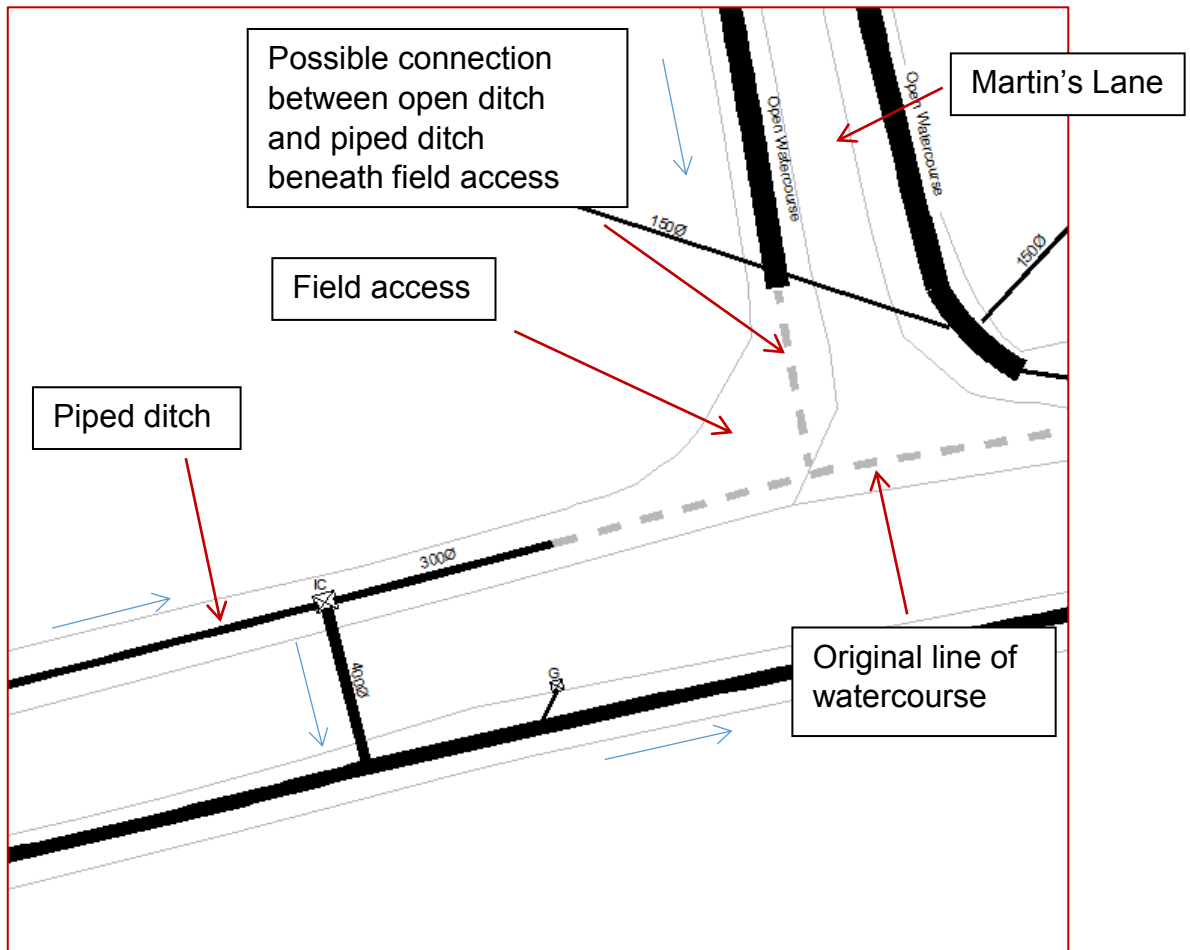
There is a further 150mm pipe which connects the end of open watercourse east of Martin's Lane to the inspection chamber. Two 150mm pipes connect this inspection chamber to the piped ditch on the south side of Woodham Road. The open ditch on the north side of Woodham Road east of the field access and piped ditch on the south side of Woodham Road are in good condition.

There are also two 150mm pipes which discharge into the open watercourse on the east side of the bridleway which appear to be land drainage, however it was not possible to trace these beyond approximately 20m to confirm the extent of the system.

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Figure 11 – Existing drainage system (west side of Martin's Lane; direction of flow shown in blue)



The watercourse on the west side of Martin's Lane is also in very poor condition, it is considered that historically, this may have tied into the piped ditch on the north side of Woodham Road west of the brideway. This was most likely cut off whenever the field access was installed.

The layout of the site suggests that there may have been a historic piped section of ditch underneath the brideway connecting the two systems on both sides of the brideway however; there was no physical evidence of this on site.

The inspection chamber immediately west of Martin's Lane joins to a 400mm cross carriageway culvert which runs into a 600mm piped ditch on the south side of the carriageway. This then connects to the main outfall along with the two 150mm pipes from

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the system on the east side of the bridleway. There does not appear to be any other cross over between the two drainage systems north of Woodham Road.

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Conclusions

1. Lack of maintenance of existing drainage systems is a significant contributor to the flooding issue. The adjacent landowners - Hollington Farms and Martin's Lane Estates – are each responsible for maintenance of the two watercourses either side of the Martin's Lane as riparian owners.
2. Particularly after periods of heavy rainfall storm water will find its way into the two ditches parallel to Martin's Lane, and because of lack of attenuation, is unable to escape quickly enough via the single 150mm pipe because of the change in gradient and subsequent concertina effect on flow. This is compounded by Martin's Lane being the focal point of the natural catchment area therefore maybe subject to higher demand than other areas. Surface water is also likely to run along the bridleway and ditch along the western side of Martin's Lane before joining the carriageway.
3. At present there is a 400mm and 2 x 150mm cross carriageway pipes west and east of Martin's Lane respectively which are not being utilised anywhere near full capacity due to a combination of lack of attenuation and potential blocked connections. This is magnified during extreme weather events or after prolonged periods of rainfall however, it should be noted that flooding of the carriageway does not appear to be a regular occurrence.
4. Surface water being confined between carriageway profile and verge particularly on the north side of Woodham Road. This is less of an issue but still could present a risk to road users and is likely to occur more frequently than flooding of the watercourse. This is a general issue as Martin's Lane forms a low spot and surrounding verges are above the height of the carriageway. This will be exacerbated in winter months where the verge becomes saturated. Where standing water freezes on carriageway it will pose a greater risk to motorists, especially motorcyclists, emphasising the need to maximise the natural capacity of the watercourses and facilitate some kind of surface water removal.

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Recommendations

Recommendations are divided into short and long-term options.

It is recommended that short-term works are carried out during the summer of 2016 before the 2016/17 winter season.

The site should then be monitored for a period of no less than 5-years following the completion of the short-term works. The reason being that the number of occasions when flooding is a problem appear to be few and far between, which may have been resolved by the short-term measures, and which appear to have resulted from a lack of appropriate maintenance.

Following the monitoring period, a decision can be made as to whether to undertake long-term improvements, and which solution will be most appropriate.

Short-term

Landowners to clear open watercourses along both sides of Martin's Lane of vegetation and re-establish suitable profile, similar to the existing open watercourse on the north side of Woodham Road east of the bridleway (approximately 1m deep by 1.5m wide) to maximise attenuation (landowner's responsibility as riparian owner).

It is recommended that the landowner recover the bottom of the ditch on the west side of Martin's Lane to identify any connection to the piped ditch on the north side of Woodham Road. If there is not a suitable connection recovery of the entire ditch may cause flooding issues. This is essentially because the ditch will collect more surface water which will have no where to go once it reaches the field access at the bottom of the bridleway. Reconnection could form part of an improvements scheme longer term after which the ditch should be restored.

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Long-term

Option 1 – Improvement of cross carriageway flow - £14,000

Install a new culvert across Woodham Road in order to increase capacity of the cross carriageway system east of the bridleway (see Figure 12 overleaf).

This is only likely to be of benefit during heavy, prolonged periods of rainfall, the priority is to remove the “bottleneck” at the bottom of the east watercourse. This option does not make use of existing 400mm culvert west of Martin's Lane.

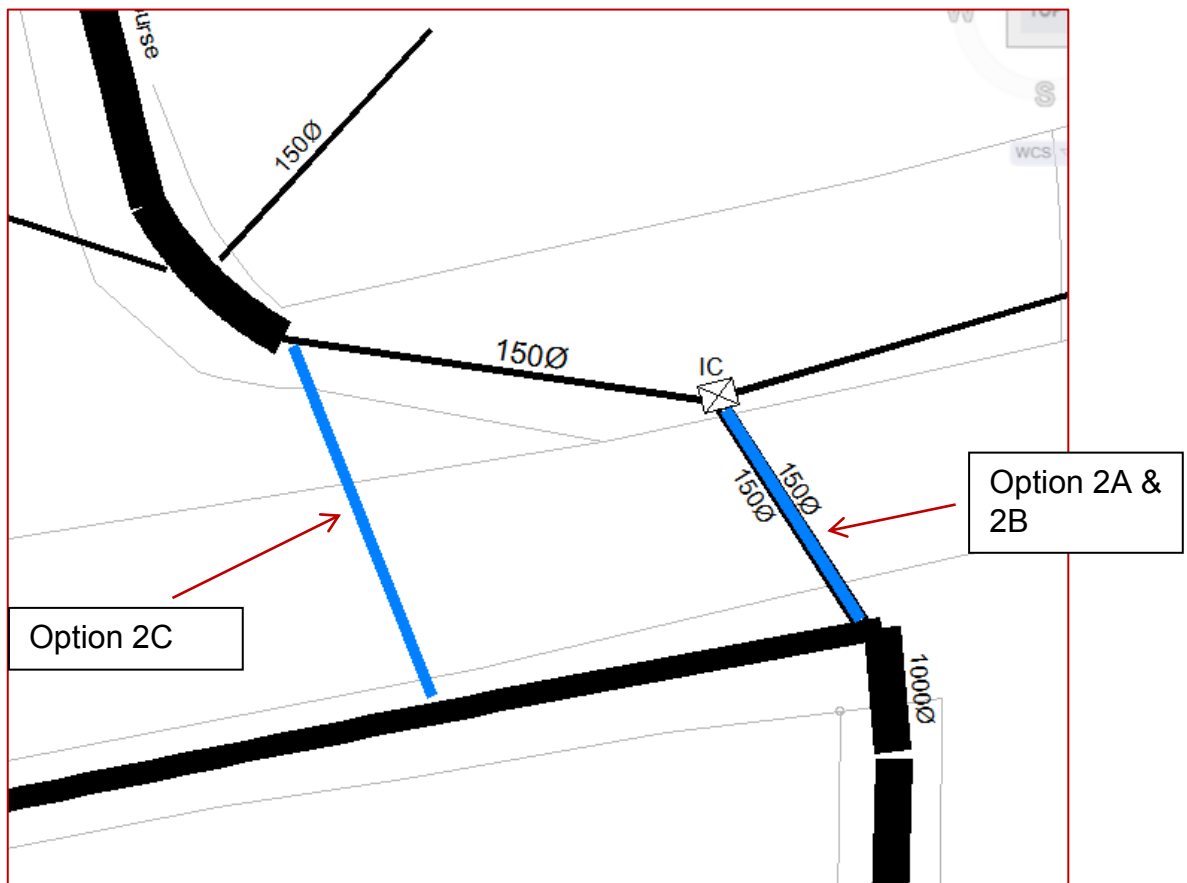
This is unlikely to be required as it is considered that once adequate maintenance is carried out, it should be sufficient to significantly reduce the risk of flooding utilising the existing 150mm pipe.

Sub-options include provision of a further 150mm at the two existing cross carriageway pipes (A), removal of the two 150mm pipes and replace with box culvert (B) or provision of a new cross carriageway pipe from the existing headwall at the bottom of Martin's Lane (C).

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Figure 12 – Cross carriageway options A-C



Main considerations are:

Provision of suitable cover beneath the carriageway to ensure pipes are not damaged by over-running traffic and existing statutory undertakers which run across Woodham Road north-west to south-east are adequately protected and making sure levels/fall of drainage system is ok.

All of the options involve full depth excavation of the carriageway to install pipes. Where the carriageway is reinstated it may cause weaknesses in the sub-base and base courses which provide most of the carriageway strength. Woodham Road is a historical route where the carriageway is likely to have been added to and built up over hundreds of years so there is no way of know what the underlying construction is like at any one point or how it would react to being disturbed. Moreover, access between the inspection chamber and piped ditch, ensuring water tight seal is of concern – failure do so may increase of water weakening the carriageway and subgrade which may increase the risk of subsidence.

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This option may not resolve flooding issues unless maintenance of the ditches adjacent to Martin's Lane is also completed.

The works will most likely have to be undertaken under road closure with 6.5 mile diversion route, keeping in mind that Woodham Road is classified as a PR2 route and the diversion should be on roads of equal or greater standard therefore Church Lane and Honey Pot Lane would not be acceptable, although it is accepted that road users who are familiar with the local roads may still use them.

Option 2 – Connection of separate systems to maximise existing runs - £20,000 (preferred long-term solution)

Extend the existing ditch on the east side of the bridleway up to the field access and increase the diameter of pipe beneath the field access to 300mm. This will increase attenuation and remove “bottleneck” between the bottom of the ditch and inspection chamber (see Figure 13 overleaf).

The alternative field access (further east of Martin's Lane) has both a 150mm pipe at the base of the channel connecting the two sections of ditch and a more modern plastic 300mm pipe with less cover, which was presumably added to mitigate any blockages of the smaller pipe.

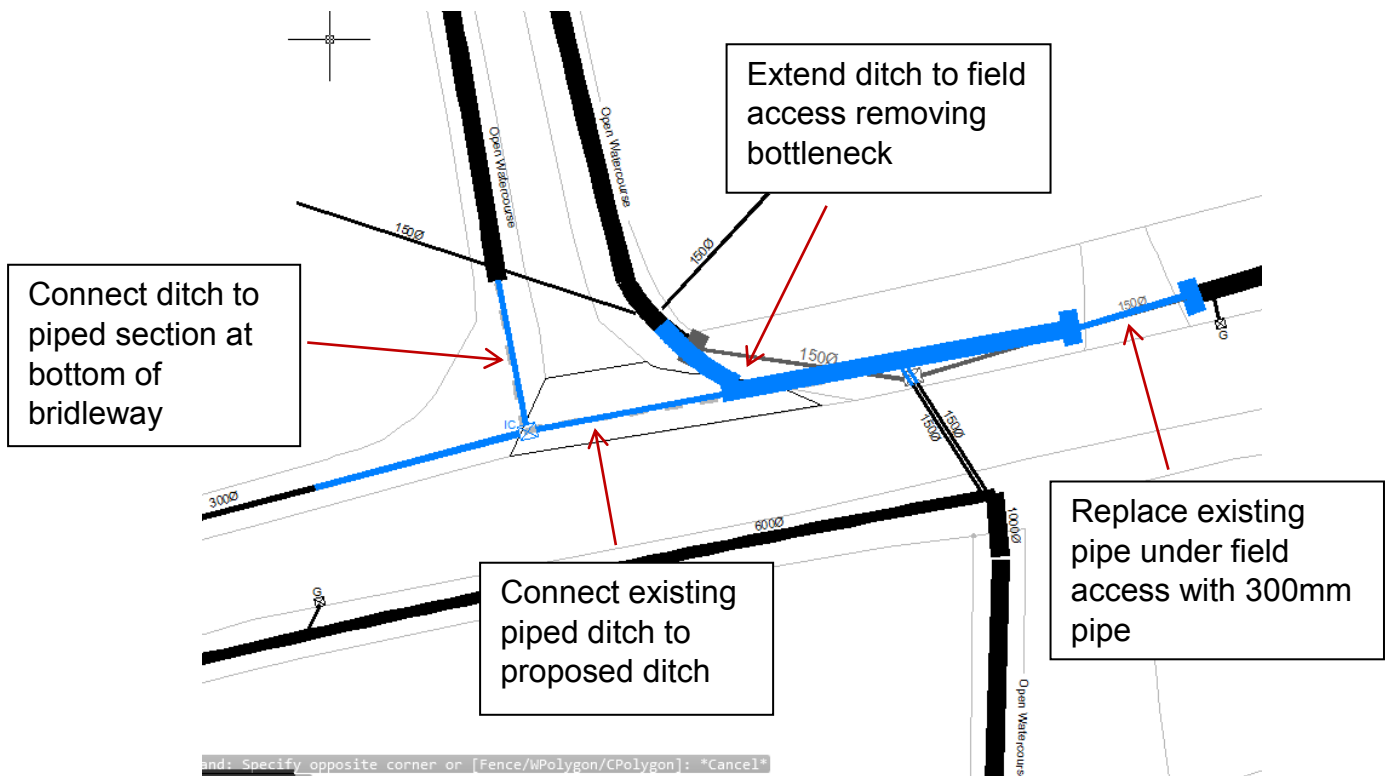
As part of this option it is also possible to connect the existing piped ditch west of Martin's Lane to the proposed ditch extension and connect the ditch running parallel to the west side of Martin's Lane if this is not already the case. This is most likely to be the original and most effective arrangement in moving surface water across the carriageway.

This will allow the existing ditches to be re-profiled to maximise attenuation as well as making full use of the existing 400mm cross carriageway culvert west of the bridleway which is more than sufficient to cope with likely flow.

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Figure 13 – Overflow and connection of existing watercourses



This is the ideal long term solution. However, it is also possible to carry out works east and west of the bridleway as separate schemes, omitting the section of pipe under the bridleway. The benefit of joining the two systems is that full use is made of the 400mm pipe west of the bridleway which is the most efficient way of conveying surface water to the south side of Woodham Road.

There will probably be some traffic management in order to maintain safe working, probably two-way lights, but the road would remain open.

The risk of damaging the carriageway structure is reduced as all of the works are contained within the verge and also means that ground works are a lot less onerous.

This also maximises use of open ditches which is the preferred solution in terms of allowing infiltration to the ground where possible and provide attenuation before outfalling at a controlled rate as well as being more environmentally friendly.

The two existing 150mm cross carriageway pipes would be maintained. This would include regrading the verge or profiling of grips to alleviate surface water or allow over edge drainage on the north side of Woodham Road between the two sections of bridleway.

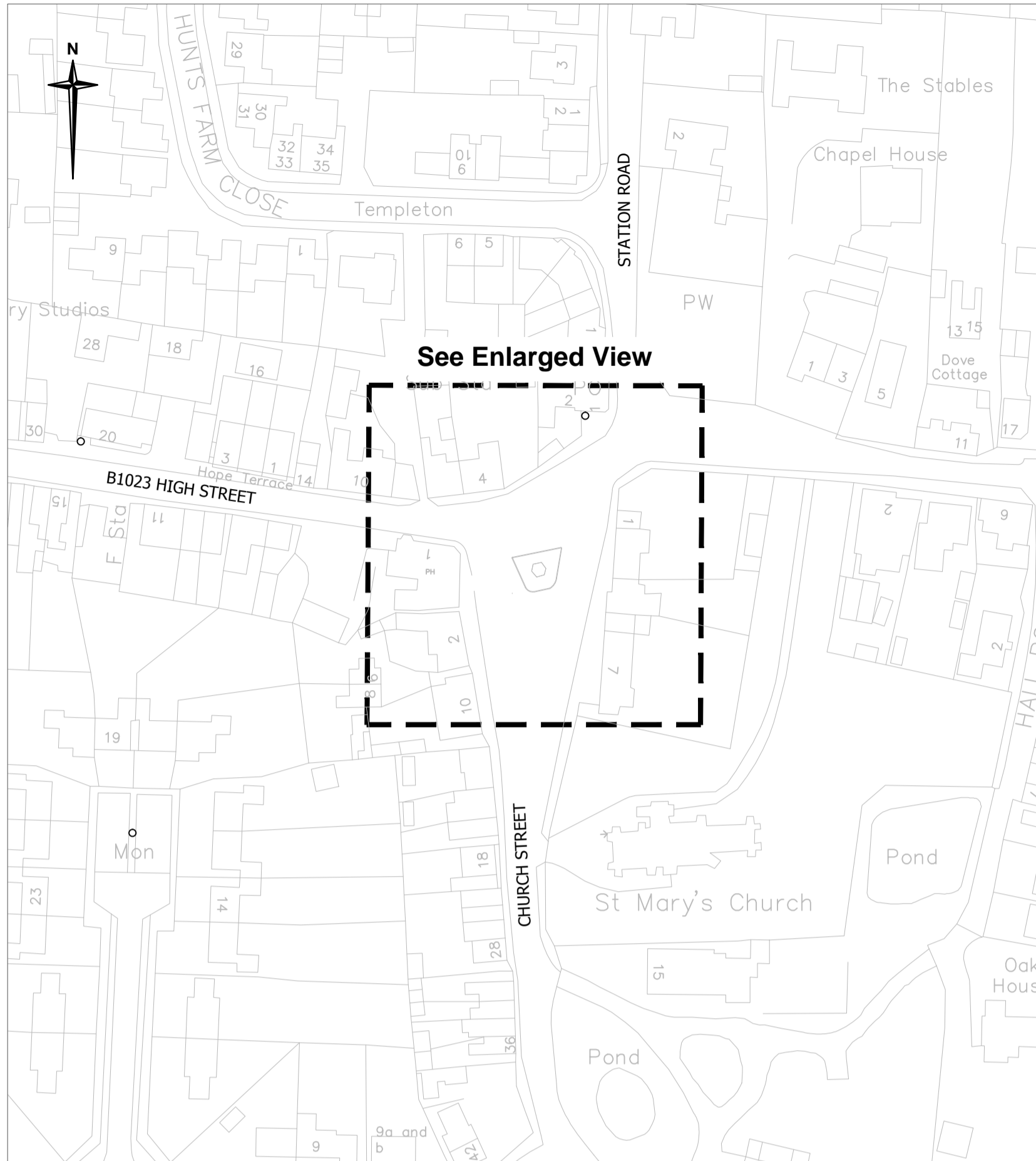
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To be clear, as the capacity of the existing system is far from maximised it is crucial to resolve this before undertaking any further remedial work to cross carriageway pipes which do not simply warrant the expense at present.

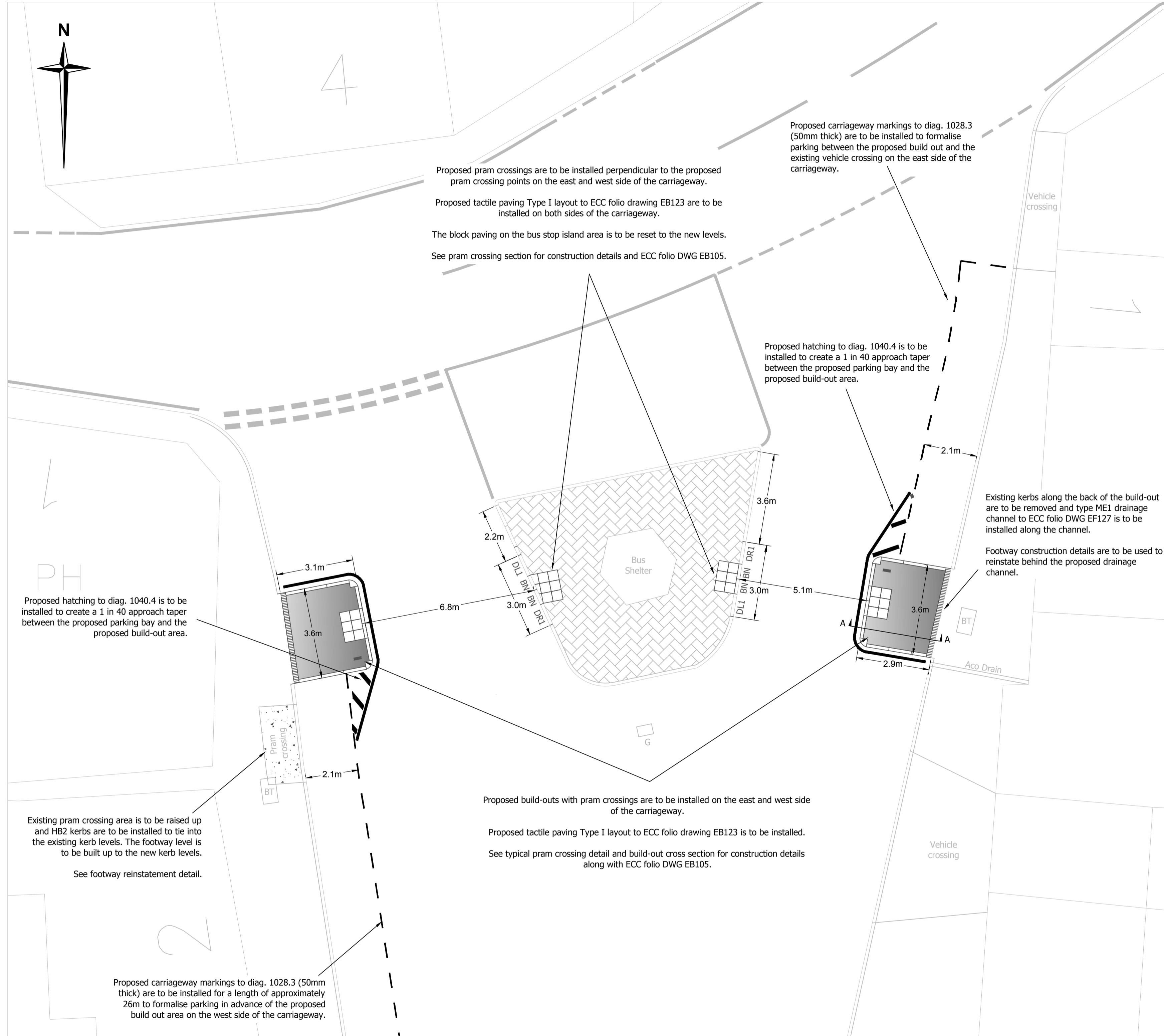
Once the maintenance works are carried out to an appropriate standard, and it would be worth the design team working with adjacent landowners in order to accomplish this, if there is still a problem then there is an opportunity to progress improvements in future.

Location Plan - Scale - 1:1000

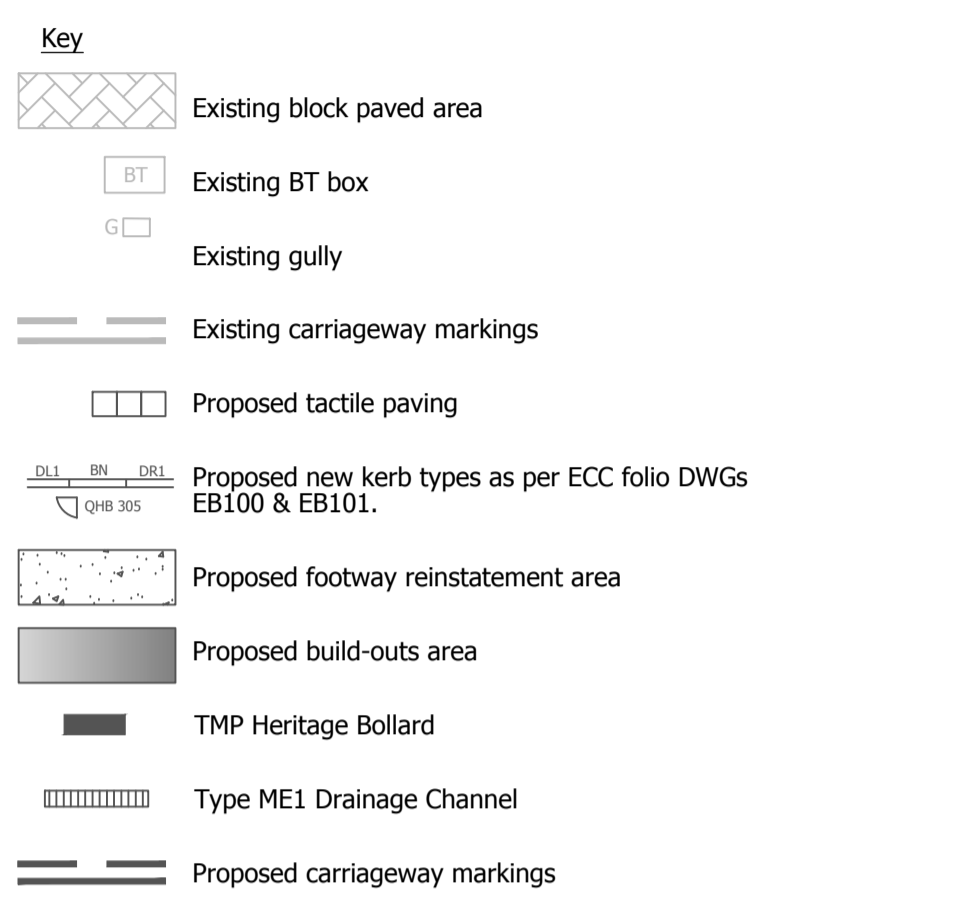


See Enlarged View

Enlarged View - Scale - 1:100

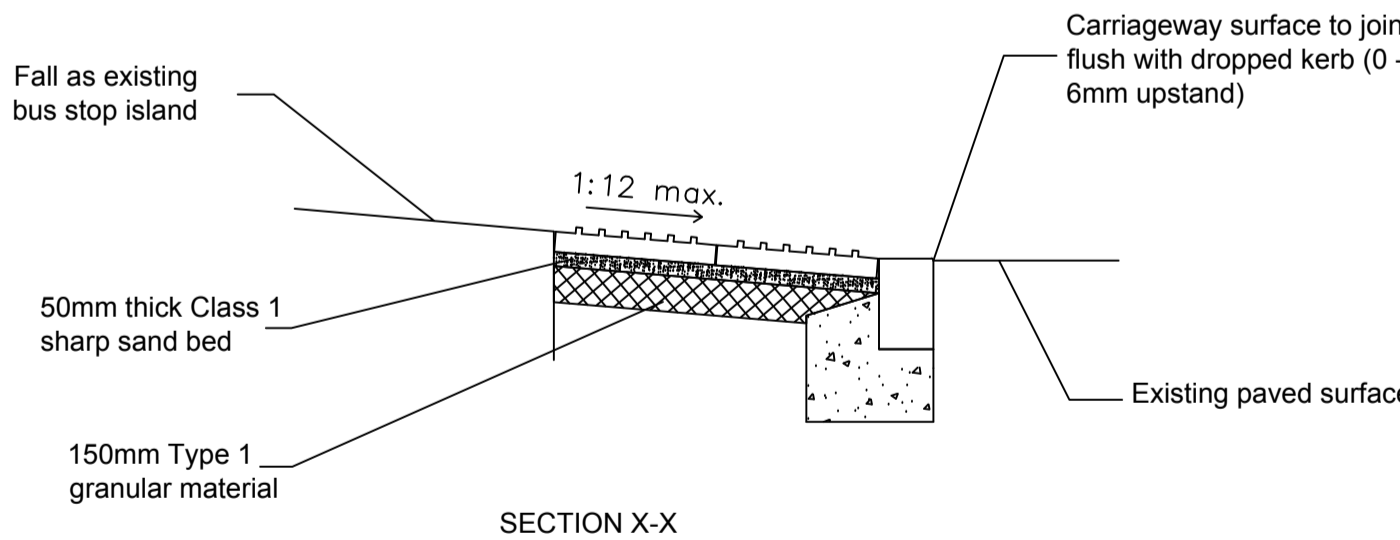
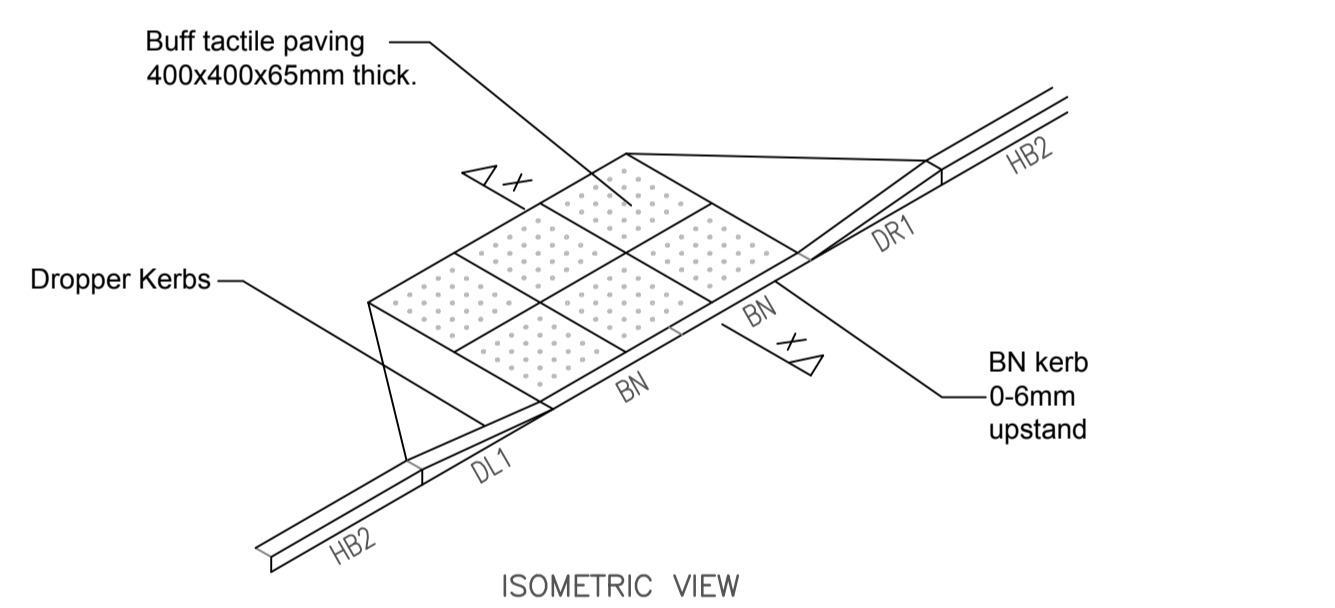


- General Construction Notes
- Do not scale. This drawing is to be read in conjunction with all other contract drawings and documents.
 - All works to be in accordance with the Department for Transport Specification for Highway Works and Essex County Council Specifications and Standard Construction Drawings.
 - Drawings of existing Statutory Undertakers plant have been obtained and are included in the drawings provided to the Contractor. The Contractor shall be responsible for ensuring that all Statutory Undertakers plant is located prior to commencing works and the protection of such plant is required.
 - Traffic sensitivity times for High Street are 10:00-15:00, Monday to Friday.



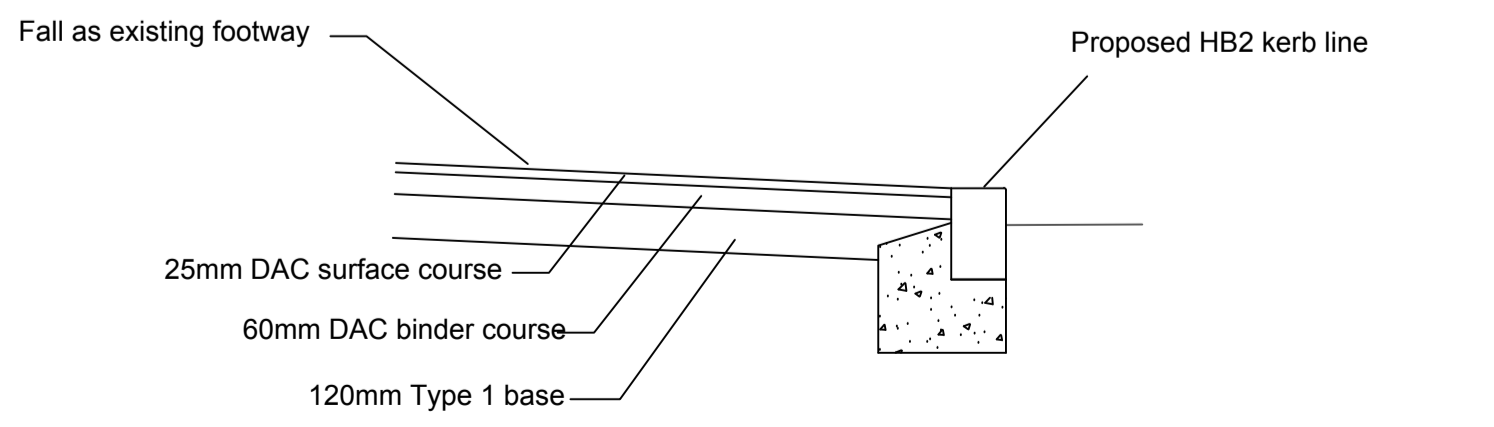
Typical pram crossing detail

Scale - N.T.S.



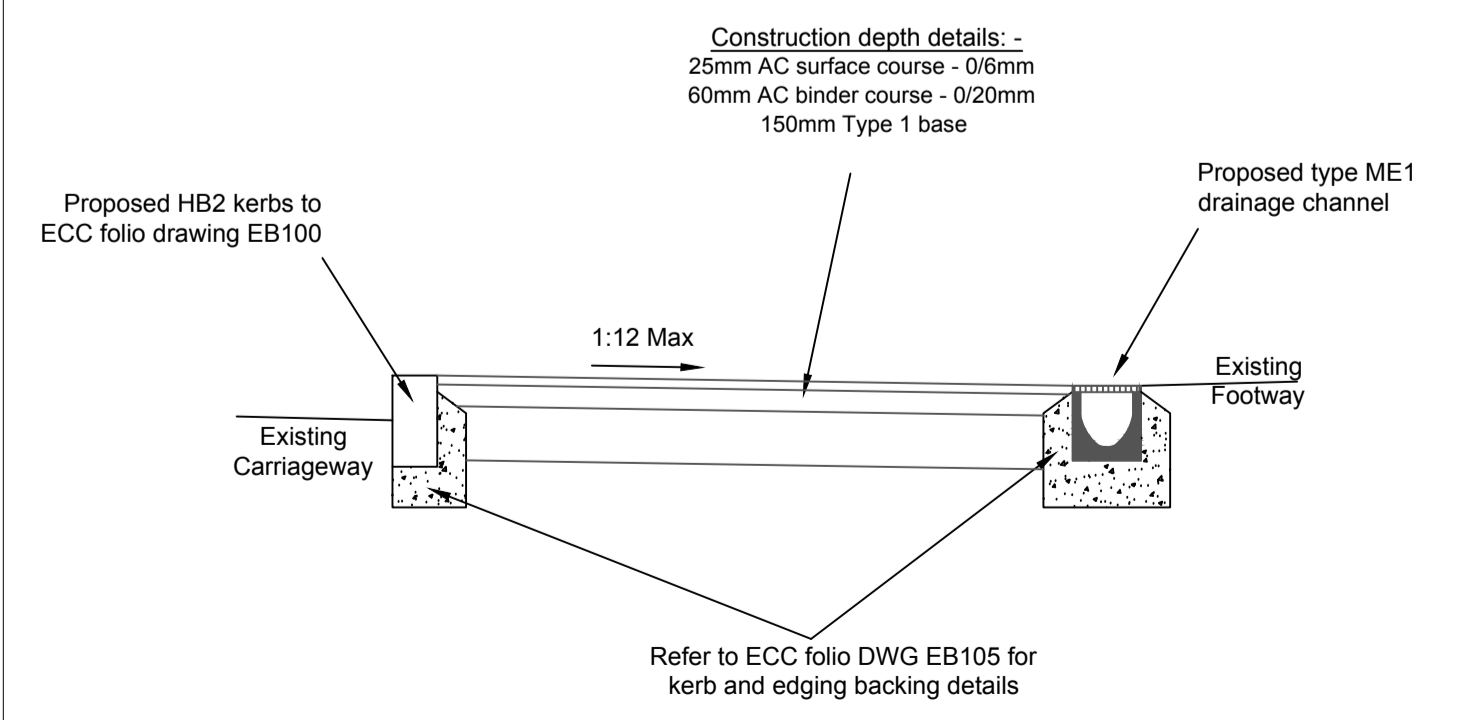
Typical footway reinstatement detail

Scale - N.T.S.



Build-out Cross Section A-A

Scale - N.T.S.



Rev.	Date	Description of revision	Drawn	Checked	Review'd	Approv'd
B	04/16	Amendments as per Audit Team comments on DWG HI4019-00-002A	DG	CN	DG	MS
A	04/16	Amendments as per recommendations in RSA 1/2 No.7223.	DG	CN	DG	MS

SCHEME STATUS

Preliminary Design



Mark Rowe, Service Director, Highways
County Hall A2 Annex, Chelmsford. CM1 1QH
Tel: 0845 6037631 © Essex County Council

Church Street, Tollesbury
Proposed Pram Crossings
LMAL152017

General Arrangement

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
DG	DG	CN	DG	MS
DATE	DATE	DATE	DATE	DATE
MAR 16	MAR 16	MAR 16	MAR 16	MAR 16

DRAWING UNITS U.N.O. SCALE AT A1 (841x594mm)
DIMENSIONS IN METRES As shown

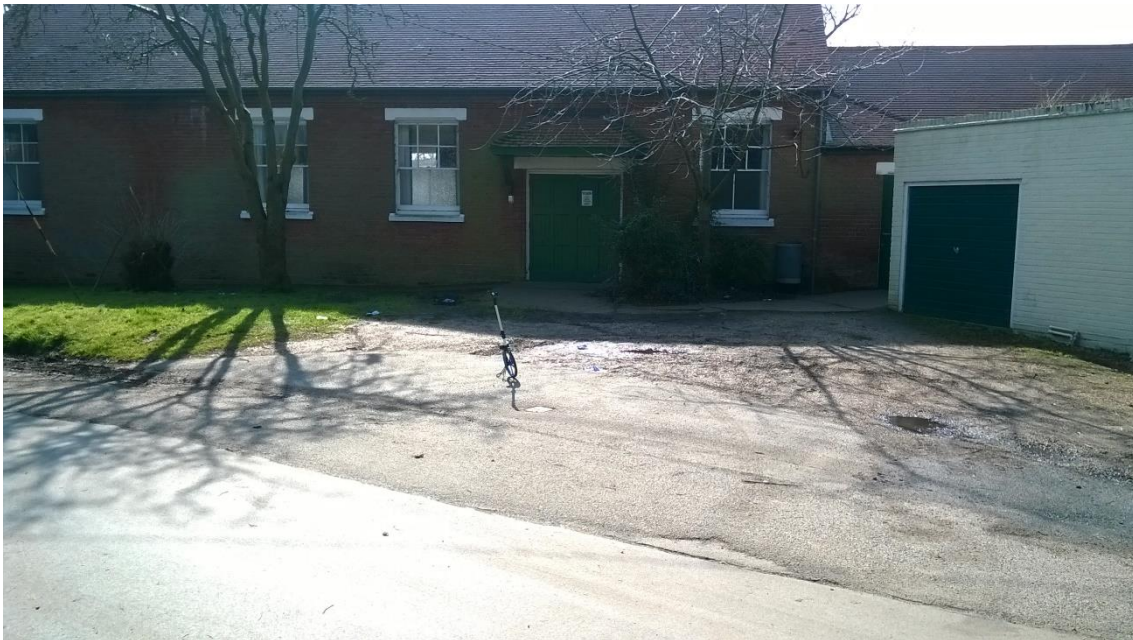
DRAWING No. **HI-4019-00-002** REV. **B**

Church Street, Tollesbury

Feasibility Study

Highway Improvements Design Team (SMO2)

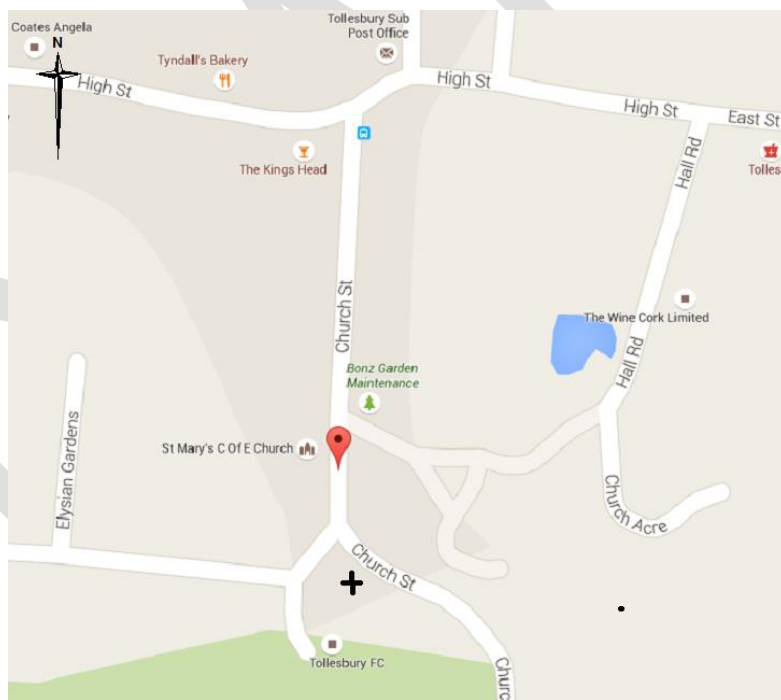
April 12, 2016



Introduction

- This note has been written for and on behalf of Essex County Council (ECC) as part of the Local Highways Panels (LHP) which have been established in all 12 districts of Essex.
- These panels consist of County and District/Borough Members who meet on a quarterly basis to discuss and mutually consider Highways expenditure within their local district or borough boundaries.
- This note is to be presented to the Maldon LHP to review and comment, propose further actions, feasibility of the options and report the findings back to ECC.
- Initial discussions have taken place with the Essex County Council Network Management Team.

Site Location Plan



Church Street, Tollesbury

Post code: CM9 6QJ

Grid reference: (Easting) 595624
(Northing) 210294

Date: 12 April 2016

Author: C Nicholls (HIDT SMO2)

Background to the scheme

The Maldon LHP has funded a feasibility study to investigate options on improving the access to the Parish rooms.

Tollesbury Parish Council have indicated it would like the unmade ground fronting the Parish rooms improved to allow easier access to those less able bodied. The Parish rooms committee and WRVS day centre have indicated that the facility is used by many different Organisations within the village and it can be dangerous for those accessing the building.

This feasibility study will investigate the options that could be carried out.

Site Characteristics

The site in question is Church Street in Tollesbury which is largely a resident street and is an unclassified road with a 30mph speed limit. There is evidence of a high level of on street parking along the length of the road up to its junction with Elysian Gardens.

- At the junction of High Street and Church Street there is an 'S' bend with a bus stop located just inside Church Street.
- There is also a Public House that is located at this junction along with a local shop with a Church approximately 70m south from the junction.

There is no evidence of street lighting columns in Church Street but there is a system in Elysian Gardens. The Parish rooms are located approximately 15m south of this junction and is located between two bends

Personal injury Collision data

A study of the Personal Injury Collision (PIC) data in the past five years indicates that there has been no recorded collisions in the area of the Highway boundary shown in Appendix A.

Records indicated as being correct as of 16th March 2016.

Site observations

A site survey was carried out on 11th March 2016 during daylight hours when the carriageway was dry and the following observations were made;

At the time of the site inspection there were cars parked on both sides of the carriageway and in the centre of the carriageway behind the bus shelter In Church Street. It was also noted that there was a mobile fruit and veg stall outside of property No.7.

Looking at the north frontage of the Parish rooms there is evidence of some patching works to the edge of the carriageway on its southern side. The land beyond this is unmade and consists of a gravel surface. This gravel area looks like it is shared with property No.44 as the front door and garage of this property fronts onto this gravel area.

On closer inspection to the entrance to the Parish rooms there is a bituminous footway that runs parallel with the northern side of the building up to a concrete footway area. The concrete area is located by a double door which is presumed to be an entrance to the Parish rooms along with another single door at the west end of the building. Parts of this concrete footway area are uneven and has broken up which could result in a trip hazard.

There is another entrance to the Parish rooms that is located at the eastern end of the building and is accessed via the vehicle entrance, which leads to the gated car park area to the rear of the Parish rooms.

There are two road gullies on the northern side of the Parish rooms which are presumed to form part of the Highway drainage system. The carriageway surface around these gullies is uneven and there is evidence of surface water ponding. This is a result of the surface water not being able to reach the gullies due to low spots in the carriageway surface.

There are overhead electric and BT cables present on site along with a number of utility boxes being placed in the carriageway in the area of the Parish rooms.

Plans of underground utility apparatus have been procured to determine the location of Utility companies equipment in the area of interest. The plans indicate that there is a NWG Water distribution main, UKPN underground and overhead High voltage electric cables and Anglian Water Foul and Surface water mains.

See Appendix B for photographs of the site visit.

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)

Considerations

Following on from the site observations it was unclear if the gravel area on the northern side of the Parish rooms was classified as 'Highway'.

A Highway boundary check was submitted which indicated that the area of interest is Highway land (See Appendix A for Highway boundary plan).

As part of this feasibility study, two options have been provided;

Design option 1 (HI-4020-00-001A)

This option incorporates the installation of a 1.5m wide asphalt footpath on the eastern side of the gravel area by the existing grass verge. The proposed footpath is to have bullnose kerbs installed along its edge with the gravel area to allow easier access for pedestrians and wheel chair users.

The longitudinal gradient and cross fall of the footpath area is to be in accordance with design standards to enable wheel chair users and pedestrians easier access from the gravel area to the existing concrete hard standing area.

The existing carriageway patch at the northern end of the proposed footpath is to be resurfaced to obtain the required levels for the footpath to tie into the carriageway.

Design option 2 (HI-4020-00-002A)

The works include the installation of bullnose kerbs in front of the gravel area along the carriageway edge. It is proposed that a carriageway patch approximately 25m in length along the length of the new kerb line and between the existing gullies is to be re-profiled to the new levels of the kerbs. These works will help the surface water to fall towards the existing gullies.

The gravelled area is proposed to be converted into a bituminous hard standing area that will tie into the new kerb line and the existing concrete hard standing area by the double door entrance to the Parish rooms.

A level survey will need to be carried out to work out the design levels for both of the proposed designs.

Road Safety Audit Comments

A Road Safety Audit Stage 1/2 (RSA 1/2) was requested on the two preliminary designs and report 7228 was produced by the Road Safety team in response.

The RSA 1/2 report highlighted two points that were both in relation to design option 2. These points were as follows;

Additional note 4.1

Option 2 proposes to convert a large area of unmade material into an area of hard standing. Currently, the unmade surface is formed of semi-permeable material. However, if this is reconstructed into a large hard standing area with no permeable qualities, it is likely that additional surface water will run into the existing drainage system within the area and could cause areas of flooding during heavy rainfall. It is therefore recommended that the capacity of the existing drainage is assessed to ensure it can cope with the increase of surface water and further drainage provided if necessary.

Additional note 4.2

Option 2 proposes to convert a large area of unmade material into an area of hard standing. However, no the drawing provided does not detail how this new hard standing area will tie into an existing footway at the western end of the scheme. It is therefore recommended that the tie in details are made clear to ensure there are no inconsistencies with the surface along the route.

Currently actions will not be taken on the recommendations made in the RSA1/2 report until the LHP have chosen to proceed with one / any of the designs. This is because two of the points in the RSA1/2 report has recommended additional drainage investigations. Therefore if they are carried out and these options are not chosen or if none of the design options are progressed then unnecessary costs will be incurred.

Network Management comments

A Proforma request was sent to the Network Management team in March 2016 for comments on the two feasibility design drawings.

Network Management indicated that a response shall be provided but in the interest of obtaining a preferred option from the LHP at the earliest a draft report has been issued to the HLO.

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Cost Estimates

Initial cost estimates have been carried out on the two preliminary design options but more precise cost estimates should be obtained if the Maldon LHP approve the progress of one of the design options.

Design options 1 (HI-4020-00-001)

The estimated cost of delivery of this feasibility design option has been calculated to be **£6,561.66**. A breakdown of the different elements has been included below;

Civil works	£	2,328.78
HIDT design fee / supervision	£	2,000
Safety Audit (Stage 2, 3 & 4)	£	2,000
Contingencies (10%)	£	232.88
Total	£	6,561.66

Design options 1 (HI-4020-00-002)

The estimated cost of delivery of this feasibility design option has been calculated to be **£17,057.10**. A breakdown of the different elements has been included below;

A breakdown of the different elements has been included below;

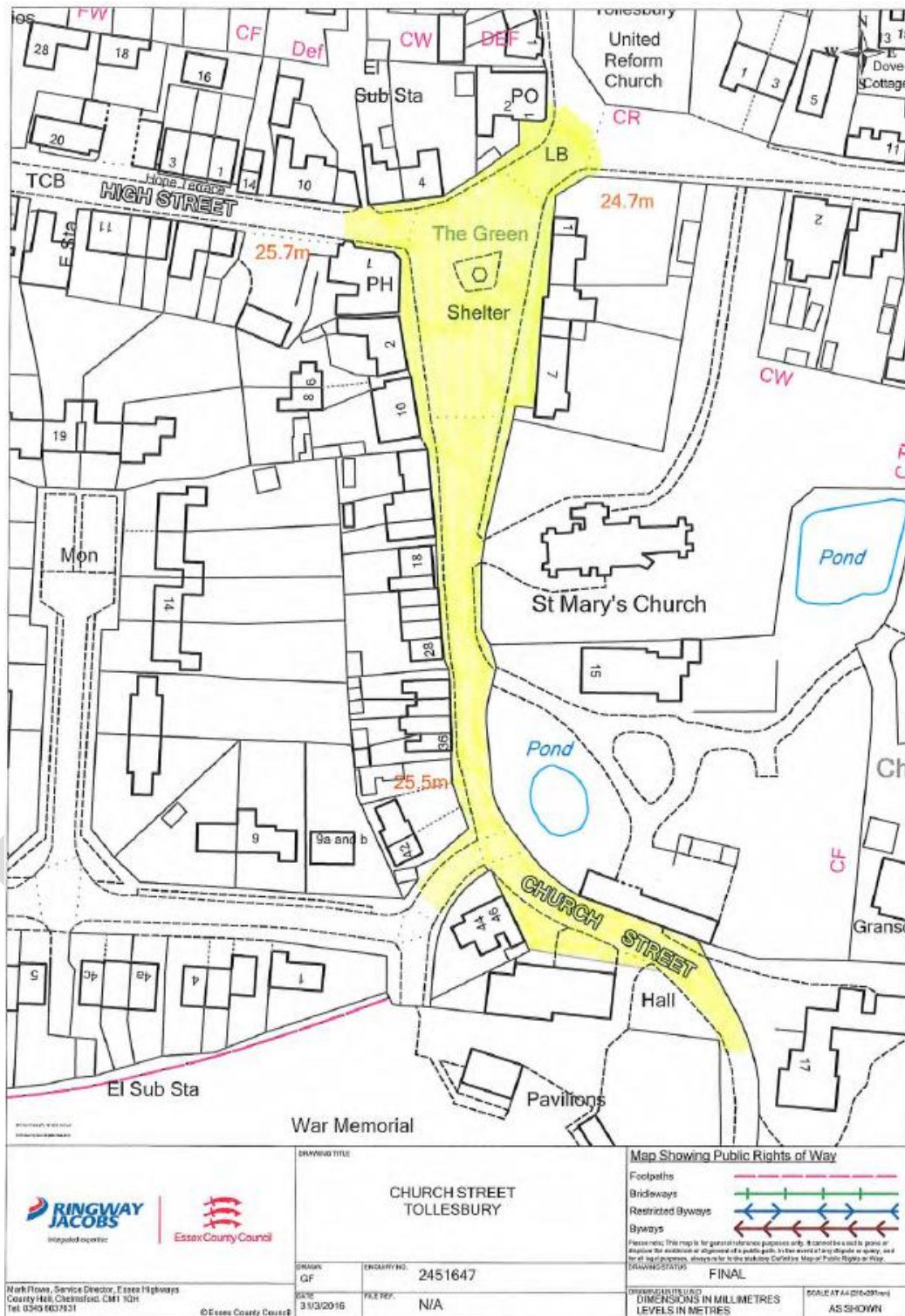
Civil works	£	11,870.09
HIDT design fee / supervision	£	2,000
Safety Audit (Stage 2, 3 & 4)	£	2,000
Contingencies (10%)	£	1,187.01
Drainage Investigation	£	Unknown
Total	£	17,057.10

Prepared by:	Clint Nicholls	Date:	12 April 2016
Approved by:	Mike Shearcroft	Date:	12 April 2016

DRAFT

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)

Appendix A – Highway boundary



Appendix B – Site Photographs

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)

Figure 1



Southern view of Parish rooms

Figure 2



Looking west towards property No.s 44 & 46

Figure 3

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)



Looking south west at the Parish rooms and property No.s 44 & 46

Figure 4



Looking west towards property No.s 44 & 46

Figure 5

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)



Eastern end of Parish rooms looking west

Figure 6



Southern view of Parish rooms

Figure 7

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)



Southern view of Parish rooms

Figure 8



Southern view of Parish rooms

Date: 12 April 2016
Author: C Nicholls (HIDT SMO2)

B1019 Maldon Road, Ulting

Executive Summary – Feasibility Report
Highway Improvements Design Team (SMO2)
June 9, 2016

Executive Summary

- The Highway Improvements Team (SMO2) have provided a Feasibility Study with regards to the concerns raised by Langford & Ulting Parish Council through the Maldon LHP as to the ponding water on the B1019 Maldon Road Lane in the district of Maldon.
- One drawings have been provided (see Appendix 'A')
- Two recommendations have been put forward:-
 1. Essex County Council should instruct the property owner to stop discharging water under section 163 of the Highway Act 1980 before we look at alterations improvements to the existing highway drainage system and only then are they carried out as a last resort, ensuring that the system is capable of coping in the worst rain events with minimal cleansing.
 2. The blockage indicated in gully run 6 should be cleaned out along with the Catch pit 3. The section of Polyvinyl Chloride pipe between catch pit 2 and catch pit 1 should also be cleared out.

Initial cost estimates have been worked out on a day rate basis for recommendation 2 as **£2398**

Prepared by:	Clint Nicholls	Date:	09 June 2016
Approved by:	Mike Shearcroft	Date:	09 June 2016

Date: 09 June 2016
Author: Jacobs Reachback for (HIDT SMO2)

Appendix A – Drawings

Please refer to drawing numbers found below for further information regarding the detailed design.

HI - 4022-12-001 CCTV Drainage Investigation Survey Results

B1019 Maldon Road, Utling

Feasibility Study

Highway Improvements Design Team (SMO2)

June 9, 2016

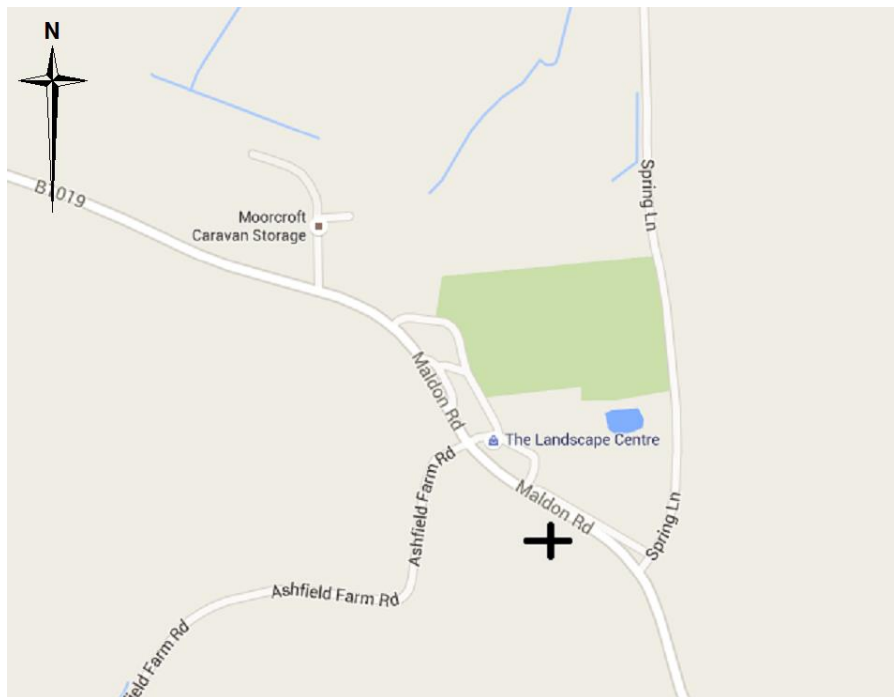


Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Introduction

- This note has been written for and on behalf of Essex County Council (ECC) as part of the Local Highways Panels (LHP) which have been established in all 12 districts of Essex.
- These panels consist of County and District/Borough Members who meet on a quarterly basis to discuss and mutually consider Highways expenditure within their local district or borough boundaries.
- This note is to be presented to the Maldon LHP to review and comment, propose further actions, feasibility of the options and report the findings back to ECC.
- Initial discussions have taken place with the Essex County Council Network Management Team.

Site Location Plan



B1019 Maldon Road, Utling
Post code: CM9 6PZ
Grid reference: (Easting) 581712
(Northing) 210159

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Background to the scheme

The Maldon LHP has funded a feasibility study to investigate concerns that have been raised by Langford & Utling Parish Council. It is reported that following heavy rainfall water flows from Ernest Doe & Sons Ltd storage yard onto the garden of Little Mill Cottages onto their driveway and finally onto the B1018 Maldon Road, Utling. The resulting ponding water causes problems for vehicles travelling between Hatfield Peverel and Langford, as vehicles cross over the central double white lines to avoid the water.

The scheme justification states that on the surface this could be considered a maintenance issue, as it would seem that the drains in the area are blocked or damaged. However it could also be that the drainage in the area is not up to the task and could be improved. In light of this it is recommended that a feasibility study be carried out with full CCTV survey to determine the state of the existing infrastructure.

This feasibility study will investigate the concerns that have been put forward by Langford & Utling Parish Council.

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Site Characteristics

The site in question is the B1019 Maldon Road by Little Mill Cottages and Ernest Doe & Sons storage yard.

Maldon Road is classified as a PR1 route and is a single carriageway road that has a central hatching area with a 40mph speed limit.

There is a footway on south side of the carriageway that in front of Little Mill Cottages with a service road on the north side of the carriageway. The area of interest is a straight section of road that is located between two bends.

The site is located in a rural location and there is not a system of street lighting present. There are two bus stops near to Little Mill Cottages which indicates that this route is a bus route.

Personal injury Collision data

A study of the Personal Injury Collision (PIC) data in the past five years indicates that there has been no recorded collisions in the area of the Highway boundary shown in Appendix A.

Records indicated as being correct as of 02.03.16.

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Site observations

A site survey was carried out on 25th February 2016 during daylight hours when the carriageway was dry and the following observations were made;

Little Mill Cottages are located on the south side of the carriageway and on both of the approaches the longitudinal gradient of the carriageway falls towards Little Mill Cottages. On the north-west bound approach the carriageway is cambered towards the south side of the carriageway and on the south-east approach the camber is to the north side of the carriageway. The change in the chamber takes place opposite a property called 'Cubitts' that is on the opposite side of the carriageway to No.1 Little Mill Cottage.

Along this stretch of road there is a total of 12 gullies and kerb gullies spaced over a length of approximately 330m.

The existing carriageway surface was in a good condition with localised scaring as a result of utility companies works. It was also observed that the carriageway lining had recently been refreshed with the edge of carriageway, centre lines and hatching being clear and visible.

There is signage on site that indicates that this route is part of National cycle Network route 1. On checking the route map Maldon Road is only used as a link road between Ashfield farm Road and Spring Lane.

Overhead electric and BT cables are present on site along with a number of utility boxes being placed in the carriageway.

Plans of underground utility apparatus have been procured to determine the location of Utility companies' equipment in the area of interest. The plans indicate that there is Thames Water (Distribution main), BT overhead and underground, High voltage electric (UKPN) overhead and underground and Northumbrian Water main in the area of Little Mill Cottages.

Ernest Doe & Sons storage yard is located directly to the west of Little Mill Cottages and is adjacent to property No.1 and is used to store agricultural vehicles. The storage yard is made up of a gravel surface that slopes to the east and north-east which will lead to surface water running off the property onto No.1

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

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Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Little Mill Cottage. Looking from No.1 Little Mill Cottage front garden there are no signs of any ditches between Ernest Doe & Sons storage yard. The boundary between the two properties is largely delineated by mature conifer trees and bushes which limits the observation between the properties boundaries.

At the presumed point the surface water comes off of Ernest Doe & Sons storage yard there is a cesspit on No.1 Little Mill Cottage front garden.

A second site visit was made on 1st March 2016 after a morning of heavy rainfall and there was no evidence of ponding on the Highway or surface water running off of Ernest Doe & Sons storage yard on to No.1 Little Mill Cottage front garden.

A third site visit was made on 9th March 2016 after another morning of heavy rainfall and there was evidence of surface water coming off of No.1 Little Mill Cottages and onto the Highway.

The surface water was running along the southern channel line with small areas of ponding. It looked like the kerb gully opposite No.1 Little Mill Cottages was blocked as the water level was above the grate and the water continued to flow towards the next gully by No.4 Little Mill Cottages. The surface water was creamy in colour which is the same colour as the gravel that has been used to surface Doe's yard. This could cause the gullies pots to fill up with a gravelly silt.

I spoke with the resident of No.4 who gave me some back ground information on the situation. When there is a continuous rainfall for several hours the surface water builds up in the channels of the carriageway but drains away after a couple of hours. He also mentioned that when there is a sustained heavy rainfall the surface water coming off of Doe's yard onto No.1 Little Mills Cottage causes their downstairs toilets to fill up on all of the properties which indicates that surface water maybe getting into the cesspit that services all four of the cottages. He informed me that the overflow pipe for the cesspit is only 1 inch in diameter which drains into an overflow pond on the north side of the carriageway.

See Appendix B for photographs of the site visits. For 25.02.16 see Figures 1-5, for 01.03.16 see Figures 6-7, for 09.03.16 see Figures 8-13.

See Appendix C for weather reports for 1st and 9th March 2016.

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

CCTV drainage survey

A CCTV drainage survey was carried out on the existing Highway drainage in Maldon Road on 21st and 22nd April 2016. The survey investigated 10 existing gullies on the approaches and in the area of Little Mill Cottages and seven catch pits.

The purpose of the survey was to determine the condition of the Highway drainage to see if there are any blockages or faults that could be reducing its capacity to drain away surface water.

Most of the pipes that have been surveyed are clay pipes that have signs of cracks and displaced joints. There is a section of the drainage system that is made up of Polyvinyl Chloride pipes which indicates that remedial works or upgrading of the system has been carried out in recent years. This is backed up by carriageway scaring from gully 3 to catch pit 2.

Looking at the CCTV survey in the view of the concerns raised by Langford and Utling Parish Council the first point of interest is the run from gully 6 to junction 6. The survey indicates that it was unable to continue as the camera could not be pushed any further. As the camera was under water at this point and there was no blockage from gully 8 to catch pit 3 this indicates that there could be a blockage at this point.

Catch pit 3 has debris built up in it and is recommended to be cleared out. The section of Polyvinyl Chloride pipe between catch pit 2 and catch pit 1 has a section that is 10-20% full with deposits and should be cleared out.

See Appendix D for survey results DWG HI-4022-26-001.
Conway's CCTV survey report can also be viewed if required.

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Conclusion

As a result of the site investigations made and discussing the matter with the drainage team it has been highlighted that water should not be flowing from private property onto the Highway and is the responsibility of the land owner to ensure this does not happen.

Additionally if water is running from one private property to another then this is a legal matter between the two land owners.

The highway drainage system is design to take water from the highway and not the surrounding area and it should not be altered to take additional volumes.

Cleansing frequencies are reduced less and less as budgets are lowered each year and subsequently third party drainage should not be reliant on a drainage system that we may not necessarily be able to manage our selves.

Essex County Council should be looking to instruct the property owner to stop discharging water (unfairly or not) under section 163 of the Highway Act 1980 before we look at alterations improvements to the existing highway drainage system and only then are they carried out as a last resort, ensuring that the system is capable of coping in the worst rain events with minimal cleansing.

Recommendations

Reviewing the information that has been obtained in this report the following recommendation are to be made;

1. Essex County Council should instruct the property owner to stop discharging water under section 163 of the Highway Act 1980 before we look at alterations improvements to the existing highway drainage system and only then are they carried out as a last resort, ensuring that the system is capable of coping in the worst rain events with minimal cleansing.
2. The blockage indicated in gully run 6 should be cleaned out along with the Catch pit 3. The section of Polyvinyl Chloride pipe between catch pit 2 and catch pit 1 should also be cleared out.

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Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Cost Estimates

Initial cost estimates have been worked out on a day rate basis for point 2 in the recommendations.

A breakdown of the different elements has been included below;

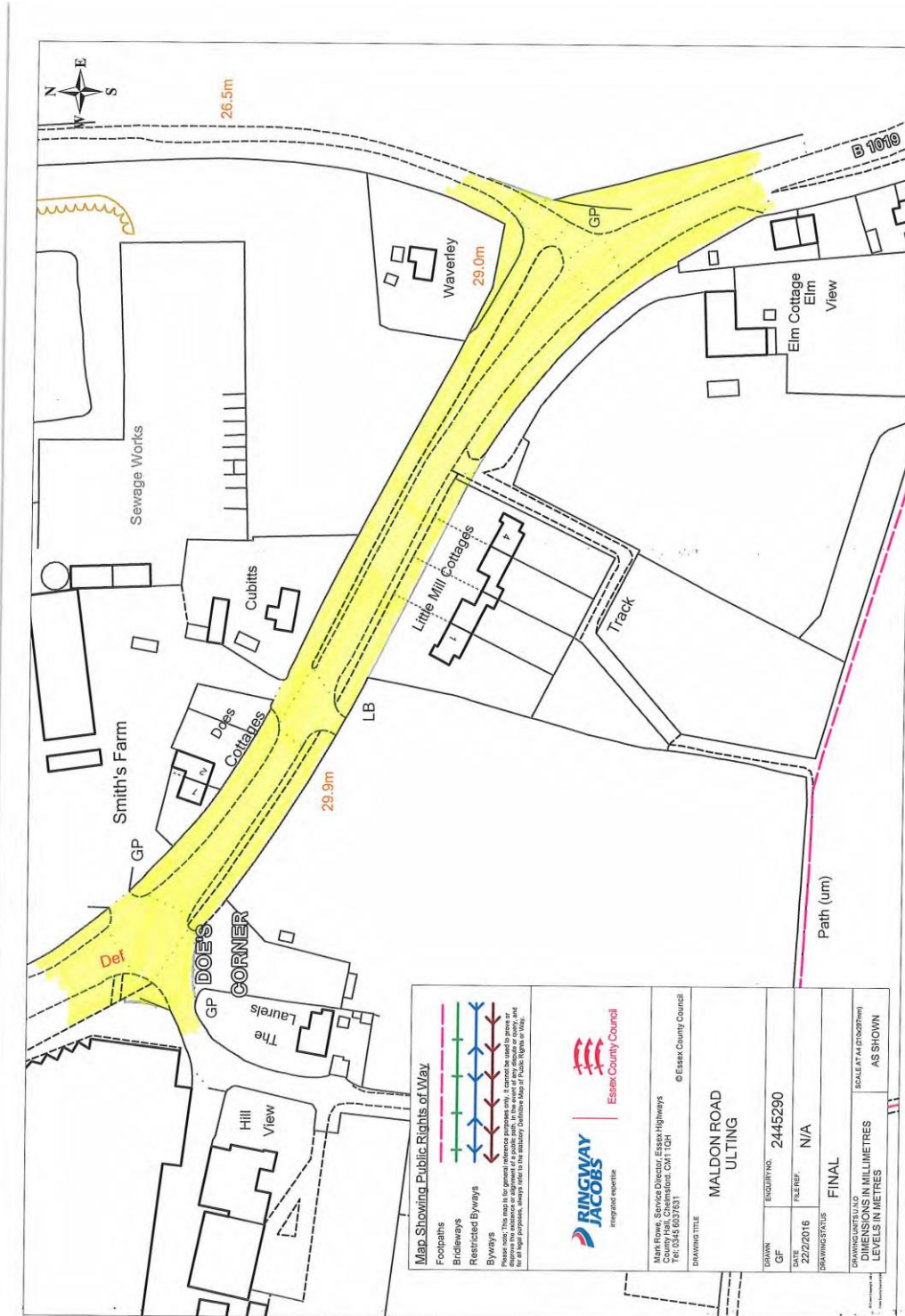
Supply 26t combination jetter	£	850
Supply Traffic management	£	700
Disposal of Waste (estimate 2tons)	£	130
HIDT design fee / supervision	£	500
Contingencies (10%)	£	218
Total	£	2398

Prepared by:	Clint Nicholls	Date:	09 June 2016
Approved by:	Mike Shearcroft	Date:	09 June 2016

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Appendix A – Highway boundary



Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

**Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon**

Appendix B – Site Photographs

Figure 1



B1019 Maldon Road east of Little Mill Cottages looking west bound

Figure 2



B1019 Maldon Road west of Little Mill Cottages looking east bound

**Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)**

**Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon**

Figure 3



No.1 Little Mill Cottage and Ernest Doe & Sons yard

Figure 4



Cesspit in No.1 Little Mill Cottage front garden that services all four properties

**Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)**

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Maldon**

Figure 5



B1019 Maldon Road looking towards No.1 Little Mill Cottages and Ernest Doe & Sons yard, west bound.

Figure 6



No.1 Little Mill Cottage and Ernest Doe & Sons yard

**Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)**

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B1019 Maldon Road (Little Mill Cottages), Utling
Maldon**

Figure 7



B1019 Maldon Road outside of No.1 Little Mill Cottages looking east bound

Figure 8



B1019 Maldon Road looking towards No.1 Little Mill Cottages and Ernest Doe & Sons yard, west bound (Gully 5 and catch pit 3 on CCTV survey are shown in the foreground).

**Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)**

Scheme Reference: HI4022
Feasibility Study
B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Figure 9



B1019 Maldon Road looking towards No.1 Little Mill Cottages and Ernest Doe & Sons yard, west bound.

Figure 10



No.1 Little Mill Cottage and Ernest Doe & Sons yard

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

Figure 11



Kerb gully opposite No.1 Little Mill Cottage (Gully 6 on CCTV survey)

Figure 12



Gated entrance to Doe's yard west of No.1 Little Mill Cottage

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

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Figure 13



*Gully in bell mouth of gated entrance to Doe's yard west of No.1 Little Mill Cottage
(Gully 7 on CCTV survey)*

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Appendix C – Weather forecast

< Maldon last 24 hours

Tue 1 Mar		Wed 2 Mar		Thu 3 Mar		Fri 4 Mar		Sat 5 Mar		Sun 6 Mar		Mon 7 Mar	
10°C		7°C		7°C		5°C		6°C		6°C		6°C	
3°C		2°C		3°C		1°C		0°C		0°C		0°C	
10 ⁰⁰	11 ⁰⁰	12 ⁰⁰	13 ⁰⁰	14 ⁰⁰	15 ⁰⁰	16 ⁰⁰	17 ⁰⁰	18 ⁰⁰	19 ⁰⁰	20 ⁰⁰	21 ⁰⁰	22 ⁰⁰	23 ⁰⁰
Heavy rain													
7°	8°	9°	9°	10°	10°	10°	10°	10°	9°	9°	8°	8°	8°
Feels like temperature													
Precipitation probability													
Wind direction, speed & gust (mph)													
SSW	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
18	18	17	18	17	15	14	13	13	12	13	14	14	16
33	34	33	32	30	27	26	24	25	24	26	26	27	29
Visibility													
Humidity													
UV index													
























Weather report for Tuesday 1st March 2016, 10:00 to 23:00.

Tue 8 Mar				Wed 9 Mar			
00 ⁰⁰	01 ⁰⁰	02 ⁰⁰	03 ⁰⁰	04 ⁰⁰	05 ⁰⁰	06 ⁰⁰	07 ⁰⁰
6.5°	7.0°	6.9°	6.9°	6.7°	6.5°	6.3°	6.6°
Wind direction, speed & gust (mph)							
S	S	S	S	SSE	SSE	SSE	SSE
16	20	16	18	20	22	23	25
-	-	-	31	31	32	33	38
Visibility							
Humidity							
Pressure (hPa)							
1004	1003	1001	998	996	994	992	991
Pressure Tendency (F = Falling, R = Rising, S = Steady)							
F	F	F	F	F	F	F	F

Weather report for Wednesday 9th March 2016, 00:00 to 07:00.

Date: 09 June 2016
Author: C Nicholls (HIDT SMO2)

Scheme Reference: HI4022
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B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Wed 9 Mar		Thu 10 Mar		Fri 11 Mar		Sat 12 Mar		Sun 13 Mar		Mon 14 Mar		Tue 15 Mar			
6°C		8°C		7°C		6°C		6°C		6°C		7°C			
4°C		1°C		3°C		2°C		3°C		3°C		3°C			
08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
															
5°	6°	5°	5°	6°	6°	6°	6°	6°	5°	5°	5°	5°	5°	5°	5°
Feels like temperature ▼															
Precipitation probability ▼															
Wind direction, speed & gust (mph) ▲															
SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	ENE
24	24	23	21	19	17	16	15	15	13	12	10	9	7	5	5
41	41	38	35	31	28	26	25	23	21	19	17	14	12	10	8
Visibility ▼															
Humidity ▼															
UV index ▼															

Weather report for Wednesday 9th March 2016, 08:00 to 23:00.

Scheme Reference: HI4022
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B1019 Maldon Road (Little Mill Cottages), Utling
Maldon

Appendix D – CCTV Drainage

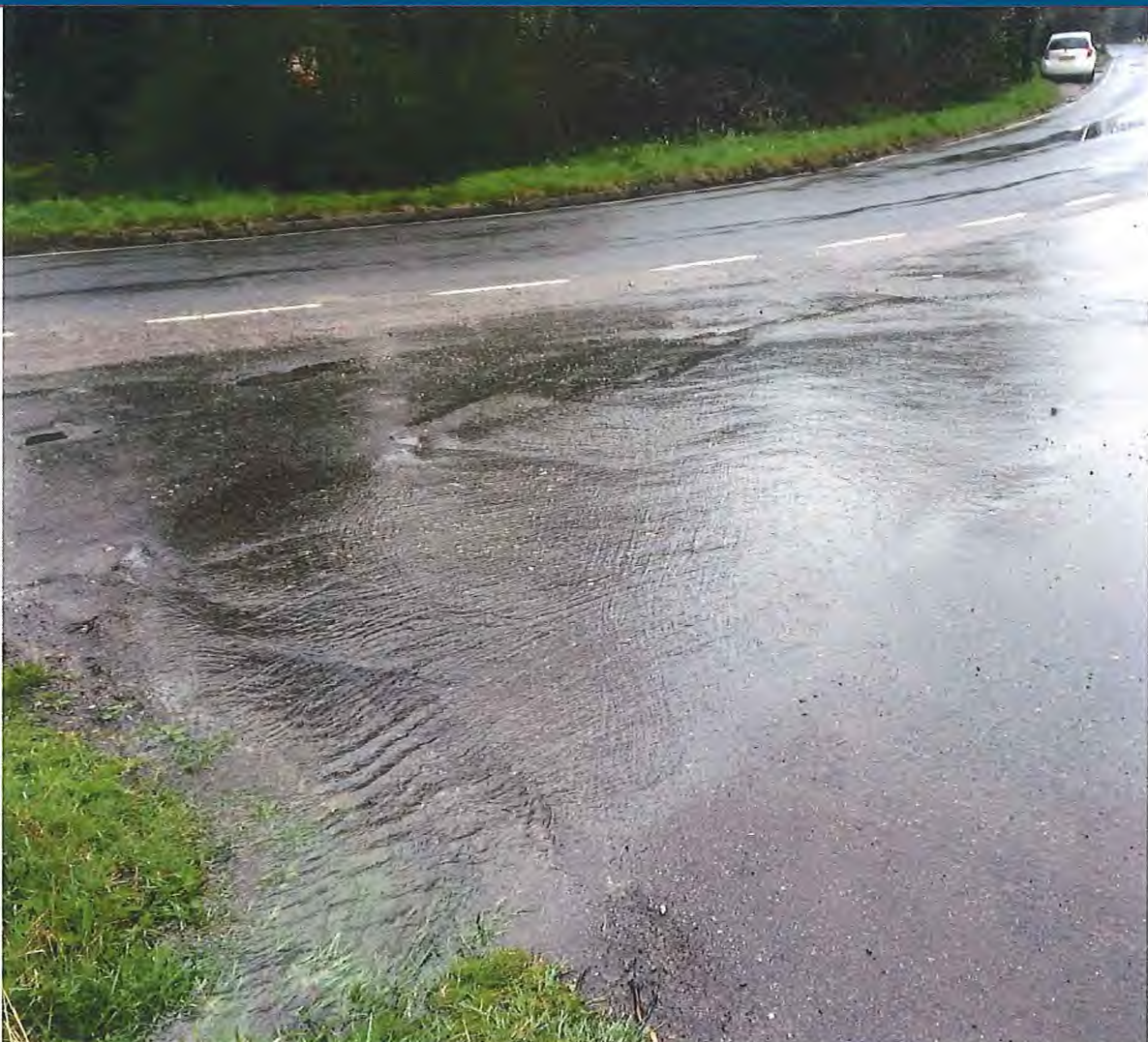
See Conway CCTV hard copy report SM03 Maldon Road Utling PN58 DJP.

Crouchman's Farm Road, Ulting, Maldon

Feasibility Study

Highway Improvements Design Team (SMO2)

April 28, 2016



Scheme Reference: HI4023
Feasibility Study
Crouchman's Farm Road, Ulting
Maldon



Document Control Sheet

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Project Number	HI4023
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Record of Issue

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Organisation	Contact	Number of Copies
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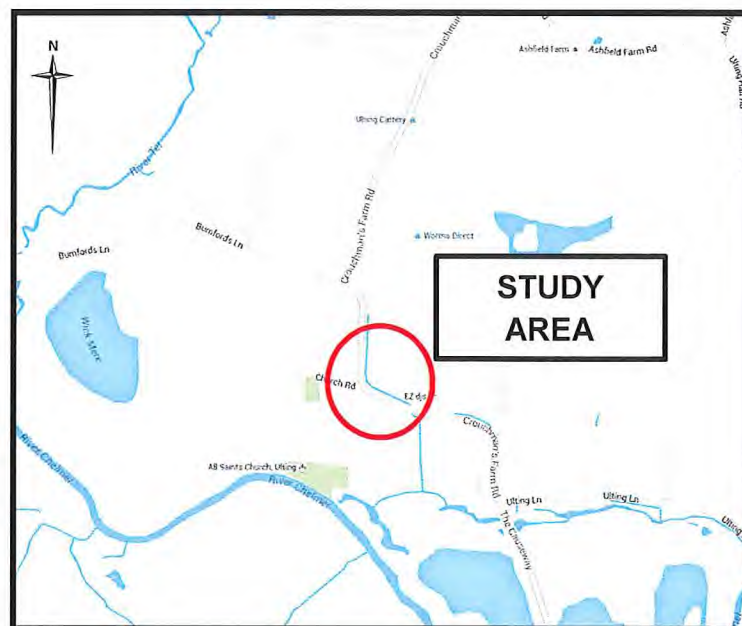
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1.0 Introduction

- This note has been written for and on behalf of Essex County Council (ECC) as part of the Local Highways Panels (LHP) which have been established in all 12 districts of Essex.
- These panels consist of County and District/Borough Members who meet on a quarterly basis to discuss and mutually consider Highways expenditure within their local district or borough boundaries.
- This note is to be presented to the Maldon LHP to review and comment, propose further actions, feasibility of the options and report the findings back to ECC.
- Initial discussions have taken place with the Essex County Council Network Management Team.

Site Location Plan



Crouchman's Farm Road, junction with Church Road, Ulting, Maldon

Post code: CM9 6QU

Grid reference: (Easting) 580242
(Northing) 208944

2.0 Background to the scheme

The Maldon LHP has funded a feasibility study as part of their 2015/2016 budget for drainage improvements at Crouchman's Farm Road junction with Church Road, Ulting, Maldon.

The SMO2 Highway Improvements Design Team (HIDT) have been commissioned through a design brief to investigate the following:-

- Review scheme validation and historical information.
- Site visit(s) to confirm extent of works and any site issues, site inventory.
- Develop feasibility study.
- Outline design of drainage improvements, consisting of 2 options;
 - Minimum option
 - Possible Engineering improvements
- Arrange for RSA1 to be completed for each option.
- Arrange for budget estimates to be completed for each option.
- Prepare final report for presentation to LHP.
- Subject to the approval of the LHP, the preferred option to be implemented with the approval budget code.



Photo above showing adjacent watercourse at the junction of Crouchman's Farm Road, junction with Church Road overflowing into the carriageway (12APR16).

3.0 Site Characteristics

Crouchman's Farm Road, Ulting is classified as a local road in the Essex County Council (ECC) functional route hierarchy. This section of highway is subject to a 40mph speed limit.

Crouchman's Farm Road is a local traffic route linking Hatfield Peveral in the north, Woodham Walter in the south, Langford in the West, and Little Baddow in the east.

The site was visited on several occasions to obtain data and highway use to assist with design for this scheme. On each site visit it was observed that the area had been subjected to standing water.

Existing carriageway road gullies were also identified and several visible drainage issues were observed at the time of the site visit. Some existing gullies were filled with shrubbery, and will require inspection and relevant action where necessary. If this is not covered by a maintenance visit then provision for this to be addressed may be necessary through this scheme.

The road side brow of the adjacent watercourses (except ECC owned watercourse) is considered to be the extents of the public highway. The highway boundary for this scheme is shown in Appendix B.

Crouchman's Farm Road is scheduled for carriageway resurfacing in June.



Photo above showing surface water discharging adjacent to 'Old School House' and into field located to the south of Brockley Cottages (12APR16).

4.0 Outline of Problem

Consultation with Langford & Ulting Parish Council has confirmed a number of surface water flooding incidents within the vicinity of the site. There is other evidence of flooding within the immediate vicinity of this area, although the exact dates are unknown.

Flooding occurred both internally and externally to several properties, along with flooding of the highway at the junction of Crouchman's Farm Road and Church Road, Ulting.

A number of factors were identified as contributing towards this issue and these have been explained within the bullet points below.

- Due to the lack of maintenance in this area, adjacent watercourses, carriageway gullies, and existing carrier systems (piped section of watercourse) have over time formed a blockage, restricting the flow of water. This in turn causes surface water to surcharge further upstream until eventually it breaches the infrastructure resulting in standing highway water.
- The existing drainage infrastructure was installed many years ago, and improvements may be considered, as the volume of highway water has increased as a result of carriageway resurfacing through the years. This effectively seals the road, and all moisture is forced towards these carriageway gullies, increasing the volume of water that enters the carrier system. Pipes have a given flow rate and volume, depending upon their size, and the gradient at which they are laid, if the volume of water exceeds this value, this results in the pipe surcharging further upstream.

The aim of this study is to consider any options available to reduce susceptibility of the adjacent watercourse, gullies and piped sections flooding as a result of these defects.

5.0 Considerations

As a result of the initial site visit and observations made, it has been determined that there are two feasible options in order to improve the flooding issues at the junction of Crouchman's Farm Road and Church Road, Ulting.

I would recommend commissioning a jetting/camera survey within the area of this site. Once this has been completed a clearer picture can be established, regarding exactly what apparatus there is within the site, and what condition it's in, judgment and decisions can then be made to determine the correct solution.

A topographical survey should be undertaken to assist the design engineers with levels if this option is to be commissioned for detailed design and implementation.

Within the study area it was observed on site that there are several types of vegetation located within a number of adjacent grass verges. As part of any construction work, some of these trees and vegetation will need to be removed prior to any construction work. This will reduce the amount of foliage that enters the water course during the winter months, liaison with ECC Arboricultural Consultant will be required.



Two options that could be considered following the conclusion of the jetting/camera survey.

5.1 Option 1 – Basic Maintenance

This option allows for a basic maintenance of the adjacent watercourse, gullies and piped section, to ensure the channel and carrier systems are clear of obstructions that might restrict or obstruct the flow of water.

In this instance, both the storage and flow capacity of the watercourse and carrier system will show little to no improvement, and the restriction is likely to reoccur without any future maintenance, meaning no improvement will be made in terms of flood susceptibility.

Pros:

This would be the least cost option to implement.

Cons:

The restriction is likely to reoccur without any future maintenance, meaning no improvement will be made in terms of flood susceptibility.

5.2 Option 1 – Cost Estimate

Cleansing estimate	£	1,500
(Supply of 26T Combination Jetter CCTV Rig, Disposal of Waste)		
Vegetation Clearance	£	2,000
Traffic Management	£	1,000
Safety Audit (Stage 2 and 3)	£	1,000
Design Fee/Supervision	£	3,000
Overheads (20%)	£	1,700
Contingencies (10%)	£	1,200
<u>Total</u>	£	11,400

5.3 Option 2 – Engineering solutions (inc. Cost Estimates)

Upon the completion of this maintenance work it is may be possible to then provide some engineering solution to assist with the improvement of the current drainage network. Unfortunately until this maintenance work has been carried out it is difficult to recommend suitable solutions, this can however be achieved during the detailed design stage with relevant remedial works undertaken.

It may be possible to provide some engineering solution to improve the existing drainage infrastructure, these have been bullet pointed below, although these will all require detailed design to ensure they are suitable and fit for purpose;

- Improvements to existing headwall where surface water is discharging onto the carriageway through drainage grips (Crouchman's Farm Road junction with Church Road).
Approx. £ 5,000
- Improvements to the number of/diameter of pipe crossing the carriageway into the ECC owned water course.
150mm dia. 750mm depth (cost per linear metre) approx. £150 – (figure includes excavating trenches by machine, laying the pipes, bedding and surround with granular material and backfilling the trench to match existing).
- Improvements to the existing piped section of water course, either through larger pipe diameter and more chambers.
300mm dia. 750mm depth (cost per linear metre) approx. £325 – (figure includes excavating trenches by machine, laying the pipes, bedding and surround with granular material and backfilling the trench to match existing).
- Additional gullies to remove surface water from carriageway.
Approx. £5,000
- Improvements to the existing kerbing located within the vicinity.
Approx. £5,000

The installation of further drainage apparatus along with the clearing of adjacent watercourses (both private and ECC owned) and cleaning the carrier system will increase the attenuation of the drainage network, reducing the amount of standing water on the carriageway.

Pros:

This would provide some improvement over the current arrangement in terms of flood susceptibility.

Cons:

This would be the medium/long cost option to implement.

There may be some possible constraints in verge width on either side of the watercourse, requiring removal of trees and vegetation however if necessary this could be replaced with some low level planting.

Note*

A more precise cost estimate shall be obtained upon the approval by Maldon LHP.

6.0 Network Management Comments

This should have gone straight to maintenance to be investigated not left floating about until after we had rain & flood warnings.

Only when the problem is identified & only if non-maintenance works are required should this come back to the LHP.

7.0 Executive Summary

Consultation with Langford & Ulting Parish Council has confirmed a number of surface water flooding incidents within the vicinity of the site. There has been other evidence of flooding within the immediate vicinity of this area, although the exact dates are unknown.

A number of factors were identified as contributing toward this, however a key problem is due to the lack of maintenance in this area, adjacent watercourses, carriageway gullies, and existing carrier systems (piped section of watercourse) have over time formed a blockage, restricting the flow of water.

In order to address the flooding issues that currently surround the existing junction layout, it has been determined that there are two viable options that the Local Highway Panel (LHP) should consider and these are detailed below.

Option 1 allows for a basic maintenance of the watercourse to ensure the channel is clear of obstructions that might restrict or obstruct the flow of water, I would recommend this option to be included as part of any continuing work.

Option 1 would also include the jetting, cleansing and undertaking a CCTV survey of the existing drainage network.

It is recommended that some of the following work be completed prior to the scheme being progressed to a detailed design stage.

- a) Vegetation removal along/within ECC owned ditch should be considered as part of any scheme to reduce the amount of foliage that will enter the water course. **(approx. £2,000)**
- b) Locate buried cover within overgrown vegetation, clean and repair as required. **(approx. £2,000 – dependent upon the condition of chamber)**
- c) Once the vegetation has been removed, the open sections of watercourse can be cleared by the appropriate land owner, to provide additional attenuation with the system. **(ECC owned watercourse to be cleared – approx. £1,000)**
- d) Jetting, cleansing and CCTV survey of entire system. **(approx. £1,500 per day)**

Once this has been completed a clearer picture can be established, regarding exactly what apparatus there is within the site, and what condition it's in, judgment and decisions can then be made to determine the correct solution.

I have been in contact with ECC Flood Management regarding watercourses and they recommend keeping this watercourse open provides the best solution. Open watercourses have a number on benefits, including increased storage capacity, ease of access for maintenance, providing a level of water treatment and other ecological benefits.

Upon the completion of this maintenance work it is may be possible to then provide some engineering solution to assist with the improvement of the current drainage network. Unfortunately until this maintenance work has been carried out it is difficult to recommend suitable solutions, this can however be achieved during the detailed design stage with relevant remedial works undertaken.

The estimate cost implications are outlined within this report, and a more precise cost estimate shall be obtained during detailed design upon the approval by Maldon LHP.

Prepared by:	Liam Nugent	Date:	28 April 2016
Approved by:	Mike Shearcroft	Date:	28 April 2016

8.0 Appendices

8.1 Appendix A – Photographs



Church Road, looking West



Church Road, outside Old
School house, looking east



2 gullies located outside Old
School House



Crouchmans Farm Road,
junction with Church Road
looking north

Scheme Reference: HI4023
Feasibility Study
Crouchman's Farm Road, Ulting
Maldon



Existing gully located outside
'Old School House'



Watercourse downstream
outside 'The Studio'



Essex County Council (ECC)
owned ditch looking north



Essex County Council (ECC)
owned ditch looking north

Scheme Reference: HI4023
Feasibility Study
Crouchman's Farm Road, Ulting
Maldon



ECC owned ditch looking east,
headwall and start of piped
section



Ditch on north west corner of
Crouchman Farm Road
(Privately owned)

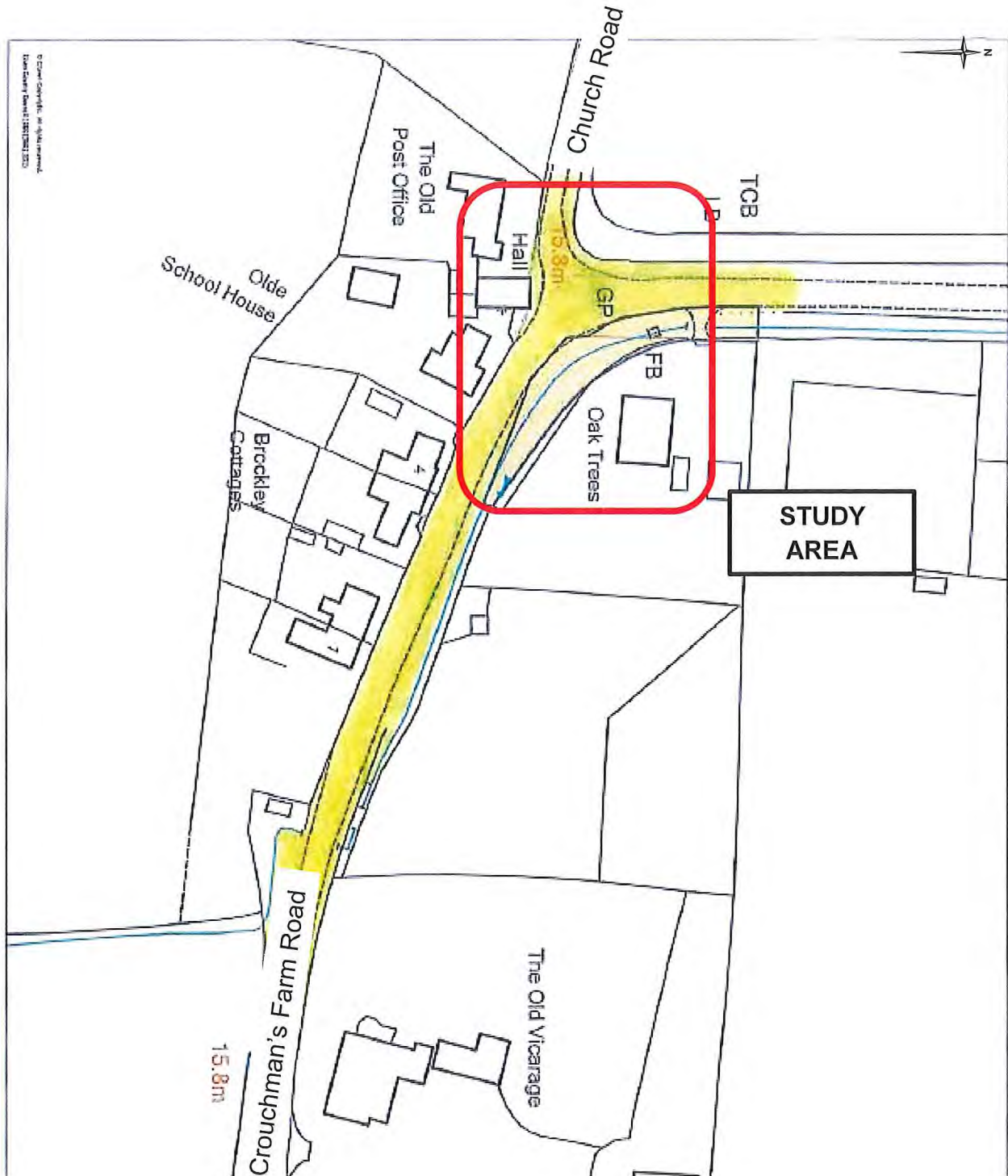


ECC owned ditch looking east,
headwall and start of piped
section



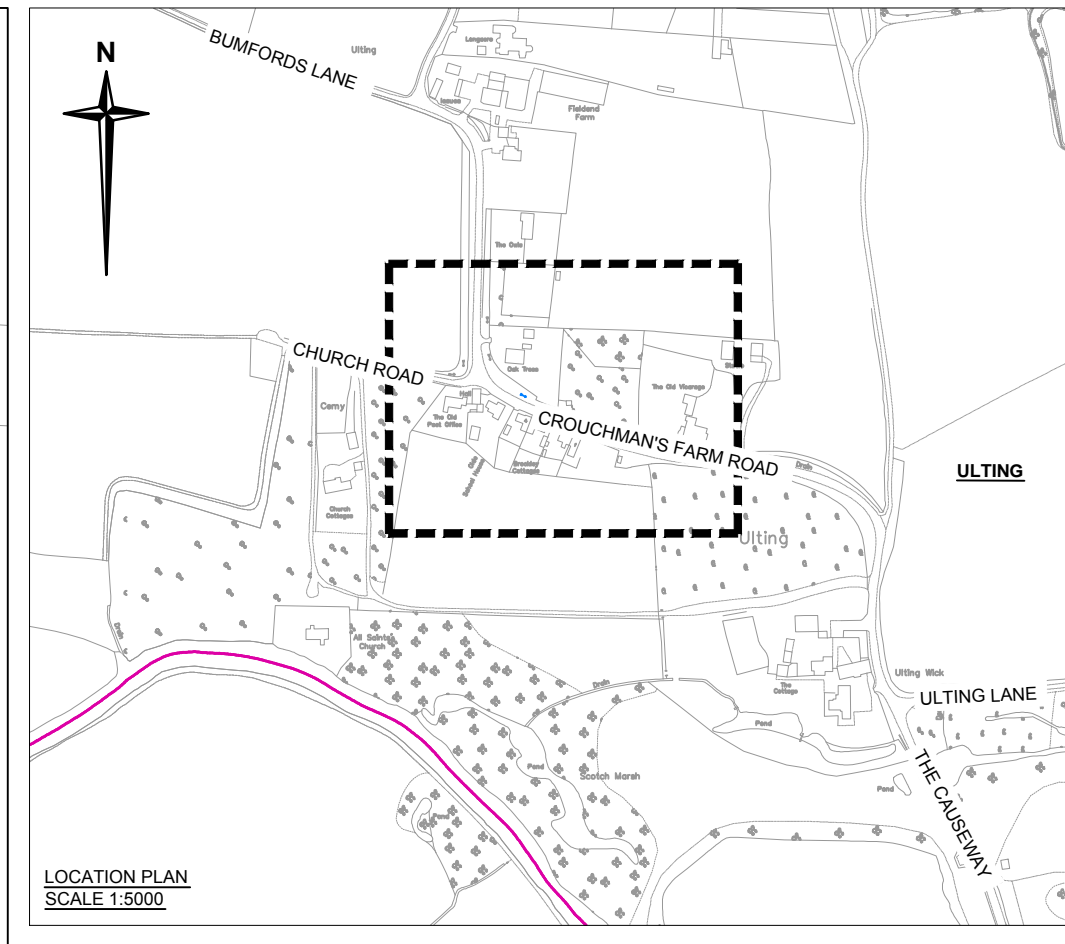
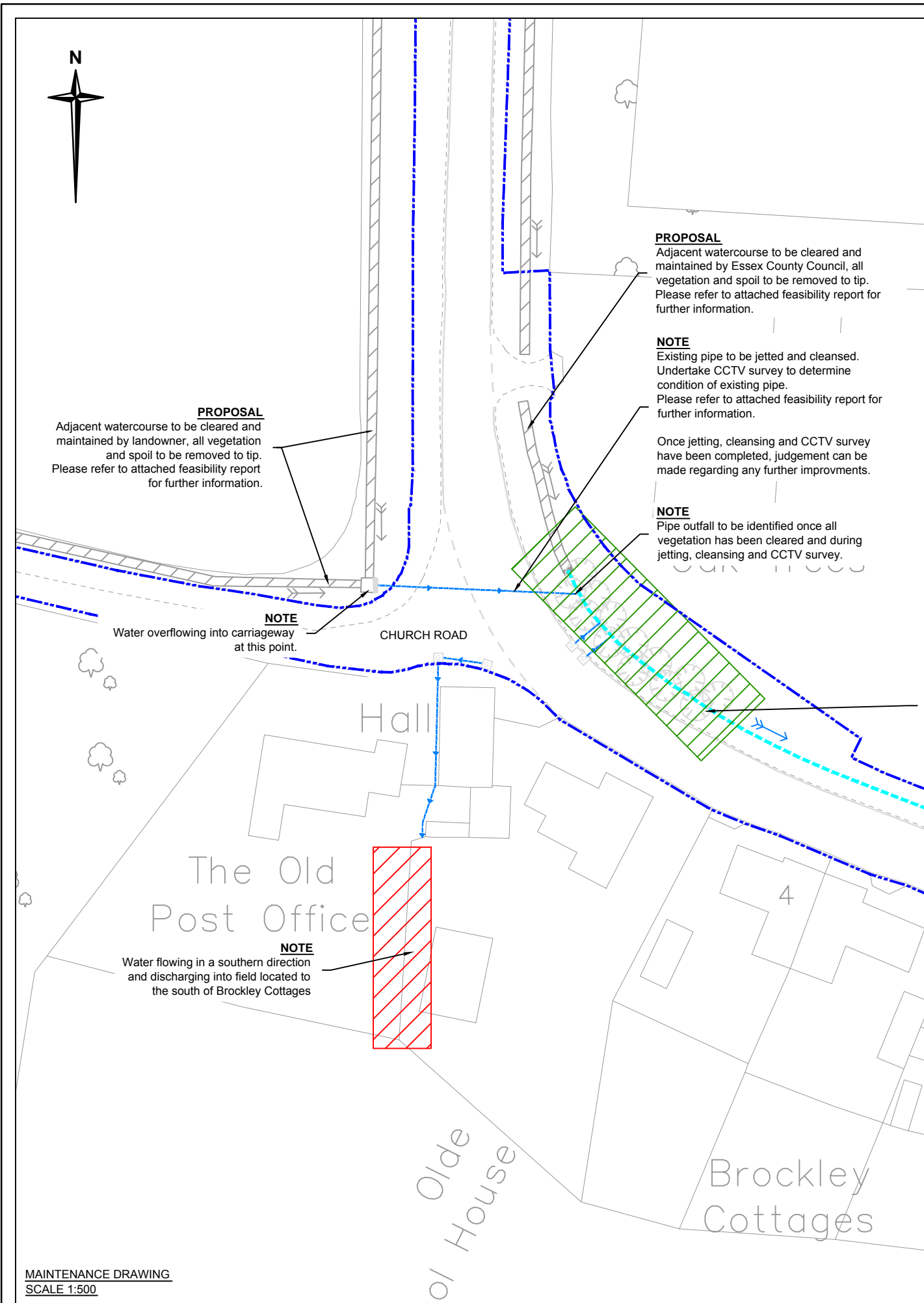
Church Road, junction with
Crouchmans Farm Road

8.2 Appendix B – Highway Boundary



8.3 Appendix C – Maintenance and Design material

Please refer to the attached design material for further information regarding the outline design for this scheme.



- NOTES**
- DO NOT SCALE FROM THIS DRAWING.
 - Any disturbance to existing grassed areas is to be made good with topsoil and seed.
 - Adjacent field located to the south of Brockley Cottages falls in a south eastern direction towards The Causeway.
 - All gully pots are to be jetted and cleaned if a cleaning subcontractor is commissioned.
 - Carriageway resurfacing is scheduled for this area in June 2016.

KEY

	Highway Boundary
	Existing Road Markings
	Adjacent watercourse (to be cleared by landowner)
	Piped section watercourse (to be jetted and cleansed)
	Existing drainage pipework (to be jetted and cleansed)
	Existing gully (to be jetted and cleansed)
	Existing headwall
	Existing vegetation
	Area of vegetation to be removed to tip
	Surface water discharge area

Rev.	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS

FOR INFORMATION



Mark Rowe, Service Director, Highways
County Hall A2 Annex, Chelmsford, CM1 1QH
Tel: 0845 6037631 © Essex County Council

SCHEME TITLE

**MALDON LHP
CROUCHMAN'S FARM RD, ULTING
LMAL152023**

DRAWING TITLE

**DRAINAGE IMPROVEMENTS
MAINTENANCE INFORMATION**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
LCN	LCN	SLS	LCN	MBS
DATE APR 16	DATE APR 16	DATE APR 16	DATE APR 16	DATE APR 16

DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A3 (420x297mm)
AS SHOWN

DRAWING No. **HI-4023-05-001** REV. **-**

MAINTENANCE DRAWING
SCALE 1:500

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MALDON DISTRICT LOCAL HIGHWAYS PANEL POTENTIAL SCHEMES LIST (Version 20)

As the Local Highways Panel Capital Budget for 2016-17 has been recommended and signed off by the Cabinet Member, the potential schemes list represents the projects which the panel can consider for funding in 2017-18. The Panel are asked to review the Potential Schemes List and may wish to remove from it any schemes that they would not want to consider for a future funding recommendation.

There are currently potential schemes with an estimated cost of £551,048 as shown in the summary below:

Potential Schemes List (Version 20)	
Scheme Type	Total Estimated Costs
Traffic Management	£188,248
Passenger Transport	£2,500
Public Rights of Way	£15,300
Walking	£345,000
	£551,048

We would encourage all parties to continue to submit their scheme requests so that the formal validation process can be undertaken in the meantime.

On the Potential Schemes List the RAG column acknowledges the status of the scheme request as shown below:

RAG Status	Description of RAG status
G	A higher priority feasible scheme against strategic criteria
A	A lower priority feasible scheme against strategic criteria or may require additional Cabinet Member approval
R	A scheme which is against policy or where there is no appropriate engineering solution
	A scheme pending validation

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
1	Adjacent to White Lyons/Bradwell Church, High Street, Bradwell on Sea	traffic management improvements	Narrow carriageway and parked vehicles causing congestion issues	Parish Council	Bradwell on Sea	Traffic Management	Total scheme	LMAL162090	TBC	In validation	
2	Southminster Road (Old Heath Road to Mangaps Manor) Burnham on Crouch	Walkable verge/footway	Lack of footway/walkable verge for pedestrians	Councillor	Burnham on Crouch	Traffic Management	Total scheme	LMAL142037	£3,000	Validation - Recommends feasibility study to produce preliminary design and cost estimate.	G
3	B1021 Station Road/High Street, Burnham on Crouch	20 mph speed limit	Speed of traffic	Councillor	Burnham on Crouch	Traffic Management	Total scheme	LMAL152056	NA	Validation - speed survey data 30mph speed limit Nr Hillside Road - South bound 24.3mph & North bound 24.1mph, Nr Coronation Road - South bound 24.2mph & North bound 24.0mph. B1021 is a Priority Route 1 and a 20mph limit would be against policy.	R
4	Hermes Drive j/w Falkland's Road, Burnham on Crouch	Measures to stop vehicles driving over footway	Damage to footway	Town Council	Burnham on Crouch	Traffic Management	Total scheme	LMAL162073	NA	Validation - Installing a bollard would affect width of footway. Also vehicles could still mount the footway as bollard would have to be off-set by 450mm from kerb line. If Parked vehicles are causing other vehicles to mount the footway Parking partnership could consider a junction protection parking restriction.	R
5	Hackmans Lane, Cock Clarks	Extension of existing 30mph speed limit	Speed of traffic	Parish Council	Cock Clarks	Traffic Management	Total scheme	LMAL152030	TBC	In validation	
6	Tiptree Road, Great Braxted	Speed indicator device or other measures	Speed/volume of traffic	Parish Council	Great Braxted	Traffic Management	Total scheme	LMAL162050	TBC	In validation	

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
7	B1022 Maldon Road, Great Totham	Traffic Management Improvements	Speed of traffic on road	Councillor	Great Totham	Traffic Management	Total scheme	LMAL142067	£21,250	Validation - speed data north of Hall Road - 30mph limit - southbound 31.0mph and northbound 32.2mph. South of Mill Road - 40mph limit - Southbound 36.6mph and Northbound 35.6mph. Majority of speeding appears to occur between 23:00 to 05:00hrs. Could install 30mph speed roundels on carriageway and review size/amount of 30mph repeater signs, may not address speeding issue during hours of darkness	A
8	Lawling Avenue, Heybridge	Traffic management improvements	Speed of traffic with poor visibility	Councillor	Heybridge	Traffic Management	Total scheme	LMAL152054	£15,000	In validation - speed survey data under review Nr Sandpiper Close 30mph limit - South bound 20.1mph and North bound 20.3mph. North of Goldhanger Road 30mph limit - Southeast bound 22.5mph and Northwest bound 22.4mph. Additional survey on Cooper Avenue carried out - Eastbound 18.7mph & Westbound 18.8mph. Additional speed surveys would be required for roads off Lawling Avenue and Coopers Avenue costing £3,250. Resulting 20mph speed limit could cost £15,000 as signs needed at various junctions within limit.	A
9	Site 1 - Goldhanger Road, Site 2 - Broad Street Green, Site 3 - The Causeway, Site 4 - Heybridge Approach, Site 5 - Langford Road, Site 6 - Scraley Road Heybridge	Village gateway treatments (post/rail)	To highlight parish boundary to drivers	Parish Council	Heybridge	Traffic Management	Total scheme	LMAL152049	£30,000	Validation - recommends gateway features only at Site 1- Goldhanger Road, Site 2 - Broad Street green, Site 4 - Heybridge Approach, Site 5 - Langford Road . Gateways not recommended at Site 3 - The Causeway and Site 6 - Scraley Road	G
10	Lea Lane, Little Braxted	Extension of existing 30 mph speed limit	Speed of traffic	Parish Council	Little Braxted	Traffic Management	Total scheme	LMAL142076	£7,000	Validation - Speeds south 39.9mph and North 38.5mph, good compliance with existing speed limit. Suggestion is Gateway Signage treatment, may not be room for wooden gateways, to highlight change in speed limits to drivers	G

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
11	Witham Road j/w Lea Lane, Little Braxted	Unsuitable for HGV Signage	HGV driving along unsuitable road	Parish Council	Little Braxted	Traffic Management	Total scheme	LMAL162088	TBC	In validation	
12	Bowling Club, Park Drive, Maldon	Traffic Management Improvements	Speed of traffic on road	Town Council	Maldon	Traffic Management	Total scheme	LMAL142078	£8,500	Validation - Recorded speed data in 30mph speed limit (North) Southbound 27.5mph/Northbound 28.0mph and (South) Southbound 32.7mph/Northbound 29.7mph. A VAS would be outside of policy and against officer recommendation so if required it will need a CMA. Changes to existing parking restrictions outside remit of LHP and passed to Parking Partnership to investigate. UPDATE JULY 2015 - Town Council fully support installation of VAS.	A
13	Fambridge Road (Limebrook Way RAB to Royal Oak Public House), Maldon	Walkable verge/footway	Lack of footway between small hamlet/public house and Maldon Town	Councillor	Maldon	Traffic Management	Total scheme	LMAL162099	TBC	Liaison on-going regarding nearby potential development	
14	Limebrook Way j/w Wantz Road, Maldon	Improved signage to Hythe Quay	Signage improvements required	Town Council	Maldon	Traffic Management	Total scheme	LMAL162071	TBC	In validation	
15	Market Hill, Maldon	Improved Car park Signage	Signage improvements required	District Council	Maldon	Traffic Management	Total scheme	LMAL162072	TBC	In validation	
16	The Causeway, Maldon	traffic management improvements	Speed/volume of vehicles	Councillor	Maldon	Traffic Management	Total scheme	LMAL162089	NA	Validation - speed survey in posted 30mph, Northeast bound 30.1mph and Southwest bound 26.9mph, Volume data shows less than 1%of traffic is HGV's. Priority Route. Good speed compliance and not suitable for traffic calming.	R
17	Steeple Road near its junction with Grange Avenue and Mayland Green, Mayland	Traffic management improvements	Speed of traffic approaching hidden junctions	Councillor	Mayland	Traffic Management	Total scheme	LMAL152064	TBC	In Validation - speed/volume data feeding into validation process	

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
18	Recreation Ground, Fambridge Road, North Fambridge	20 mph speed limit	Speed of traffic on road	Parish Council	North Fambridge	Traffic Management	Total scheme	LMAL142041a	£8,500	Validation - Speed data Southbound 33.3mph and Northbound 34.9mph. Speeds do not meet criteria for VAS but with Cabinet Member Approval this could be feasible.	A
19	Recreation Ground, Fambridge Road, North Fambridge	20 mph speed limit	Speed of traffic on road	Parish Council	North Fambridge	Traffic Management	Total scheme	LMAL142041b	£1,500	Validation - Speed data Southbound 33.3mph and Northbound 34.9mph. Install Playground warning sign on north bound approach	G
20	B1010 Fambridge Road (The Wash to Roundbush Public House), Purleigh	Speed reduction measures	Narrow road with passing places, speed of traffic	Parish Council	Purleigh	Traffic Management	Feasibility	LMAL142031	£3,000	Validation - Feasibility study recommended into speed reduction measures - possible extension of 40mph speed limit/existing passing places and potential for more/signage review.	G
21	B1018 Fambridge Road, The Wash Purleigh to Oak Corner Maldon	Traffic management improvements/speed reduction	Speed of vehicles on B1018	Councillor	Purleigh	Traffic Management	Total scheme	LMAL152061	NA	Validation - in 40mph section 280m South of Limebrook Way Southbound 42.2mph and Northbound 41.9mph. Also 560m South of Limebrook Way Southbound 45.2mph and Northbound 41.7mph. This section of road has previously had a safer roads scheme yellow backed speed repeater signs larger than 300mm. No pattern of accident since. Also had a gateway treatment at speed limit change. Possible enforcement or consider reduction in length of 40mph to start just north of properties.	R
22	Main Road, St Lawrence	Traffic management improvements - speed of vehicles	Speed of traffic on road	Parish Council	St Lawrence	Traffic Management	Total scheme	LMAL142028	NA	Validation - speed survey data southbound 24.0mph & northbound 24.7mph, good compliance with posted 30mph speed limit. A 20mph would go against policy as Main Road is Priority Route 2. Also if installed on Main Road only all side roads would still be 30mph and there would need to be a lot of speed terminal signage on side roads.	R
23	Bradwell Road, St Lawrence	traffic management improvements	Speed/volume of traffic	Parish Council	St Lawrence	Traffic Management	Total scheme	LMAL162087	TBC	In validation	

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
24	Honey Pot Lane, Stowe Maries	Drainage improvements	Drainage issues	Parish Council	Stowe Maries	Traffic Management	Total scheme	LMAL162097	TBC	In validation	
25	Hagg Hill, Stow Maries	Not suitable for HGV signage	HGV using unsuitable route	Parish Council	Stow Maries	Traffic Management	Total scheme	LMAL152029	£5,000	Validation - review existing signage/positioning and install "Unsuitable for HGV" signage	G
26	Woodham Road j/w Martins Lane, Stow Maries	Drainage improvements- Connection of separate drainage systems to maximise flow	Flooding site	Parish Council	Stow Maries	Traffic Management	Total scheme	LMAL162096	£20,000	This is the preferred Option from Technical Note in Appendix 1, alternative option £14k implement improved cross carriageway flow	G
27	North Street/South Street, Tillingham	Renew all road markings including centre lines and bus stops	Road markings faded	Parish Council	Tillingham	Traffic Management	Implementation	LMAL152065	NA	Scheme suggestion following feasibility study into Traffic Management Improvements, this would be a Maintenance issue	R
28	Parish Rooms, Church Street, Tollesbury	Improved access to Parish Rooms from Church Street	Unmade surface causing access pedestrian access problems	Parish Council	Tollesbury	Traffic Management	Total scheme	LMAL162093	£17,100	Results of feasibility study - Option 1 £6,600, 1.5m wide footway/kerbing, Option 2 £17,100 kerbing and resurface gravelled area 25m length	G
29	Kelvedon Road nr j/w Maypole Road, Tolleshunt Knights	VAS/SID	Speed/volume of traffic	Parish Council	Tolleshunt Knights	Traffic Management	Total scheme	LMAL162074	TBC	In validation	
30	Beckingham Street/Tolleshunt D'Arcy Road, Tolleshunt Major	Junction improvements	Existing bennett junction causing issues	Parish Council	Tolleshunt Major	Traffic Management	Total scheme	LMAL162077	TBC	In validation	
31	Mill Lane j/w Beckingham Street, Tolleshunt Major	Signage improvements	Road not suitable for HGV's	Parish Council	Tolleshunt Major	Traffic Management	Total scheme	LMAL162091	£13,000	Validation - Existing 7.5 tonne weight limit signage in place and "Unsuitable for HGV" sign. Recommendation is for signage review of HGV directional signage to ensure vehicles use preferred route via School Road.	G
32	Hatfield Road, Ulting	SID/VAS	Speed of traffic on road	Parish Council	Ulting	Traffic Management	Total scheme	LMAL142081	£12,000	Validation - it is possible to replace the two Speed Indicator Devices. VAS have just been replaced.	A
33	Crouchman's Farm Road, Ulting	Engineering improvements to drainage system	Flooding/drainage issues	Parish Council	Ulting	Traffic Management	Total scheme	LMAL162094	NA	Following maintenance works, engineering scheme could then be progressed	A

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
34	Maldon Road near Does Corner, Ulting	Drainage works/jetting	Blockages identified during CCTV survey	Parish Council	Ulting	Traffic Management	Total scheme	LMAL162100	£2,398	Following CCTV survey jetting works required	G
35	Witham Road/Church Road/Beacon Hill, Wickham Bishops	Village entry points - white gates	Lack of gates at village entry points	Parish Council	Wickham Bishops	Traffic Management	Total scheme	LMAL162098	TBC	In validation	
36	Church Road (Holt Drive to Blacksmiths Lane) and Arbour Lane (Blacksmiths Lane to Grange Road), Wickham Bishops	Footways	Lack of pedestrian access to the Village Library	Parish Council	Wickham Bishops	Traffic Management	Total scheme	LMAL153002	TBC	In validation	
37	The Street (Near The Mitre Public House), Wickham Bishops	Traffic management improvements - coloured carriageway surfacing	Speed of traffic	Parish Council	Wickham Bishops	Traffic Management	Feasibility	LMAL152037	NA	Validation - coloured surfacing would not highlight pedestrians crossing at this location. Update September 2015 - PV ² survey score 0.103x10 ⁸ , not high enough to warrant a pedestrian crossing and insufficient space to install a pedestrian refuge island.	R
38	Witham Road, Maypole Road, The Street, Kelvedon Road, Wickham Bishops	"Road Narrowing" at entry points to Village	Speed of Traffic	Parish Council	Wickham Bishops	Traffic Management	Total scheme	LMAL142059	TBC	Validation - There is evidence of some speeding vehicles, there is an agreed scheme for SID's through the village. Recommendation is for speed surveys 6 months after the installation of the SID sites and then review this request.	
39	Witham Road/Maypole Road/Kelvedon Road/The Street, Wickham Bishops	Priority working/build outs	Speed/volume of traffic	Parish Council	Wickham Bishops	Traffic Management	Feasibility	LMAL162039	£10,000	Validation recommends feasibility/design of build outs as traffic calming feature	G
40	Lodge Road, Woodham Mortimer	Unsuitable for HGV Signage at junction with A414	Signage improvements	Parish Council	Woodham Mortimer	Traffic Management	Total scheme	LMAL162075	£1,000	Validation - "Unsuitable for HGV" sign present at junction with B1010 Lodge Road, feasible to add "Unsuitable for HGV" sign to existing post at junction with A414	G

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Traffic Management

Total Value of schemes	£188,248
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
41	Herbage Park Road/Church Hill/Rectory Road, Woodham Walter	Speed Indicator Device and three poles for rotation	Speed of traffic	Parish Council	Woodham Walter	Traffic Management	Total scheme	LMAL152057	£10,000	Validation - ATC Rectory Road (nr Bowers Way) - South 33.0mph & North 33.4mph, Herbage Park Road - South 33.7mph & North 34.5mph. Speeds do not meet criteria for a VAS/SID, 5mph over posted speed limit. Some vehicles travelling over 35mph mainly during hours of darkness. If VAS/SID is required it will need separate sign off by Cabinet Member. Validation suggestion is to review speed repeater sign size/visibility/locations - £6,000	A
42	B1010 Burnham Road near its junction with Marl pits Road, Woodham Walter	Traffic management improvements	Difficulty turning into Marl pits Road from B1010	Parish Council	Woodham Walter	Traffic Management	Total scheme	LMAL152060	NA	Validation - Maintenance issues need to be addressed, missing sign and cutting back of vegetation. Then junction could be reviewed to assess the impact. Any engineering solution would involve major junction realignment.	R

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Passenger Transport

Total Value of schemes	£2,500
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Ref	Location	Description	Problem	Requested by	Parish	Scheme stage	Cost Code	Estimated cost	Comments	RAG
1	Imperial Avenue, Maylandsea	Bus cage	Vehicles parking at bus stop and obstructing it	Parish Council/Passenger Transport Team	Maylandsea	Total scheme	LMAL155008	£2,500	Validation - A bus cage would require a consultation with residents/businesses	G

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Public Rights of Way

Total Value of schemes	£15,300
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
1	Footpath FP4 (Kelvedon to Goat Lodge Roads), Great Totham	Surface improvements, planings/timber edging for 200m	Footpath needs surface improvements	Councillor	Great Totham	Public Rights of Way	Total scheme	LMAL158004	£4,000	Validated by PRoW team	G
2	Handley's Lane, between Kelvedon Road and Handley's Lane roadway, Wickham Bishops	Surface improvements to byway to allow all round year usage	Byway often inaccessible due to flooding /surface condition	Parish Council	Wickham Bishops	Public Rights of Way	Total scheme	LMAL158003	TBC	In validation	
3	Footpath 1 (Blue Mills Hill to Mope Lane), Wickham Bishops	Surfacing improvements - edging boards and planings 950m central section of Footpath	Footpath routinely waterlogged and difficult to walk	Public Rights of Way team	Wickham Bishops	Public Rights of Way	Total scheme	LMAL158006	£11,300	Validated by PRoW team	G

Maldon District Local Highways Panel - Potential Schemes List (Version 20)

Walking

Total Value of schemes	£345,000
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Ref	Location	Description	Problem	Requested by	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	Comments	RAG
1	The Avenue, North Fambridge	Footway widening	Narrow footway	Parish Council	North Fambridge	Walking	Total scheme	LMAL163004	£339,000	Design in appendix 1, includes £110k estimate for stats diversion works	G
2	B1010 Chelmsford Road (Spar Lane to Edgeware Veterinary Practice), Purleigh	Extension of existing footway	Lack of safe route for pedestrians	Parish Council	Purleigh	Walking	Feasibility	LMAL153001	£6,000	Validation - recommendation for feasibility study into footway/walkable verge, with pedestrian video survey and road safety audit. Though implementation costs could be around £50k	G

Maldon District Highway Rangers Works Summary - April 2016

Job Ref.	Date	Parish	Location	Street	Works	Date Completed	Requested by
MDC363		Burnham on Crouch		Foundry Lane	Cut back vegetation	01/03/16	MDC
MDC364		Burnham on Crouch		Burnham Road	Sign maintenance	02/03/16	MDC
MDC365		Wickham Bishops		Maypole Road	Cut back vegetation	03/03/16	MDC
MDC366		Mayland		Wembley Avenue	Sign maintenance	04/03/16	MDC
MDC367		District wide		Various roads	Sign maintenance	08/03/16	MDC
MDC368		Great Braxted		Various	Sign maintenance	09/03/16	MDC
MDC369		Little Braxted		Various	Sign maintenance	09/03/16	MDC
MDC370		Maldon		Mill Road	Sign maintenance	10/03/16	MDC
MDC371		Tollesbury		St Johns Court and Thurstable Road	Strimming footpath	14/03/16	MDC
MDC372		Tollesbury		Various roads	Cleaning/ Strimming vegetation around sign	14/03/16	MDC
MDC373		Woodham Walter		Various roads	Cleaning/ Strimming vegetation around sign	15/03/16	MDC
MDC374		Maldon		Stock Chase	Cut back vegetation	16/03/16	MDC
MDC375		Maldon		Promenade Park	Cut back vegetation/trees	17/03/16	MDC
MDC376		Heybridge	A414	Heybridge Approach to Spital Road	Street furniture maintenance	18/03/16	MDC
MDC377		Maldon	A415	Heybridge Approach to Spital Road	Street furniture maintenance	22/03/16	MDC
MDC378		Maldon		The Causeway to Market Hill RAB	Sign maintenance	30/03/16	MDC
MDC379		Maldon		Cutathroat Lane	Clear fallen tree	31/03/16	MDC
847	17/03/2016	Ulting	Hoemill bridge	The Causeway	Side footways	23/03/16	ECC
848	17/03/2016	Ulting	The Cottage	The Causeway	Cut back vegetation/remove debris form raised footway	23/03/16	ECC
Bank Holiday						25/03/16	MDC
849	23/03/2016	Burnham on Crouch	Nr 2	Ship Road	Cut back vegetation	29/03/16	ECC
851	06/04/2016	Purleigh	O/s The Old Police House	The Glebe	Street furniture maintenance - wooden post	25/03/16	ECC

Maldon District Highway Rangers Works Summary - April 2016							
Job Ref.	Date	Parish	Location	Street	Works	Date Completed	Requested by
MDC380		Bradwell	Footpath to Orplands Farm	B1021 Maldon Road	Cut back vegetation	04/04/16	MDC
MDC381		North Fambridge	The Avenue/Fambridge Road/Franklyn Road		Cut back vegetation	05/04/16	MDC
MDC382		Maldon	A414	Heybridge Approach	Cut back vegetation	06/04/16	MDC
MDC383		Maldon	Mundon Road		Cut back vegetation	06/04/16	MDC
MDC384		Burnham on Crouch	Marsh Road/Glendale Road		Cut back vegetation	07/04/16	MDC
MDC385		Heybridge	Cemetery	Goldhanger Road	Cut back vegetation	08/04/16	MDC
MDC386		Goldhanger	Church Lane		Removing fallen tree branches	11/04/16	MDC
MDC387		Braxted	Braxted Road/Kelvedon Road		Cut back vegetation	12/04/16	MDC
MDC388		Maldon	Fambridge Road to Coyer Close		Cut back vegetation	13/04/16	MDC
MDC389		Maldon	Mirosa Drive to Madison Heights	Park Drive	Cut back vegetation	14/04/16	MDC
MDC390		Maldon	Mundon Road to New houses	Park Drive	Cut back vegetation	14/04/16	MDC
MDC		Maldon	Oak tree Meadow Play Site		PRoW Bridge Maintenance - Slip Slats	15/04/16	MDC
MDC391		Heybridge	Elizabeth Way to Samian Close		Cut back vegetation	19-20/04/2016	MDC
MDC		Maldon	Promenade Park		Set up then removed Marquee/Fencing/Chairs for Queens Birthday celebration	21-22/04/16	MDC
MDC		Southminster	Orchard Meadows		Street furniture maintenance	25/04/16	MDC
MDC392		Heybridge	Kingston Chase		Cut back vegetation	26/04/16	MDC
MDC393		Maldon	Wood Lane Canal footpath to Roothings		Street furniture maintenance	27/04/16	MDC
854	07/04/2016	Bradwell on Sea	Whole Parish		Sign maintenance - Clean/Tighten/Re-align	28/04/16	ECC
MDC394		Chandlers Quay Street furniture maintenance				29/04/2016	MDC

Key

ECC - Essex County Council/Essex Highways	MDC - Maldon District Council	TC/PC - Town/Parish Council
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