MEETING OF THE CHELMSFORD LOCAL HIGHWAYS PANEL

17 MARCH 2015
MARCONI ROOM, CHELMSFORD CITY COUNCIL
COMMENCING AT 11.00

There will be a selection of pastries, tea and coffee available for Panel Members and officers from 10.30

AGENDA

1. Apologies for absence

2. Minutes of the Local Highways Panel meeting held on 28th January 2015

3. Matters arising

4. Approved works programme updates — Jon Simmons (ECC)

    A. Schemes In Progress
    B. Feasibility and Designs
    C. Completed/Cancelled Schemes

5. Proposed schemes and budgets — Jon Simmons (ECC), Sonia Church (ECC)

    A. Potential Schemes List (Version 23)
    B. Safer Roads Reports
    C. Feasibility Studies (for information)

6. Highway rangers — Jon Simmons (ECC)

7. AOB

    A. Date of next meeting

Chelmsford City Local Highways Panel - Approved Works Programme (February 2015) - Schemes In Progress

Ref. No.	Task Name	Parish	Finish	CMA Approved	Cost Code	Works Description	Allocated Budget	Comments
				2012/13 Approved				
1	A138 Chelmsford Road/Sandford Road	Chelmsford Non Parished	31/03/2015	26/09/2012	LCHE007003	Signals Upgrade	£7,000.00	The scheme has had to be co-ordinated with Highways Agency, to book road space
2	New London Road Subway Chelmsford	Chelmsford Non Parished	04/09/2015	01/03/2013	LCHE004001	Cycling	£33,912.00	Was 01/05/15, design review of scheme due to height issues for cyclists within subway has led to delays
3	A12 Howe Green Interchange	Sandon	30/03/2015	17/07/2012	LCHE001004	Safer Roads	£11,000.00	Request for scheme top-up £9,000 due to works needing to be carried out at night
				2013/14 Approved				
4	Rainsford Road jw Primrose Hill (works post design phase)	Chelmsford Non Parished	23/03/2015	10/07/2013	LCHE131027	Safer Roads	£4,000.00	Was On Hold now has finish date
5	Parkway A1060 Odeon RAB	Chelmsford Non Parished	29/05/2015	10/07/2013	LCHE132022	Traffic Management Improvements (TMI)	£41,000.00	Was 20/03/15 - issues around car park naming now resolved scheme to progress
6	O/s Moulsham Grange, London Road, Chelmsford	Chelmsford Non Parished	06/08/2015	04/02/2014	LCHE132071c	Raise kerbing/add bollards/pave area	£12,500.00	Was 13/10/15 date brought forward
7	Main Rd nr j/w Church Rd, East Hanningfield	East Hanningfield	07/12/2015	04/02/2014	LCHE132068c	Create walkable verge	£11,500.00	Was 09/01/15 - issues around ditch and width of walkable verge, scheme to progress
8	Margaretting Road, Galleywood	Galleywood	07/08/2015	12/09/2013	LCHE003001	Continuation of footway from Village to Heritage Centre - Civil Works £88k, Legal/Design Costs £31k.	£124,000.00	
9	Five entry point to Galleywood	Galleywood	31/03/2015	04/02/2014	LCHE132016c	Install five Village gateway features	£12,500.00	
10	Ingatestone Road/Blackmore Road/Highwood Road, Highwood	Highwood	31/03/2015	12/11/2013	LCHE132061	signage improvements for Village Hall - add Highwood to finger post	£500 (Sign) and £200 (Design)	
11	Cross Keys A1060, Boyton Cross, Roxwell	Roxwell	17/03/2015	04/02/2014	LCHE135014c	Bus stop improvement - Bus build out	£1,500.00	Was 28/01/15 had to be reprogrammed due to other scheme delivery
12	Paradise Road, Writtle	Writtle	21/04/2015	12/11/2013	LCHE132045	Signage improvements	£1,500 (Signs) and £500 (Design)	
13	Margaretting Road/Writtle Road, Writtle	Writtle	26/03/2015	04/02/2014	LCHE132075c	Village gateway features	£7,500.00	
				2014/15 Approved				
14	Bicknacre Road, Bicknacre	Bicknacre	28/08/2015	09/07/2014	LCHE142043	WigWag (flashing warning) signs outside school	£15,000.00	Was 27/11/15 date brought forward
15	Dove Lane/Wood St Cycle Track	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE144002	Removal of cycle track barrier to be replaced with bollard/extend pedestrian guard rail and road markings	£2,000.00	
16	Waltham Glen Chelmsford	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE144003	LHP previously funded design work of improved signage, this is to implement the scheme CH1	£5,000.00	
17	Maltese Road/Ridgewell Avenue/Swiss Ave	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE144004	LHP previously funded design work of improvements to cycle route, this is to implement the scheme CH44	£35,000.00	Works in progress
18	PROW Footpath/Bridleway 93/94	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE148003	Drainage and signage improvements	£5,000.00	
19	Keane Memorial Homes, Broomfield Road, Chelmsford	Chelmsford Non Parished	25/03/2015	02/06/2014	LCHE142026	Two number KEEP CLEAR road markings at entrance/exit to sheltered homes complex	£1,500.00	
20	O/s 140-147 Forest Drive Chelmsford	Chelmsford Non Parished	22/12/2015	02/06/2014	LCHE142004	To construct lay-by within available verge	£25,000.00	
21	O/s Farthing court, Broomfield Road, Chelmsford	Chelmsford Non Parished	19/06/2015	02/06/2014	LCHE142027	Seven number bollards to prevent parking and improve sight lines for vehicles	£3,000.00	Was 19/03/15 - scope of scheme revised now to be considered in terms of a Traffic Regulation Order
22	Chignal Road j/w St James Park Road, Chelmsford	Chelmsford Non Parished	26/03/2015	02/06/2014	LCHE142066	KEEP CLEAR road marking	£1,000.00	
23	Avon Road, Chelmsford	Chelmsford Non Parished	04/09/2015	02/06/2014	LCHE142031	Parking Improvements along whole length of road (1377m) - measures to prevent parking on verges combined with creation of parking laybys	£228,923.00	
24	Citywide - Watchouse Road shops, Chelmsford Park, Writtle Library, Long Brandocks, Wellfield	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE144001	Provision of Cycle parking facilities	£10,000.00	
25	O/s 119-121 Arbour Lane, Chelmsford	Chelmsford Non Parished	25/03/2015	09/07/2014	LCHE145007	Clearway sign at bus stop to allow enforcement	£2,500.00	
26	Ten Entry points to Chelmsford City	Chelmsford City	25/01/2016	09/07/2014	LCHE142023	Improved Black on White City nameplate signage,	£40,000.00	CMA now signed off for white on black signs
27	Various points within City	Chelmsford City	29/12/2015	09/07/2014	LCHE142034	New Wayfinder signs to help pedestrians within City Centre	£52,120.00	
28	Sites to be confirmed	Chelmsford City	N/A	09/07/2014	LCHE142046	recommendation for monies to be retained by panel to allow approved schemes to be topped up	£50,000.00	Holding Scheme
29	Dyers Hall to Cricket Ground, Mashbury Road, Chignal	Chignal	31/03/2015	02/06/2014	LCHE142032	Creation of three passing places on narrow road	£29,700.00	Possible changes in scope of scheme, Parish Council consulted
30	Sandon Hill, Ford End 30mph signs	Ford End	16/04/2015	24/04/2014	LCHE142016	Provision of 30mph count down signs at either end of Village (will require DfT approval)	£4,000.00	Was 31/03/15 waiting on DfT approval of signs
31	Sandon Hill, Ford End	Ford End	03/07/2015	24/04/2014	LCHE142017	Traffic management improvements through Village - Speed terminal signs at village gateways, VAS's, Improved bend signage, mini-RAB, improved school signage	£58,500.00	
32	Galleywood Rd jw Dorset Ave to Vicarage Ln	Galleywood	31/03/2015	24/04/2014	LCHE141002	Surface inlay and road markings (centre hatching/edge of carriageway)	£20,000.00	
33	Farmbridge End Road, Good Easter	Good Easter	31/03/2015	02/06/2014	LCHE142029	Two number Danger Ahead warning signs with Road liable to flood sub-plate	£2,500.00	Was 20/04/15 brought forward
34	Bennetts Lane/Mill Road/Black Chapel Lane, North End, Great Waltham	Great Waltham	31/03/2015	02/06/2014	LCHE142028	Deer warning signs at three locations	£3,100.00	Was 21/04/15 date brought forward
35	A131/A130/B1008, Sheepcoates RAB, Great Waltham	Great Waltham	31/03/2015	09/07/2014	LCHE142036	Two M11 sign patches to existing Advanced Directional signage	£2,500.00	
36	PRoW Bridleway 12 Highwood	Highwood	On Hold	02/06/2014	LCHE148006	Improvements to surface condition and drainage	£6,000.00	Possible private landowner issue, scope of scheme under review
37	PRoW Bridleway 13 Highwood	Highwood	On Hold	02/06/2014	LCHE148007	Improvements to surface condition and drainage/piped culverts	£14,000.00	Possible private landowner issue, scope of scheme under review
38	Bridge at Battlesbridge, Hawk Hill, Rettendon	Rettendon	31/03/2015	02/06/2014	LCHE142030	Signage improvements to priority working at bridge	£1,750.00	Was 20/04/15 date brought forward
39	A1060 Maldon Road j/w Molrams Lane, Sandon	Sandon	15/12/2015	02/06/2014	LCHE142021	Remedial works to Section 278 highway works - signing/lining/lighting improvements	£10,000.00	
40	PROW Footpath 40 South Woodham Ferrers	South Woodham Ferrers	31/03/2015	24/04/2014	LCHE148004	Surfacing of footpath	£4,000.00	
41	PR0W Footpath 40 South Woodham Ferrers	South Woodham Ferrers	31/03/2015	09/07/2014	LCHE148004	Surface improvements to PROW, top up required to original £4,000 recommendation	£3,000.00	
42	A132/B1012 (Shaw Farm RAB and B1012/B1418, South Woodham Ferrers	South Woodham Ferrers	29/01/2016	09/07/2014	LCHE142041	Improved Goods Vehicle Signage to keep vehicles on Priority Route and not diverting through Woodham Ferrers	£7,500.00	
43	White Hart Lane (Sainsbury's) to Beaulieu Park, Springfield	Springfield	27/02/2015	24/04/2014	LCHE144005	Phase 2 of scheme to connect cycleway from Sainsbury's to Beaulieu park	£60,000.00	Works substantially completed
44	Chelmer Retail Park, Springfield	Springfield	27/03/2015	24/04/2014	LCHE144006	Phase 2 of scheme to rebuild and widen northern access ramp to retail park	£40,000.00	Was 27/02/15, land ownership issues being resolved
45	PROW Footpath 18 Springfield	Springfield	31/03/2015	24/04/2014	LCHE148005	Surfacing of footpath	£15,000.00	

Ref. No.	Task Name	Parish	Finish	CMA Approved	Cost Code	Works Description	Allocated Budget	Comments
2014/15 Approved (continued)								
46	Church Road/Middlemead, West Hanningfield	West Hanningfield	05/08/2015	02/06/2014	LCHE142033	Road markings - 30 mph speed roundels and SLOW at start of 30 mph speed limit and either side of Village Hall access	£7,000.00	
47	Main Road, Woodham Ferrers	Woodham Ferrers	28/08/2015	09/07/2014	LCHE142044	Vehicle Activated Sign outside school	£8,500.00	Was 27/11/15 date brought forward
48	Hylands School Chelmsford Rd	Writtle	03/08/2015	24/04/2014	LCHE142018	Construction of widened footpath outside school at bus stop and side/widen existing footways from Writtle to School	£14,500.00	Works started but stopped due to drainage issues and shallow cables
49	Hylands School Chelmsford Road/Writtle Road, Writtle	Writtle	31/03/2015	09/07/2014	LCHE142035	SLOW road markings at existing advanced school signage	£1,000.00	
50	O/s Hylands School, Chelmsford Road, Chelmsford	Writtle	08/04/2015	24/09/2014	LCHE142049	Wig-Wag flashing warning lights - Additional measures in support of LCHE142018, footway widening and LCHE142035 SLOW road markings at School signs	£7,000.00	

Chelmsford City Local Highways Panel - Approved Works Programme (February 2015) - Feasibility & Designs

Ref. No.	Task Name	Parish	Finish	CMA Approved	Cost Code	Works Description	Allocated Budget	Comments
2013/14 Approved								
1	West End of Chelmsford	Chelmsford Non Parished	27/02/2015	12/09/2013	LCHE132056	Improved Signing to West End of Chelmsford - Design only - To review current designs/assess proposed locations and provide target cost for overall scheme	£3,500.00	On going stakeholder liaison
2	Melbourne Avenue, Chelmsford	Chelmsford Non Parished	31/03/2015	12/09/2013	LCHE134006	CH17 - Design only of cycling scheme (£25k)	£3,000.00	
3	Westway, Chelmsford	Chelmsford Non Parished	31/03/2015	12/09/2013	LCHE134007	CH35 - Design only of cycling scheme (£225K)	£4,000.00	
4	Princes Road, Chelmsford	Chelmsford Non Parished	31/03/2015	12/09/2013	LCHE134009	CH34 - Design only of Cycling Scheme (£95k)	£5,000.00	
2014/15 Approved								
5	Leighams Rd nr Leighams Farm	Bicknacre	31/03/2015	24/04/2014	LCHE141001	Scheme design - signage and road markings	£500.00	
6	Hammonds Rd Little Baddow/Church Rd	Boreham	31/03/2015	24/04/2014	LCHE142008	Feasibility study into flood warning improvements	£10,000.00	
7	Waltham Glen Chelmsford	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE144003	LHP previously funded design work of improved signage, this is to implement the	£5,000.00	
8	Maltese Road/Ridgewll Avenue/Swiss Avenue	Chelmsford Non Parished	**Install no cy**	24/04/2014	LCHE144004	LHP previously funded design work of improvements to cycle route, this is to	£35,000.00	
9	PROW Ftp 95 Chelmsford	Chelmsford Non Parished	31/03/2015	24/04/2014	LCHE148002	Investigation into installing drainage in existing surfaced city centre footpath	£5,000.00	
10	High Street	Chelmsford Non Parished	Awaiting programme date	18/11/2014	LCHE144011	Feasibility study into south-north cycling route through City Centre avoiding High Street	£5,000.00	
11	Sites currently being identified within Chelmsford	Sites currently being identified within	05/08/2015	09/07/2014	LCHE141004	Design of Casualty reduction sites for 2015/16 implementation	£28,000.00	
12	PROW Ftp 13 Good Easter	Good Easter	31/03/2015	24/04/2014	LCHE148001	Investigation into revetment between River Can and existing footpath	£5,000.00	
13	Paper Mill Bridge North Hill j/w Moden Hall Lane	Little Baddow	10/03/2015	24/04/2014	LCHE142009	Feasibility study into flood warning improvements	£10,000.00	
14	A1245/A132 Roundabout, Rettendon	Rettendon	31/03/2015	02/06/2014	LCHE142019	Feasibility study into marking of lanes on roundabout	£3,000.00	Report being finalised
15	King Edwards Road, South Woodham Ferrers	South Woodham Ferrers	31/03/2015	24/04/2014	LCHE142013	Feasibility study into traffic claiming options, suitable for bus service	£3,500.00	
16	Ongar Road/Lordship Road, Writtle	Writtle	30/03/2015	24/04/2014	LCHE142014	Route enhancement study to consider footway/carriageway surfacing, lining, signing, lighting, also construction of lay-by neat Doctors surgery	£32,500.00	
2014/15 Revenue Schemes								
17	Survey Works	Chelmsford	Survey sites being programmed	03/02/2015	LCHE142083	Funds to be used for Automatic Traffic Counts (seven day speed/volume), Degree of Pedestrian conflict surveys (PV^2) and Safety Assessments - results of survey work to feed into scheme validation process for 2015/16 schemes	£10,000.00	

Chelmsford City Local Highways Panel - Approved Works Programme (February 2015) - Completed/Cancelled Schemes

Scheme Key	Completed	Cancelled

Ref. No.	Task Name	Parish	Finish	CMA Approved	Cost Code	Works Description	Allocated Budget	Comments
2012/13 Approved								
1	Rainsford Road Chelmsford	Chelmsford Non Parished	28/01/2015	01/03/2013	LCHE004002	Cycling -	£12,744.00	Cancelled following January 2015 Panel meeting- Cycling Officer has ridden proposed route and scheme deemed not feasible
2	Stock CE Primary School	Stock	28/01/2015	26/09/2012	LCHE006001	SCP/Site Improvements	£1,770.00	Cancelled following January 2015 Panel meeting- scope of scheme under review
2013/14 Approved								
3	Lodge Road, Bicknacre FEASIBLITY	Bicknacre	27/02/2015	12/09/2013	LCHE132025	Feasibility study into passing bays (to include speed/volume surveys and improvement options)	£4,000.00	Please see Feasibility Studies/Design reports - now on Potential Schemes List
4	Main Road, East Hanningfield	East Hanningfield	24/12/2014	12/09/2013	LCHE133011	Kerbing to prevent verge over-run	£2,500.00	Completed since January 2015 Panel meeting
5	Mashbury Parish	Mashbury	11/02/2015	12/11/2013	LCHE132055	Horse & Rider signage	£2,500 (Signs, Posts) and £1,500 (Design)	Completed since January 2015 Panel meeting
6	Mayne Crest, Springfield	Springfield	31/03/2015	12/11/2013	LCHE132062	Pedestrian guard rail at footway from Pump Lane	£1,500 (Guard rail) and £500 (Design)	Completed since January 2015 Panel meeting
7	Lodge Road j/w Romans Place, Writtle	Writtle	24/12/2014	12/09/2013	LCHE132012	Completion of tactile paving at crossing point	£2,000.00	Completed since January 2015 Panel meeting
2014/15 Approved								
8	Haselfoot Road j/w Plantation Road, Boreham	Boreham	15/01/2015	02/06/2014	LCHE142024	No through Road signage at 2.3m height to increase visibility to Goods Vehicle Drivers	£1,500.00	Completed since January 2015 Panel meeting
9	Broomfield Parade Broomfield Rd	Broomfield	26/01/2015	24/04/2014	LCHE142006	Feasibility study into parking provision (lay-bay, echelon) outside parade of shops	£2,500.00	Please see Feasibility Studies/Design reports
10	Railway Bridge, Arbour Lane, Chelmsford	Chelmsford Non Parished	27/02/2015	09/07/2014	LCHE142045	Feasibility study into footway widening improvements	£3,000.00	Please see Feasibility Studies/Design reports
11	North Avenue j/w Melbourne Avenue, Chelmsford	Chelmsford Non Parished	17/02/2015	02/06/2014	LCHE142025	Two number dropped kerbs with tactile paving	£2,500.00	Completed since January 2015 Panel meeting
12	Chelmer Village Way nr j/w Brook End Road, Chelmer Village	Chelmer Village	27/02/2015	02/06/2014	LCHE142020	Feasibility study into pedestrian refuge island	£3,000.00	Please see Feasibility Studies/Design reports - S.106 scheme
13	Penny Royal Rd /Mayes Ln to Woodhill Rd	Danbury	27/02/2015	24/04/2014	LCHE142007	Feasibility study into provision of footway to link two parts of the Village	£3,500.00	Please see Feasibility Studies/Design reports - now on Potential Schemes List
14	Highwood Road, Loves Green	Highwood	27/02/2015	09/07/2014	LCHE142038	Feasibility study into traffic management improvements	£4,000.00	Please see Feasibility Studies/Design reports - now on Potential Schemes List
15	Highwood Road, Edney Common	Highwood	27/02/2015	09/07/2014	LCHE142039	Feasibility study into traffic management improvements	£4,000.00	Please see Feasibility Studies/Design reports - now on Potential Schemes List
16	Highwood Road, Edney Common to Loves Green	Highwood	27/02/2015	09/07/2014	LCHE142040	Feasibility study into providing pedestrian link between hamlets	£7,500.00	Please see Feasibility Studies/Design reports - now on Potential Schemes List

CHELMSFORD CITY LOCAL HIGHWAYS PANEL
POTENTIAL SCHEMES LIST (Version 23a)

From the schemes recommendations made by the Panel in 2014/15 there are currently schemes to the value of £630,000 which have been re-profiled and are being delivered in 2015/16. These schemes are detailed on the Approved Works Programme. The Chelmsford City Local Highways Panel has a 2015/16 Capital Budget of £1,000,000. The following Potential Scheme List identifies all of the scheme requests which have been received for the consideration of the Chelmsford City Local Highways Panel.

The Panel are asked to consider the schemes on the Potential Scheme List, make recommendations against those they wish to be implement and prioritise these recommendations. There are currently potential schemes with an estimated cost of £1,006,140 on this list, as shown in the summary below:

2015/16 Potential Schemes List (Version 23)	
Scheme Type	Total Estimated Costs
Traffic Management	£130,000
Walking	£66,000
Passenger Transport	£35,500
School Crossing Patrol	Schemes in validation
Public Rights of Way	£30,000
Cycling	£533,140
Safer Roads	£211,500
	£1,006,140

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

Traffic Management

Total Value of schemes	£130,000

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
1	Priory Road, Bicknacre	Bend warning signs	Bicknacre	Traffic Management	Total scheme	LCHE142058	£1,000	G	
2	Lodge Road, Bicknacre	Provision of passing bays - Option 1 - Two bays on narrow section of road, loss of five trees at each location initial estimate £15,500 next stage detailed design	Bicknacre	Traffic Management	Design	LCHE132025	£3,000	G	Technical Note available in Feasibility Studies/Design/Report
3	Hammonds Road/Church Road, Little Baddow to Boreham	Traffic Management improvements	Boreham	Traffic Management	Total scheme	LCHE142055	TBC	TBC	In validation
4	Generals Lane to New Hall School, Boreham	Traffic Management Improvements -widen road/passing bays/speed limit reduction	Boreham	Traffic Management	Total scheme	LCHE142057	TBC	TBC	In validation
5	Hammonds Road/Church Road, Boreham	Flood warning improvements	Boreham	Traffic Management	Total scheme	LCHE142008	TBC	TBC	Awaiting results of feasibility study
6	Patching Hall Lane jw B1008 Broomfield Road, Broomfield	Signal upgrade to allow left turn out/right turn in phase and extension of two lane section	Broomfield	Traffic Management	Total scheme	LCHE132069	TBC	TBC	Validation waiting on ITS and developers works
7	Main Road nr jw Erick Avenue, Broomfield	Improvements to pedestrian crossing	Broomfield	Traffic Management	Total scheme	LCHE142081	TBC	TBC	Awaiting results of Safety Assessment
8	Broomfield Parade, Broomfield Road, Broomfield	Parking provision outside parade of shops	Broomfield	Traffic Management	Total scheme	LCHE142006	TBC	TBC	Awaiting results of feasibility study
9	Chelmer Village Way nr jw Brook End Road, Chelmer Village	Pedestrian crossing facility	Chelmsford Non Parished	Traffic Management	Feasibility	LCHE142020	N/A	N/A	Technical Note available in Feasibility Studies/Design Report - Scheme being pursued throughS.106 funding
10	County High School, Broomfield Road, Chelmsford	Pedestrian guard rail opp. Pedestrian exit of school	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142063	£3,000	G	

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
11	Gunson Gate off Loftin Road, Chelmsford	Improvements to bus gateway and bus stops	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142064	TBC	TBC	In validation
12	Sandford Road, Chelmsford	Pedestrian crossing improvements	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142068	TBC	TBC	In validation
13	Sandyford Lyons Estate (Sandford Road/Chelmer Road/Springfield Road/Hill Road/Navigation Road) Chelmsford	Improved 20 mph signage/roundels	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142069	£3,000	G	
14	Our Lady Immaculate School , New London Road, Chelmsford	Pedestrian access improvements - guard rail/raise kerbs option 1	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142050	£2,500	G	
15	Our Lady Immaculate School , New London Road, Chelmsford	Pedestrian access improvements - guard rail/raise kerbs option 2	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142051	£7,000	G	
16	56 Main Road, Danbury	Vehicles leaving carriageway	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142054	TBC	TBC	Please see Safer Road scheme LCHE151006
17	Danbury Vale, Danbury	Flood alleviation works - study into ground investigation/infiltration testing to determine number of soak ways and size	Chelmsford Non Parished	Traffic Management	Feasibility	LCHE142052	£7,500	G	
18	The Common, East Hanningfield	Traffic Management Improvements	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142022	TBC	TBC	In validation
19	West End of Chelmsford	Signage improvements to West End	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE132056	TBC	TBC	In design
20	Old Moulsham (Moulsham Drive/Lady Lane/Hamlet Road/St Johns Road/Vicarage Road/Moulsham Street), Chelmsford	20mph zone/limit	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE132057	£26,500	G	
21	Railway Bridge, Arbour Lane, Chelmsford	Footway widening works - recommendation to cut back vegetation and improve footway surface condition	Chelmsford Non Parished	Traffic Management	Feasibility	LCHE142045	N/A	R	Technical Note available in Feasibility Studies/Design Report

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
22	Essex Records Office, Chelmsford	Signage improvements to vehicular access to ERO on Navigation Road and outside pedestrian entrance to ERO	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142085	TBC	TBC	In validation
23	Wood Street, Chelmsford Nr parade of shops	Pedestrian crossing improvements	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142091	TBC	TBC	In validation PV² to be carried out
24	Waterson Vale, Chelmsford	Traffic management improvements to enforce 20mph zone	Chelmsford Non Parished	Traffic Management	Total scheme	LCHE142093	TBC	TBC	In validation, speed surveys to be carried out
25	Waterhouse Lane j/w Beeches Road and Forest Drive, Chelmsford	Junction improvements	Chelmsford Non Parished	Traffic Management	Feasibility	LCHE142075	£3,000		Validation suggests feasibility study as next stage
26	Sporhams Lane, Danbury	Width restriction on road, to prevent goods vehicles damaging verges	Danbury	Traffic Management	Total scheme	LCHE142092	TBC	TBC	In validation
27	Stock Road/ Watchouse Road, Galleywood	Signs to heritage centre	Galleywood	Traffic Management	Total scheme	LCHE142067	TBC	TBC	In validation
28	Galleywood Road nr Fowlers Court, Galleywood	Speed reduction 40 mph to 30 mph	Galleywood	Traffic Management	Total scheme	LCHE142082	TBC	TBC	In validation
29	Galleywood Road nr Fowlers Court, Galleywood	Pedestrian crossing	Galleywood	Traffic Management	Total scheme	LCHE142082	TBC	TBC	In validation
30	The Street jw Stock Road, Galleywood	Junction protection parking restrictions	Galleywood	Traffic Management	Total scheme	LCHE142098	TBC	TBC	In validation
31	Glovers Estate - (Brickbarns, Castlefield, Glovers, Permains), Great Leighs	20 mph speed limit	Great Leighs	Traffic Management	Total scheme	LCHE142079	TBC	TBC	In validation
32	Main Road, Howe Street	SID socket/pole	Great Waltham	Traffic Management	Total scheme	LCHE142070	TBC	TBC	In validation
33	Chelmsford Road, Minnow End	SID socket/pole	Great Waltham	Traffic Management	Total scheme	LCHE142071	TBC	TBC	In validation

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
	Highwood Road, Loves Green, Highwood	Traffic management improvements - Remove centre white line/renew SLOW road markings/build outs at school with priority flow, estimated cost £8,500 next stage detailed design	Highwood	Traffic Management	Design	LCHE142038	£3,000	G	Technical Note available in Feasibility Studies/Design Report
36	Highwood Road, Edney Common	Traffic management improvements - Remove centre white line/renew SLOW road markings/build outs at play ground/public house with priority flow, estimated cost £8,500 next stage detailed design	Highwood	Traffic Management	Design	LCHE142039	£3,000	G	Technical Note available in Feasibility Studies/Design Report
37	Highwood Road Edney Common to Loves Green, including St Peter Church	Pedestrian footway- 1.2m walkable verge, crossing point at Highwood Road and removal of informal layby at St Peters Church, estimated cost £105,000 next stage detailed design	Highwood	Traffic Management	Design	LCHE142040	£3,500	G	Technical Note available in Feasibility Studies/Design Report
38	Paper Mill Bridge, North Hill jw Moden Hall Lane, Little Baddow	Flood warning improvements	Little Baddow	Traffic Management	Total scheme	LCHE142009	TBC	TBC	Awaiting results of feasibility study
39	B1002 Main Road, Wantz Road/Writtle Road, Margaretting	Reduction from 40 mph to 30 mph	Margaretting	Traffic Management	Total scheme	LCHE132059	TBC	TBC	In validation
40	A1245/A132 Roundabout, Rettendon	Lane marking on RAB - Option 1 - Guidance lane marking on RAB and additional signs on A132 Option 2 - As option 1 but with lead in road markings	Rettendon	Traffic Management	Total scheme	LCHE142019	£7,500	G	Technical Note available in Feasibility Studies/Design Report
41	Maltings Road, Rettendon	Traffic management improvements to single track road	Rettendon	Traffic Management	Total scheme	LCHE142084	TBC	TBC	In validation
42	Woodhill Road (S/O Sandon School), Sandon	Bollards to prevent verge parking	Sandon	Traffic Management	Total scheme	LCHE142065	£10,500	G	

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
43	King Edwards Road, South Woodham Ferrers	Traffic management improvements suitable for bus service	South Woodham Ferrers	Traffic Management	Total scheme	LCHE142013	TBC	TBC	Awaiting results of feasibility study
44	A132 Burnham Road, South Woodham Ferrers	Reposition town nameplate/SLOW road markings and extension of 40 mph speed limit	South Woodham Ferrers	Traffic Management	Total scheme	LCHE142079	£10,000	G	In validation
45	Springfield Green, Springfield	Pedestrian crossing facility	Springfield	Traffic Management	Total scheme	LCHE142060	TBC	TBC	In validation
46	Stump Lane, Springfield	Pedestrian crossing facility	Springfield	Traffic Management	Total scheme	LCHE142061	TBC	TBC	In validation
47	Tyrells School, Springfield	20 mph zone	Springfield	Traffic Management	Total scheme	LCHE142066	TBC	TBC	In validation
48	Pollards Green, Springfield	20 mph speed limit	Springfield	Traffic Management	Total scheme	LCHE132064	TBC	TBC	In validation
	Honeypot Lane, Stock	Speed reduction 60mph to 40mph	Stock	Traffic Management	Total scheme	LCHE142056	TBC	TBC	In validation
72	High Street, Stock	Route enhancement study	Stock	Traffic Management	Total scheme	LCHE132043	£3,000	G	Study suggested following request for 20 mph speed limit/average speed camera
73	Buttsbury Bridge, Stock	Bridge Improvements - Option1	Stock	Traffic Management	Total scheme	LCHE142080	£6,500	G	
74	Buttsbury Bridge, Stock	Bridge Improvements - Option2	Stock	Traffic Management	Total scheme	LCHE142080	£8,800	G	
75	Buttsbury Bridge, Stock	Bridge Improvements - Option3	Stock	Traffic Management	Total scheme	LCHE142080	£17,700	G	
76	Mill Road j/w High Street, Stock	Signage improvements, often several a-boards at this location	Stock	Traffic Management	Total scheme	LCHE142086	TBC	TBC	In validation
77	B1007 east of jw Downham Road, Stock	Speed reduction from 60 mph to 30mph	Stock	Traffic Management	Total scheme	LCHE142087	TBC	TBC	In validation
78	Mill Road to jw Downham Road, Stock	Speed reduction from 60mph to 40mph	Stock	Traffic Management	Total scheme	LCHE142088	TBC	TBC	In validation
79	Brookmans Road jw Back Lane, Stock	Bollards on verge to prevent verge damage	Stock	Traffic Management	Total scheme	LCHE142089	TBC	TBC	In validation
80	St Marys Church, Ingatestone Road, Buttsbury	Bend improvements	Stock	Traffic Management	Total scheme	LCHE142090	TBC	TBC	In validation
81	Church Road, West Hanningfield	Traffic management improvements to address speed of traffic	West Hanningfield	Traffic Management	Total scheme	LCHE142097	TBC	TBC	In validation

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
82	Lordship Road, Writtle	Extension of 30 mph speed limit	Writtle	Traffic Management	Total scheme	LCHE142062	TBC	TBC	In validation
83	Ongar Road/Lordship Road, Writtle	Route enhancement study	Writtle	Traffic Management	Total scheme	LCHE142014	TBC	TBC	Awaiting results of enhancement study

Walking

Total Value of schemes	£66,000

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Estimated cost	RAG	Comments
1	Penny Royal Road/Mayes Lane to Woodhill Road, Danbury	Footway to link two parts of Village	Danbury	Walking	Total scheme	LCHE143001	£66,000	G	Feasibility study recommends footway 1.2m by approximately 400m

Passenger Transport

Total Value of schemes	£35,500

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
1	Portway Bus Stop, Kingsford Drive, Chelmer Village	Stop ID KINGDR2 - Extend bus cage	Chelmsford Non Parished	Passenger Transport	Total scheme	LCHE145015	£2,500	G	The bus cage needs to be repainted to an extended length of 19mtrs. At present parked cars are preventing the bus access the raised kerbs
2	Adjacent Dovedale Close Bus Stop, Downham Road, Ramsden Heath	Stop ID IM445b - Replace old Parish Shelter	Ramsden Heath	Passenger Transport	Total scheme	LCHE145016	£9,000	G	The current shelter is in need of repair and has no seating. The Parish would like the old shelter removed The new shelter will remain the property of Parish Council
3	Dovedale Close Bus Stop, Downham Road, Ramsden Heath	Stop ID07010003 - Bus Cage 19 metres	Ramsden Heath	Passenger Transport	Total scheme	LCHE145017	£2,500	G	Cars are parking either side of the existing bus cage but the cage is too short to allow the bus to access & exist the stop. Passengers having to alight/board bus on road and cannot sue raised kerbs at stop
4	The Turnpike Bus Stop, Woodham Road, Rettendon	Stop ID 089004001 - Replacement bus shelter	Rettendon	Passenger Transport	Total scheme	LCHE145014	£9,000	G	Requested by Parish Council

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
5	Opposite Cross Keys, Roxwell Road, Roxwell	Stop ID IM1148 - Replacement of shelter demolished during Winter storms	Roxwell	Passenger Transport	Implementation	LCHE145018	£7,500	G	Requested by Parish Council, who have offered to contribute £2k towards costs from insurance claim, contribution to be confirmed
6	Opposite Railway Station, South Woodham Ferrers	Stop ID IM2262b - Design of Raised Kerbs	South Woodham Ferrers	Passenger Transport	Design	LCHE145013	£5,000	G	Will require a topographical survey as levels an issue and any scheme could require significant accommodation works to private properties. Also raised kerbs could cause drainage back fall to properties

School Crossing Patrols

Total Value of schemes	£0.00

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	estimated cost	RAG	Comments
1	Melbourne Avenue Chelmsford RAB jw West Avenue/North Avenue	Pedestrian guard rail at raised table	Chelmsford Non Parished	School Crossing Patrols	Total scheme	LCHE146001	TBC	TBC	In validation
2	Kings Road Primary School on Kings Road, Chelmsford	Dropped kerb for crossing patrol site	Chelmsford Non Parished	School Crossing Patrols	Total scheme	LCHE146002	TBC	TBC	In validation
3	Kings Road Primary School on Corporation Road, Chelmsford	Bollards on service road to be relocated to prevent parking	Chelmsford Non Parished	School Crossing Patrols	Total scheme	LCHE146003	TBC	TBC	In validation
4	Beehive Lane nr Honeypots, Chelmsford	Changes to pedestrian guard rail on footway	Chelmsford Non Parished	School Crossing Patrols	Total scheme	LCHE146004	TBC	TBC	In validation

Public Rights of Way

Total Value of schemes	£30,000

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
1	PRoW Footpath 5 Hollow Lane, Broomfield	Drainage improvements - ditch clearance/cut back vegetation/replace culvert	Broomfield	Public Rights of Way	Total scheme	LCHE148008	£25,000	G	
2	PROW Footpath 95 Chelmsford	Investigation on-going into installing drainage in existing surfaced city centre footpath	Chelmsford Non Parished	Public Rights of Way	Total scheme	LCHE148002	TBC	TBC	Awaiting results of investigation
3	PROW Footpath 13 Good Easter	Investigation on-going into revetment between River Can and existing footpath	Good Easter	Public Rights of Way	Total scheme	LCHE148001	TBC	TBC	Awaiting results of investigation
4	PRoW Footpath 33, Downham, South Hanningfield	Surface improvements - 270m with a width of 1 to 1.5m, laying road planings	South Hanningfield	Public Rights of Way	Total scheme	LCHE148009	£5,000	G	

Cycling

Total Value of schemes	£533,140

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
1	Westway, Chelmsford	CH35 - Off Road route on western footway between A141 and Writtle Road - design previously funded estimated scheme cost £225,000.	Chelmsford Non Parished	Cycling	Total scheme	LCHE144009	£225,000	A	Cycling team looking at sources of funding.
2	Melbourne Avenue, Chelmsford	CH17 - Panel has funded design to convert southern footway between Chignal Road and North Avenue - widen near West Avenue	Chelmsford Non Parished	Cycling	Total scheme	LCHE134006	£25,000	G	£25,000 estimated costs exact costs TBC following design works
3	Princess Road, Chelmsford	CH34 - Panel has funded design to convert and widen footway Opposite Moulsham School to Lidl.	Chelmsford Non Parished	Cycling	Total scheme	LCHE134009	£95,000	G	£95,000 estimated cost exact costs TBC following design works
4	High Street, Chelmsford	Panel has funded feasibility study into south-north cycling through Chelmsford avoiding High Street - study results awaited	Chelmsford Non Parished	Cycling	Total scheme	LCHE144011	TBC	TBC	Awaiting results of feasibility study
5	Lawn Lane/ Waveney Drive, Chelmsford	Improved cycle crossing point	Chelmsford Non Parished	Cycling	Total scheme	LCHE154001	£5,000	G	Lack of conectivity/ continuity of cycle network into Springfield
7	Longstomps Cycleway, Chelmsford	Create shared footway/cycleway	Chelmsford Non Parished	Cycling	Total scheme	LCHE154003	£100,000	G	Improvements to National Cyle Route 13, along busy section of Longstomps
8	West Park, Chelmsford	Install a 3.5m replacement bridge on existing alignment	Chelmsford Non Parished	Cycling	Design	LCHE154006	£65,000	A	Design of replacement footbridge currently not part of Highways Network, which would need to be addressed

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
9	Chelmer Park Cycle Route, Beehive Lane, Galleywood	Shared footway/cycleway on Beehive Lane between Skinners Lane and Chelmer Car Park	Galleywood	Cycling	Design	LCHE154002	£5,000	G	Lack of cycle network connectivity to Galleywood
10	Springfield Green/Timsons Lane, Springfield	Connection of existing routes at eastern ends of Springfield Green and Timpsons Lane	Springfield	Cycling	Feasibility	LCHE154004	£5,000	G	Lack of cycle route conectivity
11	Writtle Route, Writtle	Solar lights/studs at 10m intervals	Writtle	Cycling	Total scheme	LCHE154005	£8,140	G	Mainly rural unlit route

Safer Roads

Total Value of schemes	£211,500

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
1	Near Leighams Farm, Leighams Road, Bicknacre	Design on-going for signage and road marking improvements - awaiting results of design	Bicknacre	Safer Roads	Total scheme	LCHE141001	TBC	TBC	In design
2	Various Sites TBC	2016/17 Casualty Reduction Scheme Reports/Designs	Chelmsford Non Parished	Safer Roads	Design	LCHE151001	£28,000	G	Required to allow design of 2016/17 sites
3	A414 Three Mile Hill junction with A12 Junction 15, Chelmsford	Investigate junction improvements - signage and vegetation clearance	Chelmsford Non Parished	Safer Roads	Total scheme	LCHE151005	£9,500	G	Scheme in design, original estimate £9.5k - See Safer Roads Reports
4	A1060 Parkway near j/w Moulsham Street, Chelmsford	Pedestrian crossing improvements - red surfacing on crossing carpet/relocate stop line	Chelmsford Non Parished	Safer Roads	Total scheme	LCHE151007	£5,000	G	See Safer Roads Reports
5	A1060 Parkway near j/w Moulsham Street, Chelmsford	Pedestrian crossing improvements - pedestrian countdown timers	Chelmsford Non Parished	Safer Roads	Total scheme	LCHE151007	£60,000	G	See Safer Roads Reports
6	A414 Main Road near The Griffin Public House, Danbury	Investigate bend improvements - signage and lining	Danbury	Safer Roads	Total scheme	LCHE151006	£6,000	G	Scheme in design, original scheme estimate £6k - See Safer Roads Reports
7	B1008 Chelmsford Road, Ford End to Barnston	Improvements to existing bend ahead warning signs and investigation of carriageway widening	Great Waltham	Safer Roads	Total scheme	LCHE141005	£3,000	G	See Safer Roads Reports
8	A132 Runwell Road junction with A130 northbound slip road, Runwell	Investigate signal timing and vegetation clearance	Runwell	Safer Roads	Total scheme	LCHE151002	£3,000	G	Scheme in design, original estimate £3k - See Safer Roads Reports

Ref	Location	Description	Parish	Scheme Category	Scheme stage	Cost Code	Allocated Budget	RAG	Comments
9	A12 Howe Green Interchange (A130/A1114)	Road marking improvements (lane markings/directional arrows/destination markings) and lane destination signage	Sandon	Safer Roads	Total scheme	LCHE001004	£9,000	G	Scheme top required as works have to be done overnight
10	Church Lane junction with Lawn Lane, Springfield	Investigate cycle link improvements and junction design	Springfield	Safer Roads	Total scheme	LCHE151003	£58,000	G	Scheme in design, original estimate £58k - See Safer Roads Reports
11	B1007 High Street near junction with Common Road, Stock	Investigate widening footway and clearing vegetation	Stock	Safer Roads	Total scheme	LCHE151004	£30,000	G	Scheme in design, original estimate £30k - See Safer Roads Reports

Chelmsford City Local Highways Panel

Safer Roads Reports - 2015/16

On the Potential Schemes List (Version 23) under Safer Roads it details those schemes put forward by our Casualty Reduction team for the consideration of the Panel for funding in 2015/16. The following reports provide background information in support of these schemes as follows -

Safer Roads Reports Page 2 - LCHE151005
A414 Three Mile Hill junction With A12 junction 15, Chelmsford
Scheme - Junction improvements
Shown on Potential Schemes List as Safer Roads Scheme 3

Safer Roads Reports Page 6 - LCHE151007
A1060 Parkway near j/w Moulsham Street, Chelmsford
Scheme - Pedestrian crossing improvements
Shown on Potential Schemes List as Safer Roads Scheme 4

Safer Roads Reports Page 13 - Scheme LCHE151006
A414 Main Road near The Griffin Public House, Danbury
Scheme - Bend improvements
Shown on Potential Schemes List as Safer Roads Scheme 6

Safer Roads Reports Page 16 - LCHE141005
B1008 Chelmsford Road, Ford End to Barnston
Scheme - Bend improvements/possible carriageway widening
Shown on Potential Schemes List as Safer Roads Scheme 7

Safer Roads Reports Page 20 - LCHE151002
A132 Runwell Road junction with A130 northbound slip road, Runwell
Scheme - Improvements to signal timings/vegetation clearance
Shown on Potential Schemes List as Safer Roads Scheme 8

Safer Roads Reports Page 24 - LCHE151003
Church Lane junction with Lawn Lane, Springfield
Scheme - Improvements to cycle links and junction design
Shown on Potential Schemes List as Safer Roads Scheme 10

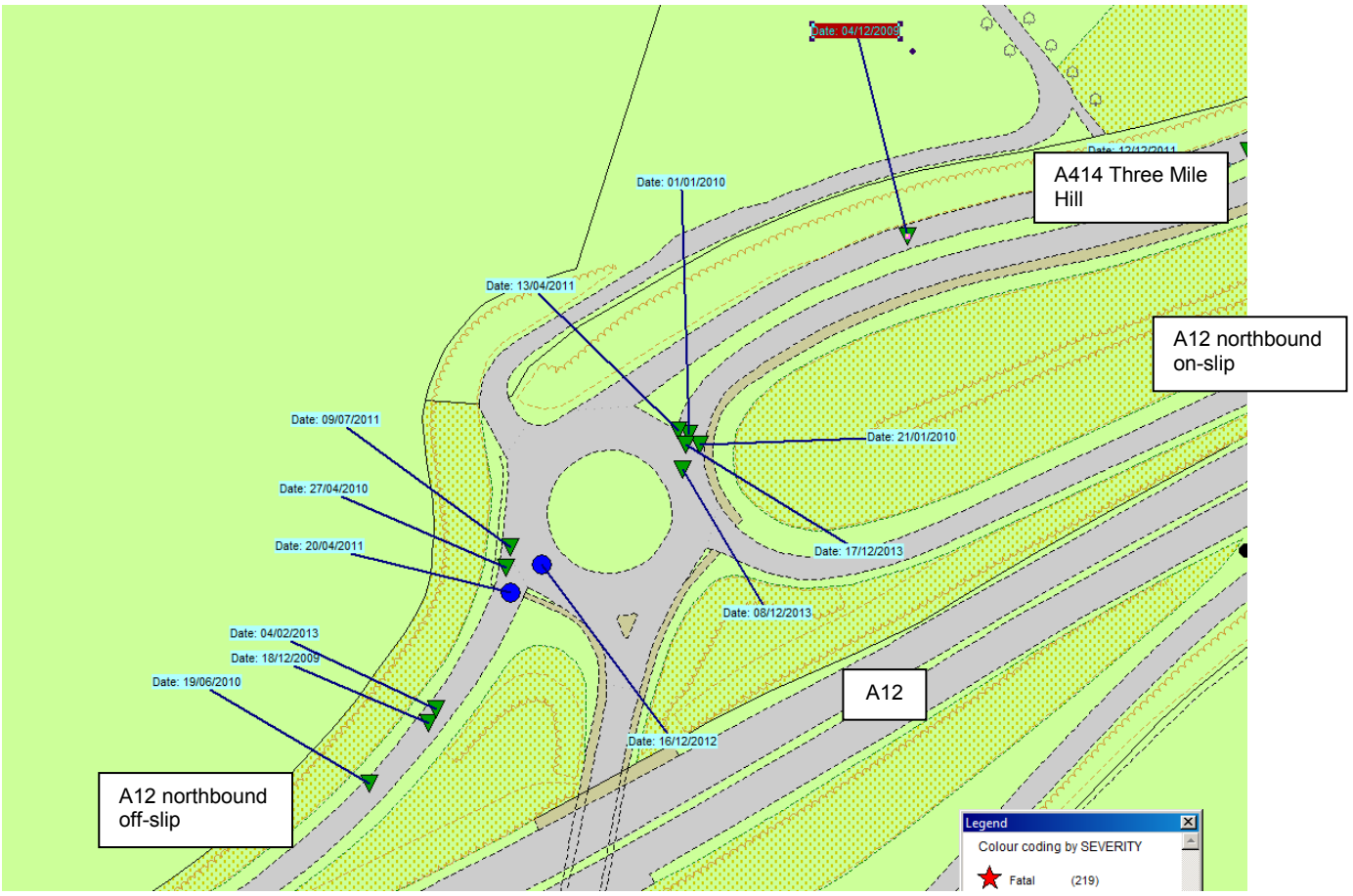
Safer Roads Reports Page 28 - LCHE151004
B1007 High Street near junction with Common Road, Stock
Scheme - Footway widening/vegetation clearance
Shown on Potential Schemes List as Safer Roads Scheme 11

Site Report Essex Highways Casualty Reduction Site Report 2015/16

Location: A414 Three Mile Hill junction with A12 Junction 15
District: Chelmsford

Collision Investigation Period: 01/05/2009 – 31/08/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A414 Three Mile Hill southbound carriageway junction with A12 Junction 15. A12 and slip roads are responsibility of the HA.
Speed Limit	Derestricted (70mph)
Street Lit	Junction and A12 off-slip are lit. A414 southbound approach to junction is unlit
Carriageway type	A414 and A12 slip roads are two lanes. A12 junction is grade separated interchange.
Gradient	A414 and A12 slip road is on a slight downhill gradient
Traffic Management	Roundabout subject to give-way control
Road Surface	Surface appeared in good condition. SCRIM condition survey data for both

	approach and exit on to the A414 are shown as Warning.
Signing	Warning signs and chevrons have already been provided on the southbound approach to the junction
Road Markings	Road markings appeared in fair condition
Visibility	See vegetation below
Vegetation	Visibility across the inside of the left hand bend to give-way markings and roundabout was obstructed by vegetation. There was a large amount of vegetation on the nearside obstructing inter-visibility between vehicles travelling under the A12 towards Chelmsford and vehicles at the bottom of the northbound off-slip.
Other	No comments

3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	12 (2 serious and 10 slight)
Total no. of Casualties	16 (2 serious and 14 slight)
Number of collisions in hours of darkness	4 (33.3%)
Number of collisions in wet/damp conditions	3 wet (24.9%) One further collision occurred in snowy conditions
Collisions involving vulnerable road users	4 motorcycles (33.3%), including 1 serious and of which 3 collisions occurred on A414. One collision involved a pedal cyclist (serious).

Identified Collision Pattern(s)	No of Collisions
A12 off-slip (mainly nose-to-tail and failure to give-way)	7 (58.3%)
A414 Loss of control / overshoot	4 (33.3%)

4.0 Site Photographs

Image 1 – A414 southbound approach to junction

Image 2 – A414 start of junction deflection (vegetation on the nearside)

Image 3 – View to right from A12 off-slip

5.0 Recommendations

Remedial Measures

1) Provision of countdown markers to diagram 823, 824 and 825 on the A414 approach to junction;
2) Yellow back existing chevrons facing A414 and A12 off-slip approaches to junction (separate diagrams 606 and 515 on A414 approach to better reflect alignment); and
3) Carry out significant vegetation clearance works on the nearside of the A414 approach to junction and between A12 over-bridge and base of A12 off-slip in order to provide suitable stopping sight distance.

6.0 Estimated Costs

Detailed design	£3,000 (use advanced design money)
Delivery cost	£10,000
Total	£9,500

7.0 Scheme Approval

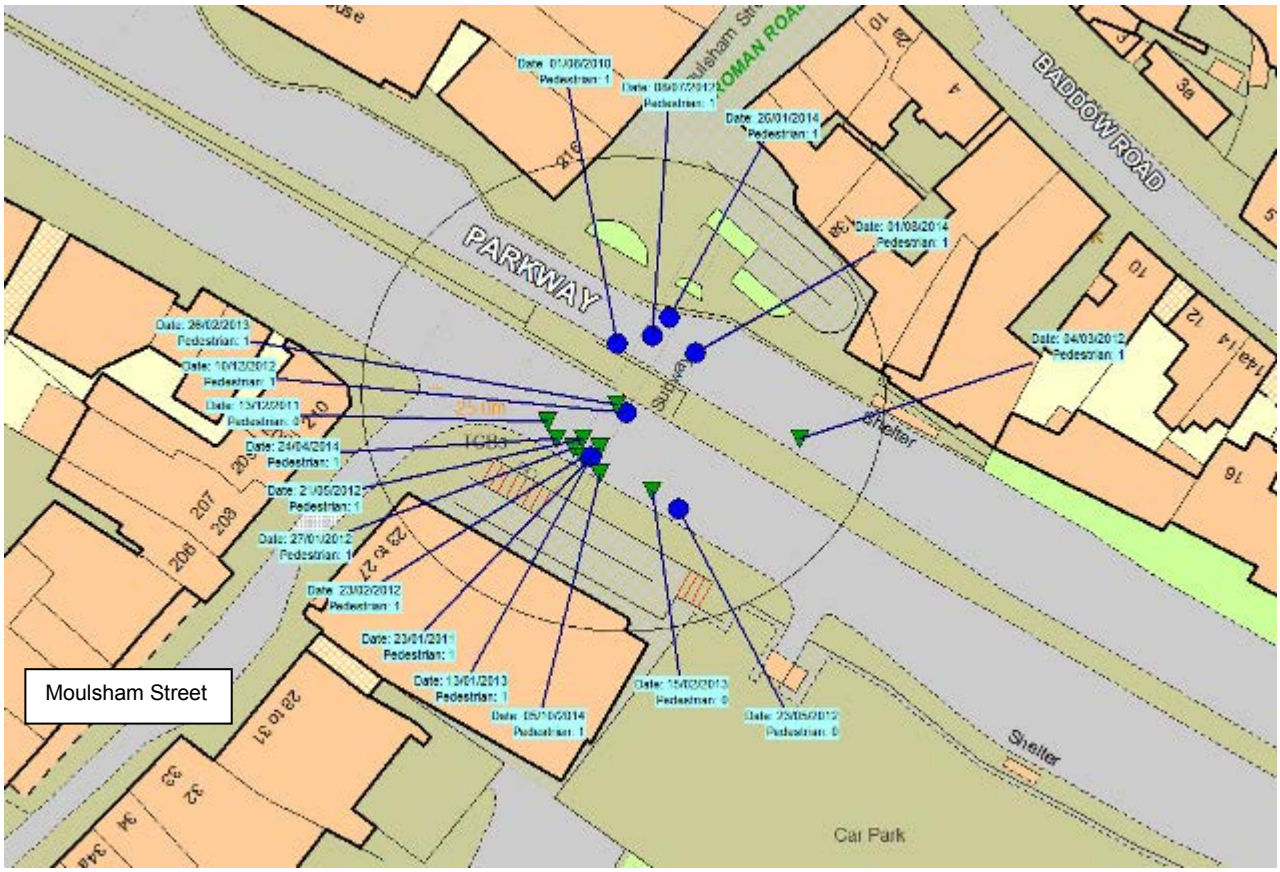
Safety Engineering Team:	**Tel No.**	**Date**
Safety Engineer: Simon Stubbings	01245 342901	26/09/2014
Senior Safety Engineer: Jenny Hill	01245 342902	02/10/2014

Site Report Essex Highways Casualty Reduction Site Report 2015/16

Location: A1060 Parkway near j/w Moulsham Street, Chelmsford
District: Chelmsford

Collision Investigation Period: 01/01/2010 – 31/12/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A1060 Parkway south-east of junction with Moulsham Street
Speed Limit	Current speed limit 40mph Speed survey results showed good compliance to the 40mph. Since the 'at grade' crossing was installed in 2002 most of the incidents involving pedestrians occurred on the red man so the pedestrian was likely to be at fault. A reduction in speed limit to 30mph is not considered to be appropriate as speeds during peak hours are less than this anyway because of

	congestion and any reduction outside of peak hours would require speed enforcement and is unlikely to have a significant impact on the collision trends here.
Street Lit	Yes although low level. The signals heads were also upgraded with LEDs but this seemed to have a detrimental impact as the glare they produced meant that anyone standing by the side of the crossing was almost invisible. These have been converted to a dimmable setup which has improved the situation markedly. The existing lighting does not make the crossing stand out therefore reducing the conspicuity of any pedestrians approaching the crossing.
Carriageway type	Dual carriageway, two lanes south-east bound, three lanes north-west bound. Off carriageway bus lay-by on the nearside of the north-westbound carriageway located to the south of the crossing Lay-by prior to the crossing on the south-eastbound carriageway cannot be removed which is used by Rayleigh Hi-Fi. Although this does impact on visibility to the crossing approach it is not considered to have a severe detrimental impact on the safety of the crossing. The car park on the Moulsham Street side of Parkway exits on to the main road approximately 14m before the crossing.
Gradient	Ramps to the subway are not DDA compliant and the ‘at grade’ crossing connects the two parts of the High Street therefore there is strong political will to keep the crossing.
Traffic Management	The crossing is a hybrid type Puffin / Pelican. The crossing was originally installed with Puffin pedestrian nearside signals but these were replaced in 2007 with the current 'far side' pedestrian signals. Each crossing approach has two primary and two secondary vehicle signal heads mounted at standard height above ground level. Consideration was given to high level signals as provided at Van Diemans however, the collision statistics indicate that the main issue is not drivers being unaware of the crossing therefore this is unlikely to provide a return on the significant investment. Each crossing point has two pedestrian 'far side' signal heads situated on the opposite side to enhance pedestrian visibility of the red and green man signals over the wider crossing width. The signal sequence includes a 'blackout' clearance period following termination of the green man signal and before the appearance of the red man. The signals are operated by SCOOT, an adaptive traffic control system which is designed to maximise traffic flow, during the peak due to the proximity of the New London Road junction.

Road Surface	Buff coloured High Friction Surfacing is provided on both approaches to crossing. SCRIM data shows the south-eastbound lanes as Below Investigatory Level. North-westbound lanes are shown as good.
Signing	Yellow backed warning signing is provided on both approaches to the crossing but is not lit. There are also temporary pedestrian information signs are erected at the crossing. A large temporary diversion route sign is located in the central reserve but is due to be removed in 2015-16 financial year as part of an LHP scheme subject to funding.
Road Markings	Fair but are starting to wear and are even less visible given the presence of the buff coloured High Friction Surfacing. The vehicle stop line is offset from the crossing by approximately 1.5m (minimum distance permitted). During peak periods this often results in vehicles crowding the crossing. A maximum distance of 10m is allowed.
Visibility	Good however there are a number of planters mounted to the pedestrian guard rail in the central reservation which may obstruct visibility to pedestrians tracking across the island. During the off peak there is plenty of opportunity to cross without using the crossing but due to inattention pedestrians are failing to observe approaching vehicles. This is a particular problem on the three lane carriageway inbound as quite often lane 3 remains free flowing. The outbound two lane section also feels very narrow particularly as pedestrians stand right up to the edge of the carriageway. However, the collision stats did not highlight this as a problem.
Vegetation	Planters mounted to the pedestrian guardrail in central reserve.
Other	None.

3.0 Personal Injury Collision Analysis

Collision details (latest five years)	Number
Total no. of Collisions	17 (7 serious, 10 slight)
Total no. of Casualties	17 (7 serious, 10 slight)
Number of collisions in hours of darkness	9 dark (52.9%)
Number of collisions in wet/damp conditions	3 wet/damp (17.6%)
Collisions involving vulnerable road users	14 pedestrians (82.3%), 1 motorcycle (5.8%)

Identified Collision Pattern(s)	No of Collisions
Total number of collisions involving pedestrians	
Occurred between midnight and 04:00hrs	6 (42.9%)

Pedestrian under the influence of alcohol	6 (42.9%)
Northbound vehicle / eastbound ped	5 (35.7%)
Northbound vehicle / westbound ped	3 (21.4%)
Southbound vehicle / westbound ped	3 (21.4%)
Pedestrian masked by stationary vehicle	3 (21.4%)
Pedestrian other	2 (14.3%)
Tail end shunt	3 (21.4%)

A review of the collision history shows two dominant patterns. The first is pedestrians under the influence of alcohol attempting to cross Parkway against the red man. The split of incidents occurring between midnight and 4am is approximately 50/50 male to female as is the distribution between carriageways although visually there are a greater number of collisions recorded on the north-westbound carriageway but a greater severity on the south-eastbound carriageway.

The second is pedestrians crossing during the remaining part of the day where they fail to wait for the signals despite the journey time whether using the subway or ‘at grade’ crossing being similar.

The presence of the New London Road junction undoubtedly has an impact throughout the day as this causes congestion back to the crossing whereby some lanes of traffic are moving and others stationary. This tends to result in vehicles crowding the crossing carpet making it more difficult to judge whether it is safe to cross or not. Two of the contributory factors appear to be safety in numbers mentality and once pedestrians have started to cross they rarely double check for oncoming vehicles despite crossing multiple lanes of traffic.

4.0 Site Photographs (Images from Google dated July 2014)

Image 1 – North-westbound approach to crossing (off carriageway bus stop on nearside)

Image 2 – North-westbound approach (exit from car park on nearside and planters mounted to guardrail on offside)

Image 3 – North-westbound carriageway crossing (Lane 1 and 2 normally static in AM peak whereas lane 3 normally remains more fluent)

Image 4 – South-eastbound approach to crossing

Image 5 – South-eastbound approach (parked vehicles masking pedestrians approaching the crossing and temporary diversion route sign on central reserve)

Image 6 – South-eastbound carriageway crossing

5.0 Recommendations

Remedial Measures

1) Undertake new SCRIM assessment and replace HFS if necessary.
2) Undertake lighting review and upgrade as necessary preferably to a high pressure system.
3) Relocate stop line to 5m from crossing studs and highlight crossing carpet with red surface.
4) All road markings refreshed with high glass bead content to improve retro-reflectivity.
5) Investigate closure of crossing for 3-4 hour period on Friday, Saturday and Sunday nights between approx. midnight and 3am. Measures consist of switching off traffic signals and mechanically operated barrier across crossing. It is also strongly recommended that if the crossing is closed over night that improvements to the subway are also undertaken i.e. lighting, mirrors, CCTV cameras linked to monitors at the top of the ramps, information signs stating CCTV manned 24/7, etc.
6) Shorten the pedestrian waiting time by using Vehicle Actuated instead of SCOOT although this will only be possible outside of peak hours.

Although separation of traffic and pedestrians and forcing pedestrians to use a substandard subway is far from ideal it should be noted that this is a very targeted measure as a means to stop pedestrians crossing the road without using the signalised crossing in the middle of the night. It is recognised that some pedestrians may attempt to climb the barrier however the collision stats suggests that the demographics of our target group will be less of a problem than what happened at Coval Lane, whereby crossing pedestrians were largely commuters

It should be noted that we do not believe that either the increased offset of the stop line nor temporary closure of the crossing has been used in the UK before. During early discussions with ITS (our team that manage permanent traffic signals/crossings within Essex) we believe it is possible to close the crossing as the signal equipment is more similar to that used at junctions where it is possible to have part-time operation. However, given that the proposals are untested it is recommended that we undertake further investigation from both an ITS and legal standpoint and that it should only go ahead if the crossing is physically closed off.

For information we have looked at a range of different options which included commissioning ITS to undertake a review of the crossing and suggest possible improvements to the signals, one of the options considered was Pedestrian Countdown timers.

Pedestrian countdown timers are now authorised by the Department for Transport (DfT) for installation at crossings with far side pedestrian red/green man signals. The countdown is displayed immediately after the end of the green man and shows the time left before the red man appears (i.e. the blackout period) and therefore the time remaining for pedestrians to complete crossing the road.

Trials undertaken by Transport for London (TfL) have shown that countdown timers have a high level of acceptance by both able-bodied and mobility-impaired pedestrians. The key benefits include pedestrians feeling less rushed and having sufficient time to cross. The trial also showed that the crossing sites where countdown timers are installed are no less safe than before installation.

Countdown timers would be compatible for use on both carriageways of the Parkway crossing as this already has far side pedestrian signals with a blackout period between the end of the green man and the start of the red man.

It should be stressed that the Traffic Signs Regulations and General Directions only permits countdown timers in the UK to count down the blackout period, not the wait time before the appearance of the green man. It would therefore not address the observed tendency of pedestrians at the Parkway crossing to cross the road before the green man appears if they judge a gap in the flow to be sufficient to cross.

Both the investigations undertaken by ITS and Road Safety suggest that the use of countdowns at the crossing would have very little benefit therefore it is recommended to the panel that these are not installed as they are unlikely to provide value for money or achieve any reduction in casualties.

6.0 Scheme Approval

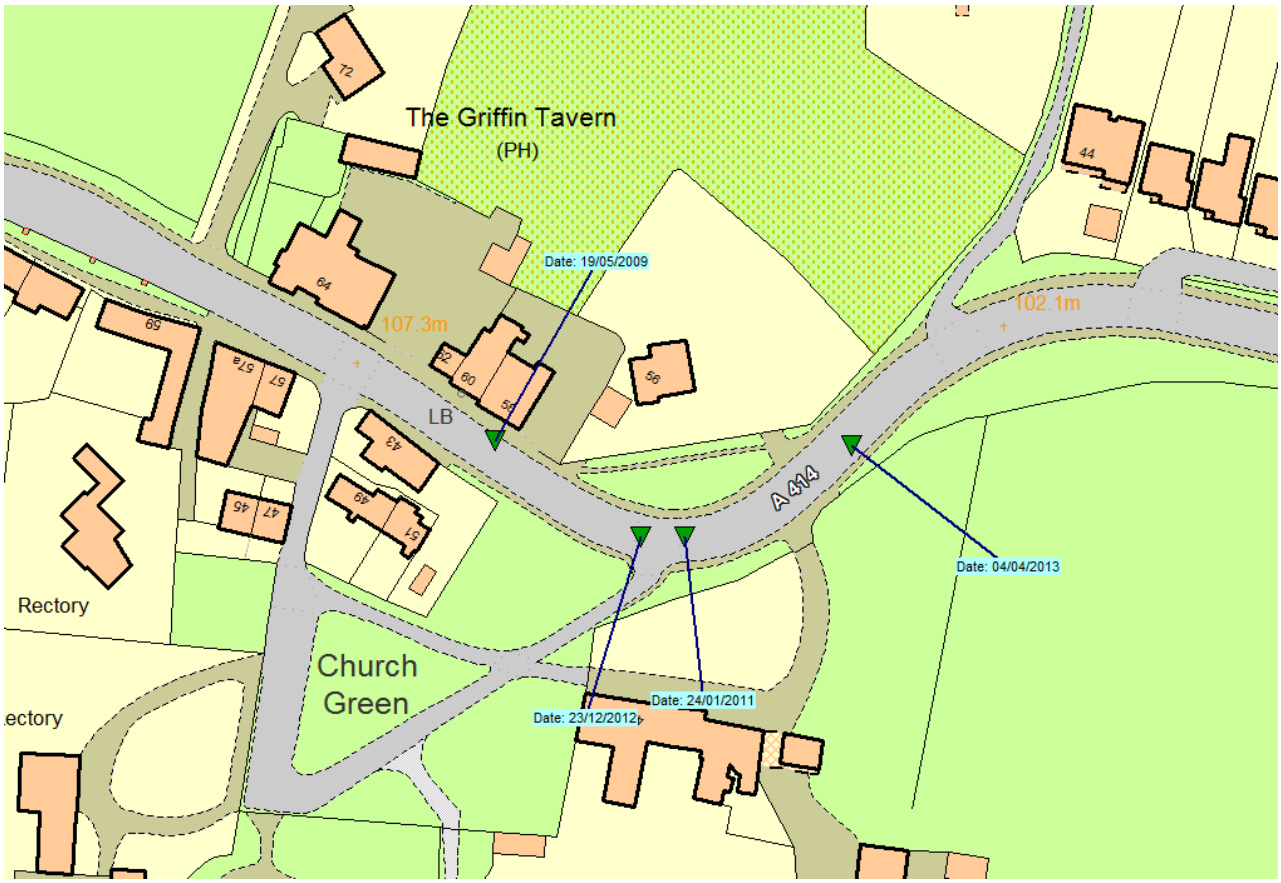
Safety Engineering Team:	Tel No.	Date
Safety Engineer: Simon Stubbings	01245 342901	13/01/2015
Senior Safety Engineer: Jenny Hill	01245 342902	15/01/2015

Site Report Essex Highways Casualty Reduction Site Report 2015/16

Location: A414 Main Road Near The Griffin Public House, Danbury
District: Chelmsford

Collision Investigation Period: 01/05/2009 – 31/07/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A414 Main Road, Danbury
Speed Limit	30mph
Street Lit	Yes
Carriageway type	Two way single carriageway
Gradient	Travelling eastbound, the road crests just past the entrance to the Griffin PH car park. The road then drops away rounding a left hand bend before levelling out, then starts to climb again through the following right hand bend.
Traffic Management	Double white line system is provided
Road Surface	Surface appeared in good condition. However, Condition survey data

	shows both approaches to bends as Below Investigatory Level and the bends themselves as Critical.
Signing	Chevron signs are provided at the bends in both directions. However, these are not clearly visible due to changes in the vertical alignment.
Road Markings	Double white line system is very worn
Visibility	Forward visibility is obstructed by both vertical and horizontal alignment
Vegetation	No issues
Other	No issues

3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	4 (all slight)
Total no. of Casualties	5 (all slight)
Number of collisions in hours of darkness	1 (25%)
Number of collisions in wet/damp conditions	2 (50%)
Collisions involving vulnerable road users	1 collision involving a motorcyclist (25%)

Identified Collision Pattern(s)	No of Collisions
Loss of control / over-run resulting in head on collision (three eastbound)	4 (100%)

4.0 Site Photographs

Image 1 – Eastbound approaching crest before bend

Image 2 – Adjacent to Griffin PH (left hand bend ahead)

	
Image 3 – Eastbound (second bend)	Image 4 – Westbound approaching first left hand bend

5.0 Recommendations

Remedial Measures

1) Provide diagram 513, double bend ahead warning sign with diagram 513.2, maximum advised speed sub-plate on both approaches to bends.
2) Provide new slow markings adjacent to proposed signs.
3) Remark double white line system.

6.0 Estimated Costs

Detailed design	£3,000
Cost of works inclusive of UKPN connection	£6,000

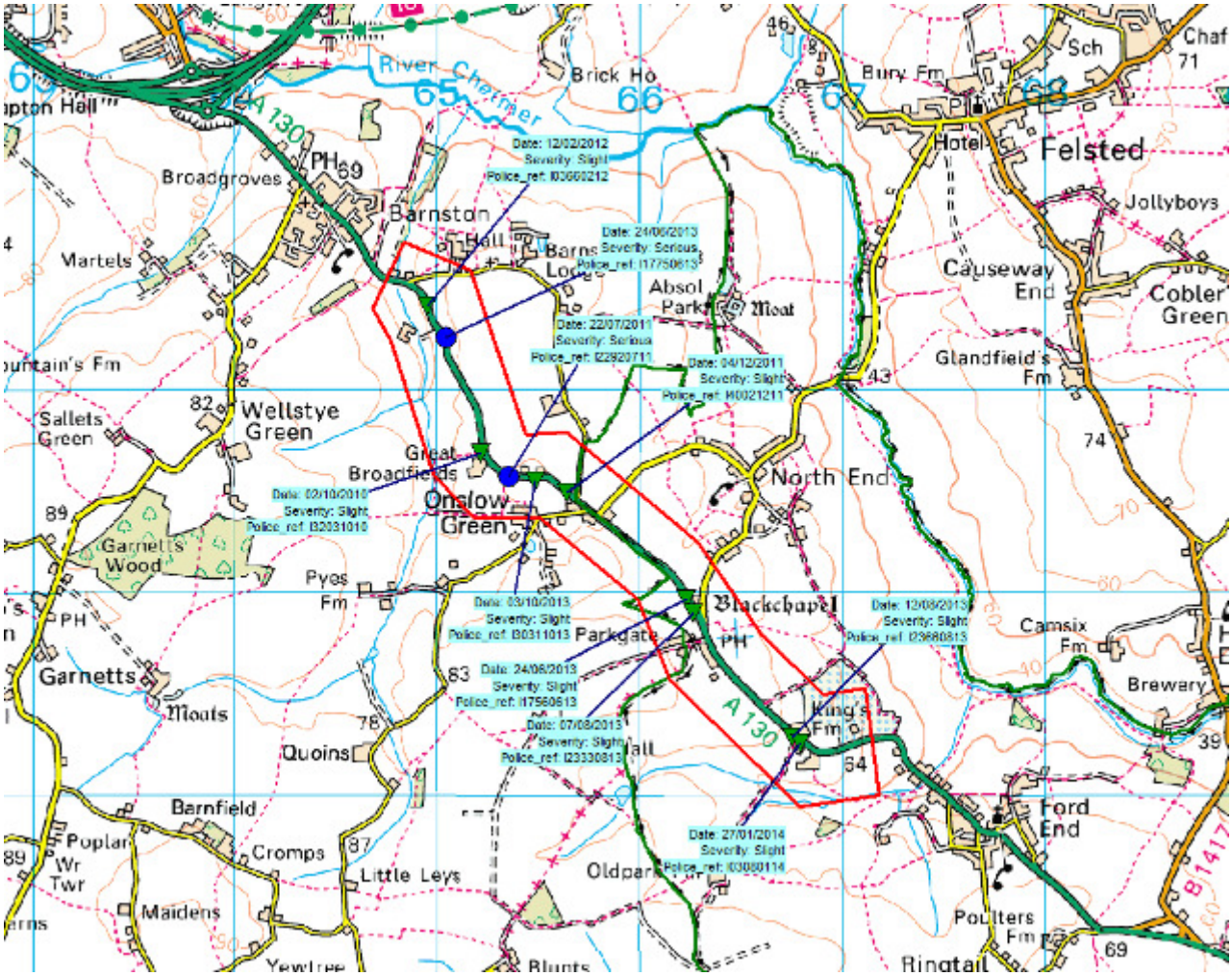
7.0 Scheme Approval

Safety Engineering Team:	Tel No.	Date
Safety Engineer: Simon Stubbings	01245 342901	26/09/2014
Senior Safety Engineer: Jenny Hill	01245 342902	02/10/2014

Site Report Essex Highways Casualty Reduction Site Report 2014/15

Location: B1008 between Barnston and Ford End
District: Uttlesford/Chelmsford
Collision Investigation Period: 01/03/2009 – 28/02/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	B1008
Speed Limit	The majority of route is subject to a 60mph speed limit with the exception of a short section between near Kiln Farm and Barnston which is subject to a 40mph limit.
Street Lit	No
Carriageway type	Two way single carriageway.
Gradient	The section between Kiln Farm and Barnston is subject to a number of changes in vertical gradient. The remainder of the route is relatively level.
Traffic Management	N/A

Road Surface	Generally good however there are areas where the verge has failed due to over-run of heavy goods vehicles which could pose a significant hazard to road users.
Signing	OK but is very inconsistent and lacking in some locations.
Road Markings	Good
Visibility	Varied. The route is subject to a number of horizontal curves where the presence of vegetation does obstruct visibility to the layout ahead and any oncoming vehicles.
Vegetation	Yes
Other	None

3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	10 collisions (2 serious and 8 slight)
Total no. of Casualties	16 casualties (2 serious and 14 slight)
Number of collisions in hours of darkness	2 (20%)
Number of collisions in wet/damp conditions	2 wet (20%) and 1 frost/ice
Collisions involving vulnerable road users	1 motorcycle

Identified Collision Pattern(s)	No of Collisions
Kiln Farm south of Parsonage Lane – single vehicle loss of control	2 (20%)
North of Bennetts Lane – loss of control, one single vehicle	3 (30%)
Kings Farm near Wall Chase – loss of control, one single vehicle allegedly involving an animal crossing the road	2 (20%)

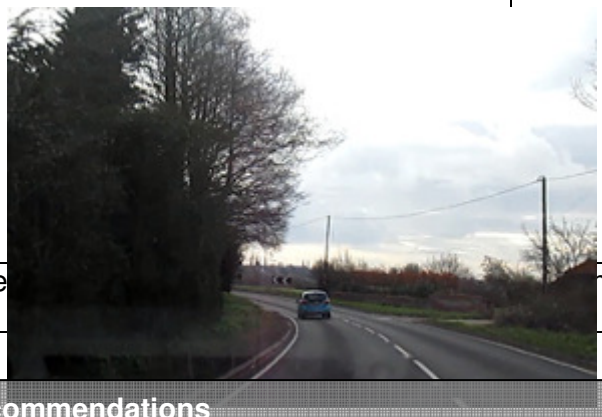
4.0 Site Photographs

Image 1 – B1008 south of Parsonage Ln (southbound)

Image 2 – B1008 south of Parsonage Ln (northbound)

Image 3 – B1008 north of Bennetts Ln (southbound)

Image 4 – B1008 north of Bennetts Ln (northbound)



Image

mag

5.0 Recommendations

Remedial Measures
1) Replace existing / erect new bend ahead warning signs and chevrons on yellow backing and provide edge of carriageway delineators at location identified from collision analysis. 2) Investigate localised widen of carriageway in order to prevent over-run.

6.0 Estimated Costs

Detailed design	£2000
Road Safety Audit and Project Management costs	£1000
Total	£3000

7.0 Scheme Approval

Safety Engineering Team:	Tel No.	Date
Safety Engineer: Simon Stubbings	01245 342901	26/03/2014

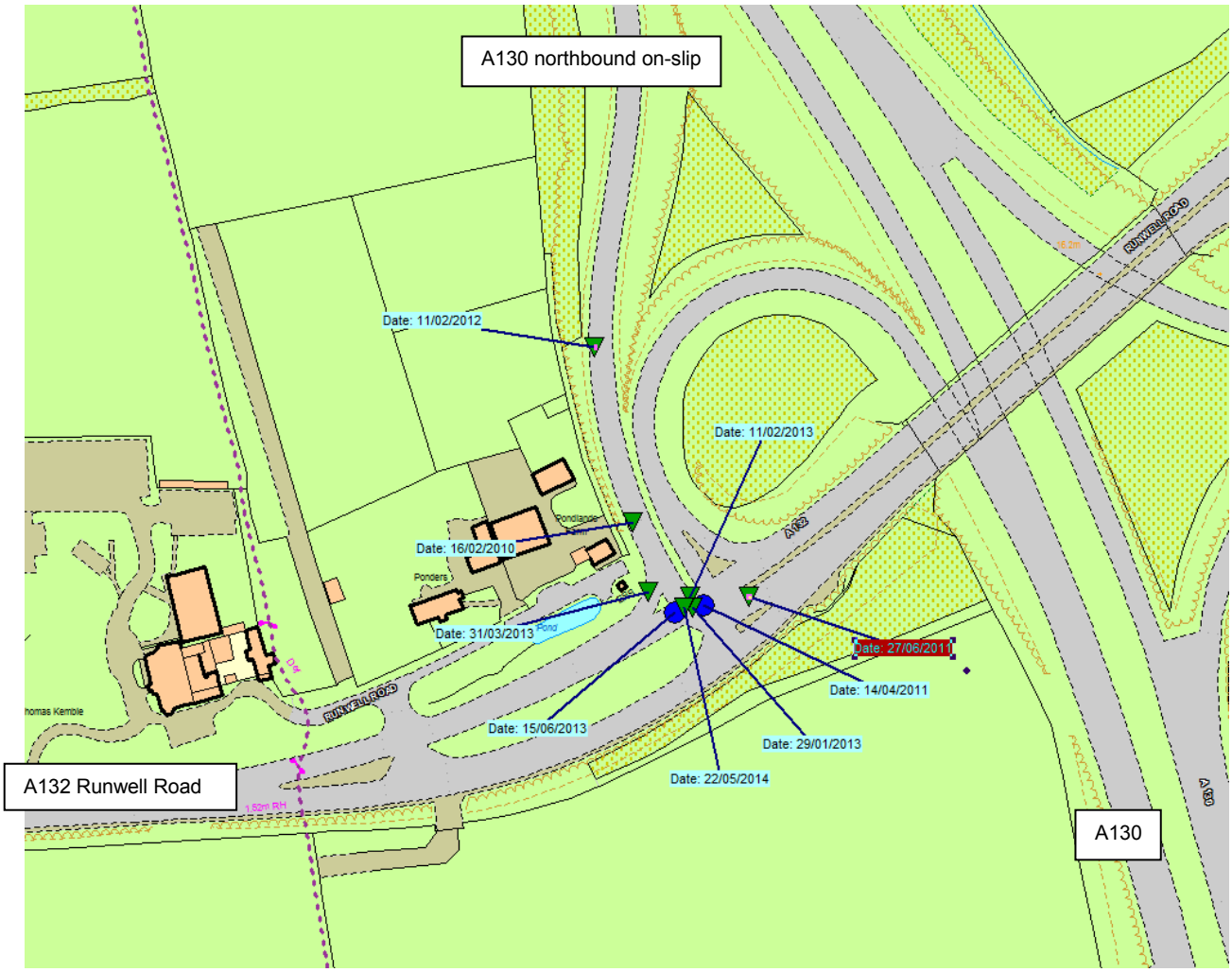
Senior Safety Engineer: Jenny Hill	01245 342902	26/03/2014

Site Report Essex Highways Casualty Reduction Site Report 2015/16

Location: A132 Runwell Road junction with A130 Northbound slips
District: Chelmsford

Collision Investigation Period: 01/05/2009 – 31/07/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A132 Runwell Road junction with A130 northbound slip roads
Speed Limit	National speed limit (60mph)
Street Lit	Yes
Carriageway type	A132 eastbound is two lane with diverge lane on the nearside. A132 westbound is two lanes on the A130 overbridge. Both lanes then diverge into two lanes (four lanes in total). The two offside lanes turn right on to the northbound on-slip and the two nearside lanes continue straight ahead

	towards Wickford. Both on and off-slips are two lanes. The northbound off slip widens to four lanes at the junction, two lanes turning left towards South Woodham Ferrers and two lanes turning right towards Wickford.
Gradient	Through route is level gradient. On/off slips slope downward toward the A130.
Traffic Management	All movements are signal controlled apart from the eastbound diverge on to the A130 northbound on-slip which is subject to give-way control.
Road Surface	Surface appeared to be in good condition. There are number of sections shown in the condition data as Below Investigatory. However, the information does not provide information for each lane.
Signing	The junction is well signed on all approaches
Road Markings	All road markings are in good condition
Visibility	Good
Vegetation	Some encroachment on the nearside of eastbound diverge lane on to A130 northbound on-slip.
Other	None other comments

3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	8 (2 serious and 6 slight)
Total no. of Casualties	11 (2 serious and 9 slight)
Number of collisions in hours of darkness	2 (25%)
Number of collisions in wet/damp conditions	3 (37.5%)
Collisions involving vulnerable road users	1 collision involving a motorcycle (12.5%)

Identified Collision Pattern(s)	No of Collisions
Right turn on to northbound on-slip across path of eastbound vehicle (all collision reports state at least one vehicle disobeyed traffic signals)	4 (50%)
Nose-to-tail	3 (37.5%)
Vehicle lost control (eastbound) at give-way	1 (12.5%)

4.0 Site Photographs

Image 1 – Central reservation facing eastbound. Nearside give-way sign completely obstructed by vegetation

Image 2 – Image from Google Maps – diverge from A132 to A130 northbound slip road

Image 3 – Westbound in lane 2 of 2 turning right on to A130 northbound on-slip

5.0 Recommendations

Remedial Measures

1) Increase, all red period by 1-3 seconds in order to minimise risk of conflict between eastbound road users and road users turning right on to the A130 northbound on-slip.
2) Cut back vegetation along nearside of eastbound diverge lane leading to A130 northbound off slip (maintenance).

6.0 Estimated Costs

Investigate and carry out works to signal timings	£3,000

7.0 Scheme Approval

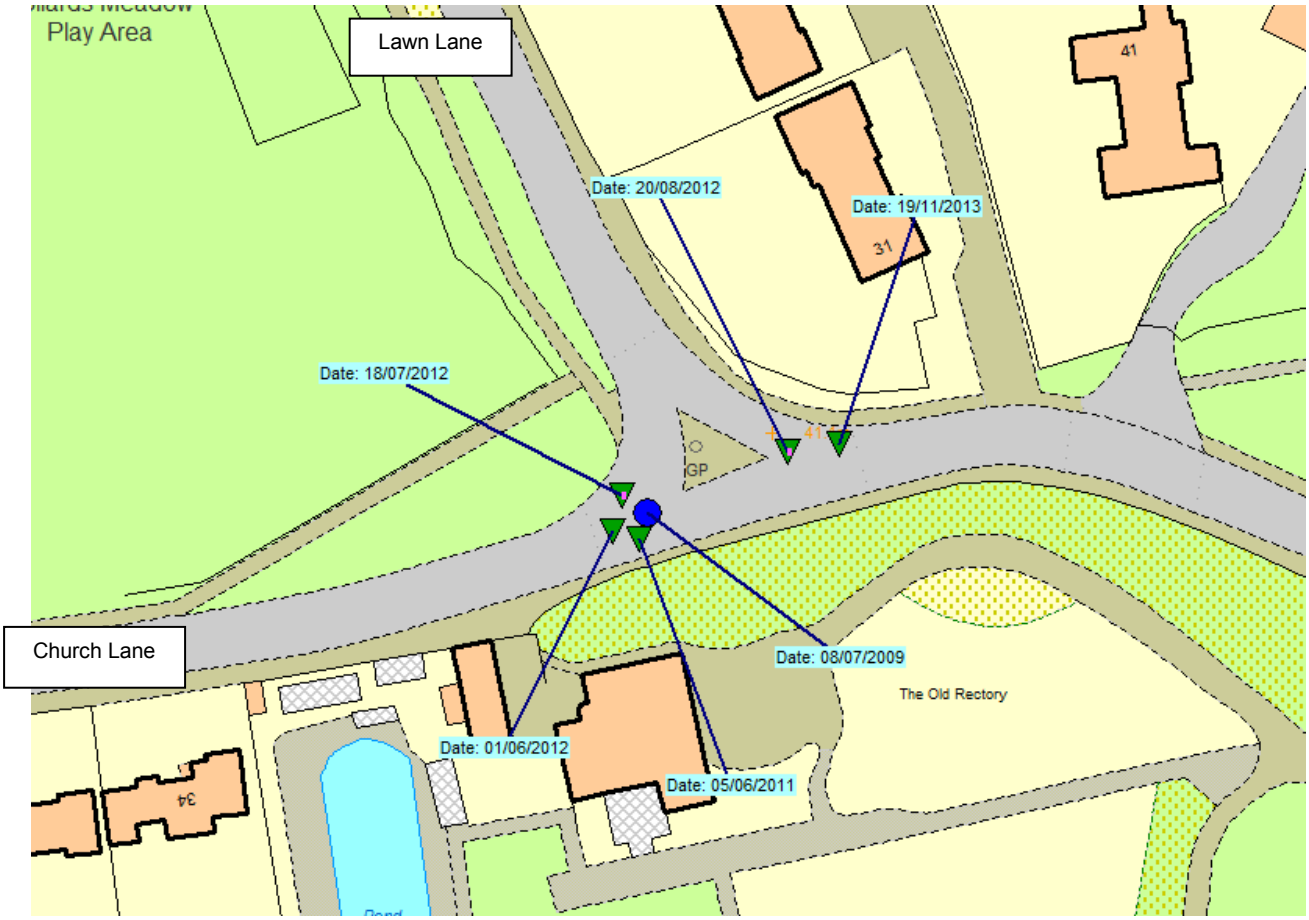
Safety Engineering Team:	Tel No.	Date
Safety Engineer: Simon Stubbings	01245 342901	26/09/2014
Senior Safety Engineer: Jenny Hill	01245 342902	

Site Report Essex Highways Casualty Reduction Site Report 2015/16

Location: Church Lane junction with Lawn Lane, Springfield
District: Chelmsford

Collision Investigation Period: 01/05/2009 – 31/08/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	Church Lane junction with Lawn Lane
Speed Limit	30mph
Street Lit	Yes
Carriageway type	Two way single carriageway
Gradient	Level gradient
Traffic Management	The Lawn Lane junction is a bennett style junction with grassed island in the centre. The western arm of the junction is the main minor arm of the side road with give-way to Church Road only. The eastern arm has give-way markings at both its junction with Church Lane and Lawn Lane.
Road Surface	Surface appeared in good condition

Signing	Give-way signing appeared present and correct. Side road ahead and bend with side road on offside warning signs are provided in eastbound and westbound directions respectively.
Road Markings	Road markings appeared in generally good state of repair. Slow markings are worn.
Visibility	Forward visibility of vehicles travelling in both directions towards the junction is obstructed by alignment and vegetation on the nearside.
Vegetation	See above
Other	No pedestrian facilities such as drop kerbs are provided at the junction. The junction is very busy with predominant movements between Church Road, travelling from Chelmsford city centre, and Lawn Lane. Although, there were numerous right turn movements into Lawn Lane as well. Visibility splays from the minor road are satisfactory so it is assumed that the number of movements at the junction puts road users under pressure to quickly turn in or out of the junction. The junction is also relatively compact which over complicates the layout possibly resulting in rushed decision making and puts vulnerable users such as pedal cyclists at greater risk due to less visibility.

3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	6 (1 serious and 5 slight)
Total no. of Casualties	8 (1 serious and 7 slight)
Number of collisions in hours of darkness	0
Number of collisions in wet/damp conditions	0
Collisions involving vulnerable road users	4 collisions involved pedal cycles resulting in 1 serious and 3 slight casualties
Only one other collision outside the data period at the junction since 2002.	

Identified Collision Pattern(s)	No of Collisions
Right turn out of minor road	**3**
Right turn out of Lawn Lane across path of eastbound cyclist	2
Right turn out of Lawn Lane across path of westbound vehicle	1
Left turn out of minor road	**2**
Left turn out of Lawn Lane across path of eastbound cyclist	1
Left turn into Lawn Lane across path of eastbound cyclist	1
Southbound nose-to-tail	1

4.0 Site Photographs

Image 1 – Eastbound approach to junction on nearside

Image 2 – View from junction to eastbound vehicles

Image 3 – View from junction to westbound vehicles

Image 4 – Main junction looking east

5.0 Recommendations

Remedial Measures

1) Investigate potential improvements to cycle links (off carriageway facilities (droppers, scoop markings, localised widening, creation of a shared facility leading cyclist to the north), advisory cycle lane across junction mouth etc.), and
2) Redesign junction to simple T-junction layout.

Joint site visit with Engineer requested to agree extent of works.

6.0 Estimated Costs

Detailed design	£8,000 (use advanced design money)
Potential delivery cost	£50,000
Total	£58,000

7.0 Scheme Approval

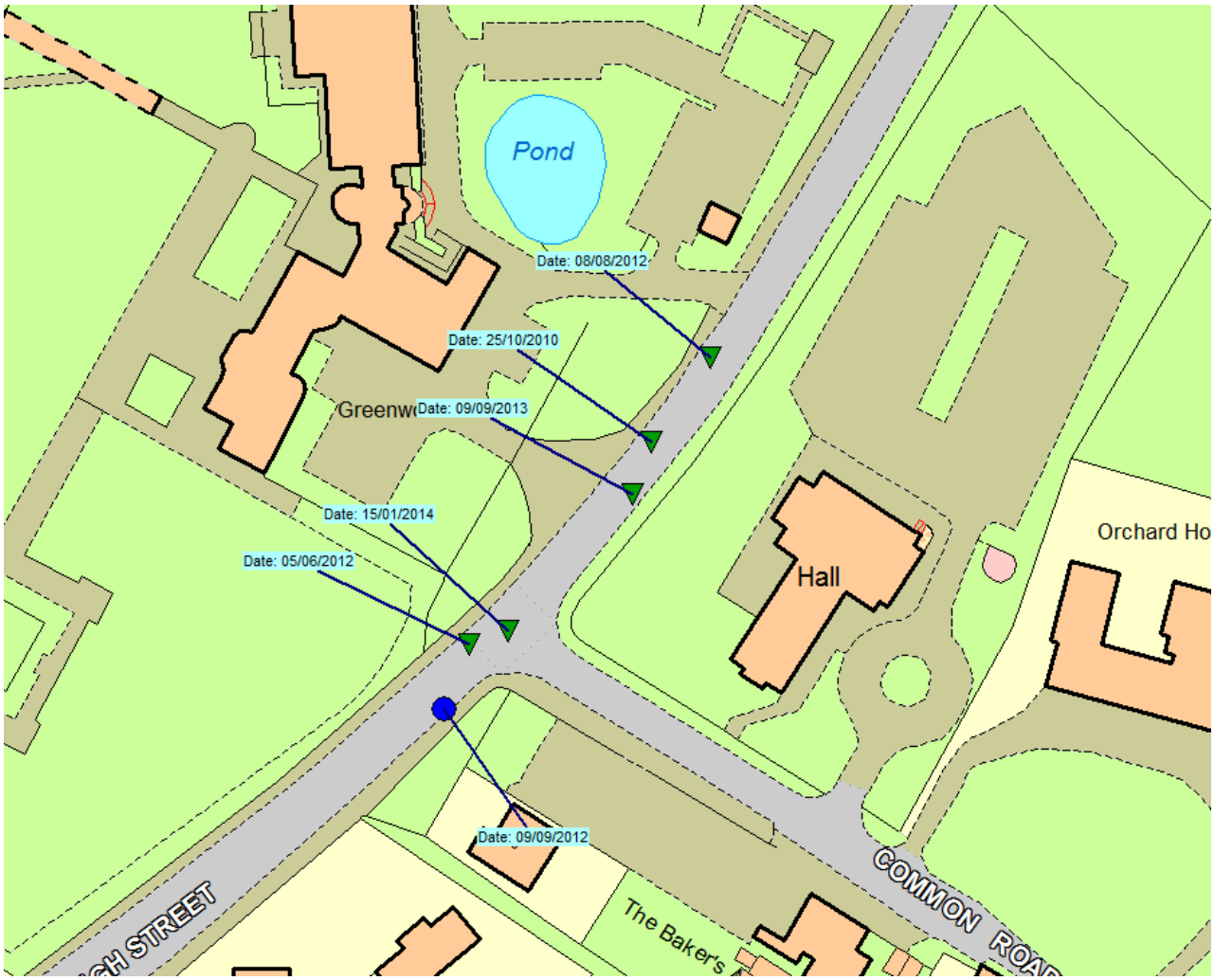
Safety Engineering Team:	**Tel No.**	**Date**
Safety Engineer: Simon Stubbings	01245 342901	26/09/2014
Senior Safety Engineer: Jenny Hill	01245 342902	02/10/2014

Site Report Essex Highways Casualty Reduction Site Report 2015/16

Location: B1007 High Street near junction with Common Road, Stock
District: Chelmsford

Collision Investigation Period: 01/05/2009 – 31/07/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	B1007 High Street near junction with Common Road
Speed Limit	30mph. Speed limit changes to 60mph approximately 50m north-east of the exit from Greenwoods Hotel and Spa
Street Lit	No
Carriageway type	Single two way carriageway. Also of interest is the one way in - out from Greenwoods.
Gradient	Level gradient

Traffic Management	Common Road is subject to give-way control
Road Surface	Surface appeared in generally good condition. However, condition survey data shows the majority of the carriageway as Below Investigatory Level. There are also a few short sections of carriageway north-east of the Swan Lane junction showing as Critical. The Greenwoods access / exit is a loose aggregate surface which extends right up to the edge of the main road. A large amount of aggregate has been bought on to the main road by vehicles emerging from Greenwoods.
Signing	Zebra crossing ahead and side road ahead warning signs on the nearside facing north-eastbound traffic were obscured by vegetation.
Road Markings	Road markings on the High Street are in very good condition. Give-way markings at Common Road are worn.
Visibility	Inter-visibility between vehicles exiting Greenwoods and north-eastbound traffic was obstructed by a large tree outside Greenwoods and the bend south-west of Common Road. Visibility of north-eastbound vehicles to the Zebra crossing and vehicles waiting to turn right into Common Road was also obstructed by the alignment of the carriageway and vegetation on the nearside.
Vegetation	See visibility above
Other	No comments

3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	6 (1 serious and 5 slight)
Total no. of Casualties	8 (1 serious and 7 slight)
Number of collisions in hours of darkness	0 (0%)
Number of collisions in wet/damp conditions	4 (66.8%)
Collisions involving vulnerable road users	1 collision involving a motorcycle (16.7%)

Identified Collision Pattern(s)	No of Collisions
Turning right from Greenwoods in front of north-eastbound vehicle	2 (33.4%)
Nose-to-tail involving a vehicle turning right into Common Road	2 (33.4%)
Loss of control	2 (33.4%) (One in each direction, south-westbound vehicle lost control as pedestrian started to cross road using Zebra crossing)

4.0 Site Photographs

Image 1 – Exit from Greenwoods estate to north-eastbound users

Image 2 – North-eastbound – Zebra crossing warning sign in hedge and crossing is distance

Image 3 – North-eastbound approach to crossing and Common Road on offside

Image 4 – South-westbound traffic entering 30mph speed limit – Entrance to Greenwoods on offside

5.0 Recommendations

Remedial Measures

1) Identify highway boundary and liaise with Greenwoods –– Cut back vegetation carriageway side of highway boundary south-west of entrance to Greenwoods and replace surface outside boundary wall of Greenwoods with bound material.
2) Widen footway to boundary south-west of Greenwoods to maximise visibility splays and provide better pedestrian facility (approximately 90m).
3) Clear vegetation to existing signs.
4) Refresh give-way markings at Common Road junction (maintenance)

6.0 Estimated Costs

Design and project management costs	£5,000
Implementation costs	£25,000
Total	£30,000

7.0 Scheme Approval

Safety Engineering Team:	**Tel No.**	**Date**
Safety Engineer: Simon Stubbings	01245 342901	26/09/2014
Senior Safety Engineer: Jenny Hill	01245 342902	02/10/2014

Chelmsford City Highway Rangers - Works Summary January 2015					
Job No.	**Date**	**Parish**	**Street**	**Works**	**Date Completed**
532	24/12/2014	Writtle	Bridge Street	Clear vegetation from footway & siding 7.	05-09/01/2015
	CCC raised	Chelmsford	Hill Road South	Cut back overgrown vegetation along road	06/01/2015
533	05/01/2015	Chelmsford	West Hanningfield Road	Pruning of willow tree	06/01/2015
	CCC raised	Chelmsford	Westway	Removal of fly poster	07/01/2015
	CCC raised	Great Baddow	Jarvis Field	Clear fly tip	07/01/2015
532	24/12/2014	Writtle	Bridge Street	Clear vegetation from footway & siding	07/01/2015
532	24/12/2014	Writtle	Bridge Street	Clear vegetation from footway & siding	08/01/2015
532	24/12/2014	Writtle	Bridge Street	Clear vegetation from footway & siding	09/01/2015
	CCC raised	Chelmsford	A1114, Subway	Clear debris & unblock drain	12/01/2015
	CCC raised	Chelmsford	Widford Chase	Cut back vegetation, litter pick, general tidy up	12/01/2015
	CCC raised	Chelmsford	Admirals Park Cycle ways	Install no cycling thermo signs	13/01/2015
	CCC raised	Danbury	Danbury Parish	Sign maintenance	14/01/2015
	CCC raised	Chelmsford	Baddow Bypass/Subway	Cut back path	14/01/2015
	CCC raised	Chelmsford	North Avenue	Install new litter bin	15/01/2015
	CCC raised	Chelmsford	A414 Ongar Road West	Remove debris	15/01/2015
	CCC raised	Roxwell	Church Green	Clear tree cuttings	16/01/2015
	CCC raised	Chelmsford	Sandon Parish	Clean & repair signs	16/01/2015
	CCC raised	Braintree	Rangers undertaking working at heights course		19/01/2015
	CCC raised	Chelmsford	Mace Walk	Sign maintenance	20/01/2015

Chelmsford City Highway Rangers - Works Summary January 2015					
Job No.	**Date**	**Parish**	**Street**	**Works**	**Date Completed**
	CCC raised	Chelmsford	Dorset Avenue	Cut back overhanging trees	20/01/2015
	CCC raised	Chelmsford	Chelmer village way	Cut back overgrown vegetation	20/01/2015
	CCC raised	Chelmsford	113 Lucas avenue	Clear footpath	20/01/2015
	CCC raised	Chelmsford	Sandon Parish	Parish signs clean & repair	20/01/2015
	CCC raised	Chelmsford	Sandon Parish	Parish signs clean & repair	21/01/2015
	CCC raised	Chelmsford	Colchester Road/Drovers Way	Clear glass along footway	22/01/2015
	CCC raised	South Woodham Ferrers	Treebeard Close	Strim & cut pathway litter pick	22/01/2015
	CCC raised	Chelmsford	New Street	Litter pick/weed	23/01/2015
	CCC raised	Chelmsford	Parkinson Drive	Pick up debris/fly tip	23/01/2015
	CCC raised	Chelmsford	Baddow Bypass/subway	Check repair drain cover	23/01/2015
	CCC raised	Chelmsford	Meadows car park	Help with gully clean drains	26/01/2015
	CCC raised	Chelmsford	157 New London Road	Install litter bin nr bus stop	27/01/2015
	CCC raised	Chelmsford	Chelmer Village Way	Remove downed tree clear & around 40mph sign	28/01/2015
	CCC raised	Chelmsford	Margaretting Parish	Clean signs/remove fly posting/ minor repairs	28/01/2015
	CCC raised	Runwell	Grange Lane	Clear fly tip	29/01/2015
	CCC raised	Chelmsford	Nathans Lane	Litter pick	29/01/2015
	CCC raised	Great Baddow	Noakes Avenue.	Remove old bin replace with new one	30/01/2015
	CCC raised	East Hanningfield	Pan Lane	Put up no fly tipping sign	30/01/2015
534	29/01/2015	Chelmsford	91 Wood Street	Cut back overgrown conifers	30/01/2015

Chelmsford City Local Highways Panel

Feasibility Studies/Designs – March 2015

The following Feasibility Studies/Designs/Additional Information are attached for the information of the Panel.

Approved Works Programme - Completed Schemes

Page 2
Scheme 3 – LCHE132025 – Lodge Road, Bickancre
Feasibility Study – Passing bays

Page 20
Scheme 9 – LCHE142006 – Broomfield Parade, Broomfield Road, Broomfield
Feasibility Study - Parking provision

Page 32
Scheme 10 – LCHE142045 – Railway Bridge, Arbour Lane, Chelmsford
Feasibility Study – Footway widening

Page 43
Scheme 12 – LCHE142020 – Chelmer Village Way nr j/w Brook End Road, Chelmer Village
Feasibility Study – Pedestrian crossing/refuge

Page 64
Scheme 13 – LCHE142007 – Penny Royal Road/Mayes Lane to Woodhill Road, Danbury
Feasibility Study – Provision of footway

Page 79
Scheme 14 – LCHE142028 – Highwood Road, Loves Green
Feasibility study – Traffic Management Improvements

Page 97
Scheme 15 – LCHE142039 – Highwood Road, Edney Common
Feasibility study – Traffic Management Improvements

Page 113
Scheme 16 – LCHE142040 – Highwood Road, Edney Common to Loves Green
Feasibility study – Pedestrian link, including o/s St Pauls Church

Document control sheet

BPP 04 F8
version 15; Mar 2013

Project:	LHP2014/15 – Feasibility Study		
Client:	Essex Highways	Project No:	B3553L19
Document title:	Lodge Road		
Ref. No:	LCHE132025		

	Originated by	Checked by	Reviewed by	
ORIGINAL	NAME **Chris Styles**	NAME **Tony Elliott**	NAME **Anne James**	
Approved by	NAME **Tony Elliott**	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS [signature]	
DATE	**17/02/2015**	**Document status**	**FOR ISSUE**	

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS	
DATE		**Document status**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS	
DATE		**Document status**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS	
DATE		**Document status**		

Technical Note

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Introduction

This Technical 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.

Fourteen potential schemes have been identified through the LHPs and these have been passed to Essex Highways (EH) so that further work can be undertaken to analyse the proposals, look at feasibility of the options, and report the findings back to ECC.

The options have been checked for compliance with ECC's Traffic Management Strategy and Speed Management Strategy, and EH have liaised with the Network Management Team in ECC to ensure the suitability of the proposals for each location.

Background to the scheme

The site lies in the Borough of Chelmsford in Bicknacre near South Woodham Ferris on a road called Lodge Road. ECC has received information from local councillors that a resident believes that the road is being used as a through road.

A design brief was received by EH to assess options and the feasibility of providing two passing places at this location. It was requested that a traffic survey be undertaken as part of these works to establish the validity of the claim that the road was being used by through traffic.

The proposals to introduce passing places have the support of local councillors.

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Site Characteristics

Lodge Road, B1418 is typical of many local roads that feed into the classified network in the vicinity but does not hold a specific PR1 or PR2 classification.

The site is located in a well-established housing development which has both 40mph and national speed limits at locations along its length. Traffic survey information shows that the speed limit is generally being complied with. The road is narrow in places with unmade, informal passing bays located both sides of the carriageway.

The carriageway consists of a bituminous surfacing material and is in good condition. The road widths at this location average approximately 6.5 metres in the residential part of the road, and 4.5 metres down to as low as 4.0 metres in the rural part of the road.

The adjacent footways consist of a bituminous material and are in good condition. The kerb height is approximately 125mm and the footway width measures at approximately 2.0 metres.

Photo of the East end of Lodge Road looking East

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Photo of existing lay-bys

Photo of unmade passing bays

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Photos of public playground car park

Photos of BT column with cables in tree branches

Photos of existing passing bay location

Photos of proposed passing bay location

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Traffic Survey

The results of the traffic survey undertaken early December 2013 are attached to this technical report and show that over the course of the 7-day automatic traffic count on Lodge Road 1,003 vehicles travelled eastbound and 942 vehicles travelled westbound. The posted speed limit of 40mph was exceeded by 1.7% of eastbound vehicles and 1.6% of westbound vehicles. The seasonally adjusted, combined Annual Average Daily Traffic (AADT) value is 339 vehicles.

Accident Data

The accident data shows that there have been no reported accidents at this location in the last 5 years.

Option 1

Two options have been considered for the feasibility study. Each option is detailed below, with draft designs for Option 1 attached to this document.

Under Option 1 it is proposed to provide two additional passing places on Lodge Road on the narrow stretch leading to Leighams Road, where the existing road widths are approximately 4.5m but in places were found to be as low as 4.0m.

The verges here are approximately 4.0m wide which is sufficient lateral space for a passing place, however the construction of passing bays would involve excavating some 500mm depth to enable the installation of the preferred solution, a pre formed ‘Grasscrete’ type construction. This construction consists of a mesh or lattice of material, generally concrete, which is in filled with topsoil and seeded to give the appearance of a green verge, whilst still being able to resist traffic loadings.

The advice of ECC’s Tree Officer for Bicknacre was sought regarding this construction and it was noted that this construction depth will interfere with and possibly damage the roots of the trees present in the verge and therefore they would need to be removed in order to accommodate the passing places.

It was noted that 5 trees per bay would need to be removed. It was also noted that due to a British Telecom overhead cable being located along the tree line the trees are currently being maintained to a constant height. Removal of the trees would mean that this is no longer necessary, but it should be noted that the cable and columns present an obstacle on site that would need to be worked around to have a safe working area.

New road signage to include diagram numbers 575, 516 and 572 will need to be installed to warn drivers of the approaching hazard.

This option is estimated to cost in the region of £15,500.

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Option 2

Option 2 would be to utilise the existing passing bay on Lodge Road located approximately 220m south of the junction with Leighams Road by formalising them with local resurfacing and reconstruction. This option will cause some disruption to local traffic during construction as the existing road width means that a temporary road closure will be required to allow safe working.

This option is estimated to cost in the region of £4,500 not including the cost of the road closure and diversionary works.

Network Management Review

ECC Network Management have been consulted on the proposals and have no objections to either of the proposals.

Lodge Road – Proposed Passing Places

B3553L19
Date: 26 January 2015

LCHE132025
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

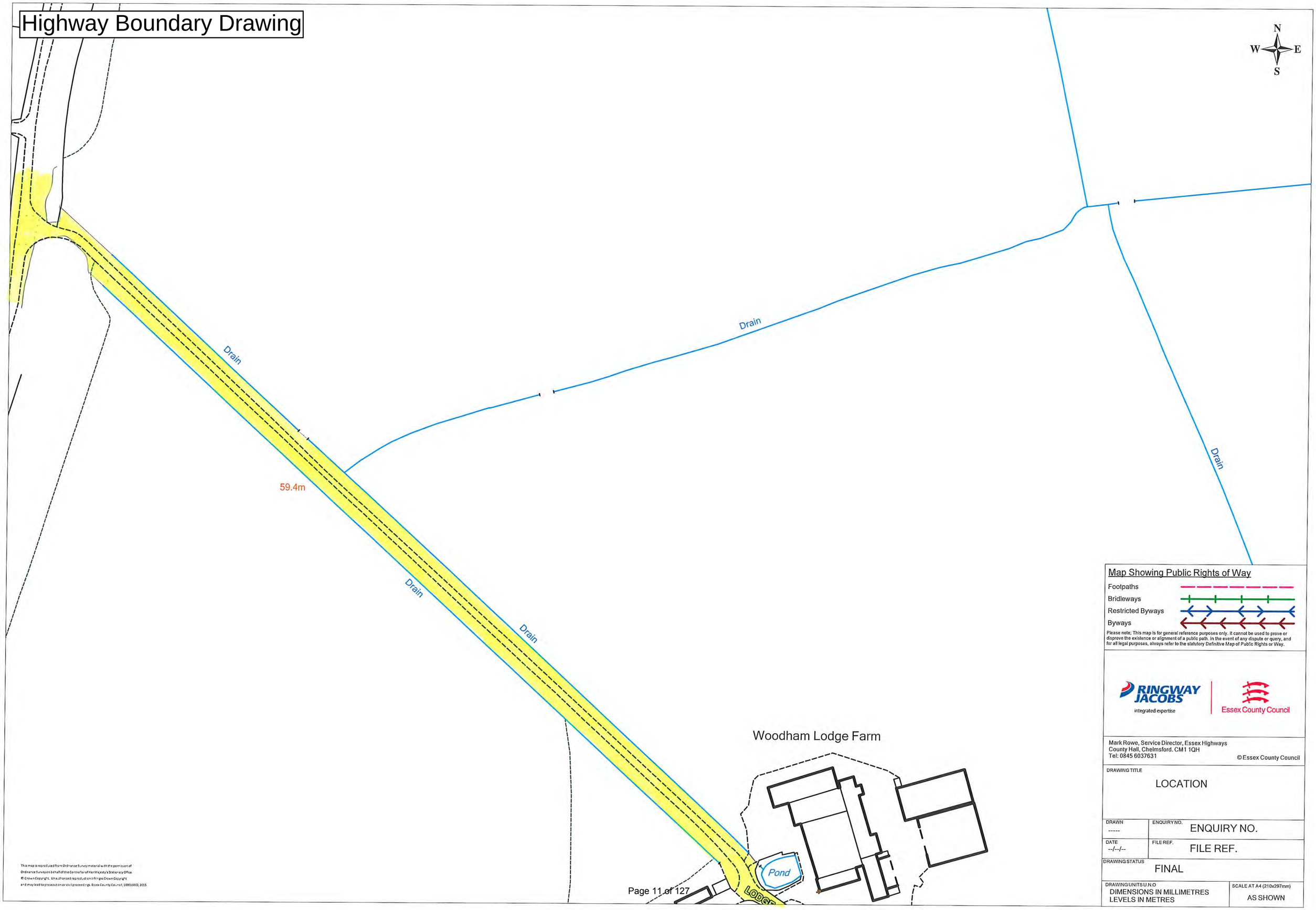
Conclusions

The installation of two additional passing places (Option1) at the locations shown on the attached drawings has the least effect on adjacent public utilities apparatus and existing trees.

The passing bays will provide the facilities for vehicles to pass in 3 separate locations by also utilising the existing passing bays in the centre of Lodge Road where the road is at its narrowest.

It should be noted however that the existing traffic (339 vehicles per day) means that the likelihood of the vehicles passing each other is considered minimal, and the benefits of the planned expenditure should be carefully considered.

Highway Boundary Drawing



Map Showing Public Rights of Way

Footpaths

Bridleways

Restricted Byways

Byways

Please note; This map is for general reference purposes only. It cannot be used to prove or disprove the existence or alignment of a public path. In the event of any dispute or query, and for all legal purposes, always refer to the statutory Definitive Map of Public Rights or Way.

RINGWAY JACOBS integrated expertise

Essex County Council

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

DRAWING TITLE

LOCATION

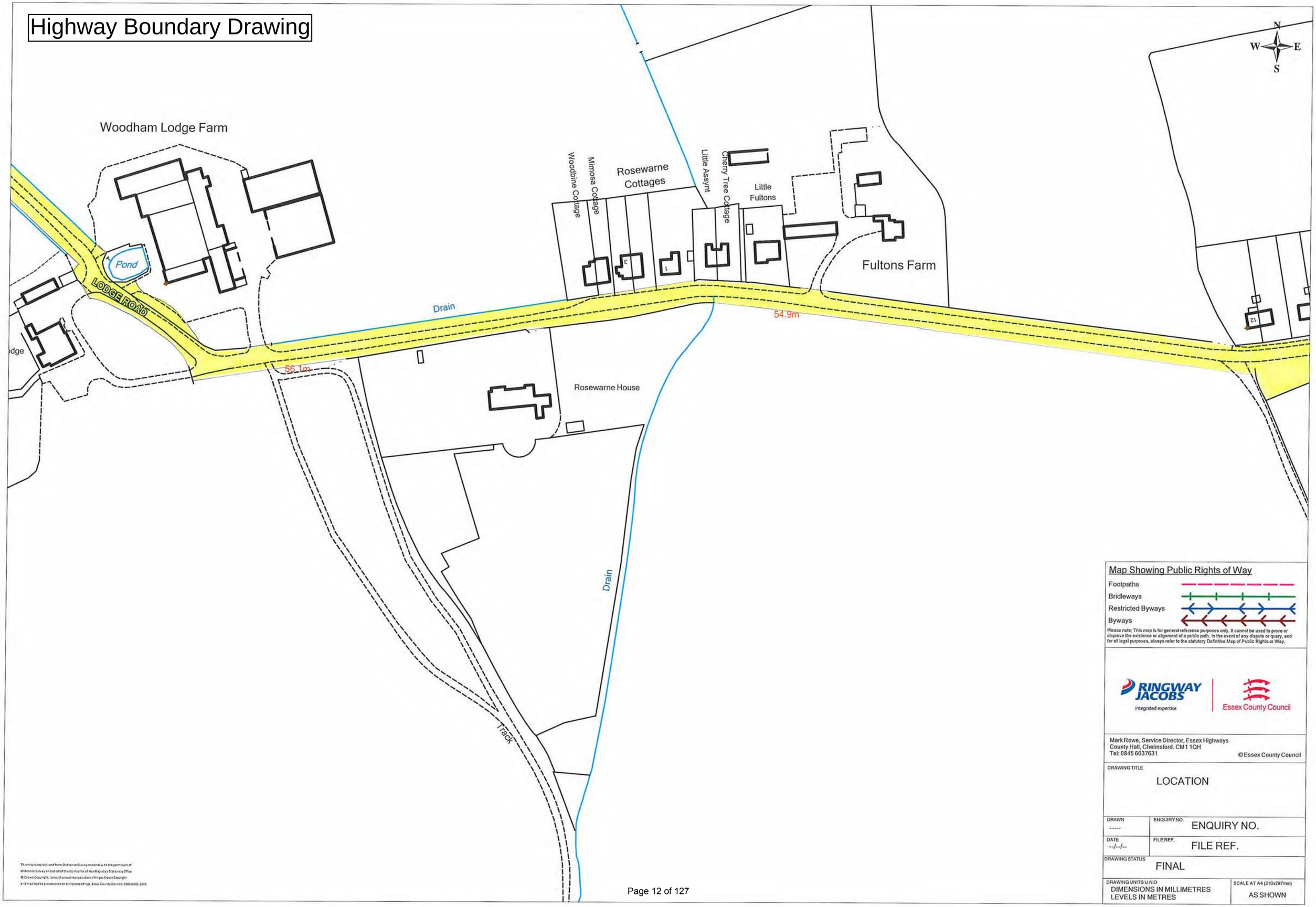
DRAWN	ENQUIRY NO.
-----	ENQUIRY NO.
DATE	FILE REF.
--/--/--	FILE REF.

DRAWING STATUS

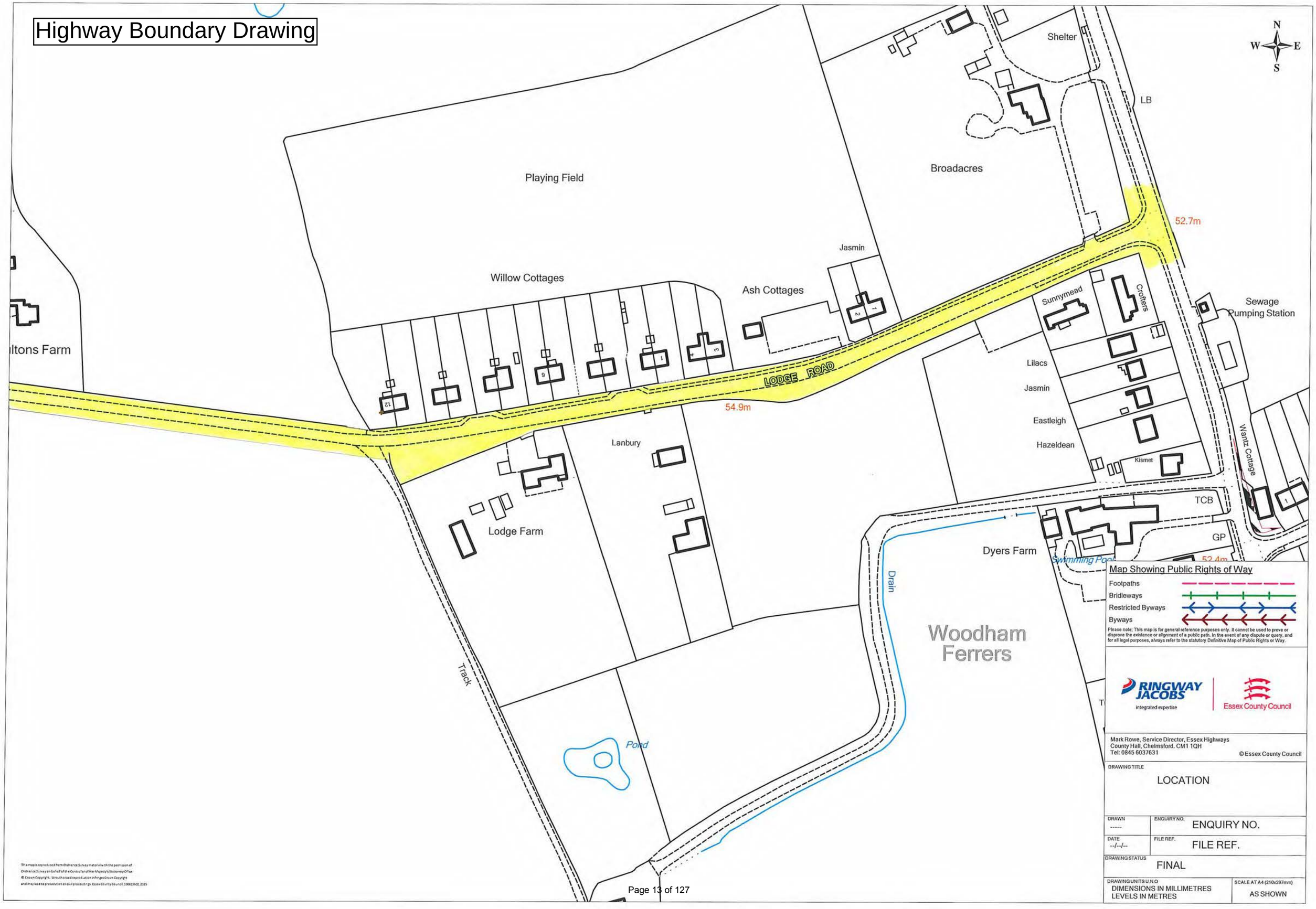
FINAL

DRAWING UNITS U.N.O	SCALE AT A4 (210x297mm)
DIMENSIONS IN MILLIMETRES LEVELS IN METRES	AS SHOWN

Highway Boundary Drawing



Highway Boundary Drawing



PROJECT	13178 BICKNACRE
LOCATION	ATC01 - Lodge Road, Bicknacre
LOC. DESC.	235m W of B1418 Main Rd
START DATE	Tue 03 Dec, 2013
END DATE	Mon 09 Dec, 2013
SPEED LIMIT	40mph
BUS ROUTE	No
SURVEY TYPE	7-day ATC, 15min periods, 10 veh. classes

A 7-day automatic traffic count on Lodge Road, Bicknacre, commencing Tue 03 Dec 2013, recorded 1,003 vehicles travelling eastbound and 942 westbound vehicles. The posted speed limit of 40mph was exceeded by 1.7% of eastbound vehicles and 1.6% of westbound vehicles. The seasonally adjusted, combined AADT value is 339 vehicles.

SUMMARY

COMBINED

Total recorded volume	**1,945.0**
Avg daily volume (based on 7 days)	277.9
Average daily speed (7 days)	24.4mph
Average daily 85%ile (7 days)	26.2mph
AADT (annual average daily traffic)	339
Avg weekday volume (Mon-Fri, 24hrs)	297.6
Avg weekday speed (Mon-Fri, 24hrs)	24.9mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	25.3mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions (eastbound & westbound) from all the recorded data.

Speeding vehicles are defined as those travelling 41mph and above.

The summaries below provide directionalised details including speeding percentages and potential PSV traffic.

EASTBOUND

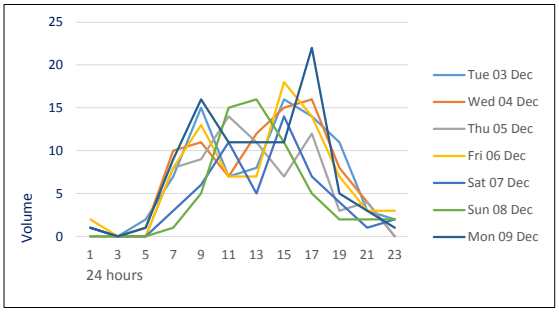
Total recorded volume	**1,003.0**
Avg daily volume (based on 7 days)	143.3
Average daily speed (7 days)	23.7mph
Average daily 85%ile (7 days)	29.3mph
% of vehicles exceeding 40mph	1.7%
Avg weekday volume (Mon-Fri, 24hrs)	**154.6**
Avg weekday speed (Mon-Fri, 24hrs)	24.1mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	24.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	29.3mph
Percentage of HGVs	0.5%

WESTBOUND

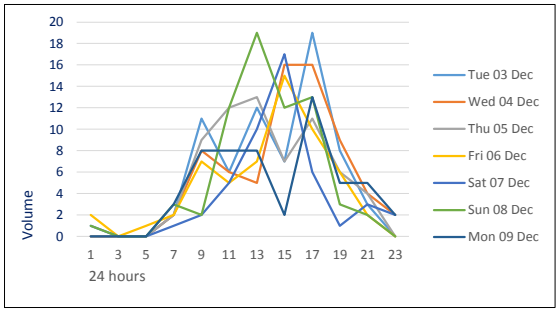
Total recorded volume	**942.0**
Avg daily volume (based on 7 days)	134.6
Average daily speed (7 days)	25.1mph
Average daily 85%ile (7 days)	23.0mph
% of vehicles exceeding 40mph	1.6%
Avg weekday volume (Mon-Fri, 24hrs)	**143.0**
Avg weekday speed (Mon-Fri, 24hrs)	25.6mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	26.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	N/A
Percentage of HGVs	0.3%

DAILY VOLUMES

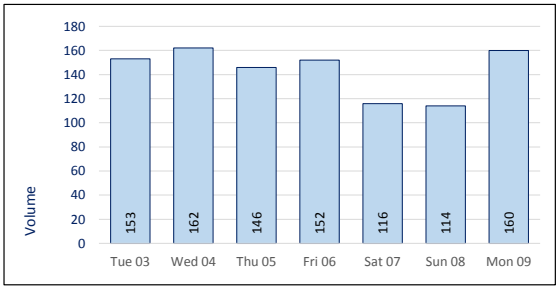
EASTBOUND

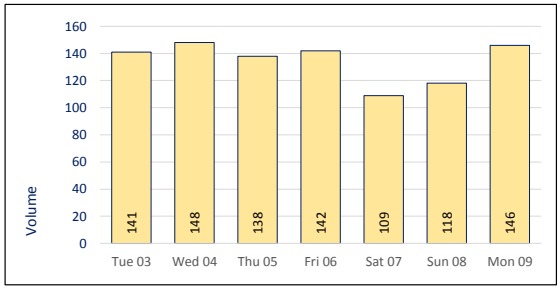


WESTBOUND



Hourly eastbound and westbound traffic volumes over each 24hr period for 7 days from all available data.

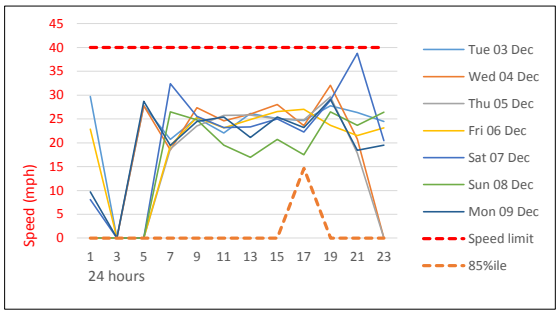




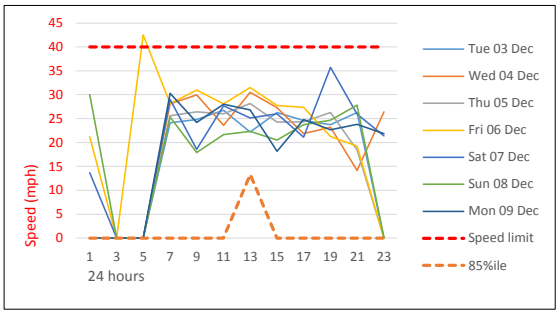
Daily eastbound and westbound traffic volumes over 7 consecutive days from all available data.

DAILY SPEEDS

EASTBOUND



WESTBOUND



Average daily eastbound and westbound speeds (solid thin colours) and 85%ile (dashed orange) compared against 40mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight 85%ile values may be zero.

VEHICLE CLASSES

EASTBOUND

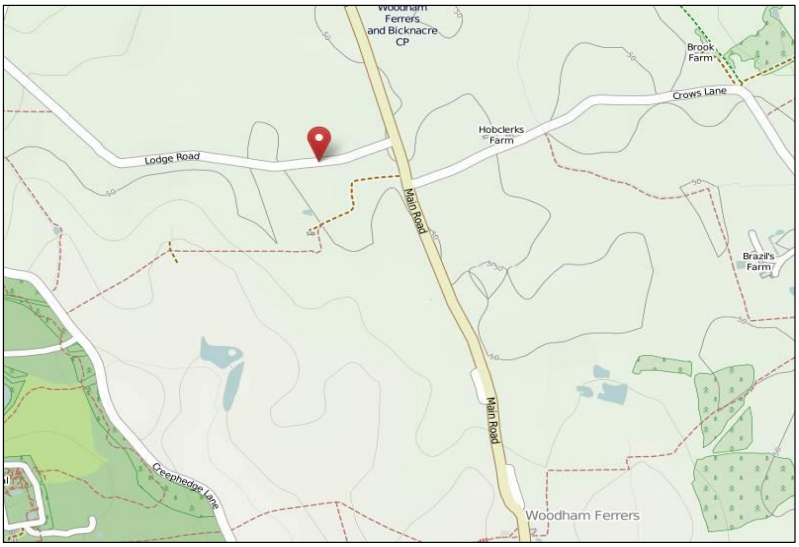
TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0	1	0	0	0	**1**
0100	0	1	0	0	0	**1**
0200	0	0	0	0	0	**0**
0300	0	0	0	0	0	**0**
0400	0	1	0	0	0	**1**
0500	0	1	0	0	0	**1**
0600	0	6	0	0	0	**7**
0700	0	7	0	0	0	**7**
0800	0	10	0	0	0	**11**
0900	0	8	1	0	0	**9**
1000	1	8	1	0	0	**10**
1100	1	8	1	0	0	**10**
1200	1	9	0	0	0	**10**
1300	0	6	1	0	0	**8**
1400	0	12	1	0	0	**13**
1500	0	13	1	0	0	**15**
1600	0	12	1	0	0	**13**
1700	0	10	0	0	0	**10**
1800	0	5	1	0	0	**6**
1900	0	4	1	0	0	**5**
2000	0	3	0	0	0	**3**
2100	0	1	0	0	0	**1**
2200	0	1	0	0	0	**1**
2300	0	1	0	0	0	**2**
12hr TTL	**4**	**108**	**10**	**0**	**0**	**122**
24hr TTL	**4**	**127**	**11**	**0**	**0**	**143**
	3%	89%	8%	0%	0%	

WESTBOUND

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0	1	0	0	0	**1**
0100	0	1	0	0	0	**1**
0200	0	0	0	0	0	**0**
0300	0	0	0	0	0	**0**
0400	0	0	0	0	0	**0**
0500	0	1	0	0	0	**1**
0600	0	2	0	0	0	**2**
0700	0	8	1	0	0	**9**
0800	0	5	1	0	0	**7**
0900	0	9	1	0	0	**10**
1000	0	6	1	0	0	**8**
1100	1	8	1	0	0	**10**
1200	0	9	1	0	0	**11**
1300	0	7	1	0	0	**9**
1400	0	10	1	0	0	**11**
1500	0	11	1	0	0	**13**
1600	0	12	0	0	0	**13**
1700	0	10	0	0	0	**10**
1800	0	5	0	0	0	**5**
1900	0	6	1	0	0	**7**
2000	0	3	0	0	0	**3**
2100	0	3	0	0	0	**3**
2200	0	1	0	0	0	**1**
2300	0	1	0	0	0	**1**
12hr TTL	**3**	**102**	**10**	**0**	**0**	**115**
24hr TTL	**3**	**119**	**12**	**0**	**0**	**135**
	2%	89%	9%	0%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

SITE LOCATION



Location	Lodge Road, Bicknacre
Desc.	235m W of B1418 Main Rd
OSGR	579181, 200606
Lat, lng.	51.675636, 0.590095
Site no.	ATC01
PSL	40mph
Generated	Fri 12 Dec 2014

Essex Highways

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology.

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and Essex Highways cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and Essex Highways cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, Essex Highways cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 10 days before, and 48 hours before, the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	AQMA	MANUAL
1	MC	Motorcycle	SHORT Up to 5.5m	MC	MC
2	SV	Cars, taxis, 4WD, vans		CAR	CAR & LGV1
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m		
4	TB2	2 axle truck / bus		LGV & MGV	LGV2 & PSV
5	TB3	3 axle truck / bus			MGV & PSV
6	T4	4 axle truck		HGV RIGID	HGV1
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	HGV ARTIC	HGV2
8	ART4	4 axle articulated			
9	ART5	5 axle articulated			
10	ART6	6+ axle articulated			

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, refered to as ARX. The table on the left aligns the ARX classifications with the AQMA (air quality management standard) and the Essex 9-class, as used in manual junction counts undertaken by Essex Highways.

Disclaimer

Although every attempt is made to achieve accuracy, neither Essex County Council nor Essex Highways may be held liable for errors of fact or interpretation.

RINGWAY JACOBS

Essex County Council

Notes

1. Do not scale.
2. Nearest postcode CM3 4HG

Key

Area of interest

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

LODGE ROAD, BICKNACRE AREA OF INTEREST

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A1 (841X594mm)
1:1250

DRAWING No.
DC3403-00-001

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3403-Lodge Road\DC3403-00-001.dwg Last saved by chris.styles on 22 December 2014 Printed By Chris Styles on 22 December 2014

N

SEE INSET 1 FOR DETAILS

Exact locations to be set out on site to reduce the impact on tree removal

SEE INSET 2 FOR DETAILS

2 Existing passing bays to be renewed with road planings as per existing construction.

Exact locations to be set out on site

SEE INSET 3 FOR DETAILS

Exact locations to be set out on site to reduce the impact on tree removal

BT overhead cables

CUTLINE A

Drain

Woodham Lodge Farm

Rosewarne Cottages

Fultons Farm

Quilter's Farm

LEIGHAMS ROAD

LODGE ROAD

Pond

Woodham Lodge Swimming pool

Tennis Court

Rosewarne House

Hillberry

Depot

Treephedge House

Track

GP 62.5m

59.7m

59.4m

56.1m

54.9m

1.52m RH

INSET 1
SCALE 1:250

Vegetation clearance 25.0

Existing verge width 5.6

INSET 2
SCALE 1:250

INSET 3
SCALE 1:250

Vegetation clearance 25.0

Existing verge width 5.5

Notes

1. Do not scale.
2. Overhead cables present in vicinity of the proposed tree removal and site works.
3. Highway boundary must be obtained prior to any works being undertaken.
4. Utility information must be obtained and any affected plant / utility providers are to be notified prior to any work being undertaken.
5. All Utilities shown are indicative of their exact location on site.

Key

BT Overhead cable

Area of existing trees to be removed

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

LODGE ROAD, BICKNACRE SHEET 1 OF 2

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A1 (841X594mm)
1:1250

DRAWING No.
DC3403-00-002

REV.
-

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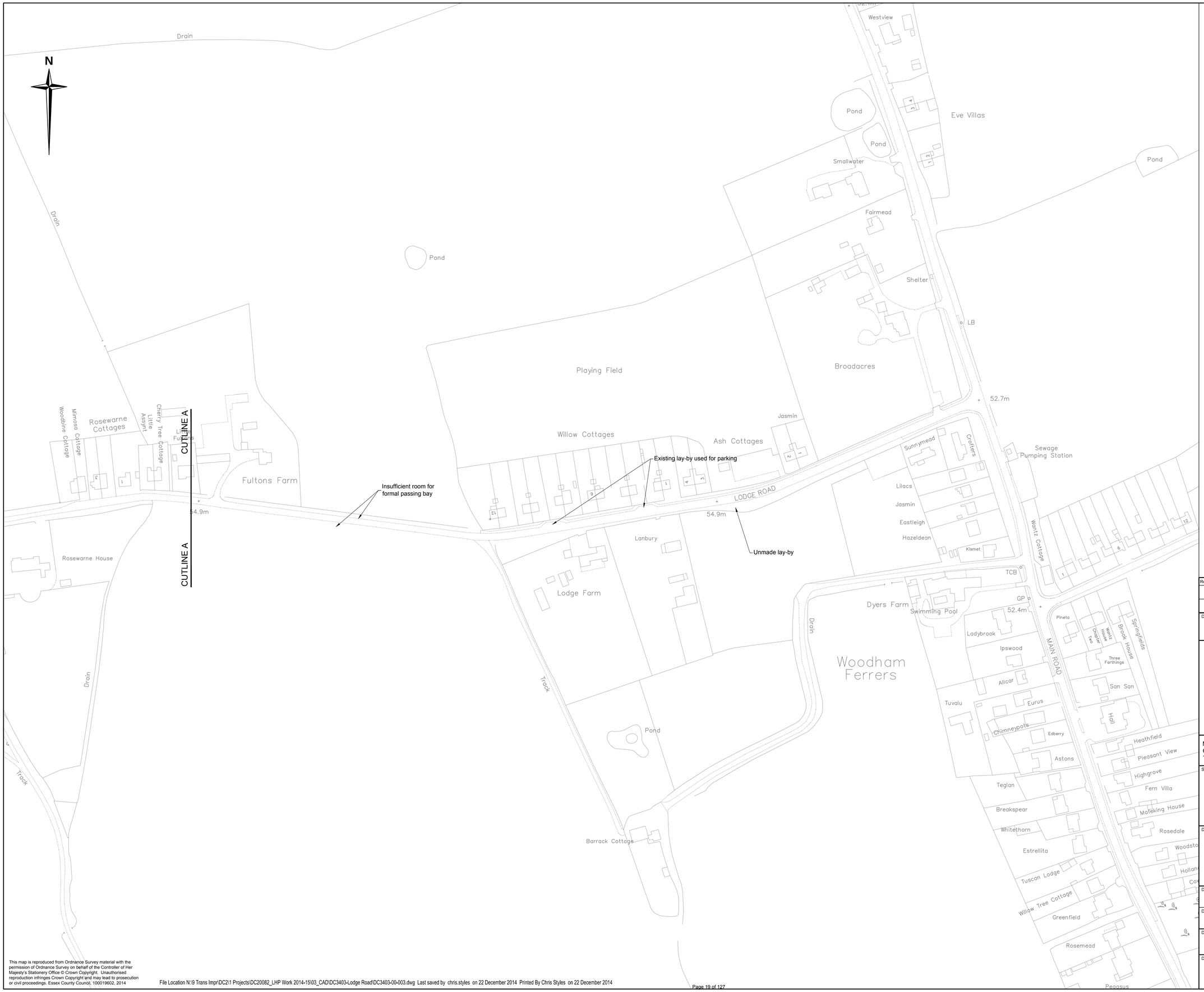

Notes

1. Do not scale.
2. Overhead cables present in vicinity of the proposed tree removal and site works.
3. Highway boundary must be obtained prior to any works being undertaken.

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

LODGE ROAD, BICKNACRE SHEET 2 OF 2

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A1 (841X594mm)
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DRAWING No.
DC3403-00-003

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3403-Lodge Road\DC3403-00-003.dwg Last saved by chris.styles on 22 December 2014 Printed By Chris Styles on 22 December 2014

Feasibility study

Broomfield Parade Service Road, Chelmsford

Job Number:	**DC3088**
Doc Ref:	**Feasibility Report**
Author:	**Jamie Twinn**

Document History

Revision	Purpose	Originated	Checked	Approved	Date
-	Issued to HLO	JT	ADJ	CB	31.01.15

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2.5 Photographs 7
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4.2 Highway Boundary Records 8
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1. Introduction

1.1 Project Background

Funding has been approved by the Chelmsford Local Highways Panel (LHP) to undertake a feasibility study to investigate options available for improving parking facilities outside the parade of shops at Broomfield Parade Service Road.

The District member has raised concerns with regards to the present parking arrangement along Broomfield Parade Service Road, Chelmsford. It has been reported that some damage is being caused to the verges and width restrictions outside the parade of shops.

2. Existing Conditions

2.1 Location / Land Use

- Broomfield Parade Service Road, is a one way road in the south-westbound direction from its junction with Pentland Avenue. It is classified as a local road and it is not located in a conservation area.
- The frontages are mainly commercial with some residential units located above the retail units. There are some parking facilities to the rear. However, this route is a poorly maintained private road, see paragraph 2.5 for photos.

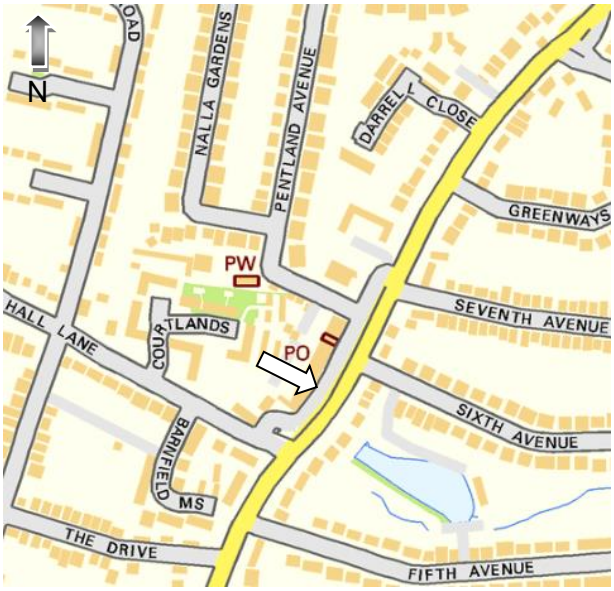
Location Map	*Aerial Imagery*
	

Fig 1.1 the location map and aerial imagery for Broomfield Parade Service Road, Chelmsford

2.2 Site Observations

A site visit was conducted on the 12th August 2014 @ 11am. The following observations were made:

- At the time of the site visit the full extents of the site were utilised by parked vehicles on both sides of the carriageway.
- Vehicles parked along the western kerbline, outside the parade of shops side of the road, were partially parked on the footway.
- The volume of parked vehicles provides a natural traffic calming effect, hence reducing the speed of vehicles travelling through the site.
- Broomfield Parade is located off of B1008 Broomfield Road and has good transport links, there is a bus stop near the site which services the Routes 16, 42, 42A, 70, 344, 352, 505, 542, 620 and 623. It is also 1 ½ miles away from Chelmsford Station.

During the visit we informally liaised with some shopkeepers and some local businesses, the feedback we received was extremely useful, and a brief synopsis of the main points made as below:

- *It is anticipated that some of the vehicles parking outside the shops, would go on and the nearby Public Transport facilities to travel into town (Chelmsford) or go off to Broomfield Hospital.*
- *A local business owner estimates that half of the parking at this site is utilised by people parking here all day, therefore, using the site as a form of park and ride to utilise facilities nearby. Although, we have no evidence to support this.*
- *Shopkeepers stated that not all the shops have access to off-street parking to the rear of the premises.*
- *There are some residential properties above the shops.*
- *Some retail units at this location requires facilities for customer parking of up to 3 hours, in particular the hairdressers.*
- *Business owners indicated that they are keen to maintain loading facilities in front of the shops, and any potential solution which affects this capability would be controversial.*

2.3 Collision Analysis

Two Personal Injury Collisions (PICs) were recorded on Broomfield Parade Service Road within a period spanning the 28th Nov 2009 to 30th April 2014*. The approximate location of collisions are shown in Appendix A.

*collision details are sometimes received late or amended as new information becomes available.

Collision Ref. *see Appendix A*	**Involving**	**Severity**	**Date/Time**	**Conditions**	**No. of Casualties**	**Additional comments**
1	Car & Pedestrian	1 Serious	01/12/2009 @ 10:35	Dry	1 Pedestrian	Pedestrian accepted the blame
2	Car on Goods Vehicle (7.5t or over) & pedestrian	2 Slight	13/03/2014 @ 18:30	Dry	1 Pedestrian & 1 Passenger	Goods Vehicle failed to look, and was reckless and in a hurry

Table 2.1: PICs Broomfield Parade Service Road

Based on the information we have extrapolated from the collision data, we do not believe there to be a collision pattern at the site.

The reportable incidents at this location suggest the cause of the collision involved careless driving.

2.4 Statutory Services

As part of the investigation into the feasibility of this project, statutory undertaker's plant information was obtained for this location. The information we received highlighted a number of potential conflicts with the apparatus listed below.

Any excavation work at this site is highly likely to conflict with underground apparatus, and if kerb realignment were to take place it is also highly likely that an action to divert or relocate the apparatus will be required. This will add a substantial cost to the scheme.

The known statutory undertakers plant in the area directly outside the parade of shops are:

- *Essex and Suffolk Water;*
- *Anglia Water;*
- *Gas Mains - LP, IP and MP;*
- *BT Openreach;*
- *UKPN.*

There are also other multiple conflicts at this location with regards to the above ground street furniture. If we were to realign the kerb line there would be no guarantee that suitable locations will be available to accommodate these facilities. It is therefore anticipated that there may be a requirement to compensate the suppliers for the loss of revenue if we were to remove these facilities.

The following is a list of street furniture at this site, with quantities in brackets:

- *Bollards o/s Tesco's Metro;*
- *Telephone Boxes (2);*
- *Post Box (1);*
- *Mixed Waste Bins (2)*
- *Bench (1);*
- *Storm Drains (2).*

We are also aware of a parallel Essex Highways LHP project to install a small number of cycle stands at this location. The locations are as yet undecided. However, it is likely that any future realignment of kerb line may lead to some abortive work or work to relocate these facilities.

2.5 Photographs

Highway Boundary Stud	*Eastern footway looking southwest*	*Western footway o/s KFC looking northeast*
		
Western footway looking southwest o/s Tesco	*Western footway looking northeast*	*Parking facilties to rear of the shops*
		
View looking southwest	*View looking northeast*	
		

3. Feasibility report requirements

3.1 Brief requirement

The brief has requested a feasibility study is undertaken which looks into the options that may be implemented to formalise the parking arrangement at this site. The brief suggested giving consideration to the implementation of either layby or echelon parking outside of the parade of shops; it also requires the area outside KFC is included in this study. Consideration to the use of parking restrictions may also be beneficial, although, the implementation of parking restrictions would be subject to liaison with SEPP (South Essex Parking Partnership).

4. Highway Boundary Information

4.1 Indicators on site, boundary delineating studs

There are highway boundary delineating studs located at this site, these are located approximately 1.8m from the edge of carriageway, and photographs of these are shown in paragraph 2.6 of this report. The road surfacing looks to be in a consistent state and generally in a good condition, this suggests that the whole footway was resurfaced at the same time.

4.2 Highway Boundary Records

Highway record information has been obtained as part of this study, the summary plan we received is shown in Appendix B. The plan suggests that the site from shop frontage to the edge of carriageway is private. The colours in this plan represent:

Brown - Non Classified Road

Green - Extent of the public highway on B1008 Broomfield Road

Yellow - Adopted footway by Chelmsford Council. However, no information has been received to support this.

4.3 Land Registry Records

An indicative plan of the land registry results are shown in Appendix C. These suggest that part of the footway is public highway. Although, the results were not clear due to concerns with the accuracy of the plans provided and the impact that this may have on the recommended action at this site. As a result, a highway boundary inspection was arranged at the site with the Highway Records Team to ensure the information which was used in the recommendation was reliable. There is also known to be an anomaly in the land registry response - shown in Appendix C, as the individual deed for property number 241 shows the area to the kerb line as being privately owned.

4.4 Highway Boundary Site Inspection

Due to the variance in information received, a site meeting was undertaken on the 13th January 2015 @ 9am. The Highway Records Team attended the site to confirm where the boundary is assumed to be located. Due to the inconsistency in records it was confirmed that the most reliable form of information should be used, therefore, the Land Registry should be used.

The Highway Records Team stated that across the site the boundary varied from 2.5-3.0m, except for the area outside building number 241. It was therefore agreed that due to the difference in these measurements 2.5m from the kerb could be assumed to be forming part of the highway.

The ownership of the area outside the KFC was also discussed. Although, as indicated in Appendix C, this land is private for the whole footway area up to the kerbline.

5. Recommendation

5.1 Broomfield Parade Service Road - o/s parade of shops

As previously outlined in paragraph 4.4, there are some difficulties at this location identifying the correct location of the highway boundary. The County Council as the highway authority would not advocate or rely on the use of private land in relation to pedestrian movement through the site, especially for those who may require wheelchair or double buggy access through the site. As a result formalising the parking arrangements at this site is not possible, without drastically reducing the parking capacity currently being achieved at the site. We would not recommend any work to realign the footway for these reasons.

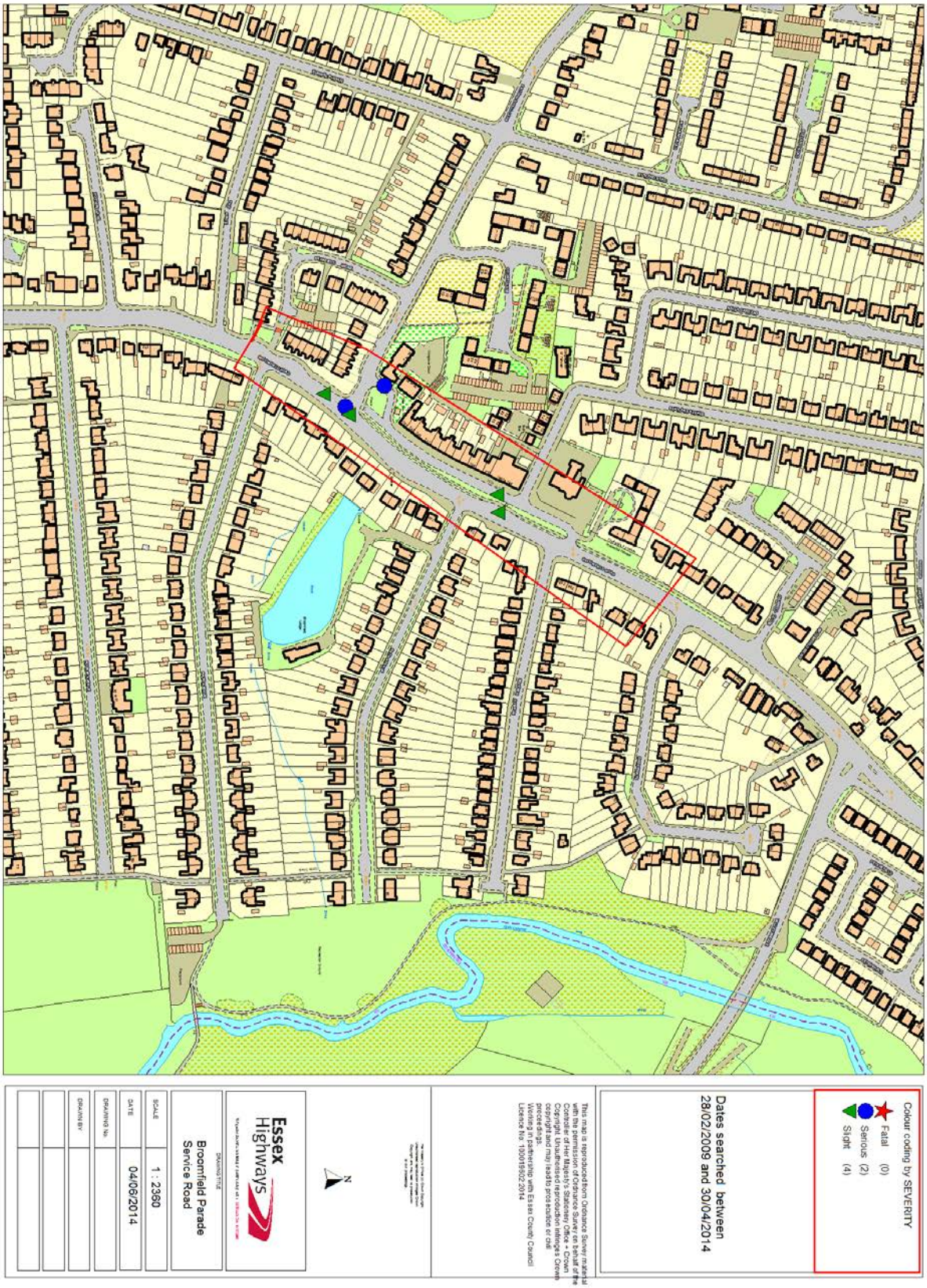
The prominence of street furniture and statutory undertaker's plant would likely lead to additional costs due to the preliminary works required to divert or relocate the services if kerb realignment were to take place.

5.2 Broomfield Parade Service Road - o/s KFC

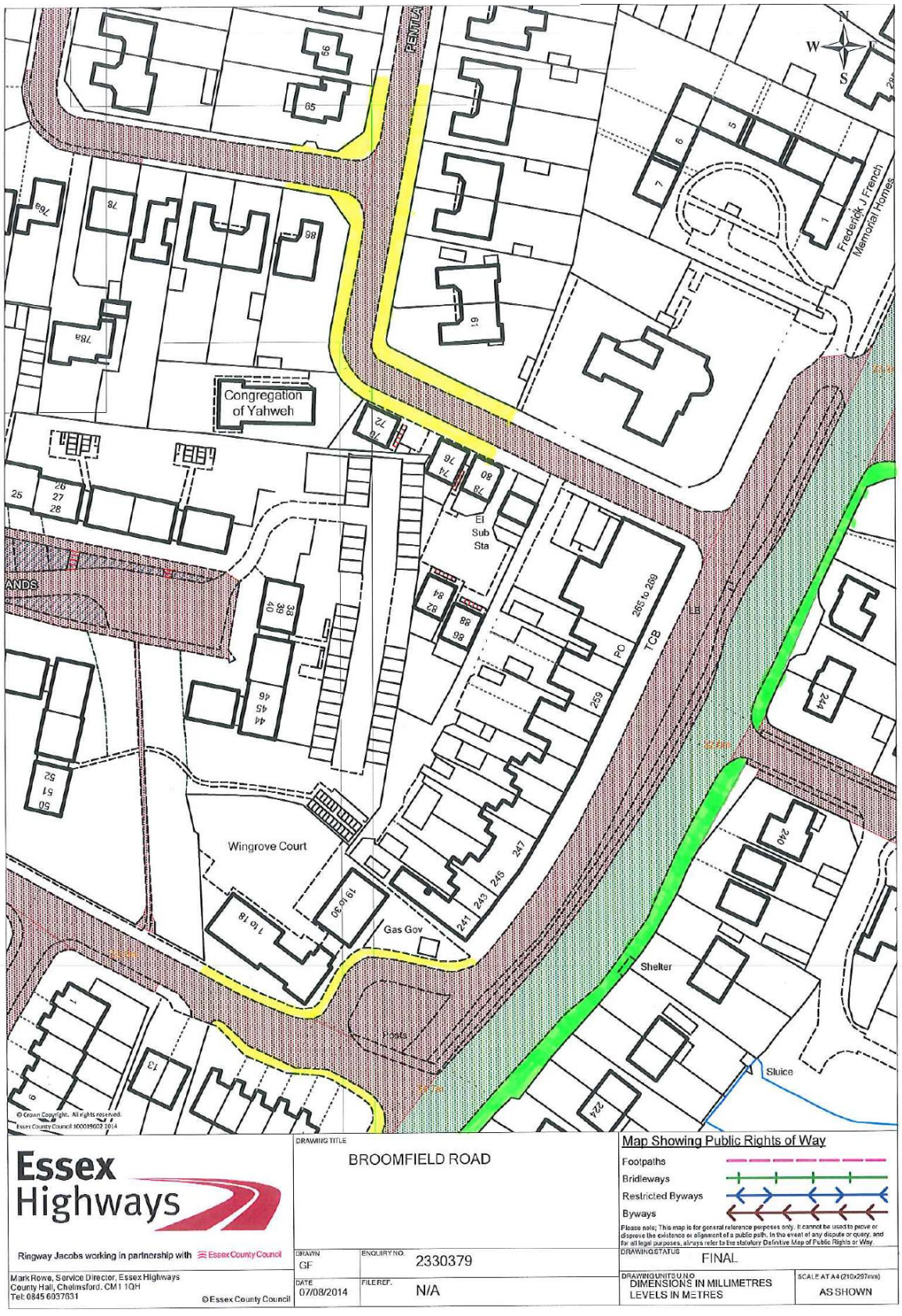
There is evidence of footway parking at the location above, which is located on private land as shown in the land registry snapshot in Appendix C. As a result it would not fall under the jurisdiction of the highway authority therefore cannot advise on how best this land may be utilised.

Although, this area may benefit from some additional measures to restrict vehicles from attempting to mount the kerb, with the ultimate aim of mitigating any chances of a vehicle vs. pedestrian collision.

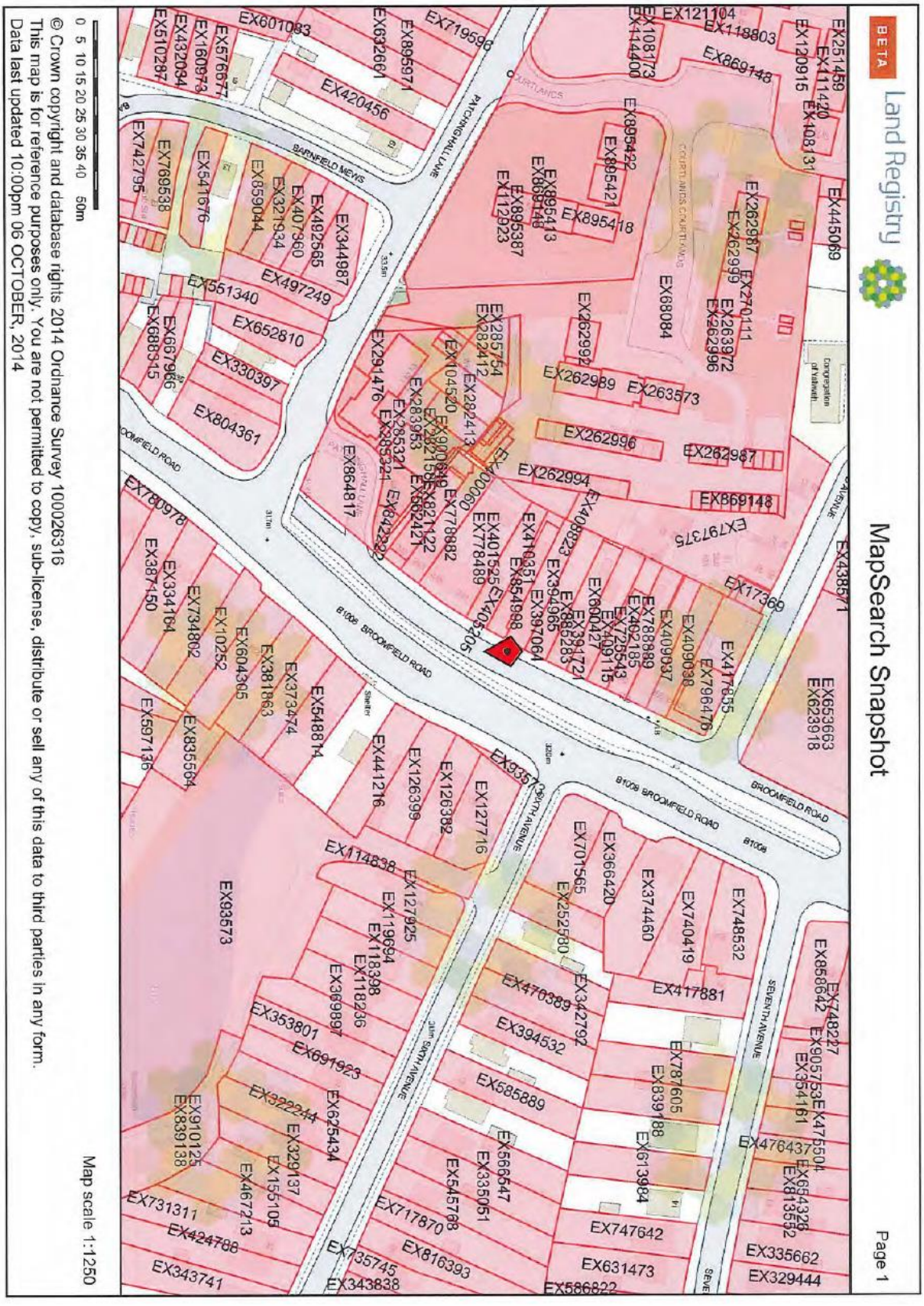
Appendix A: Collision Analysis



Appendix B: Highway Records



Appendix C: Land Registry Records



Document control sheet

BPP 04 F8
version 15; Mar 2013

Project:	LHP2014/15 – Feasibility Study		
Client:	Essex Highways	Project No:	B3553L19
Document title:	Railway Bridge, Arbour Lane		
Ref. No:	LCHE142045		

	Originated by	Checked by	Reviewed by
ORIGINAL	NAME **Chris Styles**	NAME **Tony Elliott**	NAME **Anne James**
Approved by	NAME **Tony Elliott**	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS
DATE **17/02/2015**	**Document status**	**FOR ISSUE**	

REVISION	NAME	NAME	NAME
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DATE	**Document status**		

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Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS
DATE	**Document status**		

Technical Note

Railway Bridge, Arbour Lane, Chelmsford

Footway Widening

Date: 02 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

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.

Fourteen potential schemes that have been identified through the LHPs have been passed to Essex Highways (EH) so that further work can be undertaken to analyse the proposals, look at feasibility of the options, and report the findings back to ECC.

The options have been checked for compliance with ECC's Traffic Management Strategy and Speed Management Strategy, and EH have liaised with the Network Management Team in ECC to ensure the suitability of the proposals for each location.

Background to the scheme

ECC have previously been approached about the width of the footway over the Railway Bridge on Arbour Lane, Chelmsford. Residents have stated that the footway on the eastern side is very narrow especially when a bus/goods vehicle uses the bridge; in these instances the vehicle wing mirror may extend over the footway. There have also been previous requests for traffic calming along the road. Arbour Lane is classified as a Secondary Distributor (PR2) and is a main feeder route into Springfield Road for Chelmsford.

A design brief was received to assess options and feasibility of widening the footway(s) at this location.

Site Characteristics

Arbour Lane is one of a number of links from the Springfield area which cross the main railway line into Chelmsford. It provides an approximately North / South link to the B1137 Springfield Road, one of the main arteries to Chelmsford from the East.

Immediately to the North and South of the bridge there are well developed housing areas, and the road is an established bus route. No Waiting at any time restrictions (double yellow lines) apply across the bridge and extend for some distance either side, particularly to the South.

A bus stop is formally marked out on the North side of the bridge. This marking occupies most of the northbound traffic lane, and it has been observed that stopped buses may cause short tailbacks of traffic due to the lack of overtaking opportunities created by oncoming traffic.

The carriageway surface consists of a bituminous material and is in generally good condition. The road width has been measured at 6.8 metres.

Railway Bridge, Arbour Lane, Chelmsford

Footway Widening

Date: 02 February 2015

Checked: Tony Elliott
Reviewed: Anne James

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The footway on the West side appears to have been slurry sealed and is in generally good condition, although it was observed that the kerb height is less than desirable, being approximately 70mm. This footway is approximately 1.9 metres wide on the bridge.

The Eastern footway has a concrete surface which is cracked in places and shows signs of patching. The kerb height on this side is satisfactory at 70mm, and this footway is approximately 1.6 metres wide on the bridge but on the approach it gets as low as 1.0-0.9 metres in places.

Both footways are constrained at their outer edges by brickwork walls which form the parapets to the railway bridge.

On all of the footway approaches to the bridge itself, there is some overgrown vegetation from adjacent land which will restrict pedestrian headroom and available footway width.

Arbour Lane Bridge Looking North

Technical Note

Railway Bridge, Arbour Lane, Chelmsford

Footway Widening

Date: 02 February 2015

Checked: Tony Elliott
Reviewed: Anne James

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Accident Data

The accident data shows that there has been only one slight accident (that involved a heart attack) in the area of interest in the last 3 years.

Speed Survey Data

The results of a 12hr speed survey undertaken in December 2013 show good compliance with the 30mph speed limit.

Option 1

One, or both, footways could be widened by moving the existing kerbline further into the carriageway, reducing the carriageway width. The opportunity could be taken to create a higher kerbface, and to repair / resurface the footways to provide a better environment for pedestrians.

However, the current carriageway width of approximately 6.8 metres may already be considered to be close to sub-standard given that Arbour Road is a bus route. The absolute minimum width allowable for a bus route is 6.75 metres – this is as stated in Essex County Council's 'Development Construction Manual' and is also confirmed in 'Development Management Policies' as Policy DM6. Reducing the carriageway by any amount would further decrease the available road width and may lead to further safety problems at this site.

Whilst this would be a relatively low cost option, the impact upon the carriageway width, and hence the potential to create an increased road safety problem, means that this option would be unsatisfactory.

Option 2

Again, one or both sides of the bridge could in theory be widened to create additional highway space which could be used to provide wider footways and possibly locally widen the carriageway to a more desirable width.

In order to fully investigate this option, advice was sought from the EH Structures team. Their comments highlighted a number of constraints and issues that would have to be overcome should widening be required:-

1. The structure carries the unclassified Arbour Lane over the electrified London to Norwich railway. It is not owned by ECC and is in fact a Network Rail owned bridge.

2. As such any works undertaken to widen the structure will require the approval of Network Rail's Outside Parties Engineers. The works themselves will require a number of possessions/ isolations of the railway line and experience suggests that this could be in the region of £5,000 per possession based on a short overnight

possession and up to £1,000 per hour for long term (weekend possessions) to allow for the provision of a replacement bus service etc. Prior to the works Network Rail will also require a Basic Asset Protection Agreement (BAPA) to be in place between themselves and ECC. This could be in the region of £60,000 based on the nature of the works in question.

3. There are associated civils works required to relocate some access steps, a small electrical cabinet, public utilities apparatus, and a street lighting column.

4. The parapet is substandard and as part of any widening works would require replacing with a high containment parapet. Network Rail may also seek the erection of safety fencing on the approach and departure sides of the bridge to prevent any road/ rail incursion issues. However based on the proximity of the track side public footpaths this may be difficult to achieve. A further issue is that the embankment to the south east is steep and the provision of safety fencing or in fact any fencing would require the width of the verge to be increased. It is likely that the land required is not owned by ECC (as it would be beyond the extent of the publically maintainable highway) and as such may need to be purchased. This would not only incur costs but may be a drawn out process. It is also unlikely that the existing bridge beams could accommodate the loading requirements of such a parapet in any case.

5. To facilitate the widening of the structure, the existing substructure would need to be widened with additional foundations provided.

6. During the works it will be necessary to reduce the carriageway with to a single lane as a minimum, however Network Rail may require a full closure for the duration of the works (estimated as 6 months) to prevent against any possibility of a vehicle encroaching upon NR land while to edge of the deck is unprotected.

7. Technical approval would also be required by ECC as the Technical Approval Authority. This process could cost in the region of £20,000

8. As part of the negotiations with Network Rail they may also require ECC to take on future ownership/ maintenance responsibility for the bridge which may not be a desirable option to ECC.

In EH Structures summary they stated that '*due to the significant constraints it is recommended that other solutions should be developed in lieu of any proposed widening of the structure. Although the widening is not impossible to achieve it would potentially cost in the region of £750,000 to complete, taking into account the need for possessions etc. and approvals from NR. The works will also cause significant disruption to the travelling public with vehicular diversion routes needing to be established.'*

'The bridge spans over the main railway line into Chelmsford from the East. Working over a live railway line creates numerous problems and adds significantly to the cost of any works. It is likely that the majority of the work would have to take place at night under railway possessions, and permission would have to be sought from Network Rail.'

Date: 02 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Option 3

The carriageway could be reduced to one lane in order to accommodate wider footpaths by installing a priority give way or installing traffic signals.

The classification of the road set out in the Highway policy states that PR2 routes are not to be traffic calmed reducing the carriageway width would go against the policy and cause congestion on this road with could impact on the very busy junction on Springfield Road.

It would be unlikely that the benefits to be achieved from this option could be justified due to the impact on the highways network and there is no justification from the speed survey to enforce the requirement for traffic calming at this location.

Option 4

As can be seen from the photographs, each pedestrian approach to the bridge is restricted by overhanging vegetation, which appears to be mainly growing from adjacent land. This vegetation forces pedestrians towards the carriageway side of the footway, a situation which is not ideal given the original comments about passing vehicle wing mirrors also overhanging the footway.

Section 154 of the Highways Act 1980 empowers highway authorities to serve notice on the occupier of the land to cut back the offending vegetation within 14 days at the occupier's expense, and if this is not complied with the authority may carry out the works themselves and seek recovery of the costs from the land occupier.
This option, whilst not physically increasing the actual footway width, would ensure that the full width is available to users, and should incur minimal costs for the authority. If none of the adjacent land is occupied or in the ownership of Essex County Council then the only costs would be that of enforcing a Section 154 notice.

In addition to these options for widening the footways, it may be prudent to consider carrying out repairs to the surfacing, particularly on the Eastern side, to ensure that the full width is of a satisfactory, safe and serviceable condition at an estimated value of £10,500.

Network Management Review

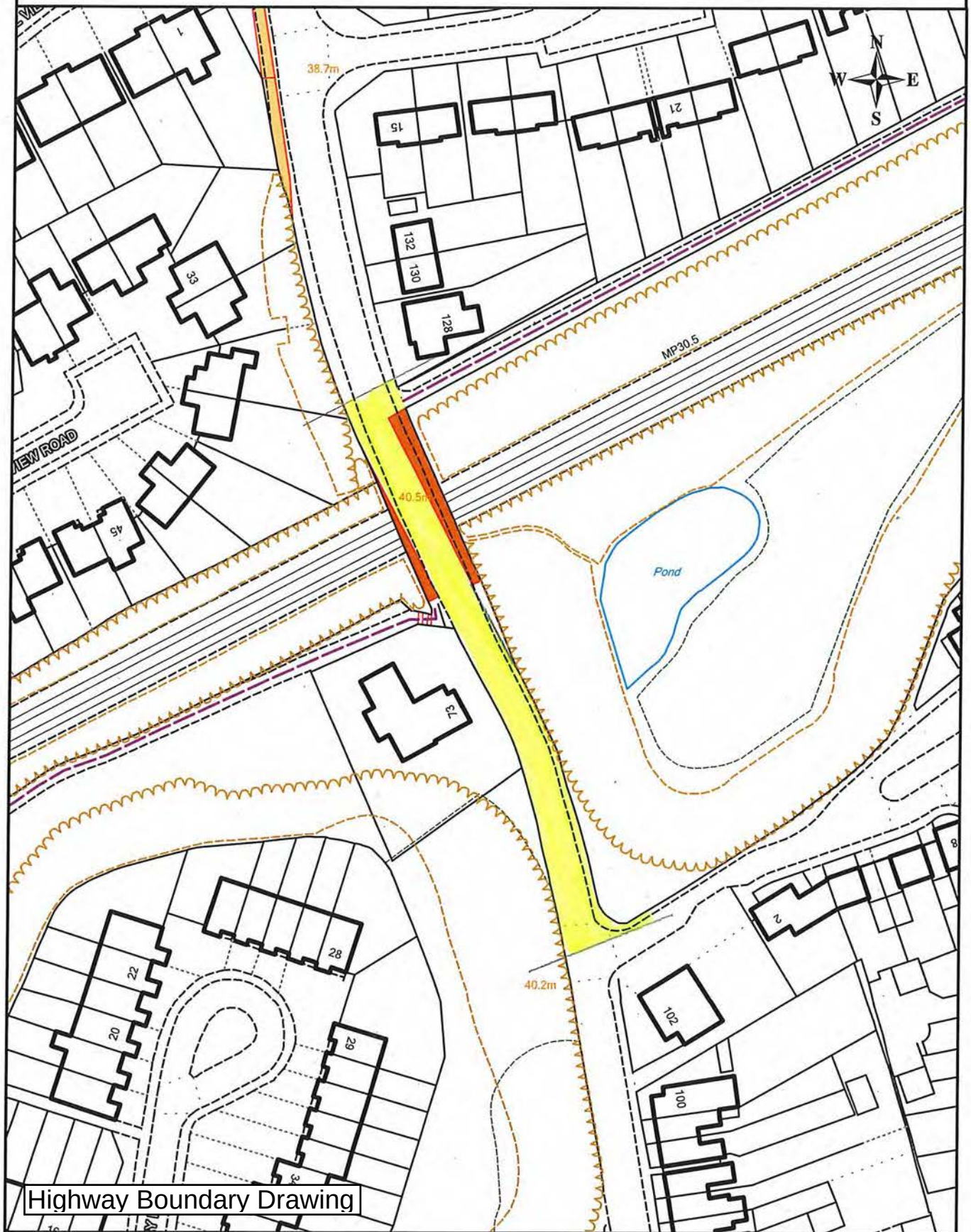
Network management have no views on the options as they see this scheme as a maintenance issue.

Conclusions

Given that options 1, 2 and 3 above are unsatisfactory on road safety and cost grounds, it is recommended that as a minimum solution Essex County Council, in their capacity as Highway Authority, serves notice on the adjacent occupiers, under Section 154 of the Highways Act 1980, to cut back or remove the overhanging vegetation.

In addition, Essex County Council may wish to consider carrying out repairs and resurfacing to the footways over the bridge, to ensure a consistent, level surface for pedestrians.

Location Plan



Highway Boundary Drawing

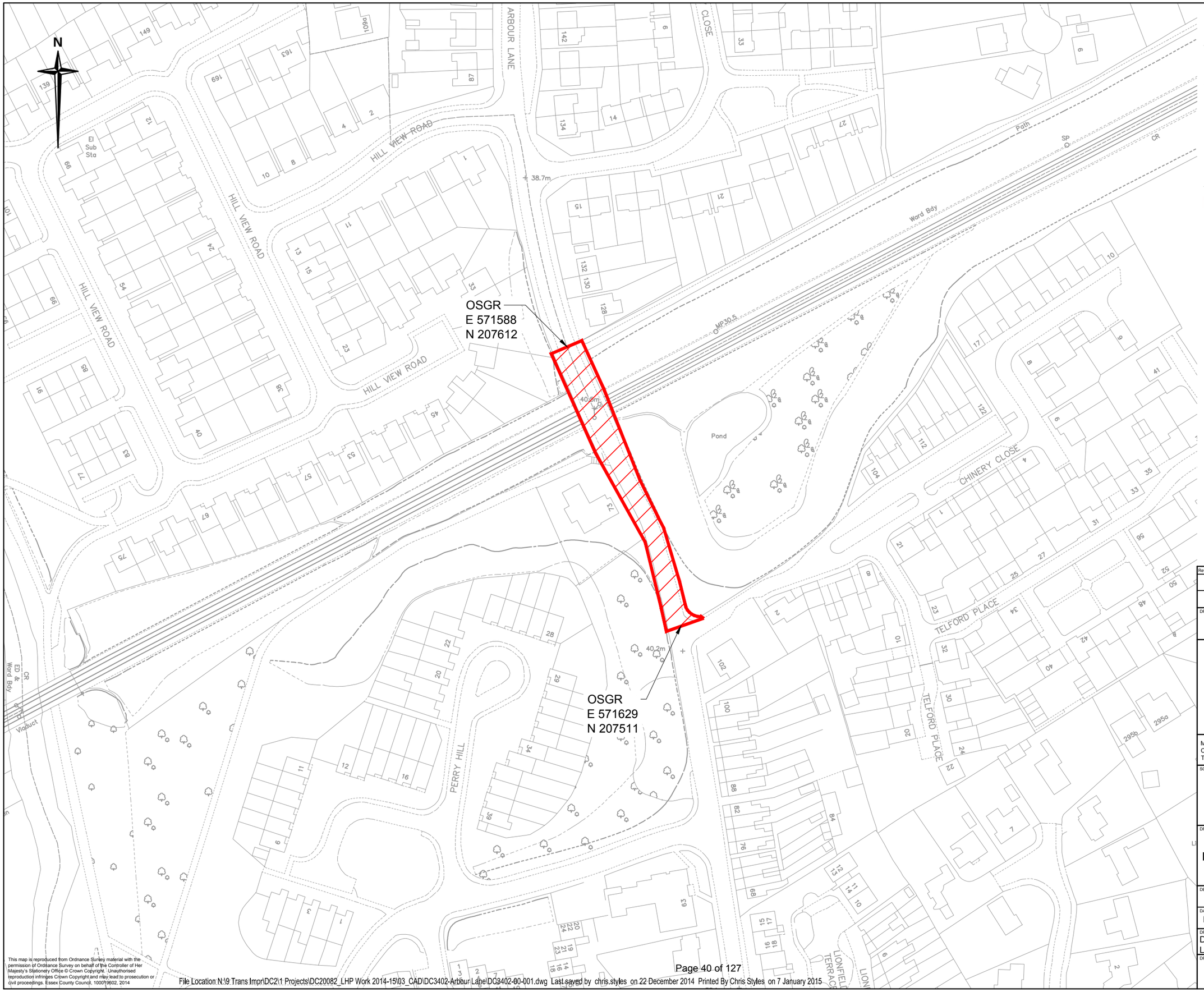
Essex Highways

This information is given with the proviso that where there is a roadside ditch or pond, that ditch or pond and any land to the rear would not normally form part of the highway.

Drawn by	Scale	Date
Christine Yallop	1:1000	09/12/2014

County Hall
Chelmsford
Essex CM1 1QH

www.essexhighways.org



Notes

1. Do not scale.
2. Nearest postcode CM1 7RW

Key

Area of interest

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014/15

DRAWING TITLE

AREA OF INTEREST RAILWAY BRIDGE, ARBOUR LANE, CHELMSFORD

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
PKK	PKK	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A3 (420x297mm)
1:1250

DRAWING No.
DC3402-00-001

REV.
-

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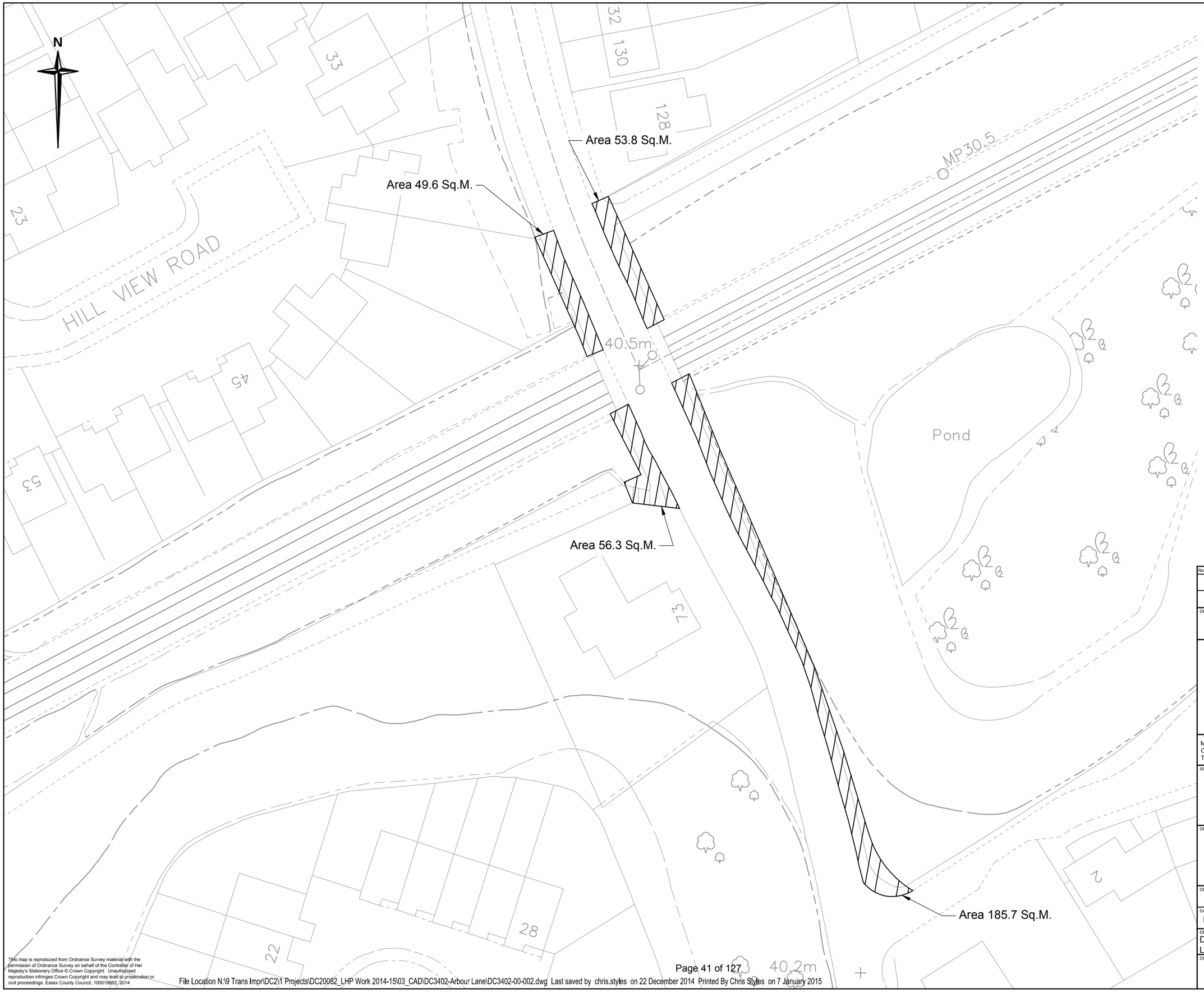

Notes

1. Do not scale.
2. Before the removal of any vegetation the extents of the highway boundary and the ownerships should be established prior to any work being undertaken.

Key

Total Area of Vegetation to be cut back to Highway boundary 345.4 Sq. M.

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014/15

DRAWING TITLE

RAILWAY BRIDGE, ARBOUR LANE, CHELMSFORD VEGETATION CUTBACK DETAILS

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	PKK	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A3 (420x297mm)
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DRAWING No.
DC3402-00-002

REV.
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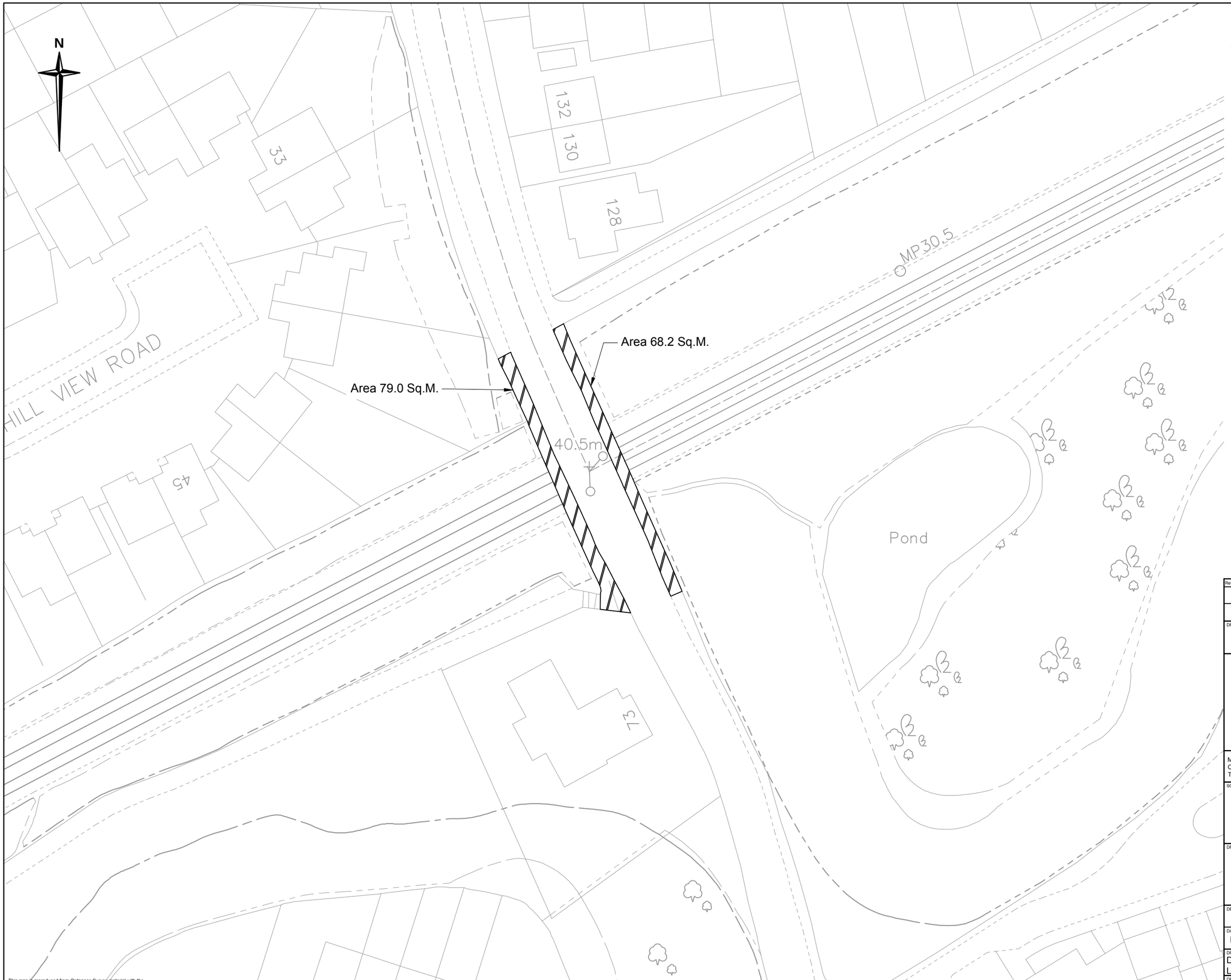

Notes

1. Do not scale.
2. Liaison with Network Rail must be made prior to the commencement of the surfacing works to establish the extents of works to be undertaken and the works co-ordinated with their asset management team.

Key

Area of Footway to be resurfaced 147.2 Sq. M.

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

DRAWING STATUS

INFORMATION

Essex Highways

Runway Jacobs working in partnership with Essex County Council

Mark Rowe, Service Director, Wessex Highways
County Hall, Chamfered. CM1 1QH
Tel: 0845 6037631

SCHEME TITLE

LP FEASIBILITY STUDIES 2014/15

DRAWING TITLE

RAILWAY BRIDGE, ARBOUR LANE,CHELMSFORD FOOTWAY RESURFACING DETAILS

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	PUKKA	CS	DJS	TED
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A3 (420x297mm)
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DC3402-00-003

REV.
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Document control sheet

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version 15; Mar 2013

Project: LHP2014/15 – Feasibility Study
Client: Essex Highways — Project No: B3553L19
Document title: Chelmer Village Pedestrian Refuge
Ref. No: LCHE142020

	Originated by	Checked by	Reviewed by	
ORIGINAL	NAME	NAME	NAME	
	Chris Styles	**Tony Elliott**	**Anne James**	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
	Tony Elliott			
DATE **17/02/2015**		**Document status**	**FOR ISSUE**	

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DATE		**Document status**		

Technical Note

Chelmer Village Way - Pedestrian Refuge

B3553L19
Date: 14 January 2015

LCHE142020
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

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.

Fourteen potential schemes that have been identified through the LHPs have been passed to Essex Highways (EH) so that further work can be undertaken to analyse the proposals, look at feasibility of the options, and report the findings back to ECC.

The options have been checked for compliance with ECC's Traffic Management Strategy and Speed Management Strategy, and EH have liaised with the RSA and the Network Management Team in ECC to ensure the suitability of the proposals for each location.

Attention is drawn to the 'Addendum' section of this report, in which a further solution was proposed by ECC Network Management, following completion of this initial study. Commentary on this additional information is provided in the addendum section.

Background to the scheme

Chelmer Village Way lies in Chelmer Village in Springfield. The location under consideration is near to the junction with Brooke End Road North. ECC has received a request from Springfield Parish Council on behalf of their residents to improve the pedestrian crossing facilities on Chelmer Village Way between the roundabout junction at Chancellor Avenue and the roundabout junction at Henniker Drive. Chelmer Village Way is classified as a Secondary Distributor (PR2) and is a main feeder route into the A138 for the A12 and Chelmsford City Centre.

A design brief was received to assess options and feasibility of providing a pedestrian refuge island at this location. It was requested that a 'PV²' survey be undertaken as part of these works to establish the need of a crossing facility. A PV² survey is a measure of the potential conflict between vehicles and pedestrians at a particular site.

Technical Note

Chelmer Village Way - Pedestrian Refuge

B3553L19
Date: 14 January 2015

LCHE142020
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Site Characteristics

Chelmer Village Way is one of a number of links from the Springfield area which feeds both the A12 and A138, one of the main arteries to Chelmsford City.

The site is located in a well-established housing development with a 40mph speed limit which traffic information shows is generally being complied with. The road is an established bus route with formally marked out Bus Stop lay-bys located both sides of the carriageway within the proposed location.

The carriageway consists of a bituminous surfacing material and is in good condition. The road widths at this location average at approximately 7.8 metres.

The adjacent footways consist of a bituminous surface material and are in good condition. The kerb height is approximately 125mm and the footway widths measure at approximately 2.0 metres.

Original Proposed Location of the Refuge

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Proposed Location, View to the Southwest

Proposed Location, View to the Northeast

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Photos of new footway and existing footway locations

PV²

The results of the PV² survey undertaken 25 September 2014 can be found attached to this technical report and they suggest that there is a need for an uncontrolled crossing facility. The PV² score is **0.200 x 10^8**.

Whilst current guidance from the DfT is that each site should be assessed on a range of factors, previous advice was that where the PV² result is between 0.2 and 0.7 x 10^8 then a controlled crossing would not be recommended and alternatives such as a pedestrian refuge or zebra crossing should be considered.

The traffic data taken on Chelmer Village Way on 25/09/14 indicates an 85%ile speed of 37.2mph and a combined Average Daily Traffic (ADT) value as 9127.

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Accident Data

The accident data shows that there has been only one slight accident in the area of interest in the last 3 years which involved a student who ran across the road apparently without looking and was consequently struck by a vehicle.

Option 1

Two options were considered during the feasibility study and the breakdown of each option is detailed below, whilst draft designs can be found attached to this document.

Option 1 provides a refuge island at a new uncontrolled pedestrian crossing facility and links the current Bus Stops to the existing footway.

To achieve this a new footway will have to be constructed in the verge on the northeast side of the carriageway outside 1 Brook End Road North. This construction would be within the existing highway boundary, which is also attached to this report.

This option allows the refuge to be located at an acceptable distance from the dedicated left hand turn lane and from the known bus movements. The carriageway width in this location is approximately 7.8 metres which would allow the creation of 3.15 metre carriageway widths and a 1.5m central refuge island, to be located 10.0 metres from the junction with Brook End Road North. The refuge would be provided with solar powered bollards.

New road markings will be required as shown in the designs provided in this report and new signage will need to be installed to warn drivers of the approaching hazard.

This option is estimated to cost in the region of £9,500.

Option 2

Option 2 is the provision of a new footway which would effectively close off Brook End North and turn the road into a cul-de-sac. A new refuge island can be installed at an uncontrolled crossing point, and the bus stops can be linked to the existing footways.

To facilitate this a new footway will need to be constructed across the junction of Brook End Road North and in the verge on the northeast side of the carriageway outside 1 Brook End Road North. This construction would be within the existing highway boundary, which is also attached to this report.

This option permits an even greater distance to be achieved from the dedicated left hand turn lane and from the bus movements. A new turning head would need to be constructed in Brook End Road North to allow private vehicles, refuse vehicles and LGV's to turn around when making deliveries or collecting refuse. The land required for this may be constrained within the existing highway boundary, although detailed design will be required to ascertain whether additional land needs to be acquired. Costs of land purchase have not been included in the estimates. The carriageway width in this location is approximately 7.8 metres allowing 3.15 metre lane widths and a 1.5m refuge island with solar powered bollards.

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New road markings will be required and new signage will need to be installed to warn drivers of the approaching hazard as well as 'No Through Road' signs on Brook End Road North.

This option is estimated to cost in the region of £36,000.

RSA 1 Results

ECC's Road Safety Audit (RSA) Team have reviewed both options and have raised a few concerns with the designs as presented:-

- For Option 2, when closing the exit from Brook End Road North on to Chelmer Village Way, the width of the road and the overgrown vegetation may mean vehicles will come into direct conflict on the road if the one way system is removed, this would increase the risk of head on incidents between vehicles and non-motorised users who would be used to vehicles only approaching from the north towards the south.
- For both Options 1 and 2, RSA have raised concerns that the carriageway width is too narrow for the installation of a 1.5 metre refuge, increasing the risk to young children or a pushchair being struck by a passing bus due to the reduced space in the carriageway and the refuge being only 1.5 metre in depth. They have suggested a 0.35 metre increase either side of the carriageway to increase the existing 7.8 metre carriageway width to 8.5 metres creating 3.25 metre lane widths and a 2.0 metre refuge.
- For Option 1 RSA have remarked that providing a uncontrolled dropped crossing point at the Brook End Road North junction to link the bus stop with the refuge crossing point will increase the risk of a collision with pedestrians being struck by vehicles turning into Brook End Road North. RSA suggest reducing the Brook End Road North junction mouth to provide a shorter distance to cross.
- It was noted by RSA that there is a desire line evident south of the proposed site a few meters from the existing left hand turn lane – It is their opinion that this could accommodate a wider island and wider lane widths.

Network Management Review

Network Management have been consulted during the study and have raised no objections to either Option, however they did suggest that Section 106 funding may be available to fund the crossing facility.

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Conclusions

The installation of a pedestrian crossing facility on Chelmer Village Way can be provided however it cannot safely be accommodated in the original proposed location due to the presence of two adjacent Bus Stops, where crossing pedestrians between bus movements could lead to potential accidents. In addition, although the carriageway is wide enough to accommodate a refuge island it would mean that the existing left hand turn lane would need to be removed.

RSA have highlighted that Option 2 would increase risk of head on conflicts if Brook End Road North was closed off. The only through traffic would be residential and refuse collection vehicles so the risks may well be minimal. The risk of incidents may be reduced by cutting back and maintaining the vegetation in order to improve visibility on the carriageway.

Whilst RSA have requested a minimum refuge depth of 2.0m, Local Transport Note 2/95 details an absolute minimum of a 1.2 meter refuge to be located 5 – 20 metres from the give way line measured from the driver from the side road. Should there be a desire to create a 2.0m deep refuge, then carriageway widening can be achieved.

As Option 2 requires land take (at least from within the highway boundary, but possibly from other ownership,) provides narrow running lanes, and is not situated at the desired crossing point, it is suggested that this Option is discounted, and that Option 1 is preferable.

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Addendum

Following the completion of this study, further information was received from ECC Network Management which introduced the concept of a signalised crossing on Chelmer Village Way. This option can be found attached to this document and involves closing off Brook End Road North at the junction with Chelmer Village Way by extending the footpath across the bell mouth of Brook End Road North, and providing a 'Toucan' crossing facility.

It is assumed that this design revokes the current one way system in this section of Brook End Road North but the design appears to have made no consideration for vehicles that may take a wrong turn, or those making deliveries or making collections. This was outlined as a concern with Option 2 by RSA.

By providing a Toucan crossing it does allow the traffic lanes to remain at the existing width (as there is no refuge island) and as such should reduce the risk of collisions. However the PV^2 results in this area do not suggest that the installation of a Toucan crossing facility is justified.

As a 'Toucan' crossing is designed for use by cyclists as well as pedestrians, it has been assumed that the new footpath proposed under this alternative will become a shared surface. There is a segregated footway/cycleway to the south of the scheme, therefore it could be possible to link the routes up using the Toucan crossing and the footpath on the adjacent footway providing additional benefits to the area.

The location of the crossing is on the 'wrong' side of the marked bus stop lay-by, as shown in the guidance in Transport for London (TfL) 'Accessible Bus Stop Design Guidance.' Figure 12 of this document demonstrates the preferred layout, as does the 'Translink Bus Stop Design Guide'.

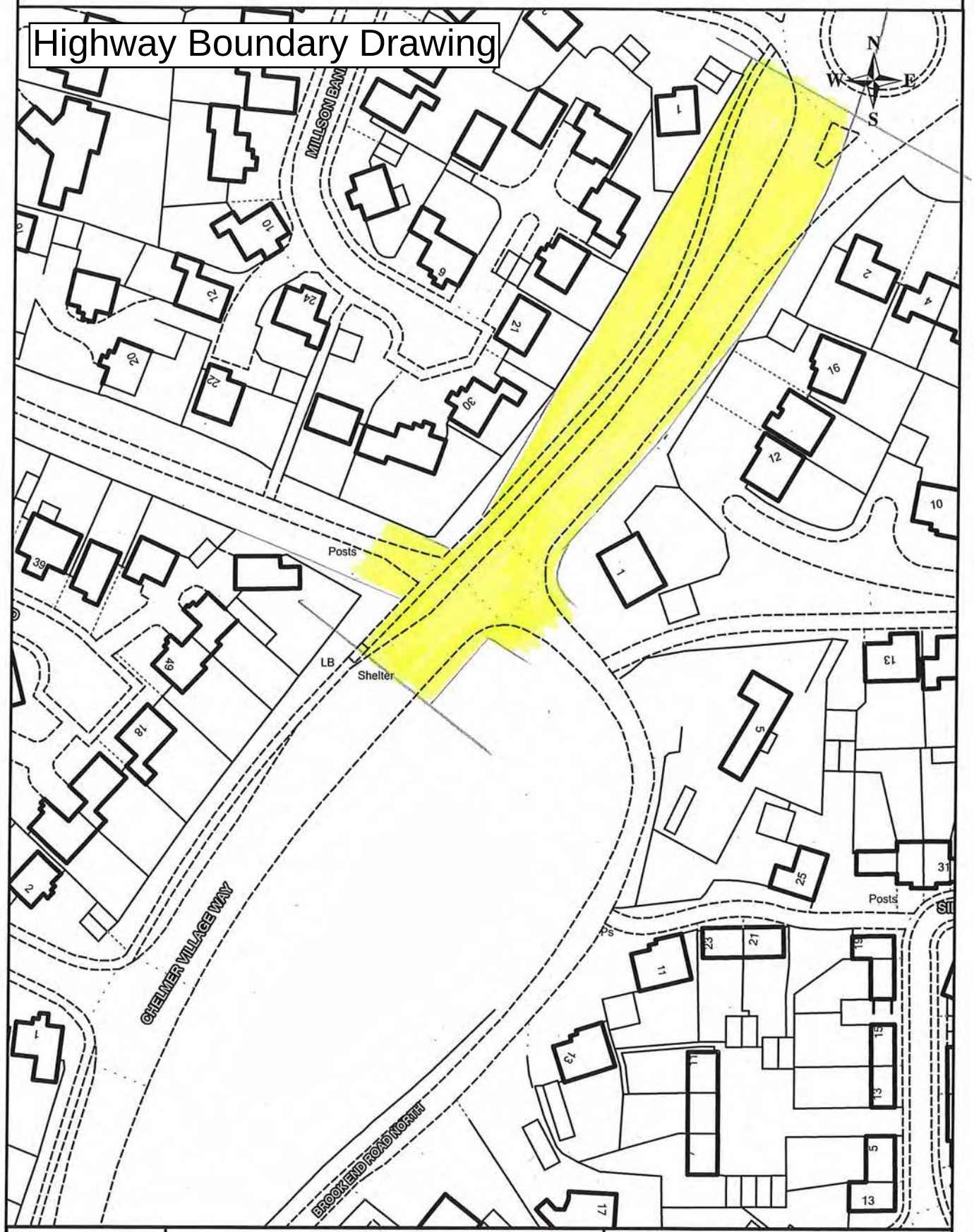
The bus stop and crossing facility should be positioned so that parked buses do not obstruct inter-visibility between pedestrians and drivers. Further guidance is provided in Local Transport Note (LTN) 2/95 'The Design of Pedestrian Crossings.' A suitable visibility splay should be introduced to alleviate the concerns of reduced inter-visibility.

This alternative solution could provide significant benefits, however it is suggested that should it be progressed, the following should be included:-

- A turning head within the stopped up Brook End Road North
- A visibility splay analysis of the junction
- Maintenance of the vegetation in Brook End Road North
- Consideration of provision of a sign to diagram 543 of TSRGD ('Traffic Signals Ahead')

Location Plan

Highway Boundary Drawing



Essex Highways

This information is given with the proviso that where there is a roadside ditch or pond, that ditch or pond and any land to the rear would not normally form part of the highway.

Drawn by	Scale	Date
Christine Yallop	1:1000	09/12/2014

County Hall
Chelmsford
Essex CM1 1QH

www.essexhighways.org

PROJECT	14520 CHELMSFORD
LOCATION	Chelmer Village Way, Chelmsford
DATE	Thu 25 Sep, 2014

CDPV2 result 0.200×10^8

Collision factor	1.200
Difficulty factor	1.151
Basic PV2	0.145
CDPV2	**0.200**

The collision factor multiplied by the difficuly factor, further multiplied by the original PV2 value, provides the CDPV2.

Where the value of CDPV2 is between 0.2 and 0.7 x 10^8, then a controlled crossing would not be recommended, and alternatives such as a pedestrian refuge or zebra crossing should be considered.

Where the value of CDPV2 is below 0.2, then a crossing facility would not normally be justified, but the site may be reviewed on its merits with regard to local and/or special needs and may be considered subject to funding.

Collision data (C)

	Fatal	Serious	Slight	TOTAL
Cyclist			1	1.0
Pedestrian			1	1.0
Other				0.0
COLLISION FACTOR				**1.2**

In order to produce the updated CDPV2, non-motorised collision numbers from the past 36 months, and within a reasonable distance from the site, are factored.

Difficulty factor (D)

No. lanes (total)	2
Road width (mtrs)	7
Speed limit (mph)	40
FACTORED WIDTH VALUE	**1.15**

The level of difficulty in crossing the road is determined from the posted speed limit, the road width and number of lanes.

Basic PV2 calculation

	Peds	Vehicles	PV2
07:00	67	423.5	
08:00	27	709.0	
09:00	0	538.0	
10:00	5	539.0	
11:00	0	609.0	
12:00	3	628.5	
13:00	6	644.0	
14:00	4	615.5	
15:00	74	803.5	0.478
16:00	14	755.0	0.080
17:00	1	769.0	0.006
18:00	3	714.5	0.015
AVERAGE			**0.145**

The traffic volumes from the four busiest hours are selected and squared. This figure is then multiplied by the corresponding pedestrian count, then divided by 10^8 to produce an hourly PV2.

Generated	Wed 08 Oct 2014

PROJECT	14520 CHELMSFORD
LOCATION	ATC01 Chelmer Village Way, Chelmsford
DATE	Thu 25 Sep, 2014
WEATHER (am)	Dry, 19'C
WEATHER (pm)	Dry, 19'C
INCIDENTS	None

Essex Highways

Pedestrian crossing count

MILLSON BANK TO QUALE RD

West to East

	PED: School accompanied	PED: School unaccompanied	PED: Over 65	PED: Visually impaired	Wheeled: Prams / pushchairs	Wheeled: Wheelchairs	Wheeled: Cyclists	Equestrian: Rider only	PED: General public	TOTAL
07:00	0	0	0	0	0	0	0	0	0	**0**
07:15	0	0	0	0	0	0	0	0	0	**0**
07:30	0	0	0	0	0	0	0	0	0	**0**
07:45	0	0	0	0	0	0	0	0	2	**2**
08:00	0	1	0	0	0	0	0	0	0	**1**
08:15	0	0	0	0	0	0	0	0	0	**0**
08:30	3	0	0	0	0	0	0	0	0	**3**
08:45	0	0	0	0	0	0	0	0	0	**0**
09:00	0	0	0	0	0	0	0	0	0	**0**
09:15	0	0	0	0	0	0	0	0	0	**0**
09:30	0	0	0	0	0	0	0	0	0	**0**
09:45	0	0	0	0	0	0	0	0	0	**0**
10:00	0	0	0	0	0	0	0	0	0	**0**
10:15	0	0	0	0	0	0	0	0	2	**2**
10:30	0	0	0	0	0	0	0	0	1	**1**
10:45	0	0	0	0	0	0	0	0	0	**0**
11:00	0	0	0	0	0	0	0	0	0	**0**
11:15	0	0	0	0	0	0	0	0	0	**0**
11:30	0	0	0	0	0	0	0	0	0	**0**
11:45	0	0	0	0	0	0	0	0	0	**0**
12:00	0	0	0	0	0	0	0	0	0	**0**
12:15	0	0	0	0	0	0	0	0	0	**0**
12:30	0	0	0	0	0	0	0	0	0	**0**
12:45	0	0	0	0	0	0	0	0	0	**0**
13:00	0	0	0	0	0	0	0	0	2	**2**
13:15	0	0	0	0	0	0	0	0	0	**0**
13:30	0	0	0	0	0	0	0	0	1	**1**
13:45	0	0	0	0	0	0	0	0	0	**0**
14:00	0	0	0	0	0	0	0	0	1	**1**
14:15	0	0	0	0	0	0	0	0	0	**0**
14:30	0	0	0	0	0	0	0	0	2	**2**
14:45	0	0	0	0	0	0	0	0	1	**1**
15:00	0	0	0	0	0	0	0	0	3	**3**
15:15	0	29	0	0	0	0	0	0	0	**29**
15:30	0	0	0	0	0	0	0	0	1	**1**
15:45	0	0	0	0	0	0	0	0	11	**11**
16:00	0	0	0	0	0	0	0	0	3	**3**
16:15	0	0	0	0	0	0	2	0	0	**2**
16:30	0	0	0	0	0	0	0	0	1	**1**
16:45	0	0	0	0	0	0	0	0	1	**1**
17:00	0	0	0	0	0	0	0	0	0	**0**
17:15	0	0	0	0	0	0	0	0	0	**0**
17:30	0	0	0	0	0	0	0	0	0	**0**
17:45	0	0	0	0	0	0	0	0	0	**0**
18:00	0	0	0	0	0	0	0	0	0	**0**
18:15	0	0	0	0	0	0	0	0	1	**1**
18:30	0	0	0	0	0	0	1	0	1	**2**
18:45	0	0	0	0	0	0	0	0	0	**0**
TOTAL	**3**	**30**	**0**	**0**	**0**	**0**	**3**	**0**	**34**	

Traffic link count

SOUTHBOUND

	CAR	LGV1	LGV2	MGV	HGV1	HGV2	PSV	MB	PC	TOTAL
07:00	25	0	3	0	0	0	2	1	0	**31**
07:15	33	1	5	1	0	0	0	0	0	**40**
07:30	30	3	2	1	0	1	1	2	1	**41**
07:45	67	4	4	2	0	0	2	0	2	**81**
08:00	66	5	5	0	1	0	3	1	1	**82**
08:15	63	3	3	2	0	0	1	1	0	**73**
08:30	115	3	2	0	0	0	2	1	0	**123**
08:45	88	2	1	0	0	0	0	0	1	**92**
09:00	57	3	5	1	0	0	1	1	2	**70**
09:15	60	1	5	1	0	0	0	0	0	**67**
09:30	58	2	3	0	1	0	0	0	0	**64**
09:45	63	3	2	0	1	0	1	0	0	**70**
10:00	59	1	0	0	0	0	0	0	0	**60**
10:15	52	2	4	0	0	0	1	1	0	**60**
10:30	65	1	6	0	0	0	0	0	0	**72**
10:45	78	1	5	0	1	0	1	0	0	**86**
11:00	65	1	3	1	0	0	0	0	0	**70**
11:15	72	1	3	2	1	0	1	0	0	**80**
11:30	66	2	3	0	0	0	0	1	1	**73**
11:45	65	2	2	0	1	0	1	0	0	**71**
12:00	61	4	2	1	0	0	0	1	0	**69**
12:15	76	2	1	1	0	0	1	1	0	**82**
12:30	68	4	2	0	0	0	0	0	0	**74**
12:45	74	3	5	0	0	1	1	4	1	**89**
13:00	75	3	2	2	0	0	0	2	0	**84**
13:15	72	3	0	1	2	0	1	2	0	**81**
13:30	78	2	2	1	1	0	0	0	0	**84**
13:45	65	2	3	0	0	0	1	0	0	**71**
14:00	63	5	2	0	1	0	0	1	0	**72**
14:15	65	2	4	1	1	0	1	0	0	**74**
14:30	75	0	4	0	0	0	0	1	0	**80**
14:45	85	3	4	1	0	0	1	0	0	**94**
15:00	104	2	6	0	0	2	0	1	0	**115**
15:15	94	4	3	0	0	0	3	2	1	**107**
15:30	86	3	2	0	0	0	1	1	0	**93**
15:45	97	1	3	1	0	0	0	0	1	**103**
16:00	80	3	2	1	1	0	2	2	1	**92**
16:15	79	8	8	1	1	0	0	2	0	**99**
16:30	85	5	4	0	0	0	1	2	0	**97**
16:45	74	6	4	0	0	0	0	1	0	**85**
17:00	103	6	6	1	0	0	1	2	1	**120**
17:15	90	1	5	1	1	0	1	1	1	**101**
17:30	90	4	2	0	0	0	0	1	3	**100**
17:45	93	1	2	0	0	0	1	1	1	**99**
18:00	79	2	2	0	0	0	0	3	2	**88**
18:15	89	4	2	1	0	0	2	0	0	**98**
18:30	86	2	5	0	0	0	0	0	0	**93**
18:45	87	4	7	1	0	0	0	0	0	**99**
TOTAL	**3520**	**130**	**160**	**26**	**14**	**4**	**35**	**40**	**20**	

QUALE RD TO MILLSON BANK

East to West

	PED: School accompanied	PED: School unaccompanied	PED: Over 65	PED: Visually impaired	Wheeled: Prams / pushchairs	Wheeled: Wheelchairs	Wheeled: Cyclists	Equestrian: Rider only	PED: General public	TOTAL
07:00	0	0	0	0	0	0	0	0	2	**2**
07:15	0	0	0	0	0	0	0	0	0	**0**
07:30	0	0	0	0	0	0	0	0	1	**1**
07:45	1	30	0	0	0	0	0	0	1	**32**
08:00	0	8	0	0	0	0	1	0	2	**11**
08:15	0	0	0	0	0	0	0	0	1	**1**
08:30	0	0	0	0	0	0	0	0	0	**0**
08:45	0	0	0	0	0	0	2	0	0	**2**
09:00	0	0	0	0	0	0	0	0	0	**0**
09:15	0	0	0	0	0	0	0	0	0	**0**
09:30	0	0	0	0	0	0	0	0	0	**0**
09:45	0	0	0	0	0	0	0	0	0	**0**
10:00	0	0	0	0	0	0	0	0	0	**0**
10:15	0	0	0	0	0	0	0	0	1	**1**
10:30	0	0	0	0	0	0	0	0	1	**1**
10:45	0	0	0	0	0	0	0	0	0	**0**
11:00	0	0	0	0	0	0	0	0	0	**0**
11:15	0	0	0	0	0	0	0	0	0	**0**
11:30	0	0	0	0	0	0	0	0	0	**0**
11:45	0	0	0	0	0	0	0	0	0	**0**
12:00	0	0	0	0	0	0	0	0	0	**0**
12:15	0	0	0	0	0	0	0	0	1	**1**
12:30	0	0	0	0	0	0	0	0	1	**1**
12:45	0	0	0	0	0	0	0	0	1	**1**
13:00	0	0	0	0	0	0	1	0	2	**3**
13:15	0	0	0	0	0	0	0	0	0	**0**
13:30	0	0	0	0	0	0	0	0	0	**0**
13:45	0	0	0	0	0	0	0	0	0	**0**
14:00	0	0	0	0	0	0	0	0	0	**0**
14:15	0	0	0	0	0	0	0	0	0	**0**
14:30	0	0	0	0	0	0	0	0	0	**0**
14:45	0	0	0	0	0	0	0	0	0	**0**
15:00	0	0	0	0	0	0	1	0	0	**1**
15:15	0	0	0	0	0	0	0	0	0	**0**
15:30	0	0	0	0	0	0	0	0	0	**0**
15:45	0	0	0	0	0	0	0	0	0	**0**
16:00	0	0	0	0	0	0	0	0	0	**0**
16:15	0	0	0	0	0	0	0	0	0	**0**
16:30	0	0	0	0	0	0	1	0	3	**4**
16:45	0	0	0	0	0	0	0	0	3	**3**
17:00	0	0	0	0	0	0	0	0	1	**1**
17:15	0	0	0	0	0	0	0	0	0	**0**
17:30	0	0	0	0	0	0	0	0	0	**0**
17:45	0	0	0	0	0	0	0	0	0	**0**
18:00	0	0	0	0	0	0	0	0	0	**0**
18:15	0	0	0	0	0	0	0	0	0	**0**
18:30	0	0	0	0	0	0	0	0	0	**0**
18:45	0	0	0	0	0	0	0	0	0	**0**
TOTAL	**1**	**38**	**0**	**0**	**0**	**0**	**6**	**0**	**21**	

NORTHBOUND

	CAR	LGV1	LGV2	MGV	HGV1	HGV2	PSV	MB	PC	TOTAL
07:00	27	0	2	1	0	0	2	1	0	**33**
07:15	40	2	1	1	0	0	0	1	1	**46**
07:30	54	3	10	1	0	0	0	0	1	**69**
07:45	66	1	4	0	0	0	4	0	1	**76**
08:00	62	3	7	0	0	0	3	2	0	**77**
08:15	66	4	3	0	2	0	2	0	0	**77**
08:30	68	3	6	0	0	0	0	0	0	**77**
08:45	90	2	3	0	0	1	1	1	0	**98**
09:00	58	2	2	0	1	1	2	2	1	**69**
09:15	53	1	3	0	1	1	1	2	1	**63**
09:30	51	3	1	1	3	0	0	0	0	**59**
09:45	58	2	2	1	0	0	1	0	0	**64**
10:00	63	3	1	0	0	0	0	0	0	**67**
10:15	45	2	5	0	0	0	1	1	0	**54**
10:30	54	2	3	0	1	0	0	0	0	**60**
10:45	65	6	4	0	0	0	1	0	0	**76**
11:00	63	2	0	0	1	1	0	0	0	**67**
11:15	74	4	2	3	2	0	0	2	0	**87**
11:30	62	3	3	1	0	0	1	2	1	**73**
11:45	74	3	2	0	0	0	1	0	0	**80**
12:00	77	4	1	1	0	0	0	0	1	**84**
12:15	71	1	4	0	1	0	0	0	0	**77**
12:30	59	3	3	0	1	0	1	0	1	**68**
12:45	70	2	5	1	1	0	0	1	0	**80**
13:00	65	4	2	1	0	1	1	1	1	**76**
13:15	75	4	2	1	0	1	0	0	0	**83**
13:30	65	1	2	0	1	0	1	0	0	**70**
13:45	78	1	1	2	1	1	0	1	0	**85**
14:00	66	2	2	1	0	0	1	0	0	**72**
14:15	53	7	3	0	2	0	0	0	2	**67**
14:30	69	2	0	0	0	0	1	0	2	**74**
14:45	70	3	1	0	0	0	1	1	0	**76**
15:00	71	5	3	1	1	0	1	0	0	**82**
15:15	97	2	0	1	1	0	3	0	0	**104**
15:30	94	2	1	1	1	1	0	0	0	**100**
15:45	67	3	9	1	1	0	3	3	0	**87**
16:00	89	3	2	1	0	0	0	0	1	**96**
16:15	91	4	3	0	0	0	0	0	0	**98**
16:30	83	1	1	0	0	1	1	0	0	**87**
16:45	83	5	7	0	0	0	0	1	0	**96**
17:00	64	4	3	0	0	0	2	0	0	**73**
17:15	85	4	2	0	0	0	0	2	1	**94**
17:30	88	3	0	1	0	0	1	1	1	**95**
17:45	76	2	0	0	1	0	0	2	1	**82**
18:00	69	2	3	0	0	0	1	1	0	**76**
18:15	88	3	3	1	0	0	0	0	0	**95**
18:30	80	2	1	1	0	0	2	3	0	**89**
18:45	69	4	1	0	0	0	0	0	0	**74**
TOTAL	**3305**	**134**	**129**	**24**	**23**	**9**	**40**	**31**	**17**	

COMBINED TOTALS

West and East

	PED: School accompanied	PED: School unaccompanied	PED: Over 65	PED: Visually impaired	Wheeled: Prams / pushchairs	Wheeled: Wheelchairs	Wheeled: Cyclists	Equestrian: Rider only	PED: General public	TOTAL
07:00	0	0	0	0	0	0	0	0	2	**2**
07:15	0	0	0	0	0	0	0	0	0	**0**
07:30	0	0	0	0	0	0	0	0	1	**1**
07:45	1	30	0	0	0	0	0	0	3	**34**
08:00	0	9	0	0	0	0	1	0	2	**12**
08:15	0	0	0	0	0	0	0	0	1	**1**
08:30	3	0	0	0	0	0	0	0	0	**3**
08:45	0	0	0	0	0	0	2	0	0	**2**
09:00	0	0	0	0	0	0	0	0	0	**0**
09:15	0	0	0	0	0	0	0	0	0	**0**
09:30	0	0	0	0	0	0	0	0	0	**0**
09:45	0	0	0	0	0	0	0	0	0	**0**
10:00	0	0	0	0	0	0	0	0	0	**0**
10:15	0	0	0	0	0	0	0	0	3	**3**
10:30	0	0	0	0	0	0	0	0	2	**2**
10:45	0	0	0	0	0	0	0	0	0	**0**
11:00	0	0	0	0	0	0	0	0	0	**0**
11:15	0	0	0	0	0	0	0	0	0	**0**
11:30	0	0	0	0	0	0	0	0	0	**0**
11:45	0	0	0	0	0	0	0	0	0	**0**
12:00	0	0	0	0	0	0	0	0	0	**0**
12:15	0	0	0	0	0	0	0	0	1	**1**
12:30	0	0	0	0	0	0	0	0	1	**1**
12:45	0	0	0	0	0	0	0	0	1	**1**
13:00	0	0	0	0	0	0	1	0	4	**5**
13:15	0	0	0	0	0	0	0	0	0	**0**
13:30	0	0	0	0	0	0	0	0	1	**1**
13:45	0	0	0	0	0	0	0	0	0	**0**
14:00	0	0	0	0	0	0	0	0	1	**1**
14:15	0	0	0	0	0	0	0	0	0	**0**
14:30	0	0	0	0	0	0	0	0	2	**2**
14:45	0	0	0	0	0	0	0	0	1	**1**
15:00	0	0	0	0	0	0	1	0	3	**4**
15:15	0	29	0	0	0	0	0	0	0	**29**
15:30	0	0	0	0	0	0	0	0	1	**1**
15:45	0	0	0	0	0	0	0	0	11	**11**
16:00	0	0	0	0	0	0	0	0	3	**3**
16:15	0	0	0	0	0	0	2	0	0	**2**
16:30	0	0	0	0	0	0	1	0	4	**5**
16:45	0	0	0	0	0	0	0	0	4	**4**
17:00	0	0	0	0	0	0	0	0	1	**1**
17:15	0	0	0	0	0	0	0	0	0	**0**
17:30	0	0	0	0	0	0	0	0	0	**0**
17:45	0	0	0	0	0	0	0	0	0	**0**
18:00	0	0	0	0	0	0	0	0	0	**0**
18:15	0	0	0	0	0	0	0	0	1	**1**
18:30	0	0	0	0	0	0	1	0	1	**2**
18:45	0	0	0	0	0	0	0	0	0	**0**
TOTAL	**4**	**68**	**0**	**0**	**0**	**0**	**9**	**0**	**55**	

COMBINED TOTALS

South and North

	CAR	LGV1	LGV2	MGV	HGV1	HGV2	PSV	MB	PC	TOTAL
07:00	52	0	5	1	0	0	4	2	0	**64**
07:15	73	3	6	2	0	0	0	1	1	**86**
07:30	84	6	12	2	0	1	1	2	2	**110**
07:45	133	5	8	2	0	0	6	0	3	**157**
08:00	128	8	12	0	1	0	6	3	1	**159**
08:15	129	7	6	2	2	0	3	1	0	**150**
08:30	183	6	8	0	0	0	2	1	0	**200**
08:45	178	4	4	0	0	1	1	1	1	**190**
09:00	115	5	7	1	1	1	3	3	3	**139**
09:15	113	2	8	1	1	1	1	2	1	**130**
09:30	109	5	4	1	4	0	0	0	0	**123**
09:45	121	5	4	1	1	0	2	0	0	**134**
10:00	122	4	1	0	0	0	0	0	0	**127**
10:15	97	4	9	0	0	0	2	2	0	**114**
10:30	119	3	9	0	1	0	0	0	0	**132**
10:45	143	7	9	0	1	0	2	0	0	**162**
11:00	128	3	3	1	1	1	0	0	0	**137**
11:15	146	5	5	5	3	0	1	2	0	**167**
11:30	128	5	6	1	0	0	1	3	2	**146**
11:45	139	5	4	0	1	0	2	0	0	**151**
12:00	138	8	3	2	0	0	0	1	1	**153**
12:15	147	3	5	1	1	0	1	1	0	**159**
12:30	127	7	5	0	1	0	1	0	1	**142**
12:45	144	5	10	1	1	1	1	5	1	**169**
13:00	140	7	4	3	0	1	1	3	1	**160**
13:15	147	7	2	2	2	1	1	2	0	**164**
13:30	143	3	4	1	2	0	1	0	0	**154**
13:45	143	3	4	2	1	1	1	1	0	**156**
14:00	129	7	4	1	1	0	1	1	0	**144**
14:15	118	9	7	1	3	0	1	0	2	**141**
14:30	144	2	4	0	0	0	1	1	2	**154**
14:45	155	6	5	1	0	0	2	1	0	**170**
15:00	175	7	9	1	1	2	1	1	0	**197**
15:15	191	6	3	1	1	0	6	2	1	**211**
15:30	180	5	3	1	1	1	1	1	0	**193**
15:45	164	4	12	2	1	0	3	3	1	**190**
16:00	169	6	4	2	1	0	2	2	2	**188**
16:15	170	12	11	1	1	0	0	2	0	**197**
16:30	168	6	5	0	0	1	2	2	0	**184**
16:45	157	11	11	0	0	0	0	2	0	**181**
17:00	167	10	9	1	0	0	3	2	1	**193**
17:15	175	5	7	1	1	0	1	3	2	**195**
17:30	178	7	2	1	0	0	1	2	4	**195**
17:45	169	3	2	0	1	0	1	3	2	**181**
18:00	148	4	5	0	0	0	1	4	2	**164**
18:15	177	7	5	2	0	0	2	0	0	**193**
18:30	166	4	6	1	0	0	2	3	0	**182**
18:45	156	8	8	1	0	0	0	0	0	**173**
TOTAL	**6825**	**264**	**289**	**50**	**37**	**13**	**75**	**71**	**37**	

PROJECT	14520 CHELMSFORD
LOCATION	ATC01 - Chelmer Village Way, Chelmsford
DESCRIPTION	25m NE of Brook End Rd
START DATE	Thu 25 Sep, 2014
SPEED LIMIT	40mph
BUS ROUTE	Yes
ROAD TYPE	Two way street

ATC Summary

COMBINED

Total recorded volume	63,892.0
Average daily volume (7 days)	9,127.4
Avg weekday volume (Mon - Fri)	9,371.6
Average daily speed	33.8mph
Average daily 85%ile	37.2mph

The combined summary on the left shows the total volumes and average speeds recorded in both directions (southbound & northbound) from all the recorded data.

SOUTHBOUND

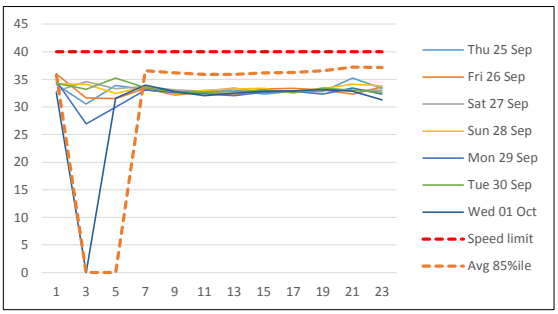
Total recorded volume	33,188.0
Average daily volume (7 days)	4,741.1
Avg weekday vol (Mon - Fri)	4,864.4
Average daily speed	33.0mph
Average daily 85%ile	36.4mph
% of vehicles exceeding 40mph	3.3%
% of HGVs (4+ axles)	0.1%
Percentage of total volume	51.9%
Total no. vehs within bus class	1,025.0

NORTHBOUND

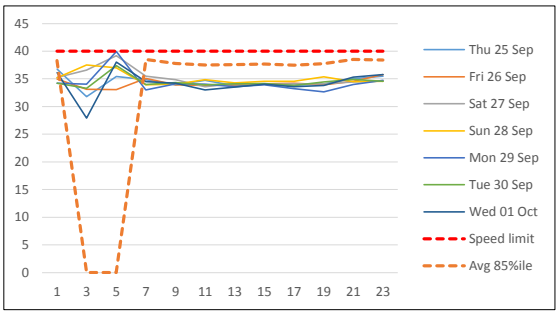
Total recorded volume	30,704.0
Average daily volume (7 days)	4,386.3
Avg weekday vol (Mon - Fri)	4,507.2
Average daily speed	34.6mph
Average daily 85%ile	37.9mph
% of vehicles exceeding 40mph	6.7%
% of HGVs (4+ axles)	0.2%
Percentage of total volume	48.1%
Total no. vehs within bus class	996.0

Daily speeds

SOUTHBOUND



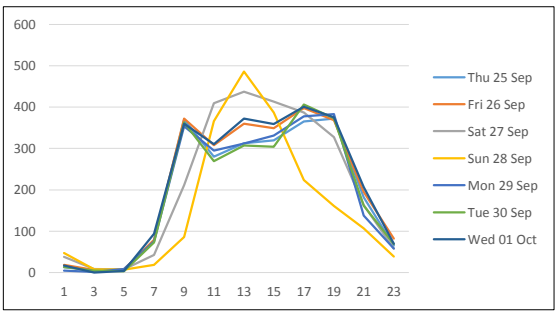
NORTHBOUND



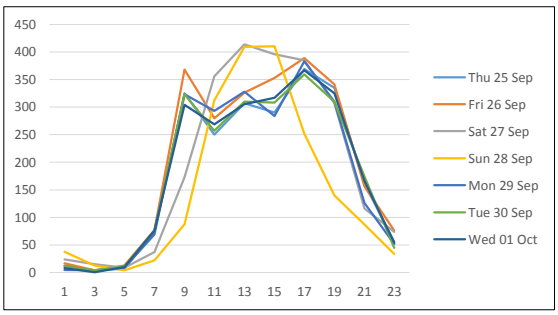
Average daily southbound and northbound speeds (solid thin colours) and 85%ile (dashed orange) compared against 40mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A miniumum of ten vehicles per speed bin is required for the calculation.

Daily volumes

SOUTHBOUND



NORTHBOUND



Daily southbound and northbound traffic volumes over each 24hr period, including Saturday and Sunday.

Vehicle classes

SOUTHBOUND

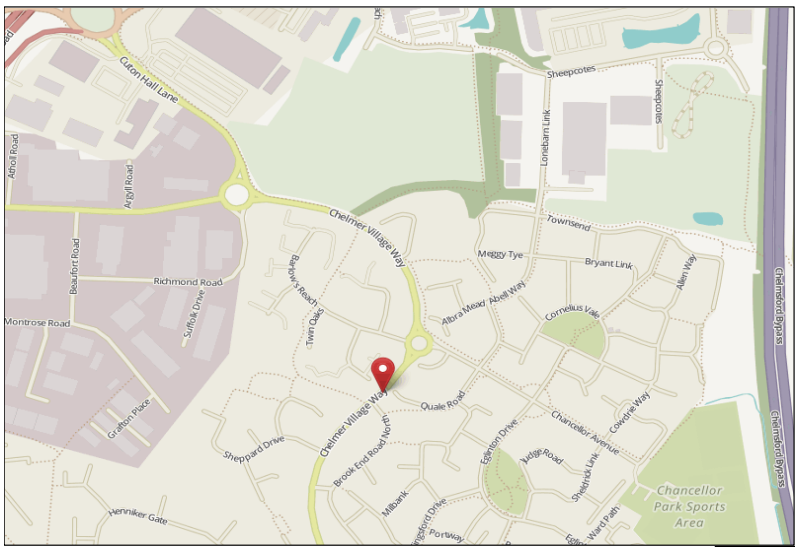
TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV Artic	TOTAL
0000	1	21	0	0	0	**22**
0100	0	9	0	0	0	**9**
0200	0	5	0	0	1	**6**
0300	0	5	0	0	0	**5**
0400	0	6	1	0	0	**6**
0500	0	25	1	0	0	**26**
0600	2	63	1	0	0	**66**
0700	4	145	10	2	4	**165**
0800	3	287	12	1	1	**304**
0900	3	270	13	3	0	**290**
1000	3	305	11	2	2	**323**
1100	2	345	13	2	1	**363**
1200	4	354	12	1	0	**370**
1300	2	338	10	1	2	**354**
1400	4	337	11	1	2	**354**
1500	4	383	12	1	3	**402**
1600	4	351	11	3	2	**370**
1700	7	374	10	0	5	**396**
1800	4	325	8	1	0	**338**
1900	2	240	7	1	1	**252**
2000	4	157	4	0	0	**165**
2100	0	93	2	0	0	**96**
2200	2	60	1	1	0	**64**
2300	1	33	0	0	0	**34**
12hr TTL	**43**	**3812**	**133**	**18**	**22**	**4028**
24hr TTL	**56**	**4528**	**151**	**20**	**24**	**4779**
	1%	95%	3%	0%	1%	

NORTHBOUND

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV Artic	TOTAL
0000	0	16	0	0	0	**17**
0100	0	8	0	0	0	**8**
0200	0	6	1	0	0	**6**
0300	0	4	0	0	0	**5**
0400	0	7	2	0	1	**10**
0500	1	19	3	0	0	**22**
0600	1	55	6	0	0	**62**
0700	3	163	14	3	1	**184**
0800	2	257	12	3	0	**275**
0900	3	222	8	5	3	**240**
1000	2	275	11	0	1	**289**
1100	3	308	9	2	1	**323**
1200	3	328	12	0	0	**343**
1300	3	338	10	3	4	**358**
1400	3	320	13	5	1	**342**
1500	2	368	13	3	2	**388**
1600	3	345	10	0	1	**359**
1700	6	328	7	3	0	**344**
1800	4	286	5	1	2	**298**
1900	3	223	4	2	2	**234**
2000	2	137	2	0	0	**141**
2100	1	91	2	0	0	**94**
2200	1	55	1	0	0	**56**
2300	1	30	0	0	0	**31**
12hr TTL	**37**	**3537**	**125**	**28**	**16**	**3743**
24hr TTL	**47**	**4187**	**146**	**30**	**19**	**4428**
	1%	95%	3%	1%	0%	

Average daily southbound and northbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data.

Site location



OSGR	573491, 207746
Lat, lng	51.741556, 0.511444
Location	Chelmer Village Way, Chelmsford
Desc.	25m NE of Brook End Rd
Site no.	ATC01
PSL	40mph
Type	Two way street

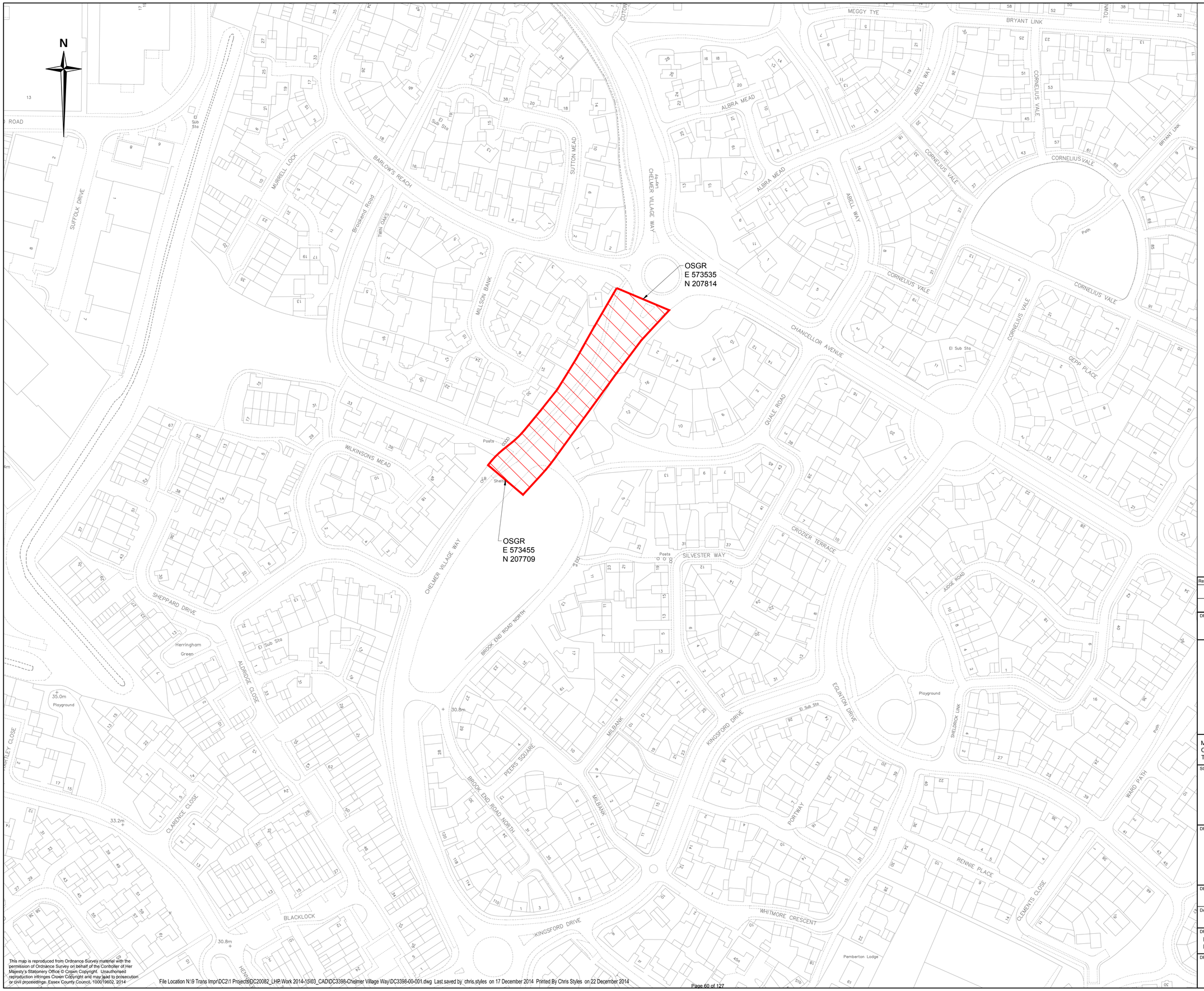
Generated	Wed 08 Oct 2014

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;
- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 0 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

RINGWAY JACOBS integrated expertise

Essex County Council



Notes

1. Do not scale.
2. Nearest postcode CM2 6QD.

Key

Area of interest

Rev.	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014 / 2015

DRAWING TITLE

AREA OF INTEREST CHELMER VILLAGE WAY

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
KS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

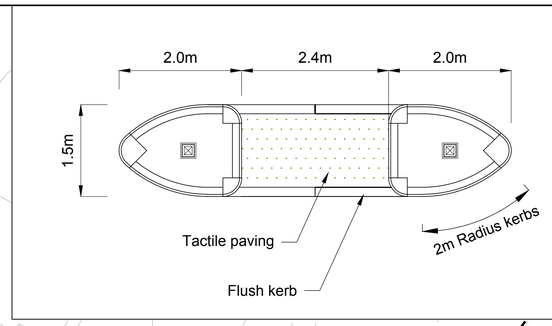
DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A1 (841X594mm)
1:1000

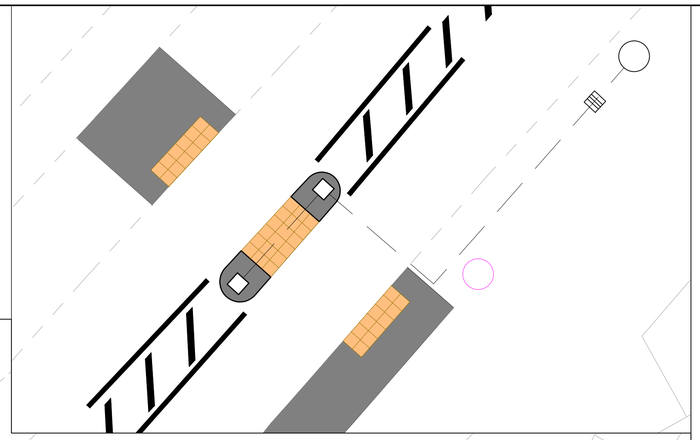
DRAWING No.
DC3398-00-001

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3398-Chelmer Village Way\DC3398-00-001.dwg Last saved by chris.styles on 17 December 2014 Printed By Chris Styles on 22 December 2014



Scale - 1:50



Scale - 1:100

N

MILLSON BANK

New marking to merge smoothly with existing marking

TSRGD DIAG. 1040.2

New footway in verge

FP LC

MH

Proposed ducting from LC to feed bollards

Posts

TSRGD DIAG. 1038

New footway in verge

New tactile crossing

New marking to merge smoothly with existing marking

Shelter

New tactile crossing

Existing footway

Notes

1. All dimensions are in metres unless otherwise stated.
2. 305mm X 255mm quadrants to be used on nosings.
3. The end of the 2m radius kerbs to be cut to suit the width of the refuge and to ensure a flush joint with quadrant.
4. Type HB (half battered) kerbs to be used with 125mm kerb face except where stated.
5. Refuges to be surfaced with the standard footway construction course regulating material to be used in lieu of sub-base when refuges are constructed in existing surfaces.
6. Standard layout refuge island based on guidance on the use of tactile paving surfaces.

Key

- Tactile paving
- Ducting
- Feeder pillar
- Manhole
- Solar Powered Bollard to TMP EVO-S or Equivalent
- New Footway Construction

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014 / 2015

DRAWING TITLE

CHELMER VILLAGE WAY OPTION 1

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
KS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

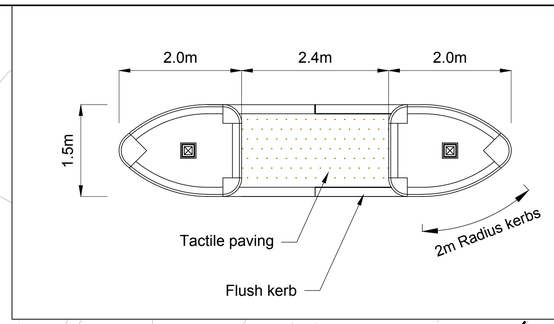
DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A1 (841X594mm)
1:500

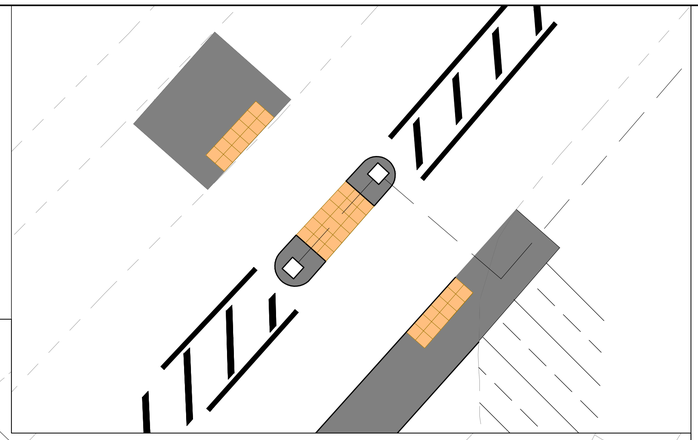
DRAWING No.
DC3398-00-002

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3398-Chelmer Village Way\DC3398-00-002.dwg Last saved by chris.styles on 22 December 2014 Printed By Chris Styles on 14 January 2015



Scale - 1:50



Scale - 1:100

N

MILLSON BANK

TSRGD DIAG. 1040.2

New marking to merge smoothly with existing marking

New footway in verge

FP LC

MH

Posts

New footway in carriageway

Proposed ducting from LC to feed bollards

New footway in verge

New marking to merge smoothly with existing marking

Proposed land to be acquired for turnaround point

LB

Shelter

Existing footway

Notes

1. All dimensions are in metres unless otherwise stated.
2. 305mm X 255mm quadrants to be used on nosings.
3. The end of the 2m radius kerbs to be cut to suit the width of the refuge and to ensure a flush joint with quadrant.
4. Type HB (half battered) kerbs to be used with 125mm kerb face except where stated.
5. Refuges to be surfaced with the standard footway construction course regulating material to be used in lieu of sub-base when refuges are constructed in existing surfaces.
6. Standard layouts refuge island based on guidance on the use of tactile paving surfaces.

Key

- Tactile paving
- Ducting
- Feeder pillar
- Manhole
- Solar Powered Bollard
- New Footway Construction
- Additional area of land to be acquired for turnaround point for refuge vehicles

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

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014 / 2015

DRAWING TITLE

CHELMER VILLAGE WAY OPTION 2

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
KS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

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

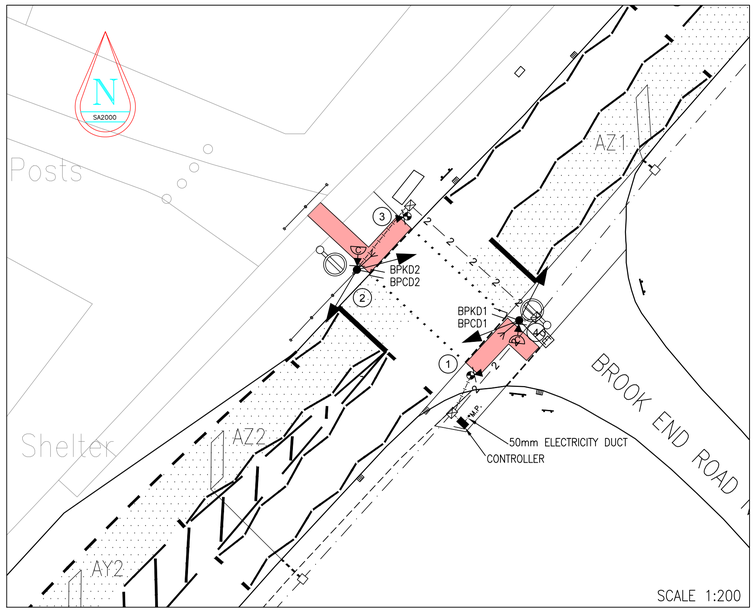
SCALE AT A1 (841X594mm)
1:500

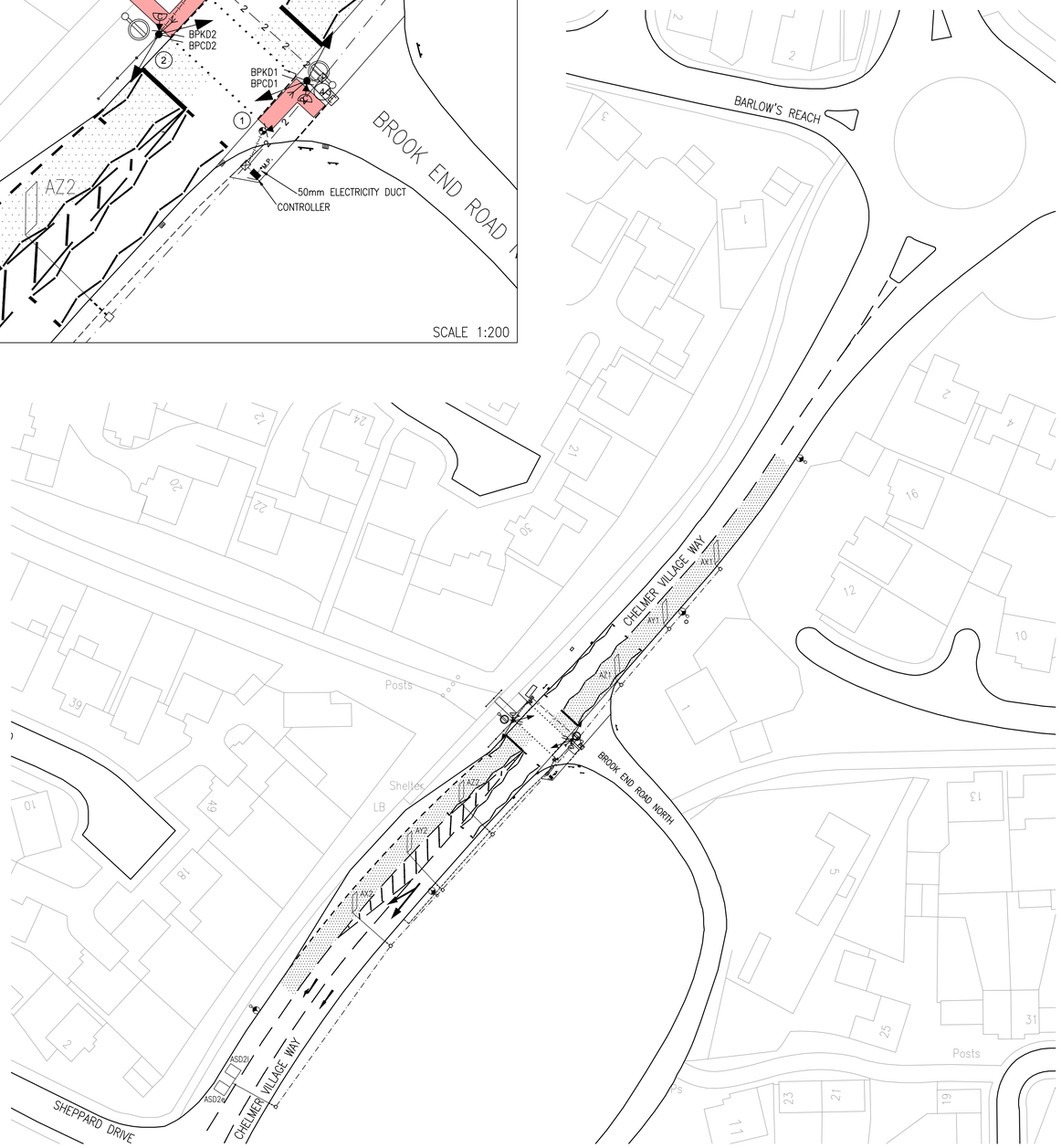
DRAWING No.
DC3398-00-003

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3398-Chelmer Village Way\DC3398-00-003.dwg Last saved by chris.styles on 22 December 2014 Printed By Chris Styles on 14 January 2015

Rev A | Drawing Number 5073223/TC/7T29/1001 | Status D | DO NOT SCALE | A1 | 0 10 100





DETECTOR FUNCTIONS

DETECTOR NUMBER	DETECTOR LABEL	DISTANCE FROM STOP LINE (m)	PHASE(S) DEMANDED	PHASE(S) EXTENDED	CALL/ CANCEL	ALL RED EXTENDED
00	AX1	39	A	A	–	–
01	AYZ1	25,12	A	A	–	–
02	AX2	39	A	A	–	–
03	AYZ2	25,12	A	A	–	–
04	ASD2	79	–	A	–	–
05	PEDB	–	B	–	–	–
06	BPCD1	–	–	–	–	B
07	BPCD2	–	–	–	–	B
08	BPKD1	–	B	–	0/2	–
09	BPKD2	–	B	–	0/2	–

TOUCAN TIMINGS

PERIOD	SIGNAL TO VEHICLE	SIGNAL TO PEDESTRIANS/CYCLISTS	DURATION (SECONDS)
1	GREEN	RED	7
2	AMBER	RED	3
3	RED	RED	3 GAP 3 FORCE
4	RED	GREEN	5
5	RED	RED	3
6	RED	RED	12
7	RED	RED	3
8	RED	RED	0
9	RED/AMBER	RED	2

	VEHICLE EXTENSION	SPEED EXTENSION	MAX VEHICLE GREEN OFF PEAK	MAX VEHICLE GREEN PEAK
VEHICLE PHASE	1.6	3.0	20	30

PEDESTRIAN ALL RED EXTENSION INTERVAL (PCD) 2.0 SECONDS

KEY

- PRIMARY 3 ASPECT SIGNAL HEAD
- PUSH BUTTON UNIT WITH TOUCAN NEARSIDE INDICATOR MOUNTED ABOVE
- PEDESTRIAN PUSHBUTTON UNIT
- 2m STUB POLE
- 4m STRAIGHT POLE
- DROP KERB
- SIGNAL CONTROLLER
- PEDESTRIAN CROSSING DETECTOR (PCD)
- PEDESTRIAN KERBSIDE DETECTOR (PKD)
- VEHICLE DETECTOR LOOPS
- 600 X 450 CHAMBER
- 450 X 450 CHAMBER
- PEDESTRIAN STUDS
- 50mm CABLE DUCT
- SINGLE 100mm CABLE DUCT
- 2 X 100mm CABLE DUCT
- 50mm BLACK ELECTRICITY DUCT
- 100mm FLEXIBLE CABLE DUCT
- GUARD RAILING
- LIGHTING COLUMN
- M.P. ELECTRICITY SUPPLY MINI PILLAR
- PE PHOTO ELECTRIC CELL
- RED TACTILE PAVING (EXTENT ONLY SHOWN ON 1:500)
- HIGH FRICTION SURFACING

LIGHTING KEY

- PROPOSED 6 METRE STEEL COLUMN WITH 0.5 METRE PROJECTION BRACKET, SIDE ENTRY LANTERN AND 100W CDO-TT LAMP
- EXISTING 8 METRE STEEL COLUMN WITH 0.5 METRE PROJECTION BRACKET, SIDE ENTRY LANTERN AND 90W SOX LAMP

NOTES:

STOP LINES TO BE LOCATED 2.6m FROM THE CENTRE LINE OF THE PRIMARY SIGNAL POLE.

PEDESTRIAN STUDS TO BE LOCATED 3.0m FROM STOP LINES.

X,Y & Z VEHICLE DETECTOR LOOPS TO BE LOCATED 39m, 25m & 12m FROM STOP LINE RESPECTIVELY.

STOP LINES TO BE 300mm WIDE.

ALL POLES TO BE INSTALLED 0.8m FROM THE CARRIAGEWAY AND 0.4m FROM THE TACTILE PAVING.

ALL SIGNAL POLES TO BE FITTED WITH NAL RS115 POLE RETENTION SOCKETS.

POLES 1 & 3 ARE STUB POLES.

PUSHBUTTONS ON POLES 2 & 4 ARE FITTED WITH AUDIBLES.

ALL PUSHBUTTONS ARE TO BE FITTED WITH TACTILES.

ALL PUSHBUTTON AND INDICATOR UNITS ARE TO BE MOUNTED TO THEIR RESPECTIVE POLES AT AN ANGLE OF 30° TO THE KERB LINE.

HIGH FRICTION SURFACING TO TD 50/04 EXTENDING 60m FROM STOP LINE AND TO NEAR PEDESTRIAN STUDS ON BOTH APPROACHES.

STREET LIGHTING TO BS5489 2003, IN ACCORDANCE WITH ECC REQUIREMENTS.

RED LAMP MONITORING IS INSTALLED AT THIS SITE DUE TO THE PROVISION OF AUDIBLES AND TACTILES.

AUDIBLES TO BE TIMETABLED TO BE SWITCHED OFF BETWEEN 22:00HRS AND 07:00HRS.

THE DROPPED KERB DETAIL OF THE TACTILE PAVING SHOULD SATISFY THE REQUIREMENTS OF FIGURE 3 OF 'THE GUIDANCE ON THE USE OF TACTILE PAVING SURFACES' PUBLISHED BY THE DETR.

THE ACCURACY OF THIS DRAWING CANNOT BE GUARANTEED FOR SETTING OUT OF CIVILS WORKS.

ALL TIMINGS STATED ON THIS DRAWING ARE MINIMUMS.

DUCT LAYOUT IS INDICATIVE AND SUBJECT TO SITE CONDITIONS.

PARKING FOR MAINTENANCE VEHICLES IS AVAILABLE AT THE END OF BROOK END ROAD NORTH.

NEW TRAFFIC SIGNALS AHEAD SIGNS TO BE ERECTED FOR A MINIMUM PERIOD OF 2 MONTHS AND NOT EXCEEDING 3 MONTHS ON EACH APPROACH.

Essex County Council
Highways and Transportation Department
Network Policy

SIGNAL APPROVAL

Approval No.		
	Signature	Date
Checked Design and Layout		
SA2000 Approved		
ECC Approved		

Essex County Council
Road Safety Audit Stamp

Company:		
Reference No:		Stage
Initials	Date	Comments

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION
NONE

MAINTENANCE/CLEANING
SLOTS FOR N/B DET LOOPS TO BE CUT ACROSS ROAD

USE
NONE

DECOMMISSIONING/DEMOLITION
NONE

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	INITIALS	DATE
INTGRN CALC	MH	4/11/08
INTGRN CHECK	ARF	5/11/08
SURVEYED	ATKINS	11/08
DRAWN	CF	26/9/08

Stat	Rev	Purpose of Issue	Date	Auth

Rev	Description	By	Date	Chk'd	Auth
A	ORIGINAL ISSUE SEE TITLE BLOCK				

SA2000
THREADNEEDLE HOUSE
9-10 MARKET ROAD
CHELMSFORD
CM1 1XA
www.atkinsglobal.com

Client
Essex County Council
Environment, Substainability and Highways

PAUL BIRD
ACTING DIRECTOR FOR DEVELOPMENT, HIGHWAYS & TRANSPORTATION
COUNTY HALL, CHELMSFORD. CM1 1QH
Telephone 01245 492211

Project
7T29
CHELMER VILLAGE WAY,
(SOUTH OF BARLOWS REACH), CHELMSFORD

Title
TOUCAN CROSSING APPROVAL

Sheet Size	Original Scale	Designed/Drawn	Checked	Authorised
A1	1:500	MH Date 30/01/09	ARF Date 03/02/09	AM Date 05/02/09

Status	Drawing Number	Rev
D	5073223/TC/7T29/1001	A

File: 7T29-5073223-1001A - NOT INSTALLED.dwg
Date: Dec 23, 2013 - 1:08pm Plotted by: jane.poole

N:\6 Network Safety\ITS\ITS Manage and Maintain\ITS Asset Management\Site Files\D07-Chelmsford\7T29\Drawings\7T29-5073223-1001A - NOT INSTALLED.dwg

DC3075 – Penny Royal Road, Danbury - Proposed Footway

1.0 **Brief**

Danbury Parish Council have requested through Chelmsford LHP that Essex Highways undertake a feasibility study to determine if a new footway link can be constructed.

The proposal is to construct walking provision along the northern side of Penny Royal Road for a length of approximately 400m. The proposal will link the existing footways which end close to junction of Mayes Lane at the eastern end of the study area and outside the property "Lundie" near the junction of Woodhill Road at the western end of the study area.

2.0 **Site Description**

Currently, there is footway of approximate 1.1m width ending in the vicinity of both Woodhill Road and Mayes Lane (at both ends of Penny Royal Road) with little to no pedestrian provision along Penny Royal Road for pedestrians. This is forcing all pedestrians to use the carriageway to get from one end of Penny Royal Road to the other.

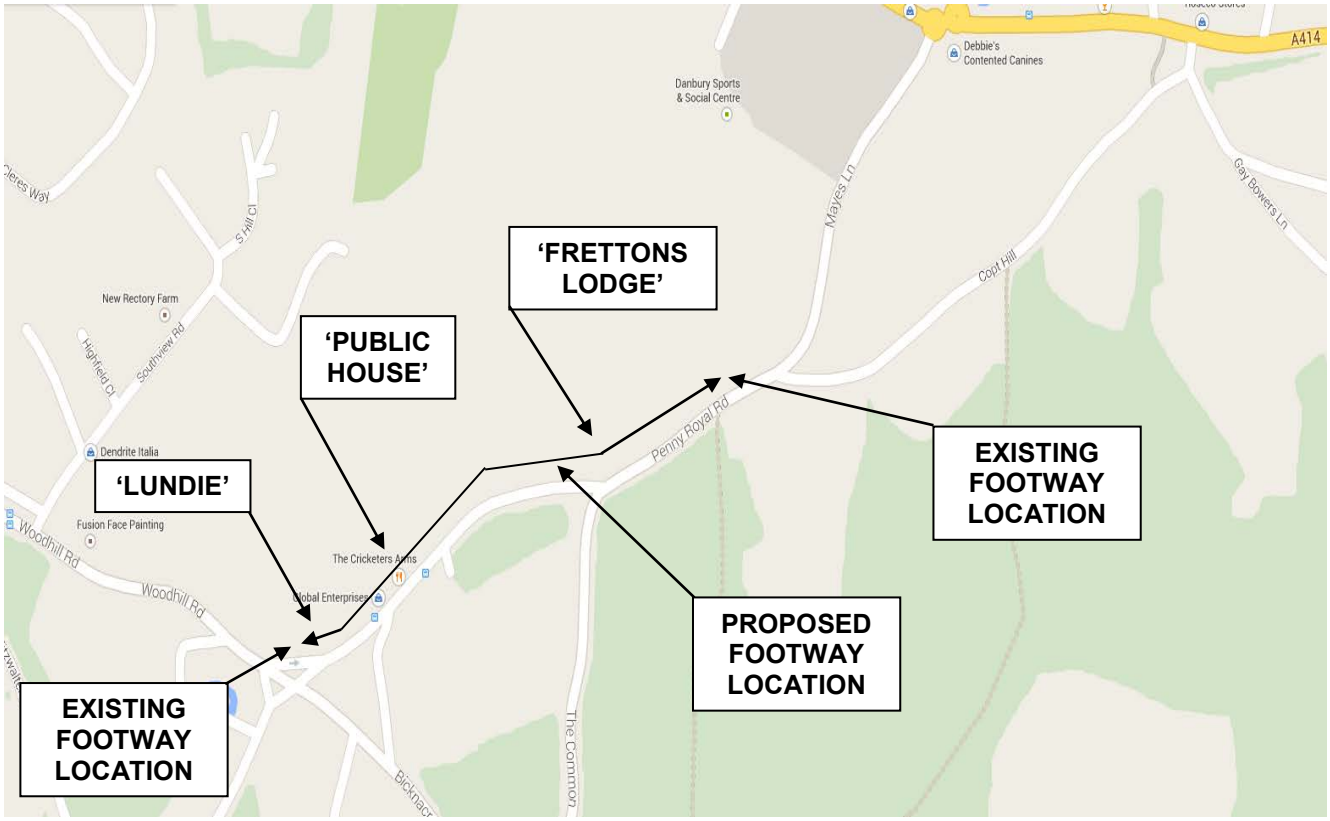
Penny Royal Road is a local route but is situated between PR2 routes. Penny Royal Road is currently under a 40mph speed limit, which then reduces to 30mph upon the approach to Mayes Lane.

Private Ownership is subject to the land within the southern verge of Penny Royal Road.

There a series of properties situated at the western end of the proposed work area along with a Public House. A single property 'Frettons Lodge' is present at the junction of The Common with local leisure facilities (tennis court, bowling green and playing fields) situated adjacent to this property.

3.0 **Site Location Plan**

The length of footway extension to be investigated will link Woodhill Road to Mayes Lane as shown on the diagram below.



4.0 **Site Observations**

- There are existing bus stops located along Penny Royal Road which are located:-
  - West of Public House
  - Opposite Public House
- A pedestrian count has been carried out when on site. A total of 2 pedestrians where recorded walking in the carriageway travelling in a South West direction.
- No road gullies or kerbing was noted throughout the study area on either side of the carriageway.
- Street lighting is not currently present. A street Lighting assessment is recommended should the scheme be approved by the Parish Council.
- Substantial vegetation clearance would be required along the northern side of carriageway before any work can be implemented on site.
- A marker post outside the property 'Poplars' indicates that a Utility Apparatus is present. This should be clearly identified with a Statutory Undertakers enquiry
- Overhead cables are present towards western end of the proposed work area and in the vicinity of the junction with The Common. A GS6 will be necessary should any work be carried out.
- A small flower bed has been constructed between the carriageway and one of the Public House outbuildings. This is creating a pinch point, leaving little space for pedestrian provision. If work is to be carried out, this flower bed would need to be removed.
- Warning signing is present throughout the proposed work area and would need to be relocated should the scheme be approved.
- There is a watercourse located within the northern verge, in the vicinity of Copt Hill junction. Further investigation into the culvert would need to be made.
- There are a series of kerb stones positioned outside property 'Frettons Lodge' which may be used to outline the Highway Boundary. Extent of the Highway Boundary will need to be investigated further.

5.0 **Site Investigation Data**

- A pedestrian survey has been requested and carried out (8-14 September 2014). The data received indicates that a considerable amount of pedestrians do use the area in question over the period of a week. The data revealed that the majority of the pedestrian movement is along the Northern side of the carriageway. The Pedestrian Data is attached.

	• Accident data shows that there has been 2 accidents recorded since 2009, first accident being serious and the second being slight. Both accidents involved vehicles losing control and leaving the carriageway. The Accident Data is attached.
6.0	**Conclusion** As a result of the site visit, it has been determined that a footway along the northern side of Penny Royal Road, for a length of approximately 400m, would be the most feasible considering the existing features at the site. Along the southern side of Penny Royal Road there are many complications that restrict any new walking provision which include; use of land, the need to cross the carriageway, unsuitable sight lines for a safe road crossing, substantial tree and hedge removal would also be required before any work can be carried out. Therefore, carrying out any work within the southern verge is not recommended The recommendation for his proposal of new pedestrian provision, identify the following requirements: • A topographical survey would be beneficial to establish levels to aid with the works and to ensure any surface water is drained. • A bus stop hardstand and raised kerb, west of the Public House should be incorporated. • The existing flower bed located beside the Public House outbuilding to be removed. • Vegetation currently situated within the northern verge would need to be removed entirely to help facilitate the proposed footway installation. • A street lighting assessment is required to ensure that the proposed footway will have adequate illumination. • All existing signing would need to be relocated to ensure adequate room is available for the installation of pedestrian provision. • Kerbing would need to be installed throughout the work area. • In order to construct new pedestrian provision, depths of the existing culvert will need to be established to ensure adequate construction can be applied. Additionally, pedestrian protection would need to be installed in the vicinity of this hazard. • Stats apparatus and covers may need levels to be altered throughout to tie in with the proposed footway installation. • Highway boundary to be pegged out in the vicinity of ‘Frettons Lodge’. • Tactile blister paving crossings would need to be provided in the vicinity of ‘Frettons Lodge’ and at any other crossing points.

7.0 **Cost Estimate**

The total cost of delivery the civil element of this scheme is estimated to be a minimum of **£66,000,** based upon a 1.2m width footway,

Topographical Survey –	£2,500
New walking provision –	£57,000
Additional Bus Stop hardstanding –	£3,000
Street Lighting assessment –	To be requested once scheme is approved
Detailed design -	£2,500
Safety audit -	£1,000
Total for cost of delivery for this option -	**£66,000**

Source: Based upon 2014/15 Estimating Tool

Prepared by:	James Leggett	Date:	25/02/2015
Approved by:	Mike Shearcroft	Date:	25/02/2015

1 – End of existing footway/proposed start located outside ‘Lundie’

2 – Post indicating stats being present outside ‘Poplars’

3 – Frontage of ‘Cricketers Cottage’ with tree stumps present to stop parking. Also showing Bus stop

4 – Existing concrete hardstand outside ‘The Old Store’

5 – Flower bed present beside Public House outbuilding

6 & 7 – Existing vegetation within northern verge that will need to be removed

8 – Stats cover near entrance to adjacent field/PROW access

9, 10 & 11 – Further vegetation within the northern verge to would need to be cleared

12 – Existing signing that will need to be repositioned, if proposed walking provision installed

13 – Stats Covers within access to ‘Frettons Lodge’

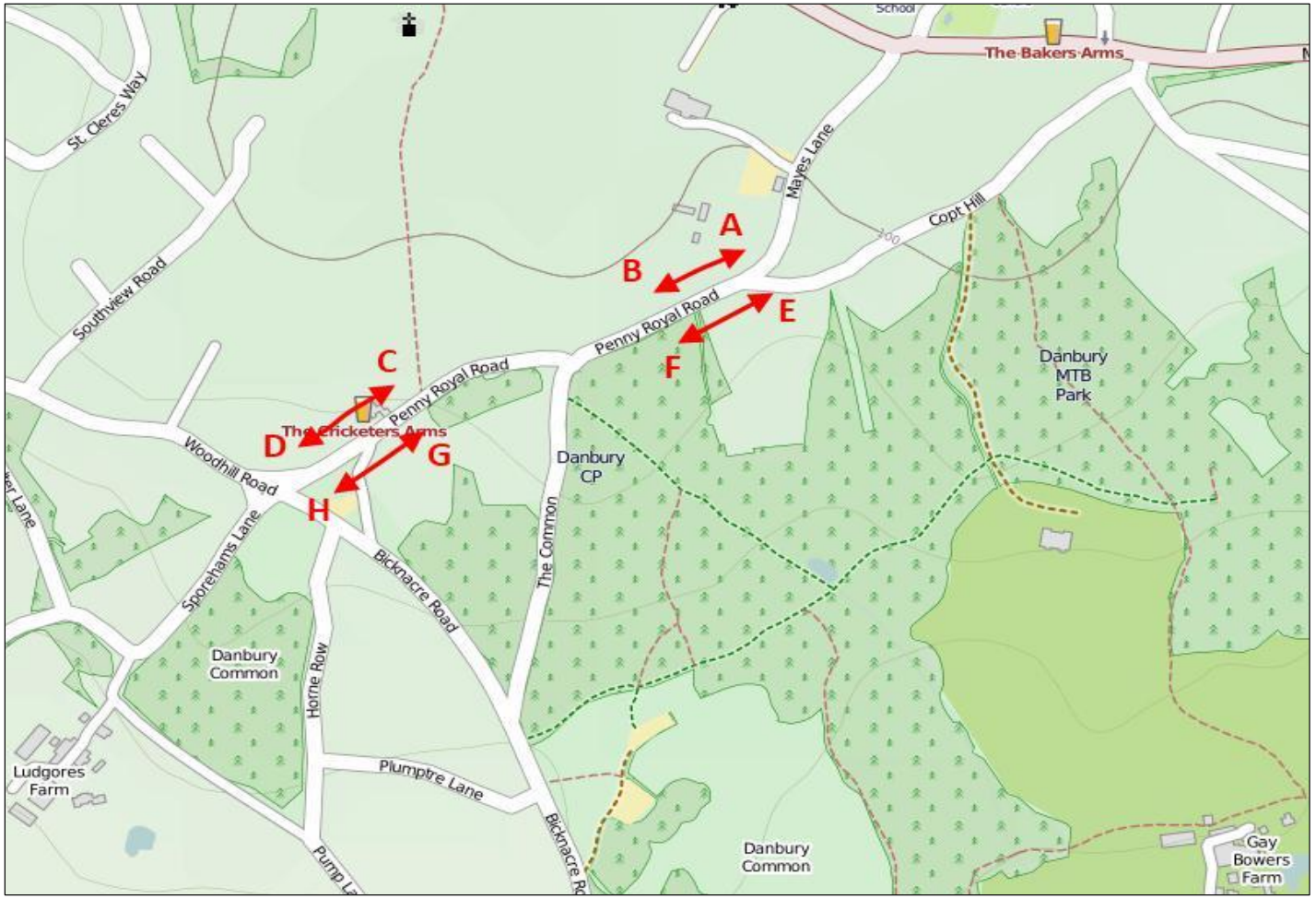
14 – Kerb stones outside ‘Frettons Lodge’

15 – Further vegetation to be removed/signing to be repositioned – East of The Common

16 – Eastern end of proposed work area – culvert located to the left of photo

Pedestrian Count Location Plan

LOCATION	Penny Royal Road, Danbury
DATE	08th to 14th September 2014
WEATHER (am)	Clear, dry
WEATHER (pm)	Clear, dry
INCIDENTS	None
OSGR	577973 204765
LAT / LONG	51.713376, 0.574768



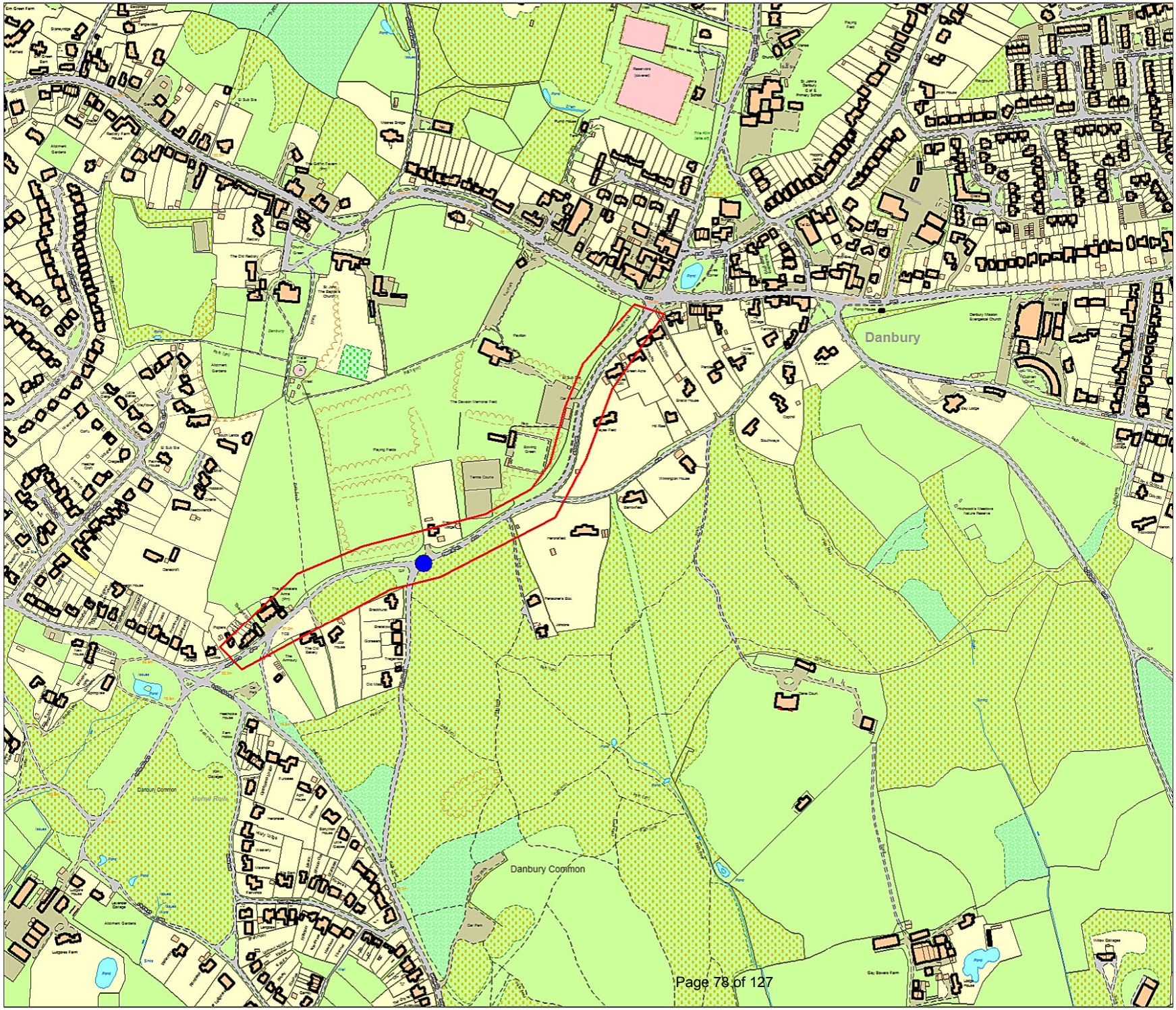
Pedestrian Count Data – Penny Royal Road, Danbury

Daily Summary

Pedestrian Count - Daily Summary										
Movement	Direction	Type of Pedestrian	08-Sep-14	09-Sep-14	10-Sep-14	11-Sep-14	12-Sep-14	13-Sep-14	14-Sep-14	Total
A	NE toward The Common (north Side)	Child under 16	0	0	0	0	1	0	0	1
		General Public	18	11	27	10	11	13	8	98
		Adults w/child	0	0	0	0	1	0	0	1
		Elderly	0	0	0	0	0	1	0	1
		Visually impared	0	0	0	0	0	0	0	0
B	NE toward Mayes Lane (north side)	Child under 16	0	0	0	0	0	0	0	0
		General Public	12	11	3	12	12	18	13	81
		Adults w/child	0	0	0	0	0	0	0	0
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
C	The Common toward SW (north side)	Child under 16	8	10	12	12	8	2	0	52
		General Public	13	13	27	21	21	16	23	134
		Adults w/child	1	1	1	1	1	1	0	6
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
D	SW toward the Common (north side)	Child under 16	1	7	8	2	9	2	1	30
		General Public	17	13	22	17	15	21	30	135
		Adults w/child	1	4	5	1	2	1	1	15
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
E	NE toward The Common (south side)	Child under 16	0	0	0	0	0	0	0	0
		General Public	4	4	2	4	7	14	19	54
		Adults w/child	0	0	0	0	0	0	0	0
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
F	NE toward Mayes Lane (south side)	Child under 16	0	0	0	0	0	0	0	0
		General Public	8	1	5	0	9	10	9	42
		Adults w/child	0	0	0	0	0	0	0	0
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
G	The Common toward SW (south side)	Child under 16	3	1	3	1	1	0	0	9
		General Public	2	4	9	5	4	6	2	32
		Adults w/child	2	1	1	0	0	0	0	4
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
H	SW toward The Common (south side)	Child under 16	0	0	0	0	0	0	0	0
		General Public	2	3	4	2	2	3	3	19
		Adults w/child	0	0	0	0	0	0	0	0
		Elderly	0	0	0	0	0	0	0	0
		Visually impared	0	0	0	0	0	0	0	0
										714

Weekly Summary

Pedestrian Count - Weekly Summary									
Type of Pedestrian	A	B	C	D	E	F	G	H	Total
Child under 16	1	0	52	0	0	0	9	0	62
General Public	98	81	134	30	54	42	32	19	490
Adults w/child	1	0	6	135	0	0	4	0	146
Elderly	1	0	0	15	0	0	0	0	16
Visually impared	0	0	0	0	0	0	0	0	0
									714



Colour coding by SEVERITY

Fatal (0)

Serious (1)

Slight (0)

Dates searched between 30/09/2009 and 30/09/2014

N

Essex Highways

DRAWING TITLE

Penny Royal Road, Danbury

SCALE	1 : 4370
DATE	12/01/2015
DRAWING No.	
DRAWN BY	

Document control sheet

BPP 04 F8
version 15; Mar 2013

Project:	LHP2014/15 – Feasibility Study		
Client:	Essex Highways	Project No:	B3553L19
Document title:	Loves Green Traffic Management		
Ref. No:	LCHE142038		

	Originated by	Checked by	Reviewed by	
ORIGINAL	NAME **Chris Styles**	NAME **Tony Elliott**	NAME **Anne James**	
Approved by	NAME **Tony Elliott**	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS TE.
DATE **17/02/2015**	**Document status**	**FOR ISSUE**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE	**Document status**			

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE	**Document status**			

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE	**Document status**			

Technical Note

Loves Green – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Introduction

This Technical 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.

Fourteen potential schemes have been identified through the LHPs and these have been passed to Essex Highways (EH) so that further work can be undertaken to analyse the proposals, look at feasibility of the options, and report the findings back to ECC.

The options have been checked for compliance with ECC's Traffic Management Strategy and Speed Management Strategy, and EH have liaised with the Network Management Team in ECC to ensure the suitability of the proposals for each location.

Background to the scheme

The village of Loves Green lies on Highwood Road in Writtle. ECC have received a request from Highwood Parish council who have identified issues with the speed of vehicles on Highwood road.

A design brief was received by EH to assess options and the feasibility of providing traffic calming to reduce traffic speeds through the village.

Loves Green – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Site Characteristics

Highwood Road is classified as a PR2 route that feeds into the classified network in the vicinity, including the A414 and the A12.

The site is located in a well-established village which has both a 30mph and national speed limit along its length. The site is a bus route with formalised bus stops marked on the carriageway throughout the route.

The carriageway consists of a bituminous surfacing material and is in fair condition. The road widths at this location range from 5.0 metres to approximately 6.3 metres.

The adjacent footways consist of a bituminous material and are in good condition. The kerb height is approximately 125mm and the footway widths vary with an average measurement of approximately 1.8 metres.

Approach to Loves Green on Highwood Road looking South

Loves Green – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Highwood Road overgrown vegetation looking North

Highwood Road outside school entrance looking North

Loves Green – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Highwood Road on the approach to the School looking North

Accident Data

The accident data shows that there have been no reported accidents at this location in the last 3 years.

Traffic Survey

The results of the traffic survey undertaken early January 2015 are attached to this technical report and show that over the course of the 6-day automatic traffic count on Highwood Road 6,365 vehicles travelled northbound and 6,252 vehicles travelled southbound. The posted speed limit of 30mph was exceeded by 16.7% of northbound vehicles and 16.7% of southbound vehicles. The seasonally adjusted, combined Annual Average Daily Traffic (AADT) value is 2,312 vehicles.

Technical Note

Loves Green – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Proposed Solution

Essex County Council's Speed Management Strategy suggests that a very limited range of speed reduction measures may be considered acceptable on a PR2 route such as this. Road humps and cushions are only allowed on urban local roads, limiting the options for Highwood Road to the use of 'build-outs,' road markings, and signing.

The Speed Management Strategy does suggest that *'If drivers have no defined area of carriageway that is 'their half' it is likely that they will slow down to reduce their perceived risk of a collision. This could be particularly beneficial for speed reduction in rural areas and will reduce maintenance costs whilst enhancing the natural rural environment.'*

It is therefore proposed to remove the centre line on the route and to highlight existing hazards with renewed 'Slow' markings and the renewal of existing edge of carriageway markings to give the road user the impression of a reduced carriageway width.

It is also proposed to provide cycle friendly bolt down build-outs either side of the primary school with priority give way markings and signing. The nature of the bolt down features means that they can be installed quickly, and also removed with little effect on the existing highway structure should it become necessary.

The build outs will mean that a short section of carriageway effectively becomes a single lane width over which traffic will have to give way to the priority direction. As both approach directions to the school will become a give way, then traffic will be slowed both on the approaches to, and in the vicinity of the school.

The road widths vary along the route with on-site measurements recorded between 5.0m and 6.3m wide. Even though these widths should be sufficient for most two way traffic, it was noted on site that the presence of overhanging vegetation 'pushed' vehicles away from the carriageway edge, meaning that large vehicles often stop to allow another large vehicle to safely travel in the opposite direction.

During the site visit it was seen that the route was heavily trafficked by HGV vehicles, buses and container lorries heading towards the industrial estate located in Loves Green. The surrounding routes into the village are not suitable for HGVs and are signed to this effect.

It was also noted that the speed limit roundels at the gateway into the village travelling from Edney Common are currently mounted at approximately 2.3m above ground level. As there is no evidence to suggest that the verge is a cycle route the mounting height may be reduced to 2.1m. This may improve visibility of the signs for drivers.

The site visit revealed that the 30mph limit does have one repeater sign. This should be removed because the current Traffic Signs Regulations state that repeater signs should not be used where there is street lighting and the columns are no more than 183m apart. However due to the type of lighting columns and the lack of repeaters this may lead to drivers perceiving the road to be faster (even though there are 30mph roundels at the start of the limit.)

This physical works required for this proposed solution (to remove the centre line and create the build outs) are estimated to cost in the region of £10,000.

Road Safety Audit

ECC's Road Safety Audit (RSA) Team have reviewed the options and have commented on the draft designs as presented:-

- RSA observed that the locations of the build-outs outside the school are located on a bend and they have concerns with the increased possibility of a collision with a vehicle whilst passing the build-outs due to the lack of visibility. It is their recommendation that the build-outs be relocated further back where better forward visibility can be achieved.
- The RSA team would like a lighting survey to be undertaken if the build-outs are to be installed, with a view to improving the lighting around the build-outs and hence the night-time visibility of the build-outs.
- The RSA team feel that there is a risk to cyclists using the proposed build-out located opposite 'Leybourne,' which has a gully positioned to the east of it. Certain types of gully grating can cause cyclists to lose control, or to steer around it, which may present a road safety hazard. RSA have suggested that the gully is changed to an inlet kerb gully so that there is no ironwork in the carriageway.
- RSA feel the build-out proposed outside the property 'Leybourne' appears to be fairly close to the vehicle access into this property. It is suggested that should this scheme progress to detailed design then the build out can be positioned to accommodate the required turning manoeuvres.

Network Management Review

ECC Network Management team have been consulted and have not offered any comments on the proposals.

Loves Green – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Conclusions

The installation of traffic management measures to control traffic speeds at this location is restricted by the fact that it is a relatively narrow, PR2 road which is also a bus route. Given the range of allowable options available it is considered that these proposals may be effective in reducing traffic speeds over a length of the route through the village.

The Speed Data confirms that vehicles travelling through the village are travelling above the speed limit. There is currently a Vehicle Activated Sign (VAS) located at the western end of the village. An additional VAS could potentially be located at the eastern entrance into the village.

The Speed Management Strategy does not expressly forbid the use of build-out in such a location, however there is a risk that congestion may be caused at peak times. Combined with the comments from the RSA team the proposed locations of the build-out would need to be reconsidered but they would have no effect on slowing down vehicles on the approach to the playground and providing additional protection for vulnerable users of the playground unless the vegetation was removed in its entirety. If a new location was chosen and they were proven to cause congestion it is therefore suggested that the construction is of a type that could be removed easily if there were subsequent objections to the scheme.

The proposed scheme does take into account the views expressed by residents and the Parish Council and should protect a vulnerable location for pedestrians outside the school.

The accident data shows no accidents on this route and installing the build-outs does have the potential to create traffic conflicts and incidents due to the priority system in place at the build outs, however due to the slower speeds the risk of a serious accident would be reduced.

Highway Boundary Drawing

Map Showing Public Rights of Way

Footpaths

Bridleways

Restricted Byways

Byways

Please note; This map is for general reference purposes only. It cannot be used to prove or disprove the existence or alignment of a public path. In the event of any dispute or query, and for all legal purposes, always refer to the statutory Definitive Map of Public Rights of Way.

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

DRAWING TITLE: LOCATION

DRAWN	ENQUIRY NO.
-----	ENQUIRY NO.
DATE --/--/--	FILE REF. FILE REF.

DRAWING STATUS: FINAL

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

SCALE AT A4 (210x297mm): AS SHOWN

Highway Boundary Drawing

Loves Green

Path (um)

Path (um)

Pond

El Sub Sta

Hall

Meadowside

The Paigles

Plovers

Au Coin

Perry Lane House

Horseshoe Cottage

Hermitage

Fawkes

Ivy Cottages

84.4m

Camtiles

Dames Cottage

Farview

Avoncroft

Fieldgate

Leybourne

Onda

Shalimar

Woodside

Cloverly

Cedar House

Wood Cutters

Whitethorns

Russetts

Summerfield

Eton Lodge

The Chalet

Tyle House

Highwood House

Chestnuts

Linden

81.7m

Swimming Pool

Loves Green Cottage

Highwood Primary School

Windrush

Bucknells Mead

Ingram Cottages

El Sub Sta

Hoppits

Richmond Cottage

Oak Lodge

Map Showing Public Rights of Way

Footpaths

Bridleways

Restricted Byways

Byways

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DATE --/--/--	FILE REF. FILE REF.

DRAWING STATUS: FINAL

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

SCALE AT A4 (210x297mm): AS SHOWN

PROJECT	14625 LOVES GREEN
LOCATION	ATC01 - Highwood Rd (west), Loves Green
LOC. DESC.	190m SW of Sparrows Close
START DATE	Tue 06 Jan, 2015
END DATE	Sun 11 Jan, 2015
SPEED LIMIT	30mph
BUS ROUTE	Yes
SURVEY TYPE	6-day ATC, 15min periods, 10 veh. classes

A 6-day automatic traffic count on Highwood Rd (west), Loves Green, commencing Tue 06 Jan 2015, recorded 6,365 vehicles travelling northeastbound and 6,252 southwestbound vehicles. The posted speed limit of 30mph was exceeded by 54.4% of northeastbound vehicles and 56.8% of southwestbound vehicles. The seasonally adjusted, combined AADT value is 2,312 vehicles (see Equipment & Methodology below).

Data loss between 06:45 and 13:15 on Mon 12 Jan (day 7).

SUMMARY

COMBINED

Total recorded volume	**12,617.0**
Avg daily volume (based on 6 days)	2,102.8
Average daily speed (6 days)	31.6mph
Average daily 85%ile (6 days)	35.0mph
AADT (annual average daily traffic)	2,312
Avg weekday volume (Mon-Fri, 24hrs)	1,939.8
Avg weekday speed (Mon-Fri, 24hrs)	31.4mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	30.2mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions (northeastbound & southwestbound) from all the recorded data.

Speeding vehicles are defined as those travelling 31mph and above.

The summaries below provide directionalised details including speeding percentages and potential HGV traffic.

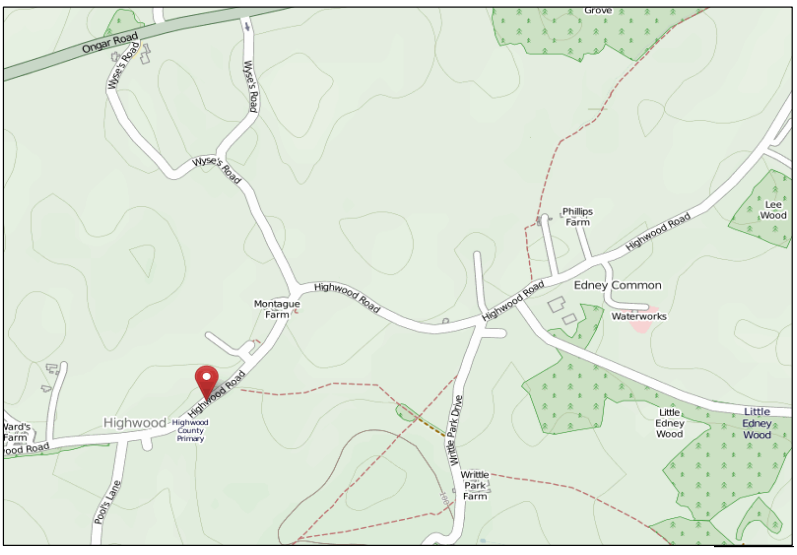
NORTHEASTBOUND

Total recorded volume	**6,365.0**
Avg daily volume (based on 6 days)	909.3
Average daily speed (6 days)	31.5mph
Average daily 85%ile (6 days)	35.0mph
% of vehicles exceeding 30mph	54.4%
Avg weekday volume (Mon-Fri, 24hrs)	**971.8**
Avg weekday speed (Mon-Fri, 24hrs)	31.5mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	30.1mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	34.4mph
Percentage of HGVs	0.6%

SOUTHWESTBOUND

Total recorded volume	**6,252.0**
Avg daily volume (based on 6 days)	893.1
Average daily speed (6 days)	31.6mph
Average daily 85%ile (6 days)	35.0mph
% of vehicles exceeding 30mph	56.8%
Avg weekday volume (Mon-Fri, 24hrs)	**968.0**
Avg weekday speed (Mon-Fri, 24hrs)	31.4mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	30.3mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	34.4mph
Percentage of HGVs	0.5%

SITE LOCATION



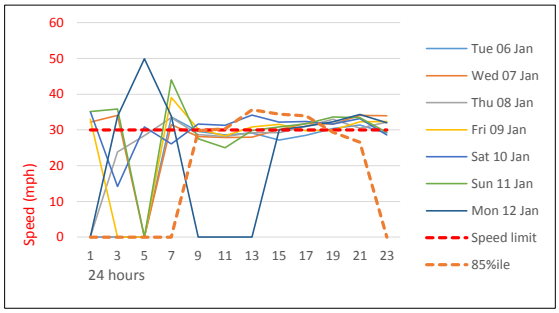
Location	Highwood Rd (west), Loves Green
Desc.	190m SW of Sparrows Close
OSGR	564187, 204057
Lat, lng.	51.711222, 0.375083
Site no.	ATC01
PSL	30mph

The survey location was on a bus route, so the 1,089 recorded vehicles classed as '2-axle truck/bus' during this period is likely to include scheduled PSVs.

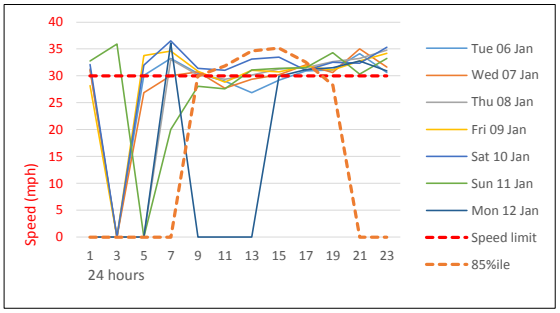
Generated	Mon 19 Jan 2015

DAILY SPEEDS

NORTHEASTBOUND



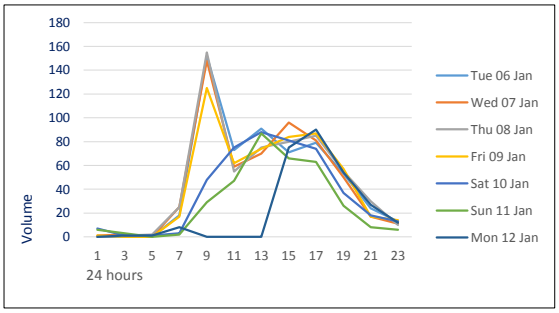
SOUTHWESTBOUND



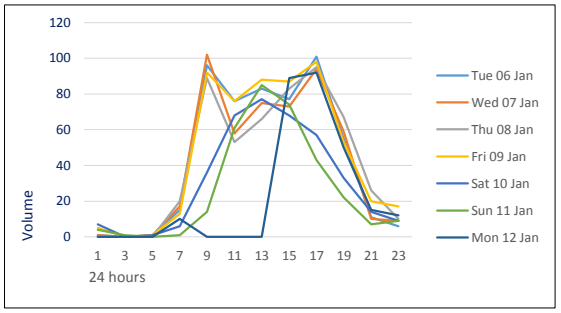
Average daily northeastbound 5-day avg and southwestbound 5-day avg speeds (solid thin colours) and 85%ile (dashed orange) compared against 30mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight 85%ile values may be zero.

HOURLY VOLUMES

NORTHEASTBOUND



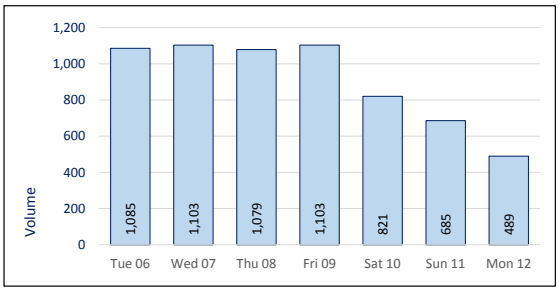
SOUTHWESTBOUND



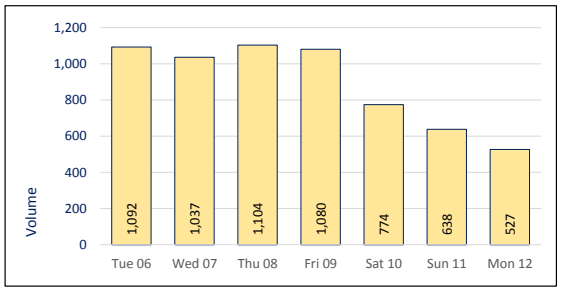
Hourly northeastbound and southwestbound traffic volumes over each 24hr period for 6 days from all available data.

DAILY VOLUMES

NORTHEASTBOUND



SOUTHWESTBOUND



Daily northeastbound and southwestbound traffic volumes over 6 consecutive days from all available data.

5-DAY AVERAGE CLASSES

NORTHEASTBOUND 5-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	0.4	0.0	0.0	0.0	**0.4**
0100	0.0	0.2	0.0	0.0	0.0	**0.2**
0200	0.0	0.8	0.0	0.0	0.0	**0.8**
0300	0.0	0.0	0.0	0.0	0.0	**0.0**
0400	0.0	0.6	0.0	0.0	0.0	**0.6**
0500	0.2	6.4	0.8	0.0	0.0	**7.4**
0600	0.6	15.2	2.6		0.2	**18.6**
0700	0.4	54.4	5.2		0.2	**60.2**
0800	0.4	106.6	8.6		0.2	**115.8**
0900	0.4	52.2	10.4		0.0	**63.0**
1000	1.0	41.8	6.8		0.2	**49.8**
1100	2.0	39.8	8.2		0.4	**50.4**
1200	2.8	52.4	6.4		0.2	**61.8**
1300	1.6	57.0	8.2		0.2	**67.0**
1400	1.4	70.2	9.0	0.2	0.4	**81.2**
1500	0.8	81.0	11.4	0.2	0.8	**94.2**
1600	1.2	72.8	10.0	0.2	0.2	**84.4**
1700	0.0	64.6	4.8	0.0	0.2	**69.6**
1800	0.8	48.6	4.4	0.0	0.0	**53.8**
1900	1.0	31.0	1.6	0.0	0.0	**33.6**
2000	0.2	22.0	0.8	0.0	0.0	**23.0**
2100	0.2	16.2	1.0	0.0	0.0	**17.4**
2200	0.0	12.0	0.0	0.0	0.0	**12.0**
2300	0.0	4.2	0.6	0.0	0.0	**4.8**
12hr TTL	**12.8**	**741.4**	**93.4**	**0.6**	**3.0**	**851.2**
24hr TTL	**15.0**	**850.4**	**100.8**	**0.6**	**3.2**	**970.0**
	2%	88%	10%	0%	0%	

SOUTHWESTBOUND 5-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	1.4	0.0	0.0	0.0	**1.4**
0100	0.0	0.0	0.0	0.0	0.0	**0.0**
0200	0.0	0.0	0.0	0.0	0.0	**0.0**
0300	0.0	0.8	0.0	0.0	0.0	**0.8**
0400	0.0	0.4	0.0	0.0	0.2	**0.6**
0500	0.0	4.8	0.4	0.0	0.4	**5.6**
0600	0.2	10.2	4.0		0.6	**15.0**
0700	1.6	42.4	8.6		0.4	**53.0**
0800	0.6	69.2	5.4		0.6	**75.8**
0900	1.2	61.6	5.4		0.2	**68.4**
1000	1.8	43.4	7.4		0.0	**52.6**
1100	1.4	45.4	7.4		0.0	**54.2**
1200	0.6	53.0	8.4		0.2	**62.2**
1300	0.6	61.4	9.2		0.0	**71.2**
1400	0.6	67.0	13.8	0.0	0.4	**81.8**
1500	1.6	78.4	8.2	0.2	0.0	**88.4**
1600	0.8	87.0	8.0	0.2	0.0	**96.0**
1700	1.6	92.0	4.2	0.0	0.4	**98.2**
1800	1.2	52.8	2.8	0.0	0.0	**56.8**
1900	0.6	40.4	3.4	0.2	0.0	**44.6**
2000	0.2	15.4	0.8	0.0	0.0	**16.4**
2100	0.2	8.6	0.0	0.0	0.0	**8.8**
2200	0.0	10.8	0.0	0.0	0.0	**10.8**
2300	0.0	4.2	0.4	0.0	0.0	**4.6**
12hr TTL	**13.6**	**753.6**	**88.8**	**0.4**	**2.2**	**858.6**
24hr TTL	**14.8**	**850.6**	**97.8**	**0.6**	**3.4**	**967.2**
	2%	88%	10%	0%	0%	

Five-day average northeastbound and southwestbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over all non-weekend days.

7-DAY AVERAGE CLASSES

NORTHEASTBOUND 7-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	2.3	0.2	0.0	0.0	**2.5**
0100	0.0	0.7	0.2	0.0	0.0	**0.8**
0200	0.0	1.3	0.0	0.0	0.0	**1.3**
0300	0.0	0.2	0.0	0.0	0.0	**0.2**
0400	0.0	0.7	0.0	0.0	0.0	**0.7**
0500	0.2	5.7	0.7	0.0	0.0	**6.5**
0600	0.5	13.2	2.5	0.0	0.2	**16.3**
0700	0.5	50.8	5.0	0.0	0.2	**56.5**
0800	1.5	99.7	7.8	0.3	0.2	**109.5**
0900	0.8	55.2	10.2	0.2	0.2	**66.5**
1000	4.3	50.8	6.5	0.0	0.2	**61.8**
1100	4.2	52.7	8.5	0.7	0.3	**66.3**
1200	4.8	68.7	6.2	0.8	0.3	**80.8**
1300	2.0	72.2	7.8	1.0	0.2	**83.2**
1400	3.0	79.5	9.2	0.2	0.3	**92.2**
1500	2.0	85.8	10.3	0.3	0.7	**99.2**
1600	1.3	82.0	9.5	0.2	0.2	**93.2**
1700	0.0	66.3	5.7	0.0	0.2	**72.2**
1800	0.7	50.3	4.3	0.0	0.0	**55.3**
1900	0.8	32.7	1.5	0.0	0.0	**35.0**
2000	0.2	22.3	1.0	0.0	0.0	**23.5**
2100	0.2	17.2	1.0	0.0	0.0	**18.3**
2200	0.2	13.0	0.0	0.0	0.0	**13.2**
2300	0.0	5.2	0.7	0.0	0.0	**5.8**
12hr TTL	**25.2**	**814.0**	**91.0**	**3.7**	**2.8**	**936.7**
24hr TTL	**27.2**	**928.3**	**98.7**	**3.7**	**3.0**	**1060.8**
	3%	88%	9%	0%	0%	

SOUTHWESTBOUND 7-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	3.0	0.0	0.0	0.0	**3.0**
0100	0.0	0.5	0.0	0.0	0.0	**0.5**
0200	0.0	0.2	0.0	0.0	0.0	**0.2**
0300	0.0	0.7	0.0	0.0	0.0	**0.7**
0400	0.0	0.5	0.0	0.0	0.2	**0.7**
0500	0.0	4.3	0.3	0.0	0.3	**5.0**
0600	0.2	9.3	3.7	0.0	0.5	**13.7**
0700	1.3	38.0	7.3	0.0	0.3	**47.0**
0800	1.0	65.0	5.0	0.0	0.5	**71.5**
0900	3.3	66.0	4.7	0.0	0.2	**74.2**
1000	4.8	53.3	7.0	0.2	0.0	**65.3**
1100	3.0	57.2	7.5	0.7	0.2	**68.5**
1200	2.5	67.7	8.2	0.5	0.2	**79.0**
1300	1.7	75.0	8.2	0.2	0.0	**85.0**
1400	1.3	76.8	13.3	0.0	0.3	**91.8**
1500	2.3	83.3	7.5	0.2	0.0	**93.3**
1600	1.0	88.2	7.3	0.2	0.0	**96.7**
1700	1.3	92.8	4.2	0.0	0.3	**98.7**
1800	1.2	53.0	2.3	0.0	0.0	**56.5**
1900	0.5	41.8	3.2	0.2	0.0	**45.7**
2000	0.2	16.3	0.7	0.0	0.0	**17.2**
2100	0.2	9.8	0.0	0.0	0.0	**10.0**
2200	0.0	11.7	0.3	0.0	0.0	**12.0**
2300	0.0	5.7	0.3	0.0	0.0	**6.0**
12hr TTL	**24.8**	**816.3**	**82.5**	**1.8**	**2.0**	**927.5**
24hr TTL	**25.8**	**920.2**	**91.0**	**2.0**	**3.0**	**1042.0**
	2%	88%	9%	0%	0%	

Average daily northeastbound and southwestbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over 6 days.

RINGWAY JACOBS integrated expertise | Essex County Council

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4: Traffic Input To COBA.

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and Essex Highways cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and Essex Highways cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, Essex Highways cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 10 days before, and 48 hours before, the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	AQMA	MANUAL
1	MC	Motorcycle	SHORT Up to 5.5m	MC	MC
2	SV	Cars, taxis, 4WD, vans		CAR	CAR & LGV1
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m		
4	TB2	2 axle truck / bus		LGV & MGV	LGV2 & PSV
5	TB3	3 axle truck / bus			MGV & PSV
6	T4	4 axle truck		HGV RIGID	HGV1
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	HGV ARTIC	HGV2
8	ART4	4 axle articulated			
9	ART5	5 axle articulated			
10	ART6	6+ axle articulated			

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, refered to as ARX. The table on the left aligns the ARX classifications with the AQMA (air quality management standard) and the Essex 9-class, as used in manual junction counts undertaken by Essex Highways.

Disclaimer

Although every attempt is made to achieve accuracy, neither Essex County Council nor Essex Highways may be held liable for errors of fact or interpretation.

Notes

1. Do not scale.
2. Nearest postcode CM1 3QA.

Key

Area of Interest

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

DRAWING STATUS

DRAWING STATUS

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014/15

DRAWING TITLE

AREA OF INTEREST HIGHWOOD ROAD LOVES GREEN

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	PKK	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A1 (841X594mm)
1:1250

DRAWING No.
DC3399-00-001

REV.
-

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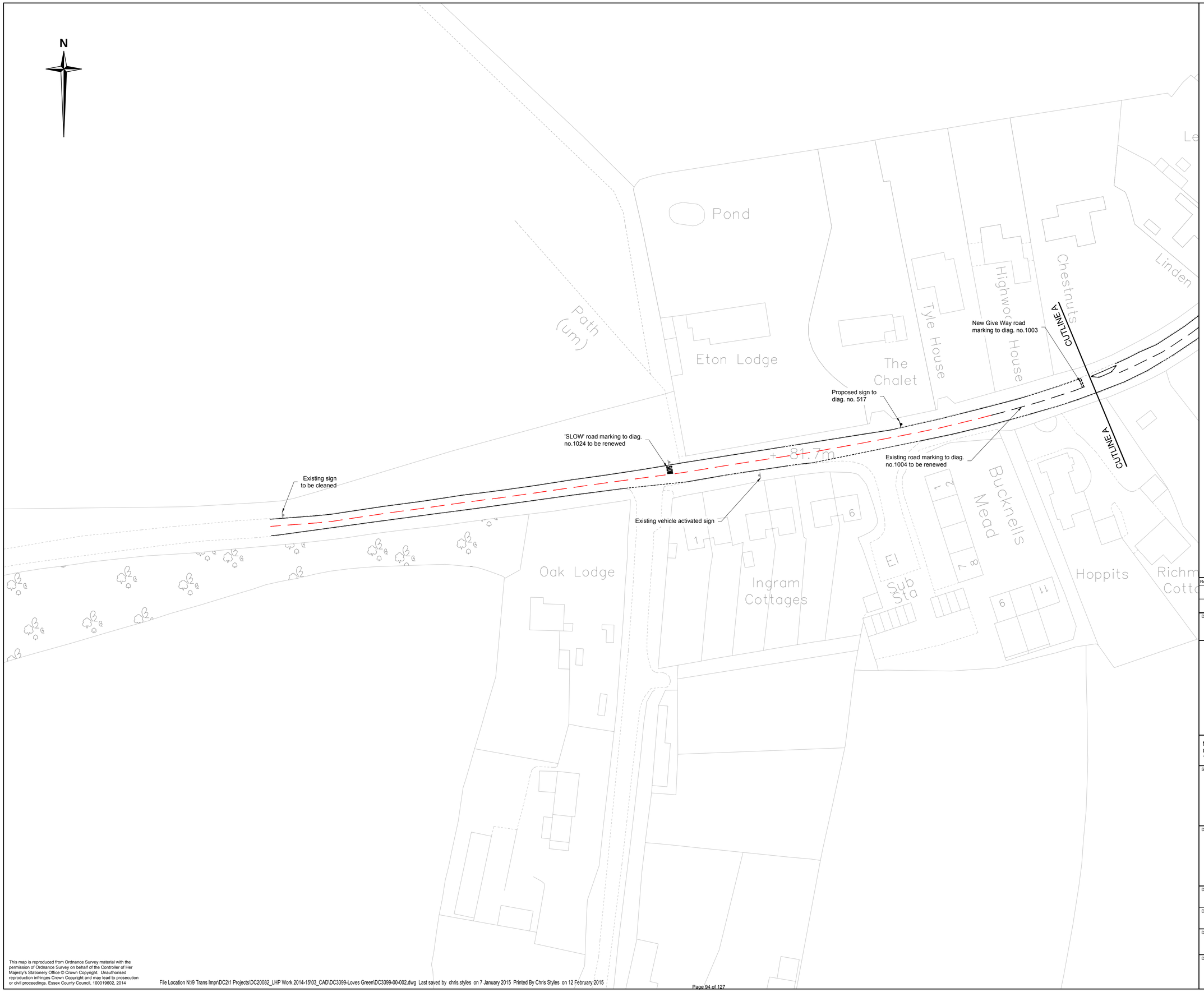

Notes

1. Do not scale.
2. All dimensions are in metres unless otherwise stated.
3. All diagram numbers refer to the Traffic Signs Regulations and General Directions 2002 and any amendment thereto.
4. All road markings/sign to comply with Chapter 5 of the traffic Signs Manual.
5. Edge of carriageway markings are to be laid to diagram number 1012.1 except where there is a vehicle access where diagram numbers 1009 and 1010 should be used respectively.

Key

- Road marking to be removed
- Road marking to be renewed
- Propose sign
- Existing sign

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

DRAWING STATUS

FOR INFORMATION

Essex Highways

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

HIGHWOOD ROAD, LOVES GREEN TRAFFIC CALMING SHEET 1 OF 3

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	JAN 15	JAN 15	JAN 15

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

SCALE AT A1 (841X594mm)
1:500

DRAWING No.
DC3399-00-002

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3399-Loves Green\DC3399-00-002.dwg Last saved by chris.styles on 7 January 2015 Printed By Chris Styles on 12 February 2015

N

Loves Green

El Sub Sta

Meadowside

The Paigles

Plovers

Au Cain

Perry Lane House

Horseshoe Cottage

Hermitage

Hall

Fawkes

Ivy Cottages

Camtiles

Dames Cottage

84.4m

Loves Green Cottages

The Poplars

The Aytons

Yew Lodge

Yew Lodge House

Moonfleet

The Hawthorns

Summerfield

Russetts

Whitethorns

Wood Cutters

Cedar House

Farview

Avoncroft

Fieldgate

Leybourne

Onda

Shalimar

Woodside

Clayerly

Linden

Chestnuts

Highwood House

Tyle House

The Chalet

Swimming Pool

Loves Green Cottages

Highwood Primary School

CUTLINE A

CUTLINE B

Existing road marking to diag. no.1009 to be renewed

'SLOW' road marking to diag. no.1024

Proposed sign to diag. no. 517

Proposed Give Way marking to diag. no.1003

Existing road marking to diag. no.1004 to be renewed

Proposed bolt down build out with cycle by pass lane 1.2m max lane width. Bollards and priority give way

Existing road marking to diag. no.1004 to be renewed

Existing road marking to diag. no.1027.1 to be renewed

Proposed bolt down build out with cycle by pass lane 1.2m max lane width. Bollards and priority give way

File Location N:\9 Trans Impr\DC\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3399-Loves Green\DC3399-00-003.dwg Last saved by chris.styles on 7 January 2015 Printed By Chris Styles on 15 January 2015

Notes

1. Do not scale.
2. All dimensions are in metres unless otherwise stated.
3. All diagram numbers refer to the Traffic Signs Regulations and General Directions 2002 and any amendment thereto.
4. All road markings/sign to comply with Chapter 5 of the traffic Signs Manual.
5. Edge of carriageway markings are to be laid to diagram number 1012.1 except where there is a vehicle access where diagram numbers 1009 and 1010 should be used respectively.

Key

- Road marking to be removed
- Road marking to be renewed
- Propose sign
- Existing sign

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

DRAWING STATUS

FOR INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

Mark Rowe, Service Director, Essex Highways
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Tel: 0845 6037631

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

HIGHWOOD ROAD, LOVES GREEN TRAFFIC CALMING SHEET 2 OF 3

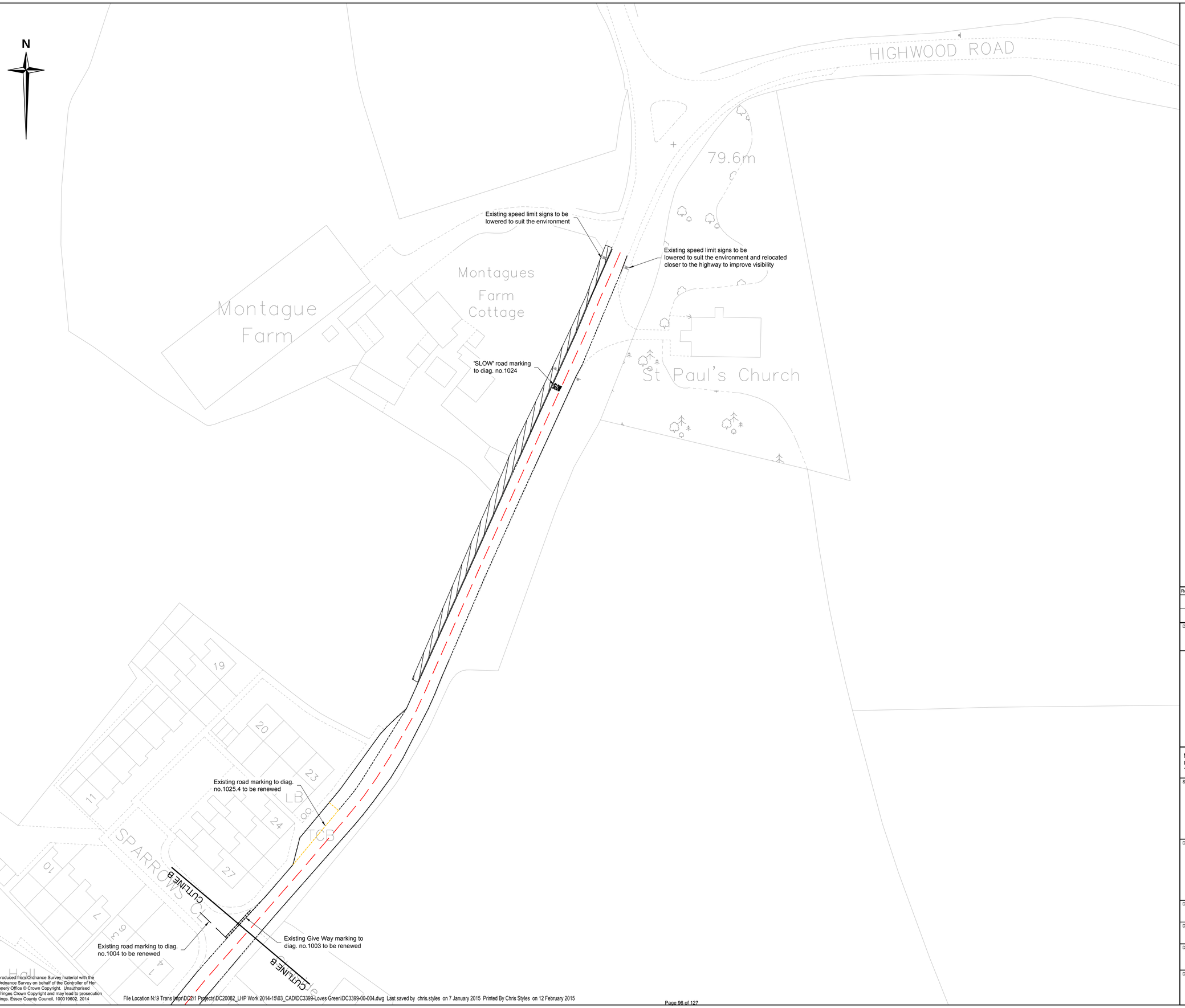
DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SS	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	JAN 15	JAN 15	JAN 15

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

SCALE AT A1 (841X594mm)
1:500

DRAWING No.
DC3399-00-003

REV.
-



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Notes

1. Do not scale.
2. All dimensions are in metres unless otherwise stated.
3. All diagram numbers refer to the Traffic Signs Regulations and General Directions 2002 and any amendment thereto.
4. All road markings/sign to comply with Chapter 5 of the traffic Signs Manual.
5. Edge of carriageway markings are to be laid to diagram number 1012.1 except where there is a vehicle access where diagram numbers 1009 and 1010 should be used respectively.
6. Before the removal of any vegetation the extents of the highway boundary and the ownerships should be established prior to any work being undertaken.

Key

- Road marking to be removed
- Road marking to be renewed
- Propose sign
- Existing sign
- Total Area of Vegetation to be cut back to Highway boundary 285m²

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

DRAWING STATUS

FOR INFORMATION

Essex Highways

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

HIGHWOOD ROAD, LOVES GREEN TRAFFIC CALMING SHEET 3 OF 3

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	JAN 15	JAN 15	JAN 15

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

SCALE AT A1 (841X594mm)
1:500

DRAWING No.
DC3399-00-004

REV.
-

Document control sheet

BPP 04 F8
version 15; Mar 2013

Project: LHP2014/15 – Feasibility Study
Client: Essex Highways — Project No: B3553L19
Document title: Edney Common Traffic Management
Ref. No: LCHE142039

	Originated by	Checked by	Reviewed by	
ORIGINAL	NAME	NAME	NAME	
	Chris Styles	**Tony Elliott**	**Anne James**	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
	Tony Elliott			
DATE **17/02/2015**		**Document status**	**FOR ISSUE**	

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE		**Document status**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE		**Document status**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE		**Document status**		

Technical Note

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Introduction

This Technical 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.

Fourteen potential schemes have been identified through the LHPs and these have been passed to Essex Highways (EH) so that further work can be undertaken to analyse the proposals, look at feasibility of the options, and report the findings back to ECC.

The options have been checked for compliance with ECC's Traffic Management Strategy and Speed Management Strategy, and EH have liaised with the Network Management Team in ECC to ensure the suitability of the proposals for each location.

Background to the scheme

The village of Edney Common lies on a section of Highwood Road in Writtle. ECC has received a request from Highwood Parish council who have identified issues with the speed of vehicles on Highwood road.

A design brief was received by EH to assess options and the feasibility of providing traffic calming to reduce traffic speeds through the village.

Technical Note

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Site Characteristics

Highwood Road is classified as a PR2 route that feeds into the classified network in the vicinity, including the A414 and the A12.

The site is located in a well-established village which has both a 30mph and national speed limit along its length. The site is a bus route with formalised bus stops marked on the carriageway throughout the route.

The carriageway consists of a bituminous surfacing material and is in fair condition. The road widths at this location range from 5.0 metres to approximately 6.3 metres.

The adjacent footways consist of a bituminous material and are in good condition. The kerb height is approximately 125mm and the footway widths vary with an average measurement of approximately 1.8 metres.

Gateway into Edney Common looking South

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Highwood Road looking South

Highwood Road looking North

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Highwood Road looking South

Highwood Road outside Playground looking South

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

'Exit' treatment from Edney Common

Accident Data

The accident data shows that there have been one slight and one serious accident reported at this location in the last 5 years involving pedestrians and motorised vehicles.

Traffic Survey

The results of the traffic survey undertaken early January 2015 are attached to this technical report and show that over the course of the 7-day automatic traffic count on Highwood Road 6,907 vehicles travelled northeast bound and 6,923 vehicles travelled southwest bound. The posted speed limit of 30mph was exceeded by 26.3% of northeast bound vehicles and 10.3% of southwest bound vehicles. The seasonally adjusted, combined Annual Average Daily Traffic (AADT) value is 2,354 vehicles.

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Proposed Solution

Essex County Council's Speed Management Strategy suggests that a very limited range of speed reduction measures may be considered acceptable on a PR2 route such as this. Road humps and cushions are only allowed on urban local roads, limiting the options for Highwood Road to the use of 'build-outs,' road markings, and signing.

The Speed Management Strategy does suggest that '*If drivers have no defined area of carriageway that is 'their half' it is likely that they will slow down to reduce their perceived risk of a collision. This could be particularly beneficial for speed reduction in rural areas and will reduce maintenance costs whilst enhancing the natural rural environment.'*

It is therefore proposed to remove the centre line on the route and to highlight existing hazards with renewed 'Slow' markings and the renewal of existing edge of carriageway markings to give the road user the impression of a reduced carriageway width.

A Vehicle Activated Speed sign (VAS) was considered within 70 metres in advance of the 30mph gateway sign, but currently does not meet the criteria for installation set out in the Essex Speed Management Strategy which requires that *'the mean average speed is more than 5mph above the limit.'*

It is also proposed to provide cycle friendly bolt down build-outs outside the playground area near to the public house with priority give way markings and signing. The nature of the bolt down features means that they can be installed quickly, and also removed with little effect on the existing highway structure should it become necessary.

The build outs will mean that a short section of carriageway effectively becomes a single lane width over which traffic will have to give way to the priority direction. As both approach directions to the school will become a give way, then traffic will be slowed both on the approaches to, and in the vicinity of the playground.

The road widths vary along the route with on-site measurements recorded between 5.0m and 6.3m wide. Even though these widths should be sufficient for most two way traffic, it was noted on site that the presence of overhanging vegetation 'pushed' vehicles away from the carriageway edge, meaning that large vehicles often stop to allow another large vehicle to safely travel in the opposite direction.

During the site visit it was seen that the route was heavily trafficked by HGV vehicles, buses and container lorries heading towards the industrial estate located in Loves Green. The surrounding routes into the village are not suitable for HGVs and are signed to this effect.

The site visit revealed that the 30mph limit does not have repeater signs. This is because the current Traffic Signs Regulations state that repeater signs should not be used where there is street lighting and the columns are no more than 183m apart. The lack of repeaters may lead to drivers perceiving the road to be faster (even though there are 30mph roundels at the start of the limit.)

This option is estimated to cost in the region of £8,500.

Edney Common – Traffic Calming

Date: 03 February 2015

Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Road Safety Audit

ECC's Road Safety Audit (RSA) Team have reviewed the options and have commented on the draft designs as presented:-

- RSA observed that the location of the build-out outside the Playground is near a sweeping bend and they have concerns regarding the increased possibility of a collision with a vehicle whilst passing the build-outs, due to the lack of visibility. It is their recommendation that the hedge be removed or cut back to improve visibility or the build-out would need to be relocated further back where better forward visibility can be achieved.
- The RSA team would like a lighting survey to be undertaken if the build-outs are to be installed, with a view to improving the lighting around the build-outs and hence the night-time visibility of the build-outs.

Network Management Review

ECC Network Management team have been consulted and have not offered any comments on the proposals.

Conclusions

The installation of traffic management measures to control traffic speeds at this location is restricted by the fact that it is a relatively narrow, PR2 road which is also a bus route. Given the range of allowable options available it is considered that these proposals may be effective in reducing traffic speeds over a length of the route through the village.

The Speed Data confirms that vehicles travelling through the village are travelling above the speed limit. There is currently no Vehicle Activated Sign (VAS) at either end of the village. A VAS could potentially be located at the Southwest entrance into the village.

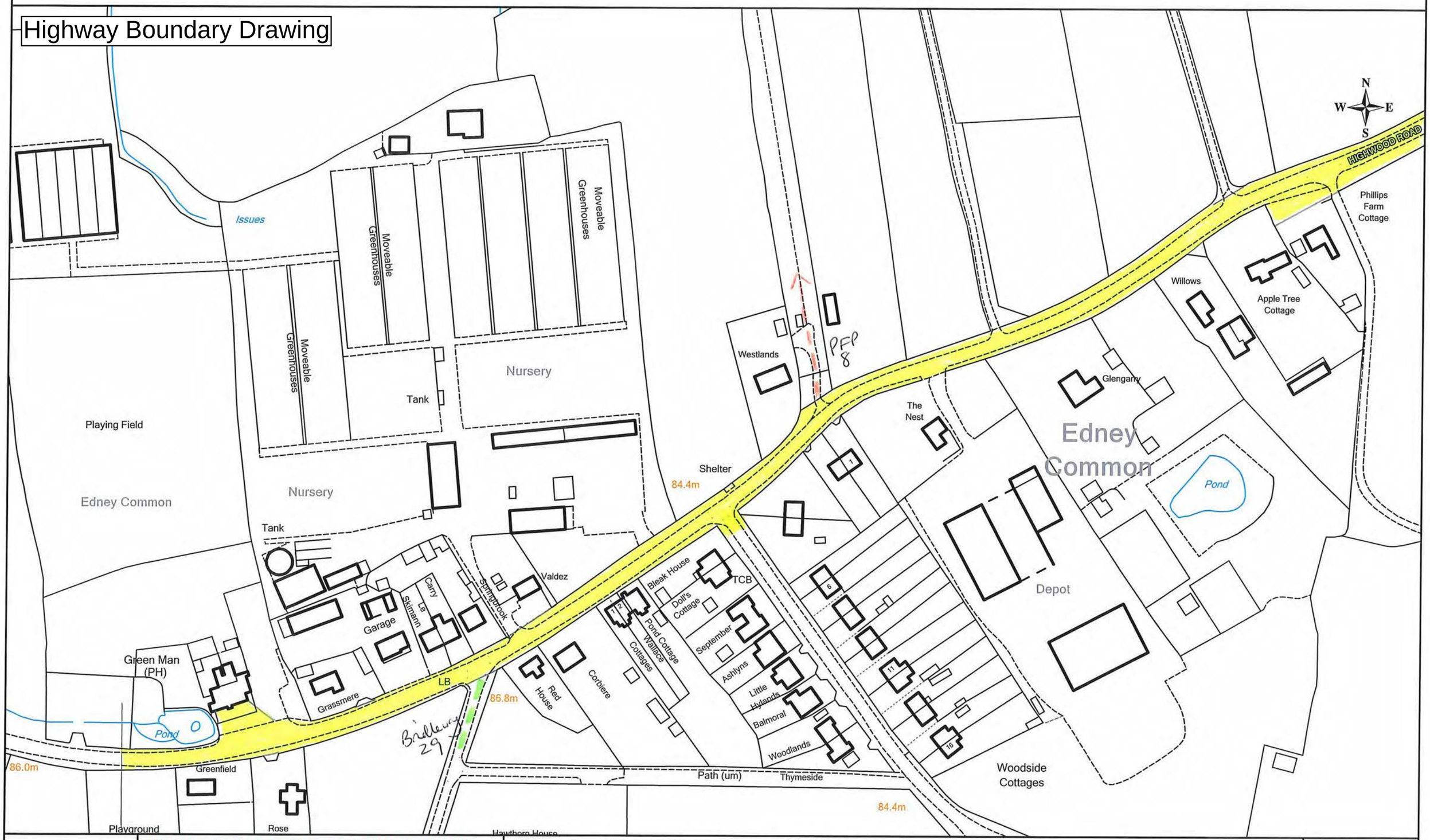
The Speed Management Strategy does not expressly forbid the use of build-out in such a location, however there is a risk that congestion may be caused at peak times. Combined with the comments from the RSA team the proposed locations of the build-out would need to be reconsidered but the would have no effect on slowing down vehicles on the approach to the playground and providing additional protection for vulnerable users of the playground unless the vegetation was removed in its entirety. If a new location was chosen and they were proven to cause congestion it is therefore suggested that the construction is of a type that could be removed easily if there were subsequent objections to the scheme.

The proposed scheme does take into account the views expressed by residents and the Parish Council and should protect a vulnerable location for pedestrians outside the playground and public house.

The accident data shows two accidents on this route and it should be noted that installing the build-outs does have the potential to create traffic conflicts and therefore further incidents due to the priority system at the build outs.

!Title1=

Highway Boundary Drawing



Essex Highways

This information is given with the proviso that where there is a roadside ditch or pond, the the ditch or pond and any land to the rear would not normally form part of the highway.

Drawn By	Scale	Date
Christine Yallop	1:1500	09/12/2014

www.essexhighways.org

PROJECT	14623 EDNEY COMMON
LOCATION	ATC01 - Highwood Rd (east), Edney Common
LOC. DESC.	179m NE of Nathans Lane
START DATE	Tue 06 Jan, 2015
END DATE	Mon 12 Jan, 2015
SPEED LIMIT	30mph
BUS ROUTE	Yes
SURVEY TYPE	7-day ATC, 15min periods, 10 veh. classes

A 7-day automatic traffic count on Highwood Rd (east), Edney Common, commencing Tue 06 Jan 2015, recorded 6,907 vehicles travelling northeastbound and 6,923 southwestbound vehicles. The posted speed limit of 30mph was exceeded by 79.3% of northeastbound vehicles and 43.0% of southwestbound vehicles. The seasonally adjusted, combined AADT value is 2,354 vehicles (see Equipment & Methodology below).

SUMMARY

COMBINED

Total recorded volume	**13,830.0**
Avg daily volume (based on 7 days)	1,975.7
Average daily speed (7 days)	32.4mph
Average daily 85%ile (7 days)	35.5mph
AADT (annual average daily traffic)	2,354
Avg weekday volume (Mon-Fri, 24hrs)	2,193.8
Avg weekday speed (Mon-Fri, 24hrs)	32.3mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	31.3mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions (northeastbound & southwestbound) from all the recorded data.

Speeding vehicles are defined as those travelling 31mph and above.

The summaries below provide directionalised details including speeding percentages and potential HGV traffic.

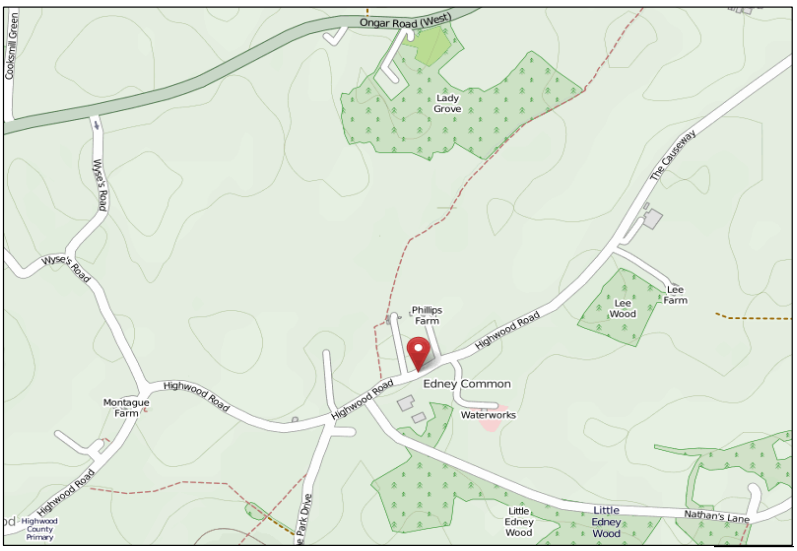
NORTHEASTBOUND

Total recorded volume	**6,907.0**
Avg daily volume (based on 7 days)	986.7
Average daily speed (7 days)	34.7mph
Average daily 85%ile (7 days)	37.9mph
% of vehicles exceeding 30mph	79.3%
Avg weekday volume (Mon-Fri, 24hrs)	**1,093.8**
Avg weekday speed (Mon-Fri, 24hrs)	34.6mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	33.8mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	37.8mph
Percentage of HGVs	1.1%

SOUTHWESTBOUND

Total recorded volume	**6,923.0**
Avg daily volume (based on 7 days)	989.0
Average daily speed (7 days)	30.1mph
Average daily 85%ile (7 days)	33.1mph
% of vehicles exceeding 30mph	43.0%
Avg weekday volume (Mon-Fri, 24hrs)	**1,100.0**
Avg weekday speed (Mon-Fri, 24hrs)	30.0mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	28.8mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	32.8mph
Percentage of HGVs	0.6%

SITE LOCATION



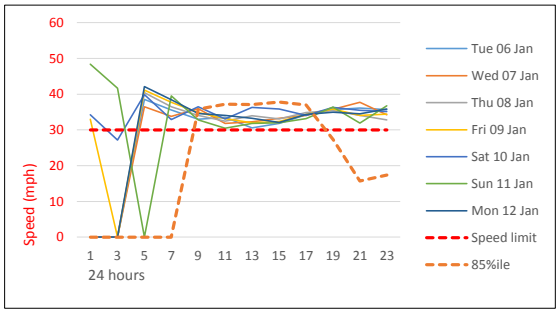
Location	Highwood Rd (east), Edney Common
Desc.	179m NE of Nathans Lane
OSGR	565264, 204510
Lat, lng.	51.714972, 0.390861
Site no.	ATC01
PSL	30mph

The survey location was on a bus route, so the 891 recorded vehicles classed as '2-axle truck/bus' during this period is likely to include scheduled PSVs.

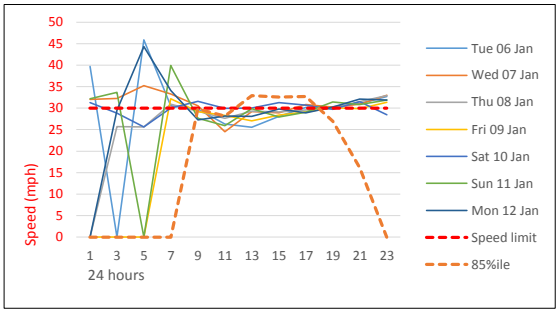
Generated	Wed 14 Jan 2015

DAILY SPEEDS

NORTHEASTBOUND



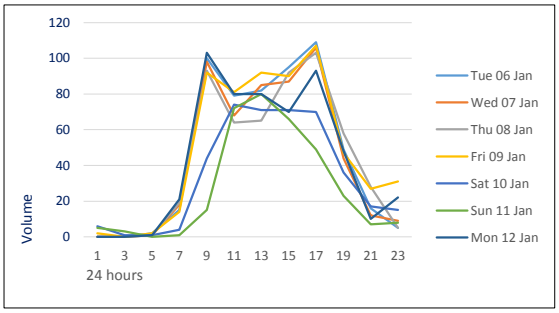
SOUTHWESTBOUND



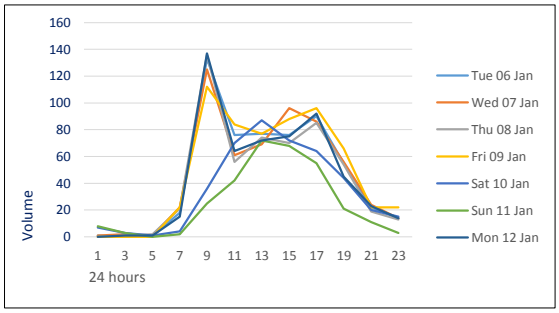
Average daily northeastbound 5-day avg and southwestbound 5-day avg speeds (solid thin colours) and 85%ile (dashed orange) compared against 30mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight 85%ile values may be zero.

HOURLY VOLUMES

NORTHEASTBOUND



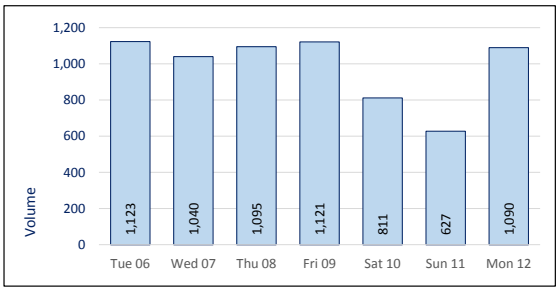
SOUTHWESTBOUND



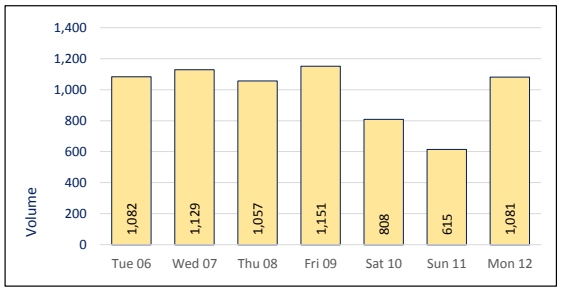
Hourly northeastbound and southwestbound traffic volumes over each 24hr period for 7 days from all available data.

DAILY VOLUMES

NORTHEASTBOUND



SOUTHWESTBOUND



Daily northeastbound and southwestbound traffic volumes over 7 consecutive days from all available data.

5-DAY AVERAGE CLASSES

NORTHEASTBOUND 5-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	0.4	0.0	0.0	0.0	**0.4**
0100	0.0	0.0	0.0	0.0	0.0	**0.0**
0200	0.0	0.0	0.0	0.0	0.0	**0.0**
0300	0.0	0.8	0.0	0.0	0.0	**0.8**
0400	0.0	1.4	0.0	0.0	0.0	**1.4**
0500	0.0	6.0	0.2	0.0	0.2	**6.4**
0600	0.2	13.4	3.8	0.0	0.0	**17.4**
0700	1.6	49.4	5.8	0.2	0.2	**57.2**
0800	0.8	88.4	5.4	0.8	1.8	**97.2**
0900	0.4	79.0	7.6	1.2	0.0	**88.2**
1000	1.0	65.0	8.0	0.2	0.2	**74.4**
1100	1.0	63.2	8.2	0.8	0.6	**73.8**
1200	1.4	68.2	10.4	0.2	0.6	**80.8**
1300	0.8	73.8	8.2	0.4	0.2	**83.4**
1400	1.0	71.6	13.4	0.6	0.2	**86.8**
1500	1.6	87.4	6.4	0.8	0.2	**96.4**
1600	0.4	95.2	7.0	1.0	0.0	**103.6**
1700	1.6	83.8	4.4	0.2	0.2	**90.2**
1800	0.6	45.6	2.8	0.2	0.0	**49.2**
1900	0.8	33.0	3.0	0.0	0.0	**36.8**
2000	0.0	18.4	0.2	0.0	0.0	**18.6**
2100	0.0	12.0	0.0	0.0	0.0	**12.0**
2200	0.0	14.2	0.0	0.2	0.0	**14.4**
2300	0.0	4.0	0.4	0.0	0.0	**4.4**
12hr TTL	**12.2**	**870.6**	**87.6**	**6.6**	**4.2**	**981.2**
24hr TTL	**13.2**	**974.2**	**95.2**	**6.8**	**4.4**	**1093.8**
	1%	89%	9%	1%	0%	

SOUTHWESTBOUND 5-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	0.4	0.0	0.0	0.0	**0.4**
0100	0.0	0.8	0.0	0.0	0.0	**0.8**
0200	0.0	0.8	0.0	0.0	0.0	**0.8**
0300	0.0	0.2	0.0	0.0	0.0	**0.2**
0400	0.0	1.0	0.0	0.0	0.0	**1.0**
0500	0.2	6.8	0.2	0.0	0.0	**7.2**
0600	0.4	16.8	2.4	0.0	0.0	**19.6**
0700	0.2	87.0	4.8	0.0	0.0	**92.0**
0800	0.6	117.2	9.6	1.0	0.2	**128.6**
0900	0.6	67.2	11.2	0.0	0.0	**79.0**
1000	0.4	60.6	6.4	0.4	0.4	**68.2**
1100	1.2	55.2	4.6	0.8	0.4	**62.2**
1200	0.8	67.8	4.6	0.0	0.6	**73.8**
1300	1.0	69.6	5.0	0.8	0.0	**76.4**
1400	0.2	75.2	4.6	0.6	0.4	**81.0**
1500	0.2	83.6	6.8	0.2	0.6	**91.4**
1600	1.4	84.0	3.6	0.2	0.6	**89.8**
1700	0.2	66.8	4.4	0.0	0.2	**71.6**
1800	0.2	52.0	3.0	0.0	0.0	**55.2**
1900	0.8	39.6	0.4	0.0	0.0	**40.8**
2000	0.0	21.8	0.2	0.0	0.0	**22.0**
2100	0.0	18.6	0.4	0.0	0.0	**19.0**
2200	0.2	14.8	0.4	0.0	0.0	**15.4**
2300	0.0	3.4	0.2	0.0	0.0	**3.6**
12hr TTL	**7.0**	**886.2**	**68.6**	**4.0**	**3.4**	**969.2**
24hr TTL	**8.6**	**1011.2**	**72.8**	**4.0**	**3.4**	**1100.0**
	1%	92%	7%	0%	0%	

Five-day average northeastbound and southwestbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over all non-weekend days.

7-DAY AVERAGE CLASSES

NORTHEASTBOUND 7-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	1.7	0.0	0.1	0.0	**1.9**
0100	0.0	0.3	0.0	0.0	0.0	**0.3**
0200	0.0	0.6	0.0	0.0	0.0	**0.6**
0300	0.0	0.6	0.0	0.0	0.0	**0.6**
0400	0.0	1.1	0.0	0.0	0.0	**1.1**
0500	0.0	4.9	0.3	0.0	0.1	**5.3**
0600	0.1	10.3	2.7	0.0	0.0	**13.1**
0700	1.1	39.1	4.3	0.1	0.1	**44.9**
0800	0.9	70.6	4.4	0.6	1.4	**77.9**
0900	1.0	69.3	5.4	1.0	0.0	**76.7**
1000	2.6	63.7	6.9	0.6	0.3	**74.0**
1100	2.3	62.3	7.1	1.0	0.4	**73.1**
1200	2.6	67.3	8.4	0.6	0.4	**79.3**
1300	1.1	73.1	6.3	0.6	0.1	**81.3**
1400	1.1	69.1	10.4	0.6	0.3	**81.6**
1500	1.9	77.3	5.0	0.7	0.1	**85.0**
1600	0.6	84.0	5.6	0.9	0.0	**91.0**
1700	1.1	71.3	3.7	0.3	0.1	**76.6**
1800	0.6	40.7	2.1	0.1	0.0	**43.6**
1900	0.6	30.0	2.4	0.0	0.0	**33.0**
2000	0.0	16.6	0.1	0.0	0.0	**16.7**
2100	0.0	11.1	0.0	0.0	0.0	**11.1**
2200	0.0	13.1	0.3	0.1	0.0	**13.6**
2300	0.0	4.3	0.3	0.0	0.0	**4.6**
12hr TTL	**16.9**	**787.9**	**69.7**	**7.0**	**3.4**	**884.9**
24hr TTL	**17.6**	**882.4**	**75.9**	**7.3**	**3.6**	**986.7**
	2%	89%	8%	1%	0%	

SOUTHWESTBOUND 7-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	2.4	0.0	0.0	0.0	**2.4**
0100	0.0	1.1	0.1	0.0	0.0	**1.3**
0200	0.0	1.4	0.0	0.0	0.0	**1.4**
0300	0.0	0.4	0.0	0.0	0.0	**0.4**
0400	0.0	0.9	0.0	0.0	0.0	**0.9**
0500	0.1	5.3	0.4	0.0	0.0	**5.9**
0600	0.3	12.7	1.9	0.0	0.0	**14.9**
0700	0.3	67.1	3.4	0.0	0.0	**70.9**
0800	0.7	91.9	7.0	0.9	0.1	**100.6**
0900	1.0	57.0	8.7	0.0	0.0	**66.7**
1000	1.3	57.7	5.0	0.4	0.3	**64.7**
1100	1.9	57.1	4.0	0.6	0.3	**63.9**
1200	1.4	69.6	4.0	0.0	0.4	**75.4**
1300	0.9	71.1	4.4	0.6	0.0	**77.0**
1400	0.9	72.4	3.7	0.6	0.3	**77.9**
1500	0.7	75.1	5.1	0.1	0.4	**81.6**
1600	1.1	76.6	2.9	0.1	0.4	**81.1**
1700	0.3	58.7	3.7	0.0	0.1	**62.9**
1800	0.1	46.1	2.4	0.0	0.0	**48.7**
1900	0.6	34.1	0.3	0.0	0.0	**35.0**
2000	0.0	19.7	0.4	0.0	0.0	**20.1**
2100	0.1	17.0	0.3	0.0	0.0	**17.4**
2200	0.1	13.1	0.3	0.0	0.0	**13.6**
2300	0.0	4.3	0.1	0.0	0.0	**4.4**
12hr TTL	**10.6**	**800.6**	**54.4**	**3.3**	**2.4**	**871.3**
24hr TTL	**11.9**	**913.1**	**58.3**	**3.3**	**2.4**	**989.0**
	1%	92%	6%	0%	0%	

Average daily northeastbound and southwestbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

RINGWAY JACOBS integrated expertise | Essex County Council

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4: Traffic Input To COBA.

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and Essex Highways cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and Essex Highways cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, Essex Highways cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 10 days before, and 48 hours before, the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	AQMA	MANUAL
1	MC	Motorcycle	SHORT Up to 5.5m	MC	MC
2	SV	Cars, taxis, 4WD, vans		CAR	CAR & LGV1
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m		
4	TB2	2 axle truck / bus		LGV & MGV	LGV2 & PSV
5	TB3	3 axle truck / bus			MGV & PSV
6	T4	4 axle truck		HGV RIGID	HGV1
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	HGV ARTIC	HGV2
8	ART4	4 axle articulated			
9	ART5	5 axle articulated			
10	ART6	6+ axle articulated			

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, refered to as ARX. The table on the left aligns the ARX classifications with the AQMA (air quality management standard) and the Essex 9-class, as used in manual junction counts undertaken by Essex Highways.

Disclaimer

Although every attempt is made to achieve accuracy, neither Essex County Council nor Essex Highways may be held liable for errors of fact or interpretation.

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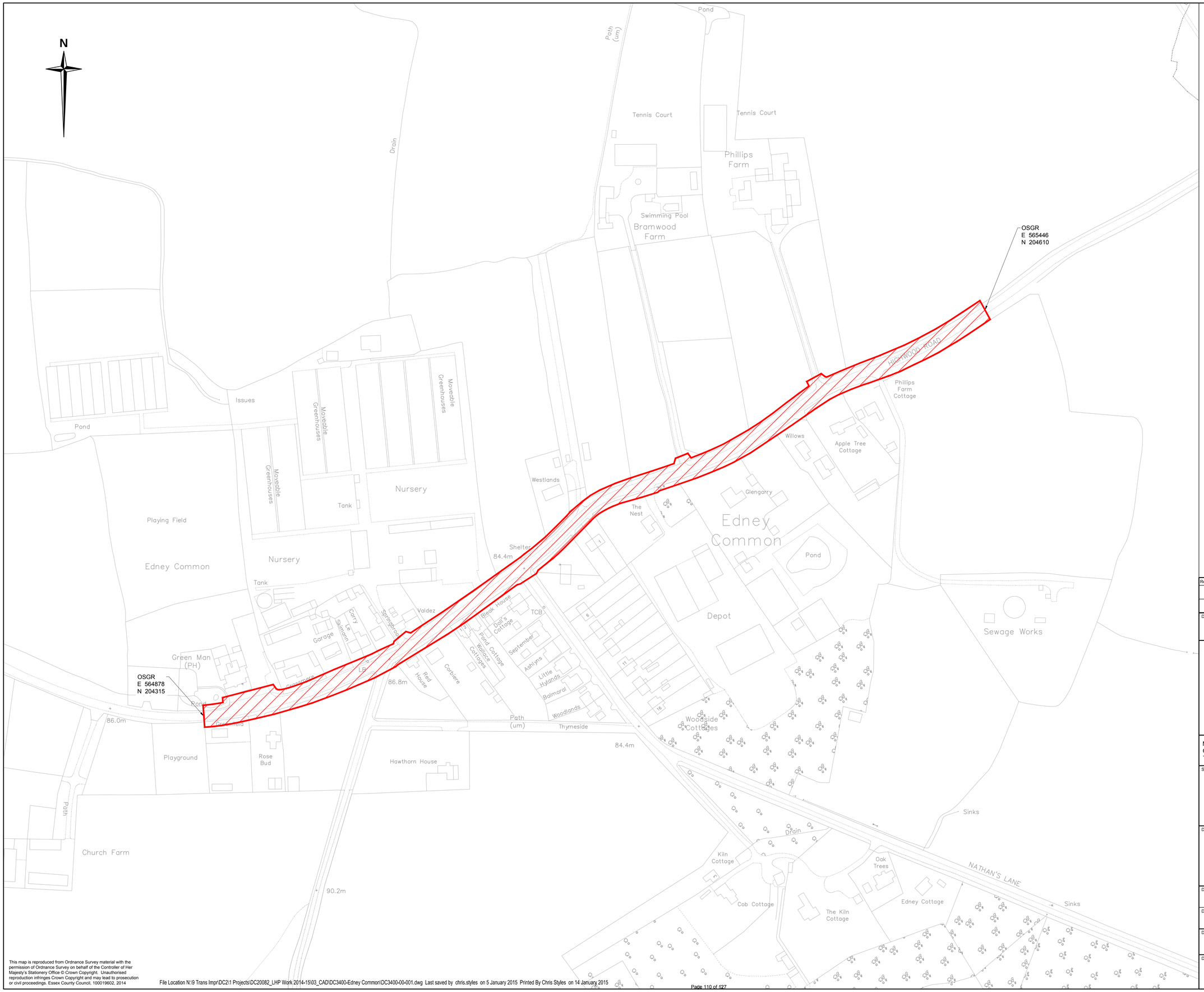


Notes

1. Do not scale.
2. Nearest postcode CM1 3PX.

Key

Area of Interest

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

DRAWING STATUS

DRAWING STATUS

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014/15

DRAWING TITLE

AREA OF INTEREST HIGHWOOD ROAD EDNEY COMMON

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
KS	PKK	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

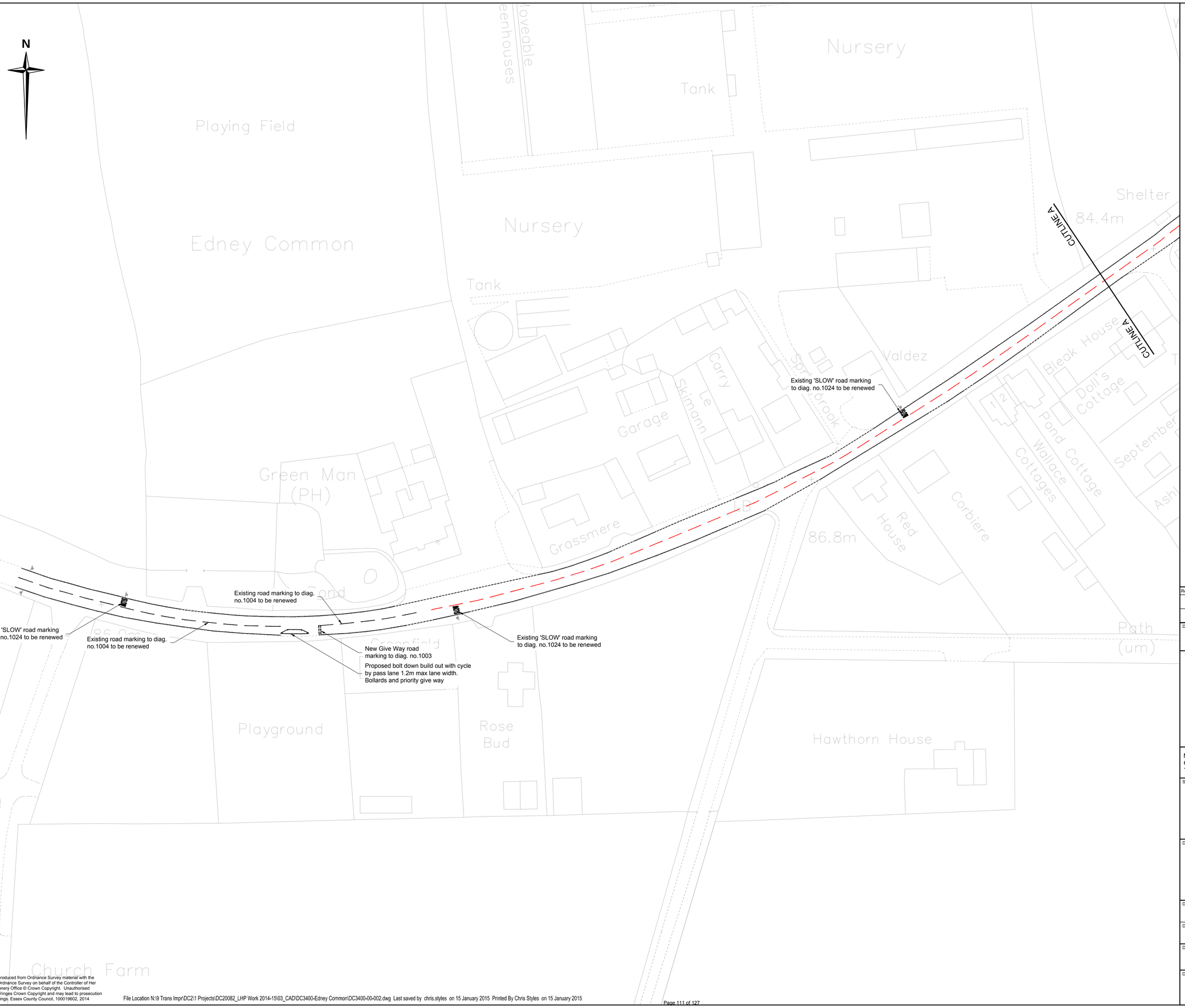
DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A1 (841X594mm)
1:1250

DRAWING No.
DC3400-00-001

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3400-Edney Common\DC3400-00-001.dwg Last saved by chris.styles on 5 January 2015 Printed By Chris Styles on 14 January 2015



Notes

1. Do not scale.
2. All dimensions are in metres unless otherwise stated.
3. All diagram numbers refer to the Traffic Signs Regulations and General Directions 2002 and any amendment thereto.
4. All road markings/sign to comply with Chapter 5 of the traffic Signs Manual.
5. Edge of carriageway markings are to be laid to diagram number 1012.1 except where there is a vehicle access where diagram numbers 1009 and 1010 should be used respectively.

Key

- Road marking to be removed
- Road marking to be renewed
- Propose sign
- Existing sign

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

DRAWING STATUS

INFORMATION

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SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

HIGHWOOD ROAD, EDNEY COMMON, TRAFFIC CALMING SHEET 1 OF 2

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	JAN 15	JAN 15	JAN 15

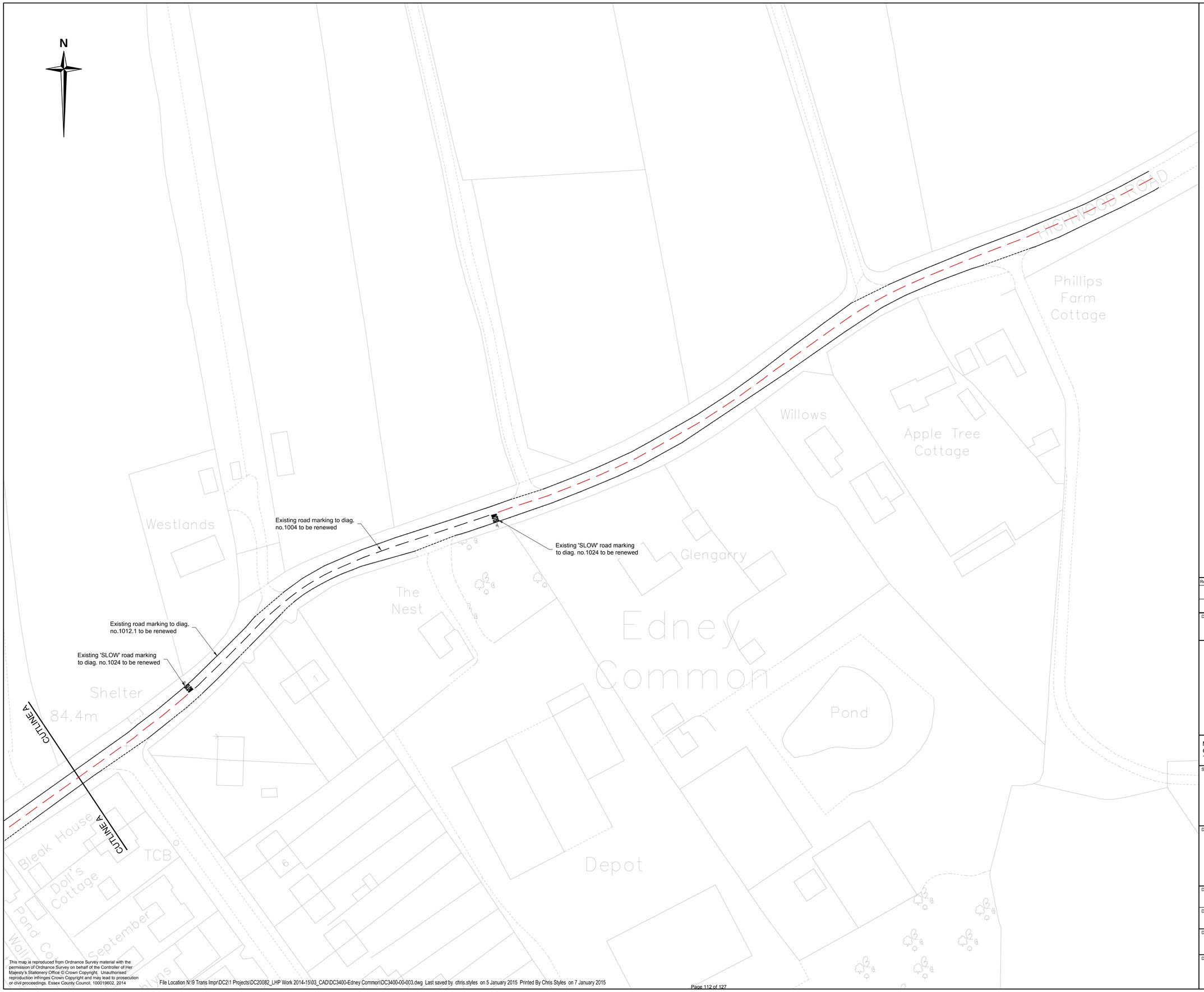
DRAWING UNITS U.N.O.
DIMENSIONS IN MILLIMETRES
LEVELS IN METRES

SCALE AT A1 (841X594mm)
1:500

DRAWING No.
DC3400-00-002

REV.
-

File Location N:\9 Trans Impr\DC2\1 Projects\DC20082_LHP Work 2014-15\03_CAD\DC3400-Edney Common\DC3400-00-002.dwg Last saved by chris.styles on 15 January 2015 Printed By Chris Styles on 15 January 2015



Notes

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Key

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- Existing sign

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

DRAWING STATUS

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SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

HIGHWOOD ROAD, EDNEY COMMON, TRAFFIC CALMING SHEET 2 OF 2

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	JAN 15	JAN 15	JAN 15

DRAWING UNITS U.N.O.	SCALE AT A1 (841X594mm)
DIMENSIONS IN MILLIMETRES LEVELS IN METRES	1:500

DRAWING No.	REV.
DC3400-00-003	-

Document control sheet

BPP 04 F8
version 15; Mar 2013

Project: LHP2014/15 – Feasibility Study
Client: Essex Highways — Project No: B3553L19
Document title: Loves Green to Edney Common
Ref. No: LCHE142040

	Originated by	Checked by	Reviewed by	
ORIGINAL	NAME	NAME	NAME	
	Chris Styles	**Tony Elliott**	**Anne James**	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
	Tony Elliott			[signature]
DATE **17/02/2015**		**Document status**	**FOR ISSUE**	

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE		**Document status**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE		**Document status**		

REVISION	NAME	NAME	NAME	
Approved by	NAME	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**		INITIALS
DATE		**Document status**		

Technical Note

Loves Green to Edney Common – Pedestrian Link

B3553L19
Date: 28 January 2015

LCHE142040
Checked: Tony Elliott
Reviewed: Anne James

Author: Chris Styles

Introduction

This Technical 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.

Fourteen potential schemes have been identified through the LHPs and these have been passed to Essex Highways (EH) so that further work can be undertaken to analyse the proposals, look at feasibility of the options, and report the findings back to ECC.

The options have been checked for compliance with ECC's Traffic Management Strategy and Speed Management Strategy, and EH have liaised with the Network Management Team in ECC to ensure the suitability of the proposals for each location.

Background to the scheme

The site lies in between two villages called Loves Green and Edney Common in Writtle along Highwood Road. ECC have received a request from Highwood Parish council who have identified the requirement for a pedestrian link between the two villages.

A design brief was received by EH to assess options and the feasibility of providing a footpath in the verge to create a pedestrian link between the two villages.

Loves Green to Edney Common – Pedestrian Link

B3553L19
Date: 28 January 2015

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Reviewed: Anne James

Author: Chris Styles

Site Characteristics

Highwood Road is classified as a PR2 route that feeds into the classified network of roads in the vicinity including the A414 and the A12.

The site is located in between two well-established villages and has a 40mph speed limit along its length between the villages. The site is also a well-established bus route.

The carriageway consists of a bituminous surfacing material and is in fair condition. The road widths at this location range from 5.5 to approximately 6.0 metres.

A number of short lengths of footway exist along the route, which consist of a bituminous material and are in a relatively poor condition. The kerb height is approximately 125mm and the footway widths vary with an average measurement of between approximately 1.3 – 1.6 metres.

Highwood Road - The End of Footway from Edney Common looking West

Loves Green to Edney Common – Pedestrian Link

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Highwood Road Verge Looking West

Highwood Road Verge and Overgrown Vegetation Looking West

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Highwood Road Overgrown Vegetation Looking East

Highwood Road Failed Footway Construction Looking East

Loves Green to Edney Common – Pedestrian Link

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Existing Verge (Proposed Footway Construction) Highwood Road Looking South (Showing BT Overhead Column)

Accident Data

The accident data shows that there have been no reported accidents at this location between the villages in the last 3 years.

Traffic Survey

The results of the traffic survey undertaken late January 2015 are attached to this technical report and show that over the course of the 7-day automatic traffic count on Highwood Road 6753 vehicles travelled northwest bound and 6559 vehicles travelled southeast bound. The posted speed limit of 40mph was exceeded by 12.5% of northbound vehicles but not exceeded by southeast bound vehicles. The seasonally adjusted, combined Annual Average Daily Traffic (AADT) value is 2267 vehicles.

Loves Green to Edney Common – Pedestrian Link

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Proposed Solution

Due to the location of the existing footways and the availability of space in the existing verges, there is effectively only one viable route over which a new footway link can be created, being the northern verge which runs between the two existing footways at the villages. This is shown on the attached drawing DC3401-00-002. Although it may be feasible to create a link footway through the southern verge, this would involve the acquisition of land currently outside the highway boundary, and the removal of extensive shrub and tree planting.

It is suggested that a 1.2 metre wide footway could be constructed in this northern verge, which would involve excavation to a suitable depth and an agreed footway construction type being laid. Whilst it would be possible to provide a bituminous surfaced footway, (which would match the existing footways at the villages) it may be preferable to use a surface which is more sympathetic to the rural nature of the road. This would also be a lower cost option when compared to bituminous surfacing.

For the purposes of this design and estimate, a 'walkable verge' option has been proposed, consisting of excavation down to a free-draining material, adding a granular sub-base, placement of a 'cell' type / porous layer, and back-filling with a granular material or road planings. To allow free movement along the footway, it is recommended that the existing vegetation on the north side is cut back to the highway boundary.

At the western extremity of the proposed footway, there is an existing fence which is in poor condition. For the purposes of this estimate it has been suggested that this is removed and replaced with a new post and rail fence.

To facilitate the crossing of Highwood Road at each end of this footway, uncontrolled pedestrian crossing facilities are proposed with tactile paving to aid the visually impaired. These would be installed at the existing and proposed crossing points.

Whilst this footway will link Edney Common to St. Paul's Church, there is no existing footway to the south into Loves Green from the church. It is therefore also proposed to remove the lay-by facility to enable the installation of a new footway to tie into the existing footway at its termination point. A further uncontrolled pedestrian crossing point with tactile paving is suggested to facilitate access across the church entrance.

The footway construction can be continued across the layby to provide a continuous link. The remainder of the existing lay-by would be excavated to a free draining material and backfilled with topsoil and seeding. It has been reported that the layby is often used by large vehicles and footway bollards may also be required to prevent this these have not been included in the estimate but they are estimated at approximately £350 each depending on the type.

To complete the works it is suggested that the failed areas of existing footway are broken out and reconstructed to match existing.

Ordinance Survey data shows that the levels rise up into Loves Green from the low point at the junction with Wyse's Road with Highwood Road on the bend where they again begin to

rise into Edney Common, it is recommended that prior to the installation of the new footway, level information would be required in order to provide appropriate drainage facilities.

This option is estimated to cost in the region of £105,000.

Road Safety Audit

ECC's Road Safety Audit (RSA) Team have reviewed the proposal and have raised a few concerns with the designs as presented:-

- RSA observed that the location of the existing and proposed footpath has potential drainage issues on the southern side of the carriageway. Causing ponding on the carriageway and during the winter months the standing water could freeze and cause a potential accident. It is there opinion that a drainage survey be undertaken to address this problem.
- The RSA team have the view that pedestrians crossing from the northern to the southern footway will have a restricted view by the adjacent vegetation/sweeping bend, particularly to the east. If pedestrians step out into the carriageway when it is unsafe to do so they could be at risk of being struck by an oncoming vehicle. It is the view of the RSA team that the existing vegetation is cut back to improve visibility.
- The RSA team would like the vegetation cut back on the entire length of the existing and proposed footpath as pedestrians may step into the carriageway to avoid the vegetation and be struck by a vehicle.
- The RSA team highlighted that the existing dropped crossing facility on the bend exceed 6mm and will need to be reset to remove the potential trip hazard.

Network Management Review

No Comment.

Conclusions

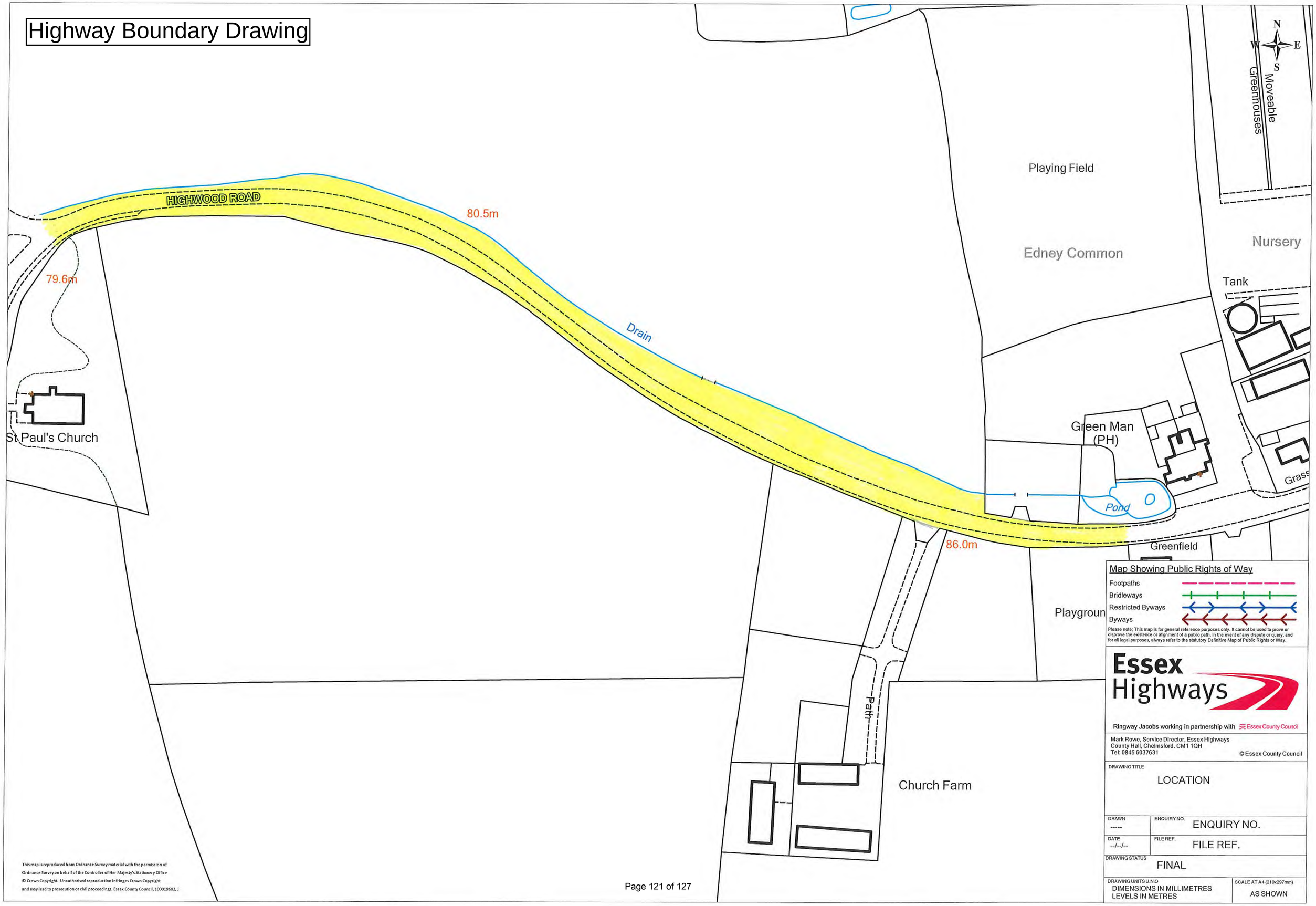
The installation of a pedestrian footpath between the two villages is possible but there will need to be works undertaken to improve the visibility for the pedestrian using the footpath and the driver to see crossing pedestrians.

The Speed Data confirms that vehicles travelling through the village are travelling above the speed limit this coupled with the standing water could increase the risk of a potential incident and will need to be addressed with a full level survey with detailed drainage survey.p

The proposed scheme does take into account the views expressed by residents and the Parish Council and should protect a vulnerable users travelling between the villages.

The accident data shows no accidents on this route and installing the footpath does have the potential to create potential incidents due to the increase in pedestrian use on this route.

Highway Boundary Drawing



Map Showing Public Rights of Way

Footpaths

Bridleways

Restricted Byways

Byways

Please note; This map is for general reference purposes only. It cannot be used to prove or disprove the existence or alignment of a public path. In the event of any dispute or query, and for all legal purposes, always refer to the statutory Definitive Map of Public Rights or Way.

Essex Highways

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

DRAWING TITLE: LOCATION

DRAWN	ENQUIRY NO.
-----	ENQUIRY NO.
DATE	FILE REF.
--/--/--	FILE REF.

DRAWING STATUS: FINAL

DRAWING UNITS U.N.O	SCALE AT A4 (210x297mm)
DIMENSIONS IN MILLIMETRES LEVELS IN METRES	AS SHOWN

PROJECT	14624 EDNEY COMMON
LOCATION	ATC01 - Highwood Rd (mid), Edney Common
LOC. DESC.	205m W of Wyse's Rd
START DATE	Fri 23 Jan, 2015
END DATE	Thu 29 Jan, 2015
SPEED LIMIT	40mph
BUS ROUTE	Yes
SURVEY TYPE	7-day ATC, 15min periods, 10 veh. classes

A 7-day automatic traffic count on Highwood Rd (mid), Edney Common, commencing Fri 23 Jan 2015, recorded 6,559 vehicles travelling southeastbound and 6,753 northwestbound vehicles. The posted speed limit of 40mph was exceeded by 14.1% of southeastbound vehicles and 52.5% of northwestbound vehicles. The seasonally adjusted, combined AADT value is 2,267 vehicles (see Equipment & Methodology below).

SUMMARY

COMBINED

Total recorded volume	**13,312.0**
Avg daily volume (based on 7 days)	1,901.7
Average daily speed (7 days)	37.8mph
Average daily 85%ile (7 days)	42.0mph
AADT (annual average daily traffic)	2,267
Avg weekday volume (Mon-Fri, 24hrs)	2,094.2
Avg weekday speed (Mon-Fri, 24hrs)	38.0mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	37.9mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions (southeastbound & northwestbound) from all the recorded data.

Speeding vehicles are defined as those travelling 41mph and above.

The summaries below provide directionalised details including speeding percentages and potential HGV traffic.

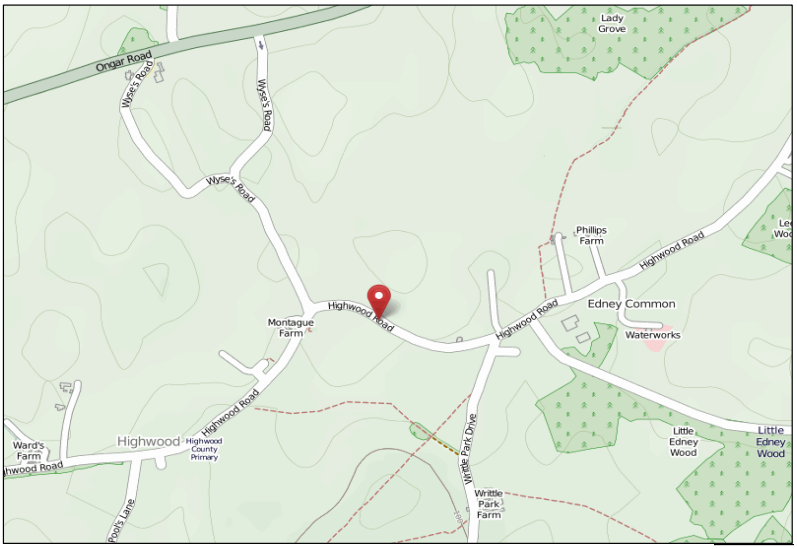
SOUTHEASTBOUND

Total recorded volume	**6,559.0**
Avg daily volume (based on 7 days)	937.0
Average daily speed (7 days)	35.0mph
Average daily 85%ile (7 days)	39.0mph
% of vehicles exceeding 40mph	14.1%
Avg weekday volume (Mon-Fri, 24hrs)	**1,030.4**
Avg weekday speed (Mon-Fri, 24hrs)	35.3mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	35.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	39.0mph
Percentage of HGVs	0.6%

NORTHWESTBOUND

Total recorded volume	**6,753.0**
Avg daily volume (based on 7 days)	964.7
Average daily speed (7 days)	40.6mph
Average daily 85%ile (7 days)	45.0mph
% of vehicles exceeding 40mph	52.5%
Avg weekday volume (Mon-Fri, 24hrs)	**1,063.8**
Avg weekday speed (Mon-Fri, 24hrs)	40.7mph
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	40.8mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	45.1mph
Percentage of HGVs	0.8%

SITE LOCATION



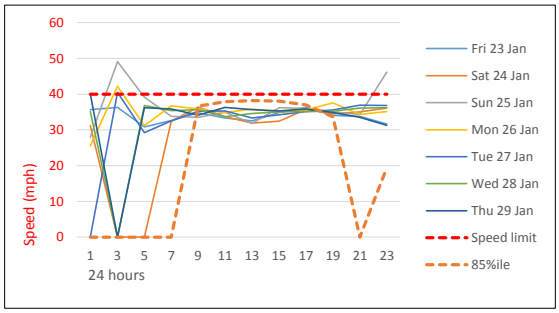
Location	Highwood Rd (mid), Edney Common
Desc.	205m W of Wyse's Rd
OSGR	564655, 204400
Lat, lng.	51.714167, 0.382000
Site no.	ATC01
PSL	40mph

The survey location was on a bus route, so the 1,162 recorded vehicles classed as '2-axle truck/bus' during this period is likely to include scheduled PSVs.

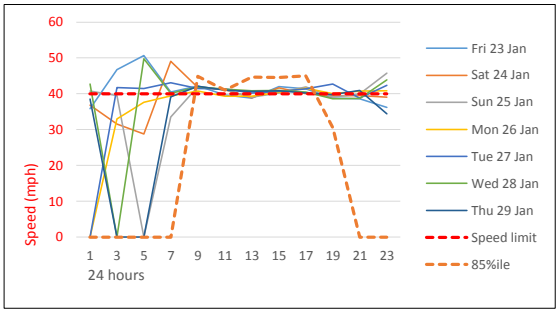
Generated	Mon 02 Feb 2015

DAILY SPEEDS

SOUTHEASTBOUND



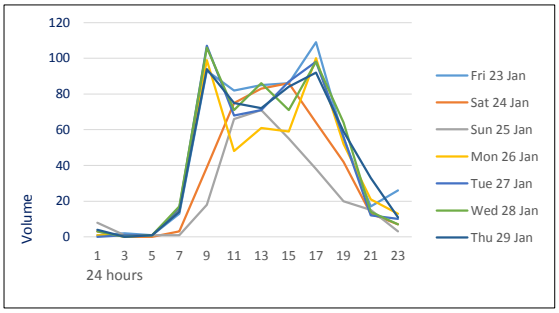
NORTHWESTBOUND



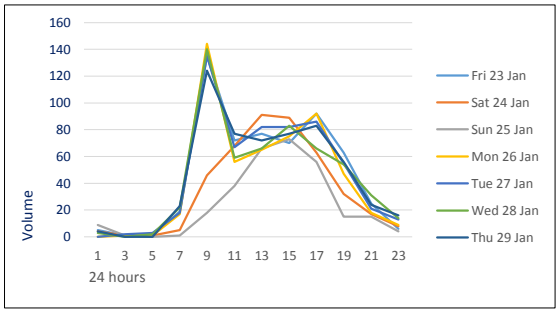
Average daily southeastbound 5-day avg and northwestbound 5-day avg speeds (solid thin colours) and 85%ile (dashed orange) compared against 40mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight 85%ile values may be zero.

HOURLY VOLUMES

SOUTHEASTBOUND



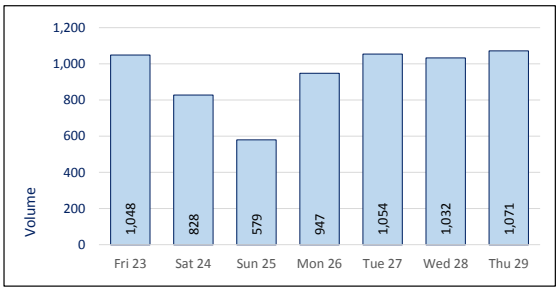
NORTHWESTBOUND



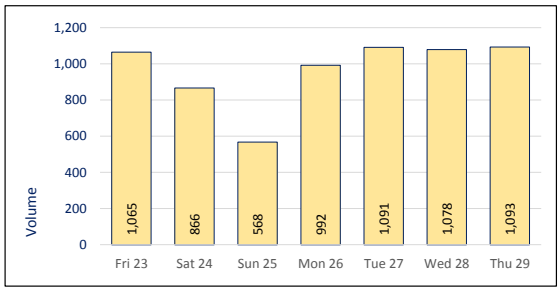
Hourly southeastbound and northwestbound traffic volumes over each 24hr period for 7 days from all available data.

DAILY VOLUMES

SOUTHEASTBOUND



NORTHWESTBOUND



Daily southeastbound and northwestbound traffic volumes over 7 consecutive days from all available data.

5-DAY AVERAGE CLASSES

SOUTHEASTBOUND 5-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	1.8	0.0	0.0	0.0	**1.8**
0100	0.0	0.6	0.0	0.0	0.0	**0.6**
0200	0.0	0.8	0.0	0.0	0.0	**0.8**
0300	0.0	0.6	0.0	0.0	0.0	**0.6**
0400	0.0	0.6	0.4	0.0	0.0	**1.0**
0500	0.0	5.0	0.4	0.0	0.0	**5.4**
0600	0.0	11.6	3.4	0.0	0.0	**15.0**
0700	1.4	46.2	4.8	0.0	0.0	**52.4**
0800	0.4	93.2	6.0	0.2	0.0	**99.8**
0900	0.2	65.2	5.2	0.2	0.2	**71.0**
1000	1.6	58.2	8.8	0.0	0.2	**68.8**
1100	1.8	66.4	7.6	0.6	0.4	**76.8**
1200	1.6	66.0	6.6	0.8	0.0	**75.0**
1300	1.2	59.0	3.6	0.4	0.6	**64.8**
1400	1.0	63.0	13.0	0.2	0.2	**77.4**
1500	0.6	75.0	6.6	0.4	0.2	**82.8**
1600	1.0	91.0	7.2	0.2	0.0	**99.4**
1700	1.8	88.4	5.8	0.0	0.2	**96.2**
1800	0.6	55.0	1.4	0.2	0.0	**57.2**
1900	0.8	29.6	2.8	0.0	0.2	**33.4**
2000	0.2	19.0	0.2	0.0	0.0	**19.4**
2100	0.2	12.8	0.4	0.2	0.0	**13.6**
2200	0.0	13.4	0.0	0.0	0.0	**13.4**
2300	0.0	3.8	0.0	0.0	0.0	**3.8**
12hr TTL	**13.2**	**826.6**	**76.6**	**3.2**	**2.0**	**921.6**
24hr TTL	**14.4**	**926.2**	**84.2**	**3.4**	**2.2**	**1030.4**
	1%	90%	8%	0%	0%	

NORTHWESTBOUND 5-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	2.2	0.2	0.0	0.0	**2.4**
0100	0.0	1.2	0.0	0.0	0.0	**1.2**
0200	0.0	0.8	0.0	0.0	0.0	**0.8**
0300	0.0	0.8	0.0	0.0	0.0	**0.8**
0400	0.0	1.2	0.2	0.0	0.0	**1.4**
0500	0.0	5.6	0.8	0.0	0.0	**6.4**
0600	0.6	15.6	3.6	0.0	0.0	**19.8**
0700	0.4	67.6	11.6	0.0	0.6	**80.2**
0800	0.2	118.6	16.8	0.0	0.0	**135.6**
0900	1.0	51.8	14.8	0.2	0.8	**68.6**
1000	1.2	51.8	12.4	0.0	0.8	**66.2**
1100	0.8	56.0	10.0	0.8	0.4	**68.0**
1200	2.0	60.2	9.4	0.2	0.6	**72.4**
1300	1.2	55.8	8.6	0.2	0.6	**66.4**
1400	1.0	64.2	11.0	0.4	0.8	**77.4**
1500	1.0	74.6	8.4	0.0	0.6	**84.6**
1600	1.6	72.6	8.6	0.0	1.0	**83.8**
1700	0.6	70.6	6.4	0.0	0.2	**77.8**
1800	0.4	51.2	3.4	0.0	0.0	**55.0**
1900	0.2	32.4	1.2	0.0	0.0	**33.8**
2000	0.2	22.2	1.2	0.0	0.2	**23.8**
2100	0.4	18.0	1.6	0.0	0.0	**20.0**
2200	0.2	11.0	0.4	0.0	0.0	**11.6**
2300	0.2	5.4	0.2	0.0	0.0	**5.8**
12hr TTL	**11.4**	**795.0**	**121.4**	**1.8**	**6.4**	**936.0**
24hr TTL	**13.2**	**911.4**	**130.8**	**1.8**	**6.6**	**1063.8**
	1%	86%	12%	0%	1%	

Five-day average southeastbound and northwestbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over all non-weekend days.

7-DAY AVERAGE CLASSES

SOUTHEASTBOUND 7-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	2.9	0.0	0.0	0.0	**2.9**
0100	0.0	1.3	0.0	0.0	0.0	**1.3**
0200	0.0	0.7	0.0	0.0	0.0	**0.7**
0300	0.0	0.6	0.0	0.0	0.0	**0.6**
0400	0.0	0.6	0.3	0.0	0.0	**0.9**
0500	0.0	3.7	0.3	0.0	0.0	**4.0**
0600	0.0	8.9	2.4	0.0	0.0	**11.3**
0700	1.0	35.7	3.7	0.0	0.0	**40.4**
0800	0.7	74.0	4.6	0.1	0.0	**79.4**
0900	0.6	60.4	3.9	0.3	0.1	**65.3**
1000	2.1	60.0	6.9	0.1	0.1	**69.3**
1100	3.1	63.3	6.1	0.7	0.4	**73.7**
1200	3.4	66.0	5.4	0.7	0.0	**75.6**
1300	1.9	65.4	2.7	0.4	0.4	**70.9**
1400	1.7	63.4	9.9	0.3	0.1	**75.4**
1500	1.6	69.1	4.9	0.4	0.1	**76.1**
1600	1.0	78.6	5.9	0.1	0.0	**85.6**
1700	1.6	74.0	4.3	0.0	0.1	**80.0**
1800	0.7	47.6	1.3	0.1	0.0	**49.7**
1900	0.6	27.4	2.1	0.0	0.1	**30.3**
2000	0.1	17.6	0.1	0.0	0.0	**17.9**
2100	0.1	10.6	0.3	0.1	0.0	**11.1**
2200	0.0	11.0	0.0	0.0	0.0	**11.0**
2300	0.0	3.7	0.0	0.0	0.0	**3.7**
12hr TTL	**19.4**	**757.6**	**59.4**	**3.4**	**1.6**	**841.4**
24hr TTL	**20.3**	**846.4**	**65.0**	**3.6**	**1.7**	**937.0**
	2%	90%	7%	0%	0%	

NORTHWESTBOUND 7-DAY AVG

TIME	Motor cycles	Cars / Taxis	LGV / MGV	HGV Rigid	HGV / Artic	TOTAL
0000	0.0	3.4	0.1	0.0	0.0	**3.6**
0100	0.0	1.7	0.0	0.0	0.0	**1.7**
0200	0.0	0.7	0.1	0.0	0.0	**0.9**
0300	0.0	1.0	0.1	0.0	0.0	**1.1**
0400	0.0	1.0	0.1	0.0	0.0	**1.1**
0500	0.0	4.3	0.6	0.0	0.0	**4.9**
0600	0.4	11.6	3.0	0.0	0.0	**15.0**
0700	0.6	50.4	9.1	0.1	0.4	**60.7**
0800	0.4	92.6	13.0	0.0	0.0	**106.0**
0900	2.3	47.1	11.3	0.3	0.7	**61.7**
1000	1.6	50.0	9.9	0.4	0.6	**62.4**
1100	1.7	58.7	8.6	0.9	0.4	**70.3**
1200	3.1	62.0	8.3	0.1	0.6	**74.1**
1300	2.4	56.0	7.3	0.3	0.4	**66.4**
1400	1.4	67.3	8.9	0.3	0.6	**78.4**
1500	0.9	71.3	6.7	0.0	0.4	**79.3**
1600	1.1	67.6	7.4	0.0	0.7	**76.9**
1700	1.3	62.0	5.0	0.0	0.1	**68.4**
1800	0.3	42.9	2.9	0.0	0.0	**46.0**
1900	0.1	28.3	0.9	0.0	0.0	**29.3**
2000	0.3	20.3	0.9	0.0	0.1	**21.6**
2100	0.3	16.7	1.1	0.0	0.0	**18.1**
2200	0.1	9.4	0.4	0.0	0.0	**10.0**
2300	0.3	6.1	0.3	0.0	0.0	**6.7**
12hr TTL	**17.1**	**727.9**	**98.3**	**2.4**	**5.0**	**850.7**
24hr TTL	**18.7**	**832.4**	**106.0**	**2.4**	**5.1**	**964.7**
	2%	86%	11%	0%	1%	

Average daily southeastbound and northwestbound volumes by class (condensed to the AQMA scheme), including totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4: Traffic Input To COBA.

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and Essex Highways cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and Essex Highways cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, Essex Highways cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 10 days before, and 48 hours before, the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	AQMA	MANUAL
1	MC	Motorcycle	SHORT Up to 5.5m	MC	MC
2	SV	Cars, taxis, 4WD, vans		CAR	CAR & LGV1
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m		
4	TB2	2 axle truck / bus		LGV & MGV	LGV2 & PSV
5	TB3	3 axle truck / bus			MGV & PSV
6	T4	4 axle truck		HGV RIGID	HGV1
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	HGV ARTIC	HGV2
8	ART4	4 axle articulated			
9	ART5	5 axle articulated			
10	ART6	6+ axle articulated			

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, refered to as ARX. The table on the left aligns the ARX classifications with the AQMA (air quality management standard) and the Essex 9-class, as used in manual junction counts undertaken by Essex Highways.

Disclaimer

Although every attempt is made to achieve accuracy, neither Essex County Council nor Essex Highways may be held liable for errors of fact or interpretation.

N

HIGHWOOD ROAD

80.5m

79.6m

Issues

76.2m

The Old Vicarage

Montague Farm

Montagues Farm Cottage

St Paul's Church

Drain

Pond

Issues

Moveable Greenhouses

Moveable Greenhouses

Moveable Greenhouses

Nursery

Tank

Playing Field

Edney Common

Nursery

Tank

84.4m

Valdez

Springbrook

Corry Le Skutreann

Garage

Grassmere

Bleak House

Dal's Cottage

Pond Cottage

Wallace Cottages

Red House

Corbiere

LB

86.8m

Green Man (PH)

Pond

Bollard

Greenfield

Playground

Rose Bud

Hawthorn House

OSGR
E 564874
N 204315

OSGR
E 564376
N 204626

SPARROWS GL

El Sub Sta

LB

TCB

Hall

Chaside

Fawkes

The Poplars

Loves Green Cottages

Mylor

Aggie

The Alders

84.4m

Yew Lodge House

Yew Lodge

Moorfleet

The Hawthorns

Summerfield

Russetts

Whitelands

Path

Church Farm

Path (um)

90.2m

Path (um)

Moat

Notes

1. Do not scale.
2. Nearest postcode CM1 3QA.

Key

Area of Interest

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

DRAWING STATUS

DRAWING STATUS

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014/15

DRAWING TITLE

AREA OF INTEREST HIGHWOOD ROAD EDNEY COMMON TO LOVES GREEN

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
KS	PKK	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
NOV 14	NOV 14	DEC 14	DEC 14	DEC 14

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

SCALE AT A1 (841X594mm)
1:1250

DRAWING No.
DC3401-00-001

REV.
-

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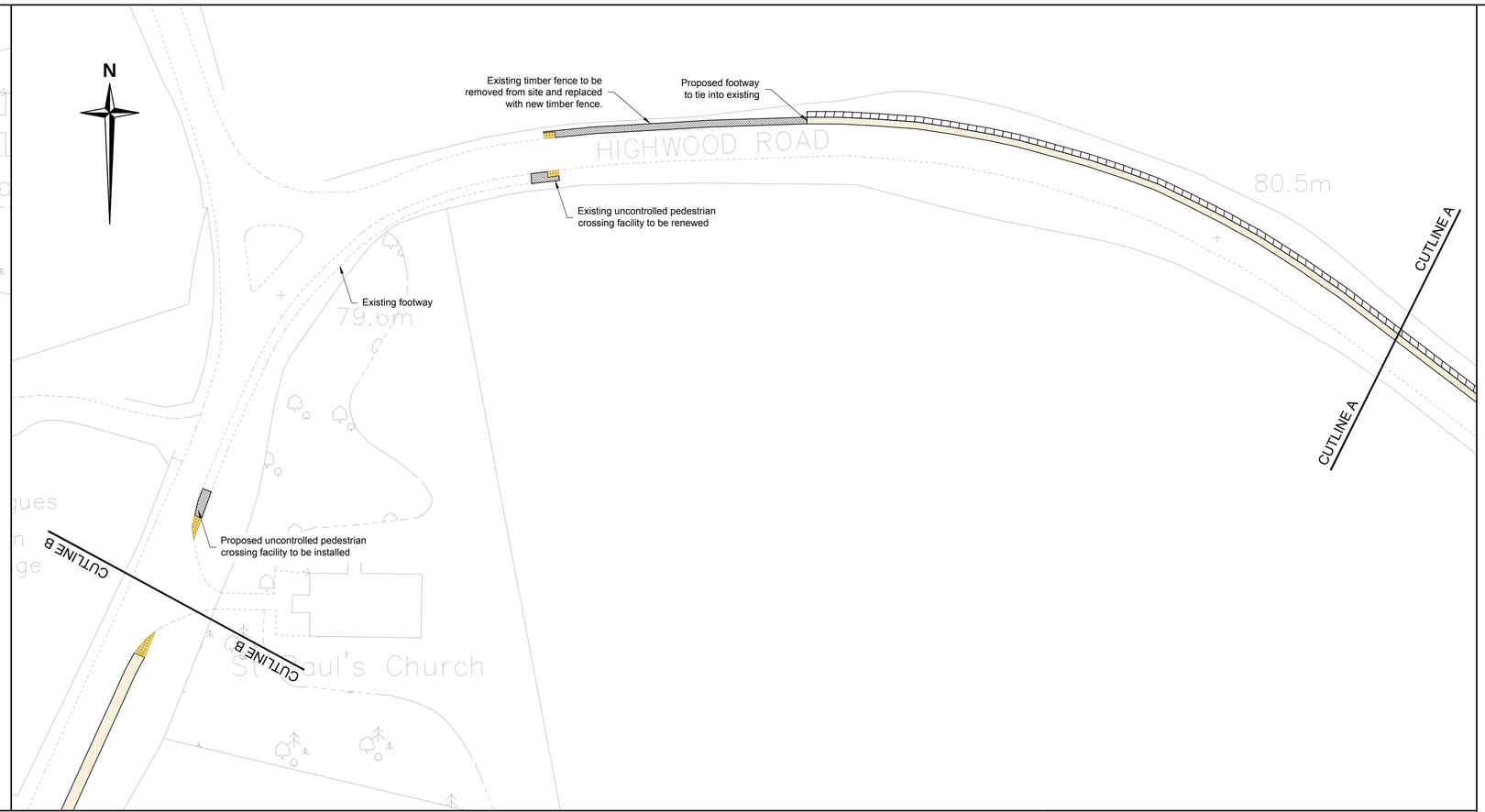

Notes

1. Do not scale.
2. All dimensions are in metres unless otherwise stated.
3. Before the removal of any vegetation the extents of the highway boundary and the ownerships should be established prior to any work being undertaken.

Key

- Proposed full depth new footway construction 1.2m wide
- Existing sign
- Area of Footway to be repaired and resurfaced
- Total Area of Vegetation to be cut back to Highway boundary 298m²
- Total Area of lay-by to be topsoil and seeded

Rev.	Date	Description of revision	Drawn	Checked	Review'd	Approv'd
A	01/15	Additional footway works incorporated into the design by client	CS	TE	JS	TE

DRAWING STATUS

INFORMATION

Essex Highways

Ringway Jacobs working in partnership with Essex County Council

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

SCHEME TITLE

LHP FEASIBILITY STUDIES 2014-15

DRAWING TITLE

HIGHWOOD ROAD, EDNEY COMMON TO LOVES GREEN PEDESTRIAN LINK

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
CS	SB	CS	JS	TE
DATE	DATE	DATE	DATE	DATE
DEC 14	DEC 14	JAN 15	JAN 15	JAN 15

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

SCALE AT A1 (841X594mm): 1:500

DRAWING No.: **DC3401-00-002**

REV.: **A**

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