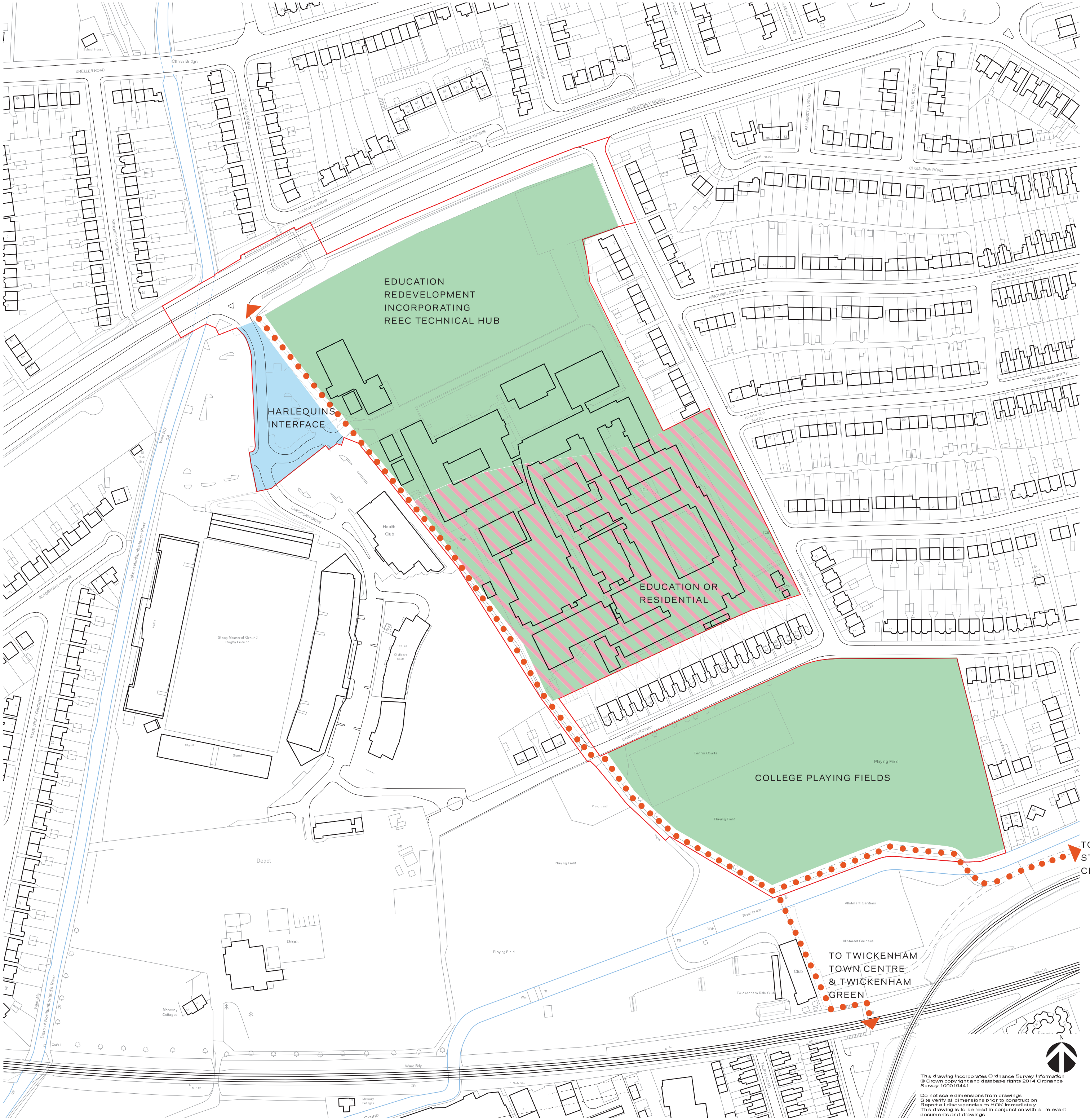

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Do not scale dimensions from drawings. Site verify all dimensions prior to construction. Report all discrepancies to HOK immediately. This drawing is to be read in conjunction with all relevant documents and drawings.

KEY TO DRAWING

- EDUCATION REDEVELOPMENT INCORPORATING REEC TECHNICAL HUB (LOCATION TO BE DETERMINED)
- EDUCATION OR RESIDENTIAL REDEVELOPMENT
- HARLEQUINS INTERFACE
- UPGRADED PEDESTRIAN AND CYCLE ROUTE (DEPENDANT UPON 3RD PARTY WORKS AND PERMISSIONS) (ROUTE TO BE CONFIRMED)

NOTE: BUILDING FOOTPRINTS REFLECT EXISTING BUILDINGS, NOT NEW PROPOSALS

Richmond upon Thames College

LONDON BOROUGH OF RICHMOND UPON THAMES

Project
RICHMOND COLLEGE FEASIBILITY
Egerton Rd, Twickenham, Middlesex TW2 7SJ

Prepared For
RICHMOND-UPON-THAMES COLLEGE & LONDON BOROUGH OF RICHMOND-UPON-THAMES
Project No: 12.33036.00

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DRAWING KEY

- PROPOSED SITE BOUNDARY

Drawn by: ae
Reviewed by: ae
Drawn Date: 2014.07.11
Scale: 1:1250 @ A1
Project No: 12.33036.00

Sheet Title:
RUTC SITE PLAN SHOWING INDICATIVE SITE DIVISION

Original drawing is A1. Do not scale contents of this drawing.

Sheet Number: SK-039
Revision: F

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SCOPING REPORT APPENDIX 6.1 SUMMARY OF BASELINE NOISE SURVEY

Baseline Noise Monitoring

Method

As agreed with LBRuT EHO, a long-term measurement over seven days was taken at the site of the existing college, two 24 hour measurements were taken at residential locations close to the site boundaries, and day and night attended measurements were taken at the boundary with the A316. The locations of the monitoring are shown in Figure 1.

All measurements were taken in acoustically 'free field' conditions, at least 3.5m away from any vertical reflective surfaces. A windshield was fitted to the microphone at all times to minimise the effects of wind-induced noise across the microphone diaphragm. Instruments used for the measurements were calibrated before and after the surveys and no drifting of the calibration signals were observed. Calibration certificates for all instruments are available.

Position 1 was located on the first floor roof of the college so as to measure aircraft noise as well as background noise levels, primarily from distant traffic on the A316. An environmentally protected measurement system was left at this position for seven days from 24 April to 1 May 2014, recording continuously. Weather data was obtained from Heathrow so that data measured during periods of high wind could be identified as this can distort the results due to overloading of the microphone signal. This data is shown in Appendix A. Data on air traffic movements was also obtained such that periods of westerly and easterly operations could be distinguished.

Position 2 was located at the southern boundary of the college, adjacent to the rear gardens of properties in Craneford Way. Measurements were carried out over a 24 hour period from 1 to 2 May again using an environmentally protected system, in order to establish ambient and background noise levels at these properties.

Position 3 was located on the eastern boundary of the college at the rear of properties in Egerton Road where measurements were also carried out for a 24 hour period from 2 to 3 May, in order to establish ambient and background noise levels at these properties.

Position 4 was at a distance of 20m from the edge of the A316 near the northern boundary of the existing college sports field. Attended noise measurements were carried out at this position covering day and night time periods, in order to quantify traffic noise levels along this boundary.

Figure 1: Baseline Noise Monitoring Positions

Results

The detailed results are shown in Appendix B and are summarised in Tables 1 to 3. This shows the daytime average $L_{Aeq,12hr}$ over the period 07:00 to 19:00 and the highest value of LA1 (the level exceeded for 1% of the time) over that period; the daytime $L_{Aeq,16hr}$ average over the period 07:00 to 23:00; the night time $L_{Aeq,8hr}$ over the period 23:00 to 07:00; the lowest night time L_{A90} and the highest night time L_{Amax}. These parameters will be used for different aspects of the assessment.

Table 1: Summary of Results of Baseline Noise Monitoring at Position 1, Roof of College Building

Date	$L_{Aeq,12hr}$	L_{A1} max Day 12hr	$L_{Aeq,16hr}$	$L_{Aeq,8hr}$	L_{A90} min Night 8hr	L_{Amax} Night 8hr
24-Apr	59.5	72.7	60.6	57.8	44.3	77.8
25-Apr	62.2	79.3	62.0	56.8	44.9	83.3
26-Apr	60.9*	81.9*	61.5*	56.1	45.0	80.7
27-Apr	63.5	81.6	63.3	57.7	45.7	76.5
28-Apr	63.0	80.9	62.7	58.3	44.9	79.4
29-Apr	63.6	83.1	63.8	57.4	45.6	76.3
30-Apr	60.9	72.2	60.4	57.6	45.0	73.8

* High wind during this period

Table 2: Summary of Results of Baseline Noise Monitoring at Positions 2 and 3, rear of Craneford Road and Egerton Road.

Posn.	Date	$L_{Aeq,12hr}$	L_{A1} max Day 12hr	$L_{Aeq,16hr}$	$L_{Aeq,8hr}$	L_{A90} min Night 8hr	L_{Amax} Night 8hr
2	01-May	58.6	84.2	58.2	55.0	30.4	81.9
3	02-May	61.1	80.8	60.7	57.1	31.9	83.7

Table 3: Summary of Results of Baseline Noise Monitoring at Position 4, 20m from A316

$L_{Aeq,6hr}$ Day		69.3
L_{A1} max Day 12hr		75.1
$L_{Aeq,8hr}$		64.4
L_{A90} min Night 8hr		44.3
L_{Amax} Night 8hr		77.3

Appendix A: Weather Report for the Long Term Noise Measurement 25th April to 1st May 2014

Date & Time	tt [°C]	td [°C]	ff [km/h]	ff [kn]	fx [km/h]	fx [kn]	dd	ppp [hPa]	vv [km]	sd [min]
01.05.2014 08:00:00	10,3	9,7	7	4	-	-	S	1009,9	2,2	0
01.05.2014 07:00:00	10,2	9,6	6	3	-	-	-	1009,9	2,0	0
01.05.2014 06:00:00	9,9	9,2	6	3	-	-	SSE	1009,9	1,6	0
01.05.2014 05:00:00	9,7	8,9	6	3	-	-	S	1010,1	2,2	0
01.05.2014 04:00:00	9,9	8,7	7	4	-	-	S	1010,6	2,4	0
01.05.2014 03:00:00	9,9	8,1	7	4	-	-	SSW	1011,1	5	0
01.05.2014 02:00:00	10,0	8,0	9	5	-	-	SW	1011,4	7	0
01.05.2014 01:00:00	10,0	7,5	11	6	-	-	SW	1011,8	10	-
01.05.2014 00:00:00	10,8	7,8	11	6	-	-	SW	1011,9	7	0
30.04.2014 23:00:00	11,1	7,9	13	7	-	-	SSW	1012,1	10	0
30.04.2014 22:00:00	11,9	8,0	13	7	-	-	S	1011,9	10	0
30.04.2014 21:00:00	13,1	7,3	15	8	-	-	SW	1011,7	10	0
30.04.2014 20:00:00	14,3	6,9	19	10	-	-	SW	1011,5	10	6
30.04.2014 19:00:00	15,9	6,5	22	12	-	-	SW	1011,3	10	54
30.04.2014 18:00:00	17,1	6,4	20	11	-	-	SSW	1011,2	10	54
30.04.2014 17:00:00	18,0	5,6	20	11	-	-	SW	1011,5	10	36
30.04.2014 16:00:00	17,9	7,0	19	10	-	-	SSW	1011,7	10	42
30.04.2014 15:00:00	18,7	7,5	13	7	-	-	SW	1012,1	10	48
30.04.2014 14:00:00	18,1	6,8	9	5	-	-	-	1012,5	10	60
30.04.2014 13:00:00	18,1	8,4	11	6	-	-	SSW	1012,9	10	60
30.04.2014 12:00:00	16,7	7,7	9	5	-	-	-	1013,3	10	60
30.04.2014 11:00:00	14,5	8,8	9	5	-	-	SW	1013,5	6	60
30.04.2014 10:00:00	11,7	8,8	9	5	-	-	SW	1013,6	3,5	60
30.04.2014 09:00:00	9,6	8,1	9	5	-	-	SSW	1013,8	0,8	60
30.04.2014 08:00:00	8,4	7,7	6	3	-	-	-	1013,6	0,3	48
30.04.2014 07:00:00	7,6	6,7	6	3	-	-	-	1013,5	2,5	12
30.04.2014 06:00:00	6,8	5,9	0	0	-	-	N	1013,0	4,8	0
30.04.2014 05:00:00	7,6	6,7	4	2	-	-	N	1012,8	5	0
30.04.2014 04:00:00	7,9	6,9	4	2	-	-	NNE	1012,7	6	0
30.04.2014 03:00:00	8,6	7,4	7	4	-	-	N	1013,0	7	0
30.04.2014 02:00:00	9,3	7,9	4	2	-	-	E	1012,9	4,9	0
30.04.2014 01:00:00	9,5	7,9	11	6	-	-	SW	1013,0	8	-
30.04.2014 00:00:00	9,6	7,4	4	2	-	-	-	1013,0	6	0
29.04.2014 23:00:00	10,6	7,7	6	3	-	-	ESE	1012,9	7	0
29.04.2014 22:00:00	11,6	7,8	7	4	-	-	ESE	1012,9	10	0
29.04.2014 21:00:00	12,2	7,5	6	3	-	-	E	1012,6	10	0
29.04.2014 20:00:00	13,8	7,7	13	7	-	-	E	1012,0	24	36
29.04.2014 19:00:00	15,3	6,7	15	8	-	-	ESE	1011,8	10	54
29.04.2014 18:00:00	16,2	7,2	13	7	-	-	E	1011,5	10	18
29.04.2014 17:00:00	15,8	8,5	17	9	-	-	E	1011,4	10	36
29.04.2014 16:00:00	16,5	9,0	19	10	-	-	E	1011,5	10	24
29.04.2014 15:00:00	16,5	8,9	15	8	-	-	ENE	1011,7	10	6
29.04.2014 14:00:00	15,3	8,1	17	9	-	-	ENE	1012,1	10	18
29.04.2014 13:00:00	15,7	9,3	13	7	-	-	ENE	1012,1	10	18
29.04.2014 12:00:00	15,2	9,2	17	9	-	-	ENE	1012,3	8	18
29.04.2014 11:00:00	15,0	9,5	15	8	-	-	E	1012,6	8	18
29.04.2014 10:00:00	13,2	9,4	11	6	-	-	ENE	1012,8	6	0
29.04.2014 09:00:00	12,2	8,9	9	5	-	-	ENE	1012,7	4,2	12
29.04.2014 08:00:00	11,0	8,9	9	5	-	-	NE	1012,8	3,1	0
29.04.2014 07:00:00	10,4	8,9	7	4	-	-	NE	1012,5	2,5	0
29.04.2014 06:00:00	10,1	9,1	7	4	-	-	NE	1012,3	2,5	0
29.04.2014 05:00:00	9,6	8,9	7	4	-	-	NE	1012,3	2,5	0
29.04.2014 04:00:00	8,8	7,9	7	4	-	-	ENE	1012,4	4,0	0
29.04.2014 03:00:00	8,9	7,6	6	3	-	-	NNE	1012,7	7	0
29.04.2014 02:00:00	9,7	8,6	6	3	-	-	E	1013,1	4,0	0
29.04.2014 01:00:00	9,6	8,2	6	3	-	-	E	1013,5	8	-
29.04.2014 00:00:00	10,6	8,9	4	2	-	-	ENE	1013,7	10	0

28.04.2014 23:00:00	10,9	8,2	6	3	-	-	SSW	1013,6	10	0
28.04.2014 22:00:00	12,2	9,3	9	5	-	-	SSW	1013,3	10	0
28.04.2014 21:00:00	12,7	9,2	11	6	-	-	S	1012,7	10	0
28.04.2014 20:00:00	13,9	8,1	9	5	-	-	ESE	1012,0	10	18
28.04.2014 19:00:00	15,0	5,7	15	8	-	-	E	1011,7	10	18
28.04.2014 18:00:00	15,8	6,1	20	11	-	-	E	1011,5	10	0
28.04.2014 17:00:00	16,7	6,5	19	10	-	-	ENE	1010,9	10	18
28.04.2014 16:00:00	17,6	6,1	15	8	-	-	E	1010,6	10	24
28.04.2014 15:00:00	16,5	7,3	17	9	-	-	ENE	1010,8	10	30
28.04.2014 14:00:00	15,7	8,1	17	9	-	-	NE	1011,0	10	18
28.04.2014 13:00:00	15,4	8,7	13	7	-	-	ENE	1010,8	10	12
28.04.2014 12:00:00	14,3	9,0	9	5	-	-	NE	1010,8	10	6
28.04.2014 11:00:00	14,0	9,1	11	6	-	-	NE	1010,6	8	12
28.04.2014 10:00:00	13,0	9,9	11	6	-	-	NE	1010,4	5	0
28.04.2014 09:00:00	11,0	8,6	13	7	-	-	NE	1010,2	4,0	0
28.04.2014 08:00:00	10,1	8,4	9	5	-	-	NNE	1009,8	3,1	0
28.04.2014 07:00:00	10,1	8,1	11	6	-	-	NE	1009,3	3,8	0
28.04.2014 06:00:00	9,9	7,8	9	5	-	-	NNE	1008,7	4,5	0
28.04.2014 05:00:00	10,0	7,5	9	5	-	-	NNE	1008,2	7	0
28.04.2014 04:00:00	10,1	7,5	7	4	-	-	NNE	1008,1	8	0
28.04.2014 03:00:00	10,0	7,3	7	4	-	-	NNE	1007,9	8	0
28.04.2014 02:00:00	9,8	7,3	6	3	-	-	-	1007,7	8	0
28.04.2014 01:00:00	10,3	7,7	7	4	-	-	NNE	1007,7	8	-
28.04.2014 00:00:00	11,4	7,9	11	6	-	-	ENE	1007,6	10	0
27.04.2014 23:00:00	11,7	8,0	15	8	-	-	ENE	1007,1	10	0
27.04.2014 22:00:00	11,9	7,8	19	10	-	-	ENE	1006,7	10	0
27.04.2014 21:00:00	12,3	7,7	13	7	-	-	ENE	1006,2	10	0
27.04.2014 20:00:00	12,6	7,4	13	7	-	-	ENE	1005,5	10	0
27.04.2014 19:00:00	12,2	7,7	17	9	-	-	E	1005,1	10	0
27.04.2014 18:00:00	13,5	6,8	22	12	-	-	E	1004,4	10	6
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27.04.2014 16:00:00	13,5	5,9	20	11	-	-	E	1003,5	10	0
27.04.2014 15:00:00	14,4	7,0	17	9	-	-	E	1003,4	40	0
27.04.2014 14:00:00	13,5	7,0	17	9	-	-	E	1003,2	10	0
27.04.2014 13:00:00	13,0	6,7	19	10	-	-	E	1003,0	10	0
27.04.2014 12:00:00	13,3	6,4	19	10	-	-	ESE	1002,7	10	12
27.04.2014 11:00:00	12,0	7,1	20	11	-	-	ESE	1002,3	10	18
27.04.2014 10:00:00	12,1	9,1	20	11	-	-	ESE	1002,0	10	6
27.04.2014 09:00:00	10,1	8,8	19	10	-	-	E	1001,8	10	0
27.04.2014 08:00:00	9,5	8,3	19	10	-	-	E	1001,5	10	0
27.04.2014 07:00:00	9,6	7,4	19	10	-	-	E	1001,3	10	0
27.04.2014 06:00:00	9,5	7,4	17	9	-	-	E	1001,2	10	0
27.04.2014 05:00:00	9,1	6,4	15	8	-	-	E	1001,0	10	0
27.04.2014 04:00:00	9,1	5,9	19	10	-	-	E	1001,2	10	0
27.04.2014 03:00:00	8,9	5,8	17	9	-	-	E	1001,5	10	0
27.04.2014 02:00:00	9,0	5,6	13	7	-	-	E	1002,0	10	0
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27.04.2014 00:00:00	9,3	4,6	19	10	-	-	ESE	1003,0	10	0
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26.04.2014 19:00:00	12,6	4,9	20	11	-	-	SSE	1003,5	10	42
26.04.2014 18:00:00	14,0	5,7	30	16	46	25	S	1003,7	10	42
26.04.2014 17:00:00	13,6	9,0	30	16	50	27	S	1003,8	10	48
26.04.2014 16:00:00	14,8	5,0	30	16	48	26	S	1003,7	10	48
26.04.2014 15:00:00	15,0	5,9	28	15	-	-	S	1003,9	10	30
26.04.2014 14:00:00	15,5	6,9	31	17	46	25	S	1004,3	10	36
26.04.2014 13:00:00	14,2	6,4	28	15	46	25	S	1004,6	10	30
26.04.2014 12:00:00	13,6	5,9	28	15	-	-	S	1004,8	10	6

26.04.2014 11:00:00	13,1	6,9	28	15	-	-	S	1004,8	10	48
26.04.2014 10:00:00	13,2	9,8	24	13	-	-	S	1004,8	10	24
26.04.2014 09:00:00	11,8	9,5	22	12	-	-	S	1004,8	10	12
26.04.2014 08:00:00	10,4	9,0	20	11	-	-	S	1004,8	10	0
26.04.2014 07:00:00	9,7	8,4	22	12	-	-	SSE	1004,8	10	0
26.04.2014 06:00:00	9,6	7,8	22	12	-	-	SSE	1004,9	10	0
26.04.2014 05:00:00	9,6	7,4	17	9	-	-	SSE	1005,5	10	0
26.04.2014 04:00:00	9,7	8,0	17	9	-	-	SSE	1006,4	10	0
26.04.2014 03:00:00	8,8	8,1	17	9	-	-	SSE	1007,0	6	0
26.04.2014 02:00:00	8,1	7,4	13	7	-	-	SE	1007,8	3,4	0
26.04.2014 01:00:00	8,0	7,0	9	5	-	-	S	1008,6	6	-
26.04.2014 00:00:00	8,1	7,1	11	6	-	-	SSE	1008,9	6	0
25.04.2014 23:00:00	9,5	8,2	11	6	-	-	S	1009,5	7	0
25.04.2014 22:00:00	9,7	8,5	15	8	-	-	SW	1009,9	10	0
25.04.2014 21:00:00	10,1	8,7	15	8	-	-	SW	1009,8	10	0
25.04.2014 20:00:00	10,3	9,0	17	9	-	-	W	1009,2	10	0
25.04.2014 19:00:00	10,1	9,4	20	11	-	-	W	1009,0	10	0
25.04.2014 18:00:00	10,0	9,4	24	13	-	-	W	1009,0	5	0
25.04.2014 17:00:00	10,1	9,4	24	13	-	-	W	1009,0	5	0
25.04.2014 16:00:00	11,4	10,7	13	7	-	-	W	1009,0	4,0	0
25.04.2014 15:00:00	11,8	11,2	7	4	-	-	NW	1009,4	3,1	0
25.04.2014 14:00:00	11,2	10,4	7	4	-	-	NW	1010,3	2,8	0
25.04.2014 13:00:00	11,0	10,0	9	5	-	-	N	1010,8	3,4	0
25.04.2014 12:00:00	10,6	9,6	9	5	-	-	N	1011,5	3,8	0
25.04.2014 11:00:00	10,0	9,1	7	4	-	-	N	1012,3	3,1	0
25.04.2014 10:00:00	9,7	8,5	9	5	-	-	N	1012,6	5	0
25.04.2014 09:00:00	9,3	8,1	9	5	-	-	N	1013,2	3,4	0
25.04.2014 08:00:00	9,2	7,9	11	6	-	-	NNE	1013,2	5	0

tt	=	temperature
td	=	dewpoint
ff	=	wind speed
fx	=	gusts
dd	=	wind direction
ppp	=	reduced air pressure
vv	=	visibility
sd	=	sunshine duration

Appendix B: Detailed Results of Baseline Noise Measurements

1. Long Term Measurements on College Roof

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
24-Apr	1030	59.4	73.2	66.6	61.5	56.0
	1130	58.6	72.0	67.2	60.7	55.2
	1230	59.2	75.3	71.3	61.0	55.5
	1330	58.7	69.3	66.0	60.8	55.4
	1430	60.1	73.2	70.2	62.2	56.2
	1530	60.4	74.1	70.4	62.4	56.6
	1630	58.8	79.3	72.7	60.9	54.9
	1730	58.5	69.7	66.5	61.2	53.9
	1830	60.8	69.1	66.9	62.9	56.8
	1930	60.9	75.4	71.2	62.9	57.4
	2030	60.1	70.4	66.5	62.3	56.3
	2130	62.8	81.6	79.0	63.0	55.0
	2230	64.5	81.2	79.1	67.4	53.2
	2330	56.0	66.9	64.5	59.2	49.8
25-Apr	0030	54.3	73.8	68.1	57.4	46.5
	0130	51.6	62.1	61.0	55.6	45.6
	0230	51.4	66.4	63.8	55.1	44.3
	0330	52.9	67.0	64.3	56.7	45.7
	0430	55.5	66.2	63.8	59.0	50.2
	0530	60.9	77.0	73.2	63.1	55.1
	0630	63.2	77.8	73.3	65.2	59.2
	0730	63.0	73.5	70.8	65.0	59.5
	0830	62.3	77.7	72.6	64.5	57.8
	0930	62.1	71.6	69.3	64.2	58.5
	1030	62.3	80.9	73.6	64.1	58.4

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
	1130	62.6	75.1	72.6	64.3	59.1
	1230	62.4	77.0	74.7	64.0	58.4
	1330	63.8	81.2	79.3	64.6	59.2
	1430	63.3	81.3	76.2	64.6	59.0
	1530	60.3	77.8	74.6	62.1	56.3
	1630	60.4	82.3	75.9	61.8	56.9
	1730	60.4	70.9	67.6	62.5	57.2
	1830	62.2	70.0	67.6	64.3	58.8
	1930	62.7	79.6	73.1	64.7	59.2
	2030	61.4	75.9	68.2	63.6	57.8
	2130	60.2	67.4	66.6	62.6	56.2
	2230	59.0	74.3	71.6	61.6	53.8
	2330	57.1	72.7	64.8	60.0	50.0
26-Apr	0030	55.3	65.8	63.9	58.6	47.6
	0130	53.3	66.0	62.8	57.0	46.5
	0230	51.2	66.0	61.2	55.2	44.9
	0330	51.4	64.9	63.0	55.2	46.1
	0430	54.2	69.7	65.0	57.5	48.9
	0530	56.8	76.3	72.7	59.0	50.1
	0630	62.5	83.8	79.8	63.5	54.3
	0730	62.9	80.9	76.6	65.8	56.0
	0830	64.0	82.8	80.7	65.9	56.5
	0930	62.0	82.6	78.7	62.9	56.2
	1030	62.8	85.8	81.9	61.4	54.3
	1130	57.7	69.8	66.3	59.9	54.4
	1230	56.4	72.2	64.8	58.6	52.7
	1330	55.8	69.4	62.0	58.0	52.2
	1430	56.2	69.7	66.7	58.8	50.9

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
	1530	58.2	73.1	69.0	60.7	53.6
	1630	59.2	79.0	73.1	61.1	54.8
	1730	62.6	85.2	80.8	62.8	51.0
	1830	62.1	84.4	80.0	63.2	54.3
	1930	61.4	80.3	76.4	63.7	54.1
	2030	61.1	81.0	78.2	62.1	53.1
	2130	65.6	84.1	80.9	69.1	53.1
	2230	62.1	83.4	79.3	63.9	52.4
	2330	57.9	77.5	74.4	59.7	50.8
27-Apr	0030	55.2	64.3	62.9	58.4	48.7
	0130	54.5	75.7	68.1	57.8	46.9
	0230	52.8	65.6	62.6	56.5	45.0
	0330	52.8	65.3	62.9	56.3	46.3
	0430	53.8	67.4	63.8	57.2	47.1
	0530	56.0	77.6	72.4	58.7	49.7
	0630	60.2	80.7	75.0	61.9	52.2
	0730	61.2	78.9	74.5	63.7	54.9
	0830	63.9	80.6	78.7	66.1	57.4
	0930	62.6	81.6	76.8	63.9	57.6
	1030	62.5	83.1	78.0	63.4	56.4
	1130	63.4	82.2	78.6	65.3	57.5
	1230	64.3	83.8	80.6	65.9	57.4
	1330	63.6	80.3	77.1	66.2	57.6
	1430	64.1	81.9	79.3	66.0	57.6
	1530	63.9	81.0	77.7	66.2	58.0
	1630	64.3	86.2	81.6	66.0	57.8
	1730	63.1	78.9	75.4	64.9	58.4
	1830	63.6	83.6	78.4	65.0	58.2

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
	1930	62.4	78.7	74.2	64.7	57.5
	2030	61.9	78.9	75.7	63.9	55.9
	2130	64.5	84.3	79.7	67.0	54.7
	2230	61.1	80.8	78.2	62.5	51.9
	2330	54.8	65.6	63.7	58.2	49.0
28-Apr	0030	52.9	67.6	63.4	56.6	47.8
	0130	51.2	66.4	62.7	55.3	46.3
	0230	50.5	65.5	62.0	54.6	45.7
	0330	51.7	67.2	63.0	55.4	45.9
	0430	56.3	76.1	65.6	59.4	49.9
	0530	60.8	72.9	69.9	63.4	55.6
	0630	63.4	76.5	73.5	65.3	59.3
	0730	63.0	78.5	75.2	64.8	58.6
	0830	63.5	80.2	76.9	65.6	58.0
	0930	62.9	78.5	75.3	64.5	58.1
	1030	63.4	82.1	78.5	64.0	57.3
	1130	62.7	82.9	78.5	63.7	57.5
	1230	64.4	84.5	80.9	64.8	56.9
	1330	62.6	81.5	78.0	63.8	57.1
	1430	61.9	81.6	75.7	63.6	56.7
	1530	63.1	79.6	76.3	64.8	57.3
	1630	62.8	78.2	75.3	64.7	57.7
	1730	62.3	78.5	75.7	64.0	57.1
	1830	62.5	80.9	76.5	64.1	57.4
	1930	61.5	77.0	73.7	63.9	55.3
	2030	61.6	81.5	78.4	61.7	53.5
	2130	63.9	83.8	79.4	65.2	53.1
	2230	57.7	70.0	65.7	60.8	50.9

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
	2330	56.2	66.1	64.0	59.5	48.1
29-Apr	0030	53.1	71.4	63.3	56.8	46.6
	0130	52.7	79.0	69.4	56.4	47.0
	0230	52.2	64.1	61.9	56.1	44.9
	0330	52.9	65.0	62.0	56.4	45.2
	0430	57.3	68.8	65.6	60.6	49.5
	0530	61.4	75.9	72.0	63.8	56.4
	0630	63.6	79.4	75.6	65.2	58.1
	0730	62.6	80.3	74.7	64.5	56.8
	0830	62.4	81.3	77.6	64.0	54.3
	0930	63.2	85.5	78.1	64.4	54.7
	1030	64.1	81.7	78.6	65.3	57.3
	1130	62.2	82.2	76.9	63.4	57.0
	1230	64.9	86.0	82.1	65.5	57.7
	1330	62.7	79.5	77.3	64.0	57.6
	1430	64.8	88.8	83.9	65.2	57.4
	1530	63.4	86.8	78.5	64.4	57.0
	1630	62.8	80.3	75.6	64.7	55.6
	1730	64.1	78.7	75.3	65.2	61.8
	1830	64.3	80.7	77.3	65.7	59.6
	1930	64.7	81.2	75.9	66.4	60.7
	2030	65.0	87.1	85.8	63.8	55.3
	2130	64.9	84.0	80.3	66.8	54.4
	2230	62.2	83.1	77.6	63.0	51.2
	2330	54.5	68.9	64.4	57.9	49.7
30-Apr	0030	56.2	76.3	75.0	57.3	48.0
	0130	52.3	65.0	63.5	56.2	46.7
	0230	51.5	66.4	63.0	55.5	45.9

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
	0330	52.7	65.7	63.0	56.5	45.6
	0430	57.3	70.9	66.7	61.0	49.9
	0530	60.8	70.4	67.4	63.5	55.3
	0630	61.7	72.7	68.1	63.9	57.3
	0730	61.4	76.6	72.2	64.0	55.8
	0830	61.6	74.0	68.7	63.8	57.1
	0930	63.1	72.0	69.4	64.5	61.3
	1030	63.1	73.5	68.3	64.4	61.6
	1130	62.9	74.2	69.2	64.3	61.3
	1230	62.6	71.1	67.7	63.9	61.2
	1330	61.3	71.5	68.2	63.6	56.3
	1430	58.0	70.9	66.4	60.1	54.8
	1530	58.2	80.9	71.5	59.8	54.6
	1630	56.4	72.7	63.2	58.7	53.1
	1730	56.7	71.9	66.4	59.1	53.0
	1830	58.5	72.6	69.3	60.8	54.0
	1930	58.9	71.5	67.2	61.0	55.3
	2030	58.7	73.5	69.4	60.9	54.2
	2130	58.2	67.1	64.5	60.8	53.5
	2230	57.9	73.1	68.2	60.6	52.6
	2330	55.5	73.8	68.9	58.5	47.8
01-May	0030	52.2	66.2	62.0	56.0	47.0
	0130	51.6	63.4	61.8	55.6	46.1
	0230	50.8	62.6	60.8	54.9	45.0
	0330	53.2	67.8	64.2	57.1	45.7
	0430	57.5	68.9	66.7	60.9	48.2
	0530	61.2	71.6	67.9	63.9	56.1
	0630	62.3	70.7	68.4	64.5	58.3

Date	Time	LAeq	LAmax	LA1	LA10	LA90
		dB	dB	dB	dB	dB
	0730	61.5	79.1	75.3	63.4	57.1
	0830	61.1	74.2	70.5	63.6	57.1
	0930	61.4	77.7	70.0	63.3	58.1

2. 24 Hour Measurement at Craneford Road Boundary, 1-2 May 2014

Time	LAeq	LAmax	LA1	LA10	LA90
	dB	dB	dB	dB	dB
1330	59.0	80.6	78.3	58.3	43.0
1430	62.1	82.8	79.5	64.5	41.7
1530	59.0	76.6	73.9	62.5	37.9
1630	58.8	84.2	75.5	62.4	40.2
1730	59.0	76.9	72.4	62.9	39.9
1830	56.7	77.5	73.0	59.7	41.3
1930	56.6	80.5	73.1	60.2	39.7
2030	54.5	74.3	71.7	58.1	39.2
2130	55.4	80.4	75.3	53.9	38.0
2230	59.6	80.1	77.5	62.6	41.2
2330	55.2	76.8	73.7	51.0	36.9
0030	35.6	54.4	46.1	37.2	33.4
0130	33.8	46.7	43.5	35.6	31.2
0230	32.7	42.8	40.3	34.5	30.4
0330	37.1	53.4	48.2	39.9	32.3
0430	60.7	81.9	76.5	64.0	38.6
0530	58.0	79.0	74.6	60.3	41.5
0630	56.0	80.7	73.2	58.4	43.3
0730	58.8	78.6	75.3	61.9	43.6
0830	58.7	78.6	75.3	61.5	44.2
0930	57.2	79.9	76.4	59.2	41.6
1030	58.9	86.8	76.8	60.0	42.1
1130	57.6	78.8	75.9	58.0	42.1
1230	60.9	82.3	79.8	61.8	43.5

3. 24 Hour Measurement at Egerton Road Boundary, 2-3 May 2014

Time	LAeq	LAmax	LA1	LA10	LA90
	dB	dB	dB	dB	dB
1300	61.5	82.5	78.6	59.7	44.4
1400	63.4	82.2	79.8	66.3	44.4
1500	60.6	75.0	73.9	64.0	39.3
1600	59.9	85.4	75.7	63.5	41.4
1700	61.3	77.4	72.5	64.4	42.7
1800	58.0	77.1	73.1	60.7	43.5
1900	58.1	79.7	73.4	62.0	41.2
2000	55.9	72.3	72.5	60.0	41.9
2100	58.4	79.6	75.8	55.4	39.2
2200	62.4	81.5	78.2	64.0	42.6
2300	56.7	78.0	74.5	53.0	38.1
0000	38.5	54.0	47.0	38.4	36.2
0100	35.7	46.9	43.8	37.5	34.0
0200	35.3	44.0	40.9	36.2	31.9
0300	38.7	53.0	48.9	41.5	34.4
0400	63.0	83.7	77.3	65.6	39.6
0500	59.7	78.5	75.2	61.4	43.2
0600	58.3	80.2	73.4	59.4	45.5
0700	61.7	78.9	75.5	63.9	45.1
0800	59.7	78.2	75.8	63.3	46.6
0900	59.1	79.1	77.2	61.1	42.9
1000	61.2	88.3	77.5	61.7	45.1
1100	60.3	80.1	75.9	60.0	44.2
1200	63.4	84.1	80.8	63.4	45.0
1300	60.6	73.8	73.3	64.3	44.9

4. Attended Measurements on A316 Boundary

Date	Time	LAeq	LAmax	LA1	LA10	LA90
24-Apr	1030	69.3	76.5	74.5	72.6	62.2
	1130	69.2	76.4	74.2	72.1	63.9
	1230	69.0	76.4	74.4	72.2	62.4
	1330	69.7	77.7	75.1	72.4	65.1
	1430	68.9	76.0	74.0	71.8	62.5
	1530	69.5	76.8	74.3	72.7	64.2
02-May	2300	64.7	75.8	73.0	67.6	54.8
	0000	64.2	76.3	74.1	67.8	51.6
	0100	61.0	71.2	68.6	64.7	48.5
	0200	59.5	73.5	70.4	62.3	46.1
	0300	61.2	70.9	69.1	63.9	44.3
	0400	64.6	76.2	74.2	67.5	52.1
	0500	66.3	77.1	74.8	70.1	59.7
	0600	67.8	77.3	75.0	71.3	61.9

SCOPING REPORT APPENDIX 12.1 SUMMARY OF EXTENDED PHASE 1 HABITAT SURVEY RESULTS

Designated Sites

The 2km study area does not contain any European (Special Areas of Conservation, Special Protection Areas or Ramsar sites) or nationally designated sites (Sites of Special Scientific Interest or National Nature Reserves). The study area did contain two Local Nature Reserves (LNRs), three Sites of Metropolitan Importance for Nature Conservation (SMINCs), one Borough (Grade 1) Site of Nature Conservation Importance (SINC), four Borough (Grade 2) SINCs and six Local SINCs. These are identified in **Table 1**.

Habitats

An Extended Phase 1 Habitat survey, completed in 2014, recorded the habitat types present across the site as a whole. The survey included consideration of the potential for the habitats to support legally protected or ecologically significant species along with the presence of invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

The site is dominated by a variety of buildings and hardstanding that comprise the existing college with landscaped areas interspersed between the buildings. To the north and the south of the college are recreational fields with scattered mature trees surrounding them. The site also includes part of the hardstanding car park and access road to the north-west of the site.

The Extended Phase 1 Habitat survey recorded few semi-natural habitats present on or in the adjacent habitats: broadleaved semi-natural woodland; scrub/shrub; poor semi-improved grassland; scattered trees; amenity grassland; tall ruderals; running water and intact species-poor hedge. Many of these habitats originate from amenity planting, and as such are unlikely to meet the value thresholds for consideration. The habitats recorded, and their value, are provided in **Table 2.**

Table 1 Summary of Designated Sites within the Study Area

Site	Proximity	Designation Criteria
Statutory Designated Sites		
Ham Lands LNR	940m	An extensive area of grassland and scrub that supports a diverse floral and faunal assemblage. Restoration from its previous use for gravel extraction has resulting in a unique mosaic of different vegetation types, with a diverse assemblage of wildflowers, that attract may butterfly and bird species.
Isleworth Ait LNR	2km	An island with tall canopy of mixed woodland, consisting mainly of poplar and willow species, which is regularly flooded. An absence of recreational disturbance has enabled the habitat to become a sanctuary for a variety of birds, notably treecreeper *Certhia familiaris*, kingfisher *Alcedo atthis* and heron *Ardea cinerea*. The site is also important for several rare beetles and mollusc, notably the two-lipped door snail *Balea biplicata* and the German hairy snail *Pseudotrichia rubiginosa*.
Non-Statutory Designated Sites		
Crane Corridor SMINC	450m	The site covers a 5km reach of the River Crane, where it is bordered by semi-natural habitats of remarkable diversity: woodland, dry pastures, water meadows and areas of open water. The river in this reach is one of the most natural in London and is a stronghold for uncommon wetland plants along with the former ox-bow ponds in the floodplain. The habitats support a rich breeding bird community and extensive populations of water vole.
Ham Lands SMINC	940m	Restored gravel pits alongside the River Thames, comprising a mosaic of habitats that include flower-rich grassland, scrub and woodland. These support a diverse floral assemblage with nationally scarce species and provides a variety of habitats for a diverse range of birds and mammals.
River Thames and Tidal Tributaries SMINC	1.3km	The Thames and tidal sections of creeks and rivers flowing into it comprise a number of valuable habitats not found elsewhere in London. These support a variety of species from freshwater, estuarine and marine communities that are rare in London and is of particular importance for wading birds, black redstart *Phoenicurus ochruros* wildfowl, fish, floral species and invertebrates.
Duke of Northumberland's River north of Kneller Road Borough I SINC	160m	The site comprises a 650m reach of the watercourse and supports excellent aquatic and marginal vegetation, including branched bur-reed *Sparganium erectum*, unbranched bur-reed *S. emersum* and water plantain *Alisma plantago-aquatica* in the channel and marsh horsetail *Equisetum palustre*, great yellow-grass *Rorippa amphibia*, greater pond-sedge *Carex riparia*, reed sweet-grass *Glyceria maxima*, water forget-me-not *Myosotis scorpioides*, water figwort *Scrophularia auriculata* and skullcap *Scutellaria galericulata*. The river has greatly improved for wildlife over the recent years, with increases in habitat provision for birds, fish and invertebrates.
Mogden Sewage Works Borough I SINC	730m	The site comprises a large sewage works surrounded by tall earth banks with a series of sludge lagoons on the western side. These provide a series of successional stages between open water and willow woodland and provide an important resource for a range of wildflowers, invertebrates and birds. The Duke of Northumberland's River flows through the site and supports a range of wetland plant species.
Duke of Northumberland's River south of Kneller Road Borough II SINC	Adjacent	The site comprises an 800m section of the watercourse that is straight and shallow with vertical banks and a gravelly bed. The site has established an interesting aquatic flora including greater pond sedge and scattered plants of skullcap, water-pepper *Persicaria hydropiper* and marsh horsetail. Arrowhead, an uncommon plant in London, emerges in some places with river water-crowfoot *Ranunculus fluitans* and unbranched bur-reed beneath the surface. Kingfisher is also relatively common.

Site	Proximity	Designation Criteria
River Crane at St. Margarets (including Richmond Site) Borough II SINC	200m	The site includes the Crane between Chertsey Road and the tidal limit at Northcote Road, below which it is included within the River Thames and Tidal Tributaries SMINC. The river is divided into two channels, lined by trees and shrubs, with kingfisher frequently seen.
Strawberry Hill Golf Course Borough II SINC	1.2km	The site supports old oak trees scattered around the course along with a small woodland and scrub. The rough areas contain some fine acid grassland habitat with characteristic plants present. The site also supports a stream with limited vegetation and a large railway triangle to the south-east which is important for bird and butterfly species which receives little disturbance.
Petersham Lodge Wood & Ham House Meadows Borough II SINC	1.4km	The site comprises a former landscaped garden, woodland, grassland and meadows, many of which are regularly flooded by the River Thames. This has led to a diverse and rich ground flora which include nationally scarce species and London rarities.
Duke of Northumberland's River at Woodlands Borough II SINC	1.5km	The site comprises a narrow section of the watercourse to the north of Mogden Sewage Works, flowing through the Woodlands housing estate. The river has good water quality and supports aquatic vegetation that includes fennel pondweed *Potamogeton pectinatus* and water crowfoot *Ranunculus sp.* which area scarce in London.
Hounslow, Feltham and Whitton Junctions Borough II SINC	1.5km	The site comprises a triangle of railway land including three junctions and the immediately adjacent habitat. This includes a large area of wildlife habitat that is not dominated by woodland, instead comprising scrub with long strips of rough grassland and tall herb communities which provide opportunities important for many animals and plants.
Hounslow Loop Railsides Borough II SINC	1.6km	The site comprises a long section of railside line that runs through most of Hounslow Borough providing connection between semi-natural habitats in the wider environment. The site is largely uniform in structure and comprises rank grassland, scrub, tall herbs and scattered trees.
Fulwell & Twickenham Golf Courses Borough II SINC	1.7km	The site comprises a range of different habitats, including acid grassland, woodland, scrub, wet ditches and a pond. The acid grassland contains characteristic floral species and the small copper butterfly *Lycaena phlaeas*. The pond supports a variety of plants, amphibians, water birds, dragonflies and damselflies and the presence of a former allotment provides habitat and food resource for the green woodpecker *Picus viridis*.
The Copse, Holly Hedge Field & Ham Avenues Borough II SINC	1.9km	The site supports an attractive flowery meadow with a diverse ground flora that includes London rarities. The site also includes a small copse of woodland, comprised of ancient oaks with dead wood supporting a variety of insects, fungi, birds and bats. The ancient avenue provides additional habitat opportunities for a range of birds and mammals.
Petersham Meadows Borough II SINC	2km	The site comprises a sloping meadow alongside the River Thames which experiences variations in flooding regime. Consequently the site supports a varied ground flora with a good diversity of plant species.
Twickenham Junction Rough Local SINC	Adjacent	The railway line to the west of Twickenham station creates an island of habitat that receives little disturbance. The site comprises a mixture of rough grassland, tall herbs, scrub and young woodland with old brick walls, which support three fern species that are scarce in London.
Moor Mead Local SINC	880m	A small park alongside the River Crane with overhanging trees that supports a variety of wildflowers and a diverse range of bird species.
Marble Hill Park and Orleans House Gardens Local SINC	1.2km	An attractive landscaped park adjacent to the River Thames with the gardens of Orleans House, which supports both grassland and woodland habitats. The infrequent management has allowed a diverse ground flora to develop. The woodland supports a range of bird species.

Site	Proximity	Designation Criteria
Twickenham Cemetery Local SINC	1.3km	Due to its size, the site provides an important wildlife resource with grassland, hedge and scattered tree habitats present. The grassland is a mixture of neutral and acid grassland, with characteristic species present. The mixture of habitats provides valuable urban habitat for birds and butterflies.
Teddington Cemetery Local SINC	1.5km	The grassland habitat is subject to infrequent management, allowing a variety of floral species to develop, whilst the scattered trees provide habitat to a range of birds.
Inwood Park Local SINC	1.8km	An urban park with flowerbeds, shrubberies and recreational facilities, with the eastern end managed for nature. A large meadow here supports a range of plants whilst the tall hedgerow and trees provide habitat opportunities for a range of birds and butterflies.
Twickenham Road Meadow Local SINC	2km	A narrow strip of grassland with scattered trees that is partly flooded by the River Thames. As a result the site supports a ground flora capable of supporting interesting invertebrate species. The drier habitats support a greater diversity of wildflowers and old brick walls support specialist flora.

Table 2 Summary of Habitats within and immediately adjacent to the Site

Ecological Receptor	Proximity	Description	Value	Policy
Broadleaved semi-natural woodland	Adjacent	A small copse at the southern edge of the site alongside the River Crane with a mixture of native and ornamental species with a tall ruderal understory.	Local	The habitat is considered to comprise part of the London and London Borough of Richmond upon Thames BAPs.
Scrub/shrub	Within site and adjacent	Areas of semi-natural scrub have developed in the recreational areas with ornamental shrub planting within the amenity areas of the college.	Within immediate survey area only	None.
Poor semi-natural grassland	Adjacent to site	A small area of grassland alongside Challenge Court left outside the mowing regime to allow grass and wildflower species to develop.	Local	The habitat is considered to comprise part of the Urban Greenspace BAP habitat at the local and regional scale.
Scattered trees	Within site and Adjacent	Ornamental species are present as part of the landscaping of Richmond College, with mature species present surrounding the recreational fields. The amenity area alongside Challenge Court includes recently planted trees with mature trees located along the periphery.	Up to Local	The mature trees are of greater value locally and are referenced in local planning policy. Some may qualify as veteran trees.
Amenity grassland	Within site	Grassland areas within the landscaped sections of the college and recreational areas to the north and south, where management of the areas results in a short grass sward.	Within immediate survey area only	None[1]
	Adjacent	Grassland areas alongside Challenge Court and the recreational area to the south-west, where management of the areas results in a short grass sward.	Local	The habitat is considered to comprise part of the Urban Greenspace BAP habitat at the local and regional scale.
Tall ruderals	Adjacent to site	A discrete area is located within the unmown parts of the Challenge Court grassland area.	Within immediate survey area only	None
Running water	Adjacent	The watercourses are typical urban rivers and are identified as heavily modified under the WFD. The River Crane alongside the study area is within an artificial culvert which is uniform through the survey area with limited habitat opportunities. The Duke of Northumberland River, although artificial in nature, resembles a more natural river albeit straightened with reinforced banks.	Up to local	The habitat is considered to comprise part of the London and London Borough of Richmond upon Thames BAPs. The watercourses are also protected under the Environmental Damage (Prevention and Remediation) Regulations 2009.

[1] The London Parks and Green Spaces Habitat Action Plan identifies that the scope of the plan is limited to land managed for public access, with the recreational fields falling under the ownership of Richmond upon Thames College not considered to fall within this definition.

Ecological Receptor	Proximity	Description	Value	Policy
Intact species-poor hedge	Within site	A short length of hedgerow is located within the college and originates from the landscaping of the site with a single cypress species present.	Within immediate survey area only	None

Species

No detailed surveys have been completed on the site, and therefore this section has been completed based on the suitability of the habitat and the potential supporting value as identified during the Extended Phase 1 Habitat survey and the desk-based information received.

No floral species listed under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) or listed on a BAP at the national, regional or local scales were identified in the survey area. Furthermore, considering the nature of the habitats present, with amenity grassland dominating and poor semi-improved grassland, the latter of which is likely to originate from landscaping following development of Challenge Court, such species are considered unlikely to be present. As there is very limited potential and the habitats on the site are generally of low species diversity and value, further detailed survey is not considered necessary.

The presence of a single floral species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was identified, with wall cotoneaster *Cotoneaster horizontalis* widely utilised in landscaping of the college. Further survey is not required as these areas were identified in the Extended Phase 1 Habitat survey.

The semi-natural habitats, notably the grassland, scattered trees, woodland and scrub habitats, provide a number of habitat opportunities for bird species. Desk-based information identifies the importance of the River Crane corridor, adjacent to both options, for bird habitat in the area and identifies a number of species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and/or as species of conservation concern. Further survey is required to fully understand the value of the development site and surrounding habitats to breeding birds and their distribution across the habitats. This will be completed by undertaking a breeding bird survey following the Common Bird Census methodology, over three separate survey visits. These visits will be undertaken in summer 2014, and consist of the surveyor walking the proposed development site and adjacent habitats slowly, within 30m of all cover habitats, and plotting registrations of individual singing birds to allow the number of territories of each species to be identified. The value of the site for breeding birds will be established following the methodology proposed by Fuller (1980)[2].

The semi-natural habitats and some features on the buildings provide a variety of habitat opportunities for bats. The scattered mature trees have some potential to support roosting bats, although most of these are in a good condition and exhibit few

[2] Fuller, R. J. (1980) A Method for Assessing the Ornithological Interest of Sites for Conservation. Biological Conservation 17: pp 229 - 239.

features suitable for roosts, along with some potential in the outbuildings and garages within and alongside the college. The grassland and scrub habitats provide some opportunities for foraging, particularly where plant species are not regularly mown, and the River Crane and Duke of Northumberland's River are likely to provide commuting corridors for various species. Further survey is required to fully understand the value of the site and surrounding habitats to bats and fully understand the utilisation by and distribution of bats within the habitats. A walkover survey of the site will be completed by an experienced bat ecologist to confirm any potential roosting opportunities within the site. If any roosts are discovered, this will be followed by dusk surveys following appropriate survey guidance, with the number of visits depending upon the value of the roosts identified. Activity surveys of the site will also be completed using a walked transect, which will be completed over two evening visits following the Bat Survey Guideline[3] recommendations.

The semi-natural habitats within the site are not considered to be suitable for common reptiles, as the sward height of the grassland areas are unsuitable. However, the scrub, tall ruderal and areas of longer grassland adjacent to the site have some potential to support common reptiles. However, this area is relatively isolated from the railway corridor, which is located to the south-west of the site and provides linkages to wider habitats, and is of very limited extent and therefore is unlikely to support anything greater than a very low population of common reptiles. Therefore, as the habitats within the proposed development site are generally considered unsuitable or are largely disconnected and limited in extent, common reptiles are considered unlikely to be present or present in very low numbers and therefore further survey to support the proposed development is not required. Mitigation for any works proposed in this area will be incorporated to ensure any potential impacts are avoided.

The semi-natural habitats present within and adjacent to the site have some potential to support invertebrate species, particularly where these provide nectar rich sources of food. Although the main habitats of interest are located alongside the site in the grassland habitat alongside Challenge Court and the playing field to the south, there is some potential within the landscaped areas of the college. Consequently, further survey is required to understand the value of the habitats present and potential for ecologically significant species to be present. A walkover survey will be completed by an experienced entomologist to identify key habitats on the site for invertebrates and consider the potential invertebrates that are likely to be present on site. During the walkover, invertebrates will be collected as encountered and identified to provide a general list of species commonly present on the site.

[3] Bat Conservation Trust (2012) Bat Surveys - Good Practice Guidelines - 2nd Edition. Bat Conservation Trust, London.

The habitats on site have potential to support hedgehogs, particularly the woodland and amenity grassland habitats to the south and north of the college, and alongside Challenge Court, where these are connected to residential gardens. Although not legally protected, the species is considered to be ecologically significant due to declines in populations, as highlighted by its inclusion as a UK BAP and London BAP priority species. A targeted survey is not proposed, however a watching brief will be undertaken during the completion of the evening bat activity surveys and any sightings of the species noted.

The riparian habitats of the River Crane and Duke of Northumberland's River are not considered to be suitable for the presence of water vole *Arvicola amphibious*, as the banks are reinforced and provide very little shelter in the form of vegetation cover. Furthermore, the absence of marginal macrophytes and shallow depth are unsuitable for the species. No records of otter *Lutra lutra* have been identified in the desk study and the habitats are not considered to hold great value for the species. No other legally protected or ecologically significant species are considered likely to be present on the site.

SCOPING REPORT APPENDIX 14.1 SUMMARY OF CULTURAL HERITAGE AND ARCHAEOLOGY DESK STUDY RESULTS

Palaeolithic & Mesolithic Periods (c 500,000 BP – c 4,000 BC)

Upper Palaeolithic (c 500,000 BC - 8,000BC) and Mesolithic activity in the Greater London area has been found to be concentrated along the gravels and flood plains of the Thames and its tributaries (MoLAS, 2000, 49).

The Kempton Park Gravels which cover the site are a well-known source of Palaeolithic material in the Greater London Area. However, no human Palaeolithic artefacts have been found within the site or the wider study area. Although fragments of animal bone dating from the Devensian period (OA 20), c 100,000 BP, have been found 475 metres to the south of the site, this site did not include any recorded evidence of human occupation at this time.

Due to the nomadic nature of Mesolithic society activity is not restricted to one type of landscape or geology and therefore isolated scatters of Mesolithic material can found across the region. No heritage assets dating from the Mesolithic period (8,000 – 4,000 BC) have been recorded within the site or the wider study area.

Neolithic Period (4,000 – 2,200 BC)

The introduction of agriculture saw the development of permanent settlements along the Thames valley although activity on the gravel terraces above the river seems to have been somewhat limited (MoLAS, 2000, 66). This view however may be simply due to a lack of archaeological field investigations on higher ground in the Greater London area. Sites along the Thames have been studied more intensely due to the large amount of gravel extraction carried out on the first river terrace in the 19th and 20th centuries. The well-drained soils of this terrace together with the nearby Whitton Brook, located c 360 metres to the north east of the site, would have been attractive to Neolithic farmers.

Neolithic assets within the wider Study Area currently amount to a Neolithic arrowhead found during an archaeological evaluation 585 metres to the north east of the site (OA 3) and two flint adzes found in the area of Pope's Grove Cutting (OA 30), 645 metres to the south east of the site.

Bronze Age Period (2,200BC – 700BC)

The Bronze Age saw an expansion of settlement along the Thames valley, particularly in the Middle and Late Bronze Age. In the Late Bronze Age in particular there appears to have been an intensification of agriculture and increased pressure on land use, leading to settlement spreading out from the floodplains and up onto the terraces. The introduction of metalworking to the area would have also led to the exploitation of local resources such as timber for charcoal burning.

Evidence of settlement in the form of ditches and pottery dating from the Bronze Age were recorded during an evaluation carried out 585 metres to the north east of the site (OA 3). A spearhead, together with artefacts made from bone and stone, have also been recovered from the Pope's Grove Cutting area (OA 30), 645 metres to the south east of the site.

Iron Age Period (700BC – AD 43)

The regional archaeological evidence suggests that the continued growth of population, along with the introduction of iron and improved agricultural practices saw a profound change in society in southern England from the 8th Century BC onwards (MoLAS, 2000, 102). Archaeological investigations have, like studies of Neolithic and Bronze Age sites, primarily been confined to the gravel floodplains of the Thames due to late 20th century gravel extraction.

No assets dated to the Iron Age have been recorded within the site or the wider study area.

Prehistoric Period (c 8,000BC – AD 43)

A number of worked flint tools that clearly date from the prehistoric era, although they have not been dated to a precise period have been recorded within the wider Study Area. These were recorded during archaeological evaluations carried out at South Middlesex Hospital (OA 4) 570 metres to the north east of the site; at Kneller Gardens (OA 7) 600 metres to the north west and at Amyard Park Road (OA 52) 730 metres to the east of the site.

Roman Period (AD 43 – AD 410)

The Roman period sees the founding of London and its development as the trading centre of southern Britain. Scattered settlements developed in relation to the trade coming in and out of the city, particularly along the Thames and its tributaries and especially at the bridging points for the main roads out of the new capital.

The area to the west of London and above the Thames is thought to have been heavily forested at this time and little evidence for settlement or temporary occupation has been recorded to this date. The only Roman material to be recorded within the wider Study Area was pottery that was found during an archaeological evaluation at South Middlesex Hospital (OA 4) 570 metres to the north east of the site.

Early Medieval Period (AD 410 – 1066)

There was a settlement at Twickenham by 704, (VCH, 1962, 139) probably on the slightly higher ground by Twickenham Ait where the village stood in later times (OA

29) 645 metres to the south east of the site. The Saxon Charters of 704 and 709 (ibid) state that Tuican hom (Twickenham) was bounded on the east and south by the River Thames and to the north by a flooded plain situated on either side of the River Crane. The higher ground to the north became what was known as Whitton Land, bounded to the west by Hounslow Heath and to the north and east by Birket's Brook, later known as The Whitton Brook, which is located 300 metres to the north east of the site (ibid).

In the absence of any further evidence, it is assumed that the site, like much of the area to the west of London, was forested at this time. However, the large area of scrubland to the west of London known as Hounslow Heath is known to have extended as far as Twickenham Green *c* 400 metres to the south of the site and may have extended further (VCH, 1962, 140).

Later Medieval Period (AD 1066-1550)

It is likely that the medieval village of Twickenham was clustered along Riverside, in Church Street and King Street in the far south east of the wider Study Area, as well as in the alleys leading from them down to the river and at the junction of London Road and King Street. There were common meadows on the river-bank east of the village and behind them was open-field land which stretched to Isleworth (VCH, 1962, 140).

Few archaeological finds dating from this period have been recorded within the wider Study Area. A medieval rubbish pit, containing pottery from the 15th century as well as animal bone, oyster shells and tile was recorded during an archaeological evaluation undertaken 700 metres to the south east of the site (OA 34). A moated site (OA 6) was possibly located 575 metres to the north west of the site (Copley, 1958). It is likely that the site itself remained as open land to the north west of Twickenham village and to the east of Witton.

Post Medieval Period (AD 1550 – 1900)

The main route through the parish at this time was the London-Hounslow road through Isleworth to Twickenham, via Strawberry Vale to Teddington and Kingston. There was a stone bridge over the Crane on the London Road, just over 1 km to the north east of the site, by 1636 (VCH, 1962, 141). This road was turnpiked in 1767.

The demand for gunpowder in the Seven Years War against France (1756-1763) led to the establishment of gunpowder manufacturing in 1757 along the north bank of the River Crane, an area now designated as an APA by the Borough of Richmond-upon-Thames (GLHER, DLO33459). This area includes the southern third of the site itself. Although in located in Twickenham parish, the industry became known as Hounslow powder mills because it was centred upon Hounslow Heath, An extensive system of

leats and millstreams was created around a central large mill head pond at Crane Park, *c* 1.4km to the south west of the site, although the industry spread along much of the Crane valley to the north of Twickenham. Production continued through the 19th century. The buildings were sited far apart, screened by trees or mounds of earth and the potentially dangerous parts of the site were built of lightweight materials to reduce the resistance to shock if they blew up. The mills chiefly produced high class small arms powders for military and sporting purposes. The mills finally closed in 1927

The Twickenham ferry across the Thames was revived in 1659 (VCH, 1962, 141), crossing the river at the lower end of Eel Pie Island c 100 metres to the south east of the Study Area. This was the only river crossing in the parish above Richmond Bridge until modern times. It was replaced by a bridge in 1777.

Moses Glover's map of Isleworth Hundred, published in 1635, (VCH, 1962, 143), showed no detail over the area of the site itself, although open field systems are shown immediately to the north of Twickenham and *c* 100 metres to the south of the site with the common land of Hounslow Heath reaching to within 700 metres to the west of the site. Rocque's map of London, published in 1746 shows the eastern half of the site to be covered by part of a large arable field with pasture paddocks in the west. Milne's map of 1800 shows the site now covered by a series of enclosed fields of undefined land-use. It also shows that much of the land within the wider Study Area had been enclosed in the intervening 50 years in a piecemeal manner and converted to market-gardens and orchards or to pleasure-grounds for the big houses which were being built around Twickenham to the south east and Whitton to the west. The site appears to have been enclosed by the turn of the 18th century. In 1818 the remaining open fields in the parish were enclosed by Act of Parliament and these are shown in the Enclosure Map that was published in 1819. This map also shows the River Crane meandering across the southern third of the site now occupied by recreation grounds. By the publication of the first Ordnance Survey (OS) map of the area in 1871, a farm known as Marsh Farm has been established in this southern third, along with Marsh Lane, which still exists, dividing the two parts of the recreation grounds. None of these early maps depict any buildings connected with the Crane Valley industries within the site.

By 1723 Twickenham had already become a fashionable suburb for the very wealthy, including the poet and writer Alexander Pope, who moved to Twickenham in 1719 and built a villa with large gardens to the rear, including a grotto and tunnel which gave access to 5 acres of land he also leased. These gardens still exist and are a Registered Park and Garden (OA 28), while the tunnel is a Grade II* Listed Building (OA 24 and 25).

A large number of villas were constructed along the river and around the town and common at this time including Brimsworth House, 670 metres to the south west of the site (OA 12); Briar House (OA 14)430 metres to the south west; Knowle House (OA 22), 290 metres to the south; Nos 10, 12, 54, 60 and 62 King Street (OA 32-3 and 36) 620 metres to the south east; Grosvenor House (OA 40), 560 metres to the south east Heatham House (OA 49) 350 metres to the east and Neville House (OA 50) 570 metres to the north east. The number of houses in the area increased through the 19th century and by 1871 there were over 2000 houses in the parish. The arrival of the railway in the late 1840s didn't stimulate a great increase in housing, the development of which was gradual up to the end of the 19th century.

Modern Period (1900 – present)

There was a great increase in house building in the area at the beginning of the 20th century (VCH, 1962, 145). This is usually attributed to the creation of a tram service to Shepherd's Bush in 1902 that provided the first cheap commuter route into London from Twickenham. Around 11,000 houses were built in the last decade of the 19th century and nearly 17,000 in the next. The Rugby Union ground (located in the north of the wider Study Area and opened in 1909) also dates from this period (ibid). Between the two World Wars (1919-1939) the main developments were at Whitton, to the north west of the site but there was also rapid building elsewhere and many of the remaining big houses disappeared.

This expansion is not immediately reflected in the cartographic evidence with the 1920 OS map of the area showing that a sewage works had been established immediately to the south west of the site, but with no further construction. By the publication of the 1938 OS map however, new housing estates have been established all around the site while the Great Chertsey Road has been constructed. The original core of the college building is also in place by this time.

During the Second World War it is believed that the site was used for military purposes (College Estates staff pers.com) and that air raid shelter may have been constructed in the northern third of the site beneath the current sports fields (ibid). The site has been established in more or less its present form by the mid-1960s (OS 1966 Edition 1:10000).

Appendix 2.2: LBRuT Scoping Opinion

FORMAL SCOPING OPINION UNDER REGULATION 13 OF THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2011

In respect of the:

Request for Scoping Opinion in respect of information to be contained in Environmental Impact Assessment to be submitted in support of an application for outline planning application for mixed use educational, office and residential redevelopment of the Richmond upon Thames College site.

Located at:

Richmond upon Thames College Site, Egerton Road, Twickenham

Adopted by:

LONDON BOROUGH OF RICHMOND UPON THAMES

FOREWORD

1. This opinion has been prepared by the London Borough of Richmond upon Thames as Local Planning Authority with all reasonable skill, care and diligence.

2. It is based on the information provided to London Borough of Richmond upon Thames on behalf of the Applicant by Cascade and the comments and opinions resulting from consultation with the Applicant and Cascade and consultees prior to adopting this opinion.

3. This opinion is made freely available to members of the public. London Borough of Richmond upon Thames accept no responsibility whatsoever for comments made by third parties whom this opinion references. The London Borough of Richmond upon Thames accepts no responsibility whatsoever to third parties to whom this opinion, or any part thereof, is made known. Any such party relies upon the opinion at their own risk.

4. The fact that London Borough of Richmond upon Thames has given this opinion shall not preclude them from subsequently requiring the Applicant to submit further information in connection with any submitted development application to the Council.

SECTION 1. INTRODUCTION

Context

The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 (hereafter referred to as 'the EIA Regulations') require that for certain planning applications, an Environmental Impact Assessment (EIA) must be undertaken. The term EIA is used to describe the procedure that must be followed for certain projects before they can be granted planning consent. The procedure is designed to draw together an assessment of the likely environmental effects (alongside economic and social factors) resulting from a proposed development. These are reported in a document called an Environmental Statement (ES). The process ensures that the importance of the predicted effects, and the scope for reducing them, are properly understood by the public and the local planning authority before it makes its decision. This allows environmental factors to be given due weight when assessing and determining planning applications.

Schedule 1 of the EIA Regulations lists developments that always require EIA, and Schedule 2 lists developments that may require EIA if it they exceed the thresholds set out in Schedule 2 and are considered that they could give rise to significant environmental effects by virtue of factors such as its nature, size or location. The proposals do not fall within the descriptions of development set out in Schedule 1; however they do exceed the threshold of 0.5ha for urban development projects in Schedule 2.

Schedule 3 of the EIA Regulations sets out the screening criteria in relation to the Schedule 2 developments, drawing attention to the character and complexity of effects resulting from the scheme as well as a range of issues relating to the sensitivity of sites. The Proposed Development is considered an EIA development as it falls within the description and thresholds in Schedule 2 10(b) of the EIA Regulations as an 'urban development project' which has the potential to have significant effects on the environment.

The Applicant has also determined that the development will constitute 'EIA development' as it falls within the description and thresholds in Schedule 2 of the EIA Regulations, and that the scale of the development proposals could give rise to have significant effects on the environment.

Where a proposed development is determined to be an 'EIA development' the Applicant can ask the relevant planning authority for advice on the scope of the EIA (an EIA Scoping Opinion).

An EIA Scoping Report (Project No CC747 Version 2.0) was submitted to the London Borough of Richmond upon Thames (LBRuT) as the 'relevant planning authority' on behalf of Richmond Education and Enterprise Campus Development (the Applicant) on 21st July 2014. The Report requested an EIA Scoping Opinion (under Regulation 13 of the EIA Regulations) for a proposed development at Richmond upon Thames College Site, Egerton Road, Twickenham, TW1.

The remainder of this section deals with:

- Background to EIA Scoping;
- LBRuT's EIA Scoping Opinion; and
- Consultation.

Section 2 details the LBRuT's understanding of the Proposed Development.

Section 3 reviews the overall approach to the EIA in the context of prevailing EIA legislation.

Section 4 provides a review of the proposed scope and approach to assessment of each of the following EIA topics:

- Transport;
- Noise and Vibration;
- Air quality;
- Ground Conditions and Contamination;
- Waste;
- Water Resources and Flood Risk;
- Daylight and Sunlight;
- Ecology;
- Townscape and Views;
- Cultural Heritage and
- Socio-Economic.

Section 5 reviews the 'Assessments scoped out of the EIA' which the Applicant is proposing to exclude from the EIA.

Section 6 sets out the conclusions of this EIA Screening Opinion.

Background to Scoping

Section 13 of the EIA Regulations allows applicants to request from the local planning authority a written statement, ascertaining their opinion as to the scope of information to be provided in the ES. Whilst not a statutory requirement of the EIA process, requesting a Scoping Opinion clarifies the content and methodology of the EIA between the local planning authority and the applicant.

An EIA Scoping Opinion is the relevant planning authority's formal view on what should be included in the EIA.

The EIA Scoping process should aim to identify only the issues which have the potential to lead to significant effects, not an assessment of every single possible effect.

LBRuT's EIA Scoping Opinion

This EIA Scoping Opinion outlines the Council's opinion on the proposed scope of the EIA, and identifies any suggested amendments and/or concerns.

This Scoping Opinion has been informed by the information provided in the EIA Scoping Report and consultee responses and meetings held with the Applicant.

The issuing of this EIA Scoping Opinion does not prevent the planning authority from requesting further information at a later stage under Regulation 22 of the EIA regulations.

No indication of the likely success of an application for planning permission for the proposed development is implied in the expression of this EIA Scoping Opinion.

Outline planning permission would require multi-stage consent, and therefore, should outline permission be granted, the Council would need to consider whether EIA Screening would be required at later stages of the planning process e.g. reserved matters and/ or the discharge of conditions. The requirements for screening for EIA for such 'subsequent applications' are set out in regulation 8 and 9.

It will also be good practice for the Council to minimise the possibility that further environmental information is required at a later stage and the principal permission pursuant to the OPA will need to be subject to conditions or other parameters (such as a section 106 agreement) which 'tie' the scheme to what has been assessed.

The LBRuT acknowledges that EIA Screening would only be required where proposed development would be likely to have significant environmental effects which were not anticipated when any initial planning permission was granted.

Consultation
The EIA Regulations require that the LBRuT consults 'consultation bodies' prior to issuing an EIA Scoping Opinion. Consultees include any adjoining planning authorities, the Environment Agency, the Greater London Authority (GLA), Transport for London (TfL), Natural England, English Heritage, and other bodies designated by statutory provision as having specific environmental responsibilities and which the planning authority considers are likely to have an interest in the application.

Several discussions and meetings have been held with the applicants with regard to the content of the OPA and ES for the Proposed Development. An agreed approach has been established informally through discussions and the Scoping Report. During the scoping process, formal consultation occurred with the relevant statutory agencies and authorities and other relevant parties seen to have an interest in the future planning of the site and with relevant expertise and/or local knowledge in the environmental issues relevant to the site. For clarification, the main statutory and local authority consultees for the Scoping Report are the Environment Agency (EA), the Greater London Authority (GLA), Transport for London (TfL), Natural England (NE) and English Heritage (EH). The Scoping Report was also sent to a further 17 external consultees.

All external consultees contacted by LBRuT during the EIA Scoping process are listed at **Appendix A.** A summary of the comments received are provided in full at **Appendix B**. The responses from internal sections within the London Borough of Richmond upon Thames are also detailed. It should be noted that these comments were based on the original description of Proposed Development and site area.

The Applicant is strongly recommended to further consult with consultees as appropriate throughout the EIA process as the Proposed Development evolves.

In section 1.4 Consultation, Council officers would expect the following bodies to be added

- Friends of Heatham House
- SWLEN / Richmond BioDiversity Partnership
- Challenge Court residents
- Friends of Heatham House
- Heathfield South Neighbourhood Coordinator
- Chudleigh Road/Talma Gardens/Tayben Ave/Russell Road and Palmerston Road Neighbourhood Coordinator

Meetings should also be held with Nuffield Fitness Club, the Council Depot and Harlequins FC as adjoining land owner

SECTION 2. THE PROPOSED DEVELOPMENT

Background to the Proposed Development

The Applicant is seeking to submit an OPA (all reserved matters) for a mixed-use redevelopment of the Richmond upon Thames College (RuTC) site. The redevelopment offers the opportunity to renew the college and introduce a new secondary school in to LBRuT, re-provide the Clarendon School (special needs secondary school), up-grade the sports fields and intergrate these developments into a shared 'campus', with the development of a new technical media hub on the site, and an element of separate residential development.

There is potential for a future upgrade of Harlequins RFC North stand which is adjacent to the west of the RuTC site and the design fo the development will consider this interface.

Six west London Boroughs (Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond upon Thames) have joined together to plan for the future management of waste produced in their areas. The West London Waste Plan (WLWP) plans for all waste in the plan area up to 2031. Further information can be found here:

- Illustrated Submission Plan from July 2014: http://www.wlwp.net/documents/August2014/SD3%20-%20'Illustrated'%20Submission%20Plan%20-%20showing%20minor%20changes%20Jul%202014.pdf

- Main modifications as proposed by the six West London Boroughs from October 2014: http://www.wlwp.net/documents/Nov2014/WLWP%20-%20Schedule%20of%20Proposed%20Main%20Modifications.pdf

Site Context

The proposed development, site and surrounding area is described in the Scoping Report, and briefly comprises an outline planning application for mixed use education, residential and office redevelopment of the Richmond upon Thames College site. The report states that the site occupies approximately 8.6 hectares of land, including the playing fields to the south. The development will be submitted to the local planning authority in the form of an Outline Planning Application (OPA).

It is noted that reference to 'Twickenham Rugby Club' is made, this should read the 'Rugby Football Union, Twickenham' (RFU).

Scheme Description

Details of the development design are being developed, but for the purpose of the EIA Scoping Report the following was provided as emerging broad development principles:

- A new college (Use Class D1) of approx. 20,000sqm (GEA)
- A new secondary school (Use Class D1) of approx. 7,500sqm (GEA)

- A new secondary school for children with special educational needs of 3,000sqm (GEA)
- A new technical media hub (Ancillary Use Class D1) of 2,000sqm (GEA)
- A replacement on-site sports centre (Use Class D2) of upto 4,000sqm (GEA) to serve both the college and wider community
- An upgrade of Craneford Way playing fields
- Enabling residential development of upto 2.5 hectares
- An energy centre to support development
- Possible alterations to existing means of vehicular access to Langhorn Drive and on-site parking and landscaping

In relation to the minimum requirements for an EIA Scoping Opinion set out in the EIA Regulations, the Scoping Report satisfactorily provides a brief description of the nature and purpose of the proposed development; including the range of floorspaces while drawing SK-039F indicates land use zones. Building heights in number of storeys and metres above ordnance datum are not provided in sufficient detail.

The description of the development does not include the proposed number of buildings, but it is acknowledged that this is because the Masterplan for the site is still evolving. It is understood that an outline planning application is to be submitted for the site as a whole (all Matters reserved).

Council officers would anticipate the description of existing and proposed development to be more detailed in the ES. A more comprehensive description of the existing buildings, their specific education purposes and floorspaces (for instance sports hall details) and student/staff nos is necessary as well as proposed buildings, floorspaces and building heights (those specified in 3.2 are too high), car/cycle parking facilities, internal access road, pathways, open space provision, children playspace as well as other site features such as trees, landscaping and any new links and access points to/from the Craneford Way Playing Fields. Residential development needs to specify units nos, mix and tenure as well as floorspace.

SECTION 3. REVIEW OF APPROACH TO EIA

This section comments on the over-arching approach to the EIA, as described in Sections 1-4 of the EIA Scoping Report.

The Environmental Statement will accompany an OPA which is intended to be limited to establishing the future principles of development in terms of the land use across the entire development site and the scale of development. This will be achieved through the submission of the following control documents:

- Parameter plans - anticipated to consist of: existing site plan, development zones and land parcels, land use plans for basement, ground floor and upper floors, development zone dimensions plans (maximum and minimum storey height and alignments), building dimension plans (maximum and minimum height, width and length), open space allocations, access routes.

- Development specification - anticipated to include details of the parameter plans and the type and quantity of development that could be brought forward at the Reserved Matters stage for each development zone.

- Design code - anticipated to provide guidelines for the appearance for the open spaces and public realm, landscaping including specifications for the planting, furniture and all other components, including streets and pavements. The code is also likely to include environmental and quality standards that each building and open space must comply with. The transport and energy interfaces between the components of the proposed development will also be considered.

The assessments undertaken and reported in the ES, as outlined in the Scoping Report, will be largely based on the information provided in these three documents.

This is considered acceptable to the Council subject to the degree of control provided by the parameters being considered appropriate to the context and level of mitigation feasible. At the time of initial receipt of the Scoping report, none of these documents were available to Council planning officers with the exception of a site location plan and a site sub-division plan.

Parameter Plans
The planning procedure set out is a multi-stage consent procedure, with a first stage that involves a principal decision (the outline planning permission) and secondary stages that comprise the implementing decisions (the consents pursuant to the reserved matters), needs for all the likely significant effects of a project on the environment to be identified and assessed at the time of the EIA procedure relating to the principal decision (See reference for a preliminary ruling in R v. London Borough of Bromley ex parte Barker (C-201/02) and Commission v UK (C-508/03)). To fulfil this requirement the applicant should assess each environmental impact (construction, operational, cumulative) on the basis of a **worse-case scenario** for development on a site wide basis and for development within individual development zones, all assessments taking into account the construction phases and occupancy phases and the consequential impacts. Of particular importance is the matter of timing of the phases which needs to be crystal clear.

While the use of Parameter Plans is acceptable to the Council these parameters should specify clearly both the 'maximums' and 'minimums' to allow an outline planning application to be assessed by the EIA. As discussed at previous meetings, the Applicant needs to ensure that the 'worst case' parameter is assessed in the EIA in relation to all topics and receptors and this may not be as simple as assessing all the proposed tallest, or all the proposed shortest buildings, but instead may be a complex mix of scenarios. It is also necessary to acknowledge that the worst case scenario may be different for different environmental disciplines. The ES will need to clearly demonstrate how the worst case scenario has been determined, and assessed for each individual environmental topic.

Apart from noting the need for minimum and maximum parameter heights for all development zones, the Applicant should be aware that the Council as Local Planning Authority has significant concerns that the proposed maximum parameter heights in some building's cases are simply too much, and would suggest that these are reduced as an amendment.

Phasing
The phasing of the proposed development (i.e. duration of demolition, construction and operation works) has been set out in the EIA Scoping Report. LBRuT expects the phasing to be adequately assessed in the EIA, and a detailed explanation of the proposed project timescales included in the ES.

The ES needs to include a clear phasing plan identifying the land parcels to which each development zone relates and the timelines for demolition, construction and operation. A further plan providing similar information for overall site infrastructure such as access routes, energy centre is also required.

Receptors
Potential Sensitive receptors should be expanded to include:

- All users of the College playing pitch to the south of the A316 and the College owned Craneford Way Playfields
- All users of adjacent sites including Nuffield Health Club, Twickenham Stoop and the Council Depot

With regard to the identified receptor 'Local community workforce', this should include Haymarket employees relocated to the proposed Tech-Hub from the Teddington Studios site.

As a more general point, The EIA appears to focus primarily on 'external' receptors outside of the site while the phased construction may require that construction and operational effects on sensitive on-site receptors, including future pupils, workers, residents and the wider community, as well as microclimate effects on proposed streets and other publicly accessible open spaces will need to be considered in the EIA.

Time Slices
It is noted in 2.4.4 that the Applicant intends to undertake a number of 'time slices' assessments throughout the project lifespan, which would enable various worse-case scenarios (with regards to both on and off-site receptors) to be assessed. This is welcomed however assessment of an 'operation' scenario should also include a time slice when all mitigation measures will have achieved full effect which typically tends to be 15 years after opening. The operation year allows for the assessment of the effects from the operation of the development - although it may not be necessary for all disciplines. The operation assessment year allows time for mitigation to establish itself e.g. screen planting to mature and become increasingly effective. A final significance of effects assessment should hence be added against a later future baseline year than 2022.

Approach to Cumulative Effects Assessment
There may be significant cumulative environmental effects resulting from the Development acting in combination with 'committed schemes' on nearby land, including the MOL south of the River Crane. The applicant must identify and assess the significance of any likely significant cumulative environmental effects in its EIA. The ES must include a description of those cumulative effects.

There is no legal definition of what qualifies as a 'committed scheme' in EIA. National guidance indicates that this includes "*existing or approved development*", ie schemes under construction and unimplemented schemes with planning permission. It is also considered best practice in EIA to include schemes where a submitted planning application is pending determination.

The EIA Regulations confirm that an ES is only required to include such information as the applicant can reasonably be required to compile, having regard in particular to current knowledge. There is no legal requirement for a cumulative assessment of future development of adjoining land w*here there is no way of knowing what development was proposed or was reasonably foreseeable*.

On this basis, the Council's consideration of the adequacy of the applicant's EIA and ES, requires the ES assessment to include the potential cumulative impact of demolition and construction activities in connection with the redevelopments of the Richmond College development, former Royal Mail Sorting Office site including linked sites such as Twickenham Rough and Heatham House, and Twickenham Railway Station. Future development plans for adjacent sites accessed via Langhorne Drive, in particular a new north stand at Harlequins FC and Council Depot should also be considered. As regards employment reprovision and affordable housing, consideration of the approved development for Teddington Studios needs to be taken into account.

Alternatives Assessment
The EIA process provides an opportunity to consider alternative development options, as well as their respective environmental, social and economic implications, before a final design freeze is fixed. To accord with EIA regulations and statutory guidance, the ES should provide an outline of the main alternatives studied by the Applicant and design team with an indication of the reasons for the choices made, taking into account environmental effects. These alternatives will include:

• 'Do nothing scenario' – the consequences of no development taking place
• 'Alternative designs' – the ES should summarise the evolution to the final design proposal, the modifications which have taken place to date and the environmental considerations which have led to those modifications. A summary of the main alternatives considered, such as alternative mixes of use; site layouts, entrance points to buildings, floor heights and bulking; and materials used need to be presented, together with a justification for the final design

One of the alternatives should give consideration to including the wider Harlequins site to the west of the access road within a larger development site.

Policy
The planning policy context for the site reviewed in Section 4 should include reference to the Site Allocation Proposals for adjoining sites as well as the Redevelopment Site

- TW 8 Harlequins Rugby, Langhorn Way,Twickenham
  Continued use as a sports ground with associated facilities including new north stand, indoor leisure, hotel or business uses

- TW 9 Central Depot, Langhorn Way,Twickenham
  Council Depot facilities and continued waste management. Use of part of the site for, sports hall/leisure or other ancillary education facilities or limited residential, including affordable units or small business units

- West London Waste Plan

Format and Presentation
The Environmental Statement (ES) should be able to be read as a standalone document with no significant reliance on external documents. Large ESs can be split into volumes for ease of use but the relationship of the document to each other should be clear to the reader.

The ES should set out how 'significant' effects in the context of the EIA Regulations are determined as part of the EIA, and described in the ES. It is important to ensure that the way in which significance has been determined is transparent and repeatable, and also clearly states what constitutes a significant environmental effect, with clear justification.

SECTION 4. REVIEW OF POTENTIAL ENVIRONMENTAL EFFECTS BY TOPIC

This section summarises the review of the proposed approach to assessment of each EIA topic.

Review of Section 5. Transport
The project site is located alongside the A316 Chertsey Road which acts as an important transport link into and from London and locally to Twickenham Town Centre, the RFU Stadium, Twickenham Stoop (Harlequins RFC) and the current Richmond Tertiary College. Twickenham Stoop has recently expanded to a 14500 stadium.

A new unlit pedestrian and cycle link is due to be formed between the College site and Twickenham Rail Station as part of the redevelopment of the former Twickenham Sorting Office now under construction.

Access to the project site will be clearly curtailed on Harlequins and RFU match/event days when crowd/car congestion occurs along A316, Langhorne Drive and Whitton Road. The Transport Assessment needs to fully consider the proposed development's impacts for all users of the local footpaths (including the proposed footpath across Twickenham Rough) and highway conditions on both match/event days and normal days. A full explanation of the impacts during demolition, construction and operation of the proposed development need to be provided through the EIA.

Table 6.1 highlights the impacts of the proposed development to be assessed in the E.S. This should be expanded to include the following issues in relation to transport:

• Effects on local pedestrians, buses, trains, cyclists, cars and other vehicles (to include Depot service vehicles) from demolition, pre and post-construction works
• Effects on traffic flow and the local road network including any proposed modifications to the adjacent highway layout/access points from Langhorne Drive or elsewhere around the completed development including Craneford Way entrance (barrier controlled)
• Effects on walking and cycling accessibility through the Proposed Development area and on the public highway in the adjacent area and towards Twickenham town centre and rail station. Improvements to the pedestrian environment through and within the site are expected from the redevelopment of the site including a new footbridge from the southern part of the Craneford Way playing field (the footbridge design should provide for cycle users). Clarity is still needed on this aspect of the proposal and if proposed an assessment of any related impacts.should be included in the relevant chapter of the ES e.g. ecological impacts on River Crane

- Effects from increased use of footpath to be created across Twickenham Rough by pupils, workers and residents at the new development.
- Measures such as electric vehicle charging points and car clubs should be considered for the development. A travel plan will also be required for each use.

The above effects need to be considered on match days at the local rugby stadia as well as normal days. The Council encourages early discussions with the Metropolitan Police and Transport for London to identify concerns regarding pedestrian movement and crowd control (including pedestrian safety and security) on Whitton Road, the A316 and other streets leading to the RFU/Harlequins Stadium on match days during the demolition and construction stages of the project.

Vehicle access and egress from the 'residential' element of the scheme on event days at RFU needs full consideration.

Access of service/maintenance vehicles to any new open space(private, semi-private or public) provision, childrens play facilities, new sports facilities, footbridge or existing riverbank affected by development on the Craneford Way playing fields will need assessment.

Review of Section 6. Noise and Vibration

One of the Council's key concerns is the potential for increases in background noise levels and vibration during demolition, construction and post development for surrounding residents in Craneford Way and Egerton Road. This would not only result from the processes involved in developing the area but also from the additional residents and pupils in the area. The use of a 2014 baseline noise survey is acceptable to the Council but this must be continually updated. This will allow the continual assessment of the impact of the development on existing residents

Noise impacts to residents from the more intensive use of the Craneford Way Playing Field should also be assessed and mitigation proposed if necessary including the consideration of improved soundproofing to affected properties from the outset.

To assist in good management of construction noise, vibration, dust and other emissions, a construction method statement will need to be developed. Guidance on control measures for dust and other emissions is given in 'The Control of dust and emissions from construction and demolition: Best Practice Guidelines', Greater London Authority, November 2006. A low vibration method of piling must be employed with visual alarms set at vibration levels detailed with the new BS5288 guidance. If the piling is due to be carried out for some time, the amount of hours per day may be restricted. The E.S needs to clarify piling methods and times.

Review of Section 7. Air Quality

7.1 Introduction and Key Issues

The site is within an Air Quality Management Area (AQMA), therefore any development should not further reduce air quality in the area and should safeguard the health of the current and potential community. The council therefore agrees that air quality should be classed as a key issue for consideration in the ES.

The listed issues for consideration are noted and should be expanded to include the consideration of impacts on air quality from the proposed Energy Centre/CHP provision. It should be noted that biomass boilers are generally not encouraged in AQMAs

The potential for the generation of dust (and therefore particulates) is noted but details of how these issues will be considered and the actions that will be taken in the event that the required level of air quality improvements cannot be achieved should be detailed in the ES. It is important to make clear at the earliest stage of the development that details provided should outline all measures (such as site management activities and the use of low–emission plant) that will be undertaken over the course of the development to reduce the environmental impacts of the development.

The Environmental Statement should provide details of the potential mitigation measures that will be required to safeguard the health and amenity of residents, students decanted to elsewhere on site and site workers in the area, pre-, post- and during the development.

Review of Section 8. Ground Conditions
The environmental impacts for assessment in this section are land contamination, and pollution prevention, including that linked to surface water run-off to the River Crane.

The approach to the investigation of contaminated land is considered to be appropriate utilising a desktop study and initial site tests (intrusive) to assess this element. It should be noted that the council will be assessing and approving all stages of the on-site investigation. In assessing potential impact and consideration of potential mitigation measures the Council would encourage the use of techniques that minimise environment impact.

While it is noted that ground investigations will be undertaken to investigate the site and an appropriate risk assessment will be carried out for land contamination. These documents would be required to be submitted to satisfy any contaminated land condition. The ES will need to give consideration to these issues, but it is likely that that alone would not be sufficient. There is a Land Contamination Supplementary Planning Guidance document available which provides advice on requirements for satisfying any contaminated land condition on a planning permission. It is recommended that this is referred to in the ES.

Para 7.4.8 should note that the Council's contact on this topic is the Scientific Officer, Simon Markoni, and not an Environmental Health Officer.

Review of Section 9. Waste
The proposed methodology and scope of assessment is considered satisfactory.

Review of Section 10. Water Resources and Flood Risk
The proposed methodology and scope of assessment is considered satisfactory.

Review of Section 11. Daylight and Sunlight
The proposed methodology and scope of assessment is considered satisfactory.

Review of Section 12. Ecology
The key environmental issues and opportunities at this site are:

- *Impact of development on habitat and species found in/beside the river Crane, Craneford Way Playing Fields and the trees lining A316*
- *Maximising environmental improvements to the River Crane and Duke of Northumberland River*

- *Ecological impacts and habitat improvement across the site*

Clarification is required as to whether floodlights, columns and surround fencing are involved in the proposed all-weather pitches within the school/college site or as part of the planned upgrade of the Craneford Way East Field.

It is noted that the front half of the project site (TfL land?) appears to have ecological or habitat potential for bat roosts within the line of trees, therefore the approach outlined in the scoping report is thought to be appropriate. Special consideration of the potential for improving the ecological value of the site, such as new habitat creation, green walls, living roofs, open space provision and landscaping should form part of the proposals.

Table 12.3 highlights the ecology effects from the proposed development. Increased recreational pressure on the River Crane and Duke of Northumberland River from the new residential population should be scoped in and Operation Impacts on Twickenham Junction Rough expanded to include noise as well as lighting. Noise impacts, both general and vehicular, on Bats during both construction and operation should not be scoped out.

ES should consider potential wider environmental impacts, especially cumulative impacts associated with the developments that are already under construction (i.e. Station, Sorting Office) as well as the nearby Harlequins and Depot sites.

Review of Section 13. Townscape and Visual Amenity
An identification of visual receptors and key views as shown on Fig 13.1, in particular the view from the Richmond Hill and nearby conservation areas, to be used for assessment has been largely agreed in consultation with London Borough of Richmond upon Thames.

Receptors are again agreed and comprise:

- Surrounding residents
- Users of local facilities including Twickenham Stoop and Nuffield Health
- Users of Craneford Way Playing fields (East and West) and other public open spaces
- People using public rights of way, alleyways, footbridges, cycle routes
- Pedestrians generally
- Passing traffic
- Statutory designations – LBs, Protected Views
- Local designations – CAs, BTM, River Crane Corridor

Appropriate visualisations to demonstrate significant viewpoints/long distance views can be prepared using shaded wireline drawings if impact is limited to skyline and building profiles however the views from surrounding streets such as Chertsey Road, Egerton Road, Craneford Way, the Playing Fields and Marsh Farm Lane Alley and Langhorne Drive need full photo montages.

The Council's 'Taller Building' policy (DM DC 3) needs recognition as a maximum height of 25m as proposed for certain development zones will be categorised as taller than any of its surroundings and this policy's requirement for a comprehensive townscape appraisal will be needed to be addressed within this section of the Environment Statement. A skyline assessment is necessary.

Site topography and survey of levels of surrounding streets, river and other adjacent sites need to form part of the baseline study of townscape/landscape character and visual quality of the site/surroundings. Otherwise, the scope of the visual and townscape assessment proposed in the report appears to be largely satisfactory and it is noted that the methodology is to conform to the Guidelines for Landscape and Visual Impact Assessment (3rd Edition) adapted for townscape analysis.

The changing levels across the site and in relation to the River Crane, the neighbouring alley and Harlequins site to the west and other neighbouring buildings need to be highlighted. with the aid of illustrative material while details of previous site usage need further explanation.

Review of Section 14. Cultural Heritage
The site is noted as falling within an 'Archaeological Priority Zone' as defined by the London Borough of Richmond.

The proposed methodology and scope of assessment is considered satisfactory.

Review of Section 15. Socio-economics
Socio-economic effects should be considered a primary issue due to the nature of the proposed college, education and office development and the scale of the residential development proposed. It will be important that sufficient education, health care, playground and other community facilities/amenities are provided to serve the new residential population and to replace any facilities lost to existing residents and the local community.

Para 15.4 highlights the socio economic effects from the proposed development as a whole which will be assessed in the E.S. These impacts should also be broken down into the Phased Development Zones. In this regard, it is considered that the Community Infrastructure heading would benefit from being expanded to specifically make reference to

- Impact on child yield and education provision resulting from residential development
- Impact on education provision resulting from college/education development
- Impact on health care resulting from residential development
- Impact on playing fields and access to sporting facilities resulting from college development

Otherwise, the scope of the EIA and the full socio-economic assessment outlined is considered to be largely appropriate for this project. Particular attention should be paid to the potential individual and cumulative impacts on local services and amenities, such as the provision of, and public access to, community facilities within and outside of the development including local playgrounds, sports facilities, playing fields, school places, healthcare and allotments as these issues have been raised as of particular concern to borough residents. The quality, quantity and availability of the on-site facilities to the community (such as spas, theatres, sports pitches etc) needs to be clearly explained as part of the assessment, including broad terms and conditions of use, to enable the local planning authority to understand the actual contribution and benefit the new development will deliver to the local community.

The reference to local labour market shall include Haymarket staff in Teddington affected by the proposed Tech Hub.

The use of local employment agreements and skills plans are encouraged by the Council and impacts assessed if measure to be incorporated as part of the future submission.

The assessment of the requirement for housing in the area should include affordable housing and open market housing needs and to what extent this development contributes to meeting both. This section will also need to take account of cumulative development impacts linked to the Teddington Studio site as well as those at Twickenham Railway Station and the Former Sorting Office Site.

Finally, an assessment to include economic and community consequences of development (during and post-construction) for the operator and users of Harlequins Stadium and Nuffield Health Centre is a clear requirement as well as Twickenham Town Centre and the RFU.

SECTION 5. ASSESSMENTS SCOPED OUT OF THE EIA

While the Scoping Report does not specifically set out topics which the Applicant is proposing to scope out of the assessment, issues omitted from the Scoping Report and requiring consideration at the scoping stage include:

- Impacts on Sustainability/Climate Change;
- Health and Wellbeing;
- Telecommunications;
- Utilities;
- Micro-climate and
- Alternatives and Design Evolution

Comments on these topic areas are discussed below.

Sustainability

It is accepted that Climate Change and Sustainability can be scoped out of the EIA. It is understood that the proposed OPA will be supported by a number of standalone documents addressing energy and environmental sustainability issues including the Council's Sustainable Construction Checklist.

Health and Well-being

In the absence of a scoping response from NHS: Richmond requiring that the EIA process includes a specific assessment of health and wellbeing, it is considered suitable for health and wellbeing issues to be addressed through the Socio-Economic and other relevant topic chapters, as well as within various other documents and assessments submitted in support of the OPA (to which the ES should refer as appropriate).

Telecommunications

Analogue television broadcast has now been phased out and replaced by digital television, which is largely unaffected by atmospheric conditions. Given the switch to digital television broadcast, the Proposed Development would be unlikely to give rise to significant effects on digital television. In addition, EIA best practice is increasingly recognising that telecommunication issues do not raise environmental considerations which need to be addressed as part of the EIA process. Given this, it is considered that telecommunications can be scoped out of the EIA.

Utilities
The Council encourages pre-application discussions with relevant statutory undertakers to ensure that infrastructure is adequate.

Comments received from Thames Water as part of the EIA consultation exercise have identified the following matters as needing assessment as part of the EIA process

- The development's demand for water supply and network infrastructure both on and off site and can it be met
- The development's demand for Sewage Treatment and network infrastructure both on and off site and can it be met

If no significant effects are anticipated after discussions with the relevant electricity, gas and telecommunications infrastructure providers, these matters need not be included as part of E.S and can be scoped out. Instead, a Utilities Statement should be prepared and submitted as a stand-alone document accompanying the OPA.

If utility demands from the Proposed Development are considered to affect the existing networks, the impact, connection points and any capacity upgrades will need to be determined in collaboration with the Statutory Undertaker. A Utility chapter will need to be included within the EIA.

Micro-climate
An initial assessment of the microclimate implications has not yet been carried out but detailed assessment of daylight and sunlight, overshadowing will be contained in the ES. This needs to be extended to include light pollution, solar glare and wind microclimate.

Alternatives and Design Evolution
Comments made in regard to 3.5 apply

Other Matters
It is considered that the assessment would benefit from providing details of the proposed programme together with specific demolition and construction activities and methods. The Council would strongly recommend a stand alone chapter describing the likely content of the Phased Demolition and Construction Method Statement (DCMS) to be provided as part of the ES detailing the specific mitigation measures to be followed to reduce nuisance impacts from:

- Construction traffic
- Changes to access and the public rights of way
- Noise and vibration
- Utilities diversion
- Dust generation
- Soil removal
- Waste generation
- Lighting
- Surface and Foul Water

SECTION 6. CONCLUSIONS

The EIA Scoping Report (Project No CC747 Version 2.0) sets out the proposed scope of the EIA to accompany the proposed outline planning application for the Richmond upon Thames College Site.

This EIA Scoping Opinion, generated by LBRuT includes the Council's recommended amendments to this scope.

The Scoping Report covers the majority of the topics that the Council would require to be included within an Environmental Statement (ES) for the Proposed Development with the exception of 'Alternatives and Design Evolution' (para 3.5 noted), 'Micro-climate' and 'Utilities' (dependent upon further Statutory Undertaker responses) which require a specific chapter with that title. Issues needing to be more fully addressed have also been identified within each topic area and specific comments are detailed above. These are grouped by topic.

An indication of any difficulties encountered while preparing the information should be given.

Information in the ES shall be included in a non-technical summary in compliance with Regulations.

It should be noted that the redevelopment of the college site will be subject of intense scrutiny from the Council, residents and businesses in Twickenham. The preparation of the EIA is a key component in ensuring the sustainable development of the site and the best outcomes for the Proposed Development. In accordance with best practice it is expected that the EIA will be an extensive study of the relevant issues specific to this site. The specific environmental impacts that have been identified as likely to arise from this development should dictate the form and scope of the EIA and OPA together with the issues that have arisen through consultation.

Date of Opinion: 13/02/15

Jon Freer
Assistant Director of Environment
On behalf of the Council of the London Borough of Richmond upon Thames

APPENDIX A

Environment Agency
Greater London Authority
Transport for London
Natural England
English Heritage (archaeology)
English Heritage (built heritage)
Sport England
Thames Water
Network Rail
Friends of the River Crane
Heatham Alliance
Courtway Residents
Dene Estate Residents Association
Crime Prevention Officer
Metropolitan Police
NHS Richmond
South West Trains
Twickenham Town Centre Manager and Board
RFU
Harlequin's RFC
Heatham Residents Association
Friends of Heatham House
SWLEN/Richmond BioDiversity Partnership

APPENDIX B

Environment Agency (EA)

Following a review of the scoping report submitted, we consider the key environmental issues and opportunities at this site that need to be addressed within the EIA are as follows:

- Sustainable design and construction
- Flood Risk and Surface water management
- Potential for enhancing the River Crane corridor

We have produced advice with Natural England and the Forestry Commission on how new development can help improve the environment which can be viewed at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289894/LIT_2745_c8ed3d.pdf

Detailed Comments
Section 8 - Ground Conditions
The site overlies the Kempton Park gravels, a secondary aquifer, any pathways for contamination must be strictly controlled to avoid pollution of the secondary aquifer and any baseflow feed to the River Crane from any historic contamination identified on the site from previous uses/facilities.

National Planning Policy Framework (NPPF) and planning practice guidance requires that all risks from contamination are identified so that appropriate action can be taken. Therefore, in completing any site investigations and risk assessments the applicant should assess the risk to groundwater and surface waters from contamination which may be present and where necessary carry out appropriate remediation. It is noted that this is the intention outlined in the scoping report submitted.

The EA response has considered issues relating to controlled waters. The evaluation of any risks to human health arising from the site should be discussed with the Environmental Health Department.

The EA recommends that the applicant carries out the following best practice for the assessment and remediation of contaminated sites:
• Applies the risk-based framework set out in the Model Procedures for the Management of Land Contamination (CLR 11) and follow the guidance in that document so that the best decision are made for the site
• Refers to the Environment Agency guidance on requirements for land contamination reports.

Environmental Permits
The development may require an Environmental Permit for certain activities. The Environmental Permitting Regulations (England and Wales) 2010, cover water discharge activities, groundwater activities, radioactive substances, waste, mining waste and installations.

For further information on permitting please see:
https://www.gov.uk/environmental-permit-how-to-apply/overview

For guidance on developments requiring planning permission and an environmental permit please see:
http://www.environment-agency.gov.uk/business/regulation/139378.aspx

It is recommended that pollution prevention measures are incorporated to protect ground and surface water. The EA has produced a range of guidance notes giving advice on statutory responsibilities and good environmental practice. This includes Pollution Prevention Guidance Notes (PPG's) for the specific activities listed below. Pollution prevention guidance can be viewed at:
http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx

Section 9 – Waste
The Report takes into account all of the waste and possibly polluting activities we would expect. It is suggested that to aid the development through its various phases, Tier 3 for plant or euro 6 engined vehicles are used to offset NOX and PM10 contributions in the Air Quality Management Area. Also suggested that hazardous waste quarantine storage is provided at the site during construction, for unexpected possible contaminated wastes.

Section 10 - Water resources and flood risk
As the site is over 1 hectare with some areas within high flood zones, the production of a Flood Risk assessment (FRA) as stated in the scoping report is supported. The FRA produced for developments of this nature will have to demonstrate that the development will not be at an unacceptable risk of flooding, and will not increase the risk of flooding elsewhere.

Drainage strategy
The applicant should aim to achieve a Greenfield surface water runoff rate. If this is not possible justification should be provided and it must be no greater than 3 times the Greenfield rate or must achieve a minimum 50% reduction from the existing runoff rate, in line with the London Plan's Sustainable Design and Construction Supplementary Planning Guidance.

Sustainable drainage systems (SuDS) must be used on site to provide storage for surface water generated on site, in line with the National Planning Policy Framework paragraph 103, which requires development to give priority to the use of SuDS. Any storage volume required to attenuate surface water run-off from the critical 1 in 100 year storm event, with an appropriate allowance for climate change, must be provided on site. Rainwater harvesting and green roofs should also be included. Sustainable drainage schemes can also be a valuable asset for educational venues and provide multiple benefits. Potential SuDs schemes could also link with enhancements to the River Crane.

For more information on SuDs see here: http://www.susdrain.org/delivering-suds/using-suds/background/sustainable-drainage.html

Flood Risk Assessment (FRA)
The FRA should address all potential sources of flooding from the site. Wherever possible, all proposed buildings should lie outside the fluvial 1 in 100 year storm event, plus allowance for climate change flood extent. If this is not possible, flood plain compensation will be required.

Where required, the applicant must demonstrate a safe route of access and egress for any building located near or in the fluvial 1 in 100 chance in any year, plus allowance for climate change flood extent.

Section 12 – Ecology
Reference in the scoping report to potential for enhancements to the river Crane corridor in this area is welcomed. Consultation with the Crane Valley Partnership and local groups such as the Friends of the River Crane (Force) is welcomed.

This is an excellent opportunity for partnership working and funding to improve the river corridor in this area. This is supported in the Richmond Core Strategy policy CP12 River Crane Corridor:

12.A The Council will improve the strategic corridor to provide an attractive open space with improvements to the biodiversity. Developments in and adjacent to the River Crane Corridor will be expected to contribute to improving the environment and access, in line with planning guidance." [London Borough of Richmond upon Thames Core Strategy, April 2009].

Development close to rivers should also help deliver the objectives of the Water Framework Directive to improve riverside environments like this site. This includes apply in mitigation measures (improvements to the river) identified in the Thames River Basin Management Plan (RBMP) designed to get the Crane water body to good ecological potential by 2027.

Any planned development of the site should consider both the aspirations of the Lower Crane Strategy as well as objectives of River Basin Management Plan (RBMP) and the possible implications the development may have on their objectives. In addition to the RBMP, The Lower Crane Strategy remains an aspiration document aiming to return the lower Crane at five locations below Mereway weir to a more natural looking and functioning river. This strategy includes the site of planned development.

For more information please see the following:

The Water Framework Directive
http://www.environment-agency.gov.uk/research/planning/33106.aspx

Crane Valley catchment plan
http://cranevalley.org.uk/catchment/catchment-plan/

Additionally the Crane Valley Planning Guidelines, April 2005, specify the following as "the main impacts to be considered" in assessing the environmental impact of redevelopment proposals:

- Impact on the River Crane, including surface water runoff, flooding and drainage
- Impact on community facilities and public services, in particular school places and open space and sporting facilities
- Impact on biodiversity
- Impact on the transport network, air quality and noise
- Visual impact, especially of larger buildings
- Impact of construction including use of materials and resources used
- Impact on and protection and enhancement of the West London Green Chain

Greater London Authority (GLA)
No reply

Transport for London (TfL)

The site is located on the A316 Chertsey Road which forms part of the part of the Transport for London Road Network (TLRN). TfL is the highway authority for the TLRN, and are therefore concerned about any proposal which may affect the performance and/or safety of the TLRN. The application highlights that the A316 forms part of the Strategic Road Network, it is indeed part of the TLRN and should be clarified as such.

- TfL would expect the application to be supported by a robust Transport Assessment (TA) report to be provided as part of the planning submission in accordance with TfL's 'Transport Assessment Best Practice Guidance' http://www.tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance. Depending on the development's impact, TfL may ask for mitigation measures towards transport to accommodate the scheme, unless these are adequately addressed as part of the application.

- In order to inform the content of the EIA and TA, TfL strongly recommends that the applicant enters into as formal TfL pre-planning application process. This will assist in looking at the holistic transport impacts and advising of surrounding projects and programmes which may have bearing on the application. Further details are available at http://www.tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guide/transport-assessment-introduction/tfl-pre-application-service?intcmp=9724.

- Items for further discussion including with the council include the connectivity across the A316, the links to Twickenham and funding for improvements in the town centre and cycling improvements. Some of this will be captured through discussions on the CIL (see below) whilst others are directly related to the impact of the development.

- The EIA and TA must include a multi-modal impact assessment including baseline and future car, bus, rail, pedestrian and cycle trips and mode share. This should look to compare the existing baseline situation with the future impact on a finalised scheme. In addition a refreshed modelling assessment of the surrounding highway network is expected. The commitment to this in the EIA scoping is supported.

- The implications of construction traffic on the Transport for London Road Network (TLRN) will need to be agreed with TfL, the EIA will need to assess the worst case peak hour impact and include any peaks and troughs throughout the life of the development. The impact of construction vehicles on buses, pedestrians and cyclists must also be considered. A Construction Logistics Plan will be required to supplement the EIA. This should be in line with TfL's latest guidance and should include robust safety measures to protect vulnerable road users and pedestrians from the construction process.

- Parking levels should be kept to the minimum required to support the development, a number of circumstances should be taken into consideration, such as traffic conditions, Public Transport Accessibility, quality of walking and cycling routes and air quality and environmental considerations. Electric vehicle charging points and a car club will also be required.

- Cycle parking should be provided across the site in line with the latest London Plan guidance. It should be noted that changes to the cycle parking standards have occurred through the Further Alterations to the London Plan. These alterations are due at inquiry in September and may be adopted thereafter. As such the applicant is advised to have regard to the latest position on these standards.

- A Travel Plan will be required for each use to be delivered in line with TfL's latest guidance. Separate Delivery and Servicing plans (DSP) will be required for each use, this should be referred to in the EIA scoping report

- Any mitigation measures relating to TfL infrastructure and services must be secured through the s106 agreement. Less significant issues can be dealt with by use of planning conditions, in some cases TfL may request that it is consulted prior to discharge of a condition. Mayoral CIL will be applicable for the scheme and discussion should also occur around the use of the LB Richmond CIL which is due to come into effect from the 1st November 2014.

- The scheme should be assessed in terms of the phasing, the existing information is welcomed and should be updated in the assessment. Regard should be had to surrounding construction projects, highway improvement schemes and an assessment of the s278 process.

Natural England

The scoping request is for a proposal that does not appear, from the information provided, to affect any nationally designated geological or ecological sites (Ramsar, SPA, SAC, SSSI, NNR) or landscapes (National Parks, AONBs, Heritage Coasts, National Trails), or have significant impacts on the protection of soils (particularly of sites over 20ha of best or most versatile land), nor is the development for a mineral or waste site of over 5ha. Therefore it is not a priority for Natural England to advise on the detail of this EIA.

However, it is expected that the final Environmental Statement (ES) will include all the necessary information as outlined in Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2011. A full copy of Natural England's response is attached.

English Heritage (EH)

Having reviewed the Cascade report and in particular Section 14: Cultural Heritage, it is felt that it does scope the potential of archaeological heritage assets and the impacts of the development and considers what mitigation may be required through the design/construction techniques.

It is recommended that a full Archaeological Desk Based Assessment (DBA) should be undertaken and the results presented in the ES and this is welcomed. It is essential that the ES should have a full DBA submitted as part of the consideration of this proposal. The archaeology assessment should be focused on buried heritage assets and will consider the impact of the proposed development on the existing archaeological resource across the site and, therefore, quantify the perceived impact of the existing and proposed buildings (and other impacts) on these assets.

Do not agree with sections 14.6.1 to 14.6.3 of the Scoping Report as EH cannot at this stage determine which mitigation strategy will be recommended. The DBA will need to be seen and its findings reviewed. Do concur with Section 14.7 that

consultation with the Borough and GLAAS (as your archaeological advisers) during the compilation of the DBA will allow a staged approach to mitigation to be scoped out more fully.

The development covers a large area in a locality that is of recognised archaeological sensitivity and which has not been well served by previous archaeological investigations. It is anticipated that a programme of archaeological evaluation will most probably be appropriate here and dependent upon the results of the DBA this may be necessary predetermination of a planning decision. This would be in order to fully characterise the heritage asset and to determine the significance and value of the potential archaeological resource in order to make an informed planning decision.

Other Consultees

Sport England

If existing sports facilities are contained within the site or are proposed as part of the development, the feasibility study should address how the proposed development accords with Sport England's Land Use Planning Policy Statement 'Planning for Sport Aims and Objectives'. A copy of which can be found at: http://www.sportengland.org/media/162412/planning-for-sport_aims-objectives-june-2013.pdf

The feasibility study should also address the impacts of the proposed development on playing field provision and address the need arising as a result of the development.

Sport England understands that a Playing Pitch Strategy for Richmond is currently being undertaken and the proposals should therefore be informed by the recommendations of this strategy.

In terms of indoor built sports provision, Sport England holds a significant level of supply and demand data which can be used to identify the correct mix of indoor sports provision required. Sport England would be happy to provide this data and discuss further sporting facility needs with you separately.

Any new facilities should be built in accordance with Sport England's technical guidance notes, copes of which can be found at: http://www.sportengland.org/facilities-planning/tools-guidance/design-and-cost-guidance/

Sport England reserves the right to object to any subsequent planning application if they do not consider that it accords with their playing fields policy.

Thames Water

It is unclear at this stage what the net increase in demand on the infrastructure will be as a result of the proposed development. Thames Water is concerned that the network in this area may be unable to support the demand anticipated from this development. The developer needs to consider the net increase in water and waste water demand to serve the development and also any impact the development may have off site further down the network, if no/low water pressure and internal/external sewage flooding of property is to be avoided.

It is therefore recommended that any EIA report should be expanded to consider the following:

- The developments demand for water supply and network infrastructure both on and off site and can it be met
- The developments demand for Sewage Treatment and network infrastructure both on and off site and can it be met
- The surface water drainage requirements and flood risk of the development both on and off site and can it be met
- There are sewers and water mains located within the development site area. The proposed EIA should include information on how these assets will be protected during construction, and also as a result of any vehicle movement within and accessing the site.

Network Rail

As stated in the report; *'access to the overground rail network is available approximately 600m to the east at Twickenham Rail Station'*. As a result Network Rail will be interested in reviewing the proposals future Transport Assessments which will include information on potential implications on the public transport network during all development phases.

Friends of the River Crane Environment (FORCE)

The objectives of FORCE is to promote for the benefit of the public, and to advance the education of the public in, the conservation, protection and improvement of the physical and natural environment of the River Crane.

In the context of these Council planning documents, FORCE is of the opinion that the Environmental Impact Assessment Scoping Report of July 2014 has the following serious omissions:

- Omission of a master-plan approach which sets the environmental impacts of the Richmond Education and Enterprise Campus ("REEC") development within the wider context of the lower Crane valley
- Omission of consideration of impacts on and enhancements to the West London Green Chain
- Omission of consideration of the impacts of the REEC development on open-space provision and the deprivation index in the lower Crane valley
- Omission of consideration of impacts on and enhancements to the Duke of Northumberland's River.

FORCE advise that they will review the final EIA to see if and how these omissions are addressed. FORCE also expects the final EIA to include presentation of a feasible set of environmental enhancements for the Crane Valley, with an evaluation and recommendation for a phased programme of enhancements to be brought forward for public consultation.

A full copy of FORCE's response is attached.

Heatham Alliance

Heatham Alliance is a community network founded in 2013. Its membership, drawn from the vicinity of Richmond College and neighbouring areas, is currently approaching 300 strong.

A response has been submitted by Heatham Alliance in response to the consultation. The aims of Heatham Alliance is to minimise the impact of the proposed redevelopment on the community, to maintain and encourage free public access to

the sports and recreation fields in Craneford Way and to improve the safety of pupils, students and the public along routes to and from the proposed campus.

Constraints on Responding to the Consultation
Due to the short notice and the timing of this consultation, Heatham Alliance's response is confined to the headline contents of the EIA scope relating to selected aspects relevant to Heatham Alliance members and the local community in general. The response focuses on key development proposals and operational issues; generally the demolition and construction phases are not covered at this time.

Heatham Alliance have advised that on initial reading of a selection of pages, it is evident that certain important aspects appeared not to be included in the report, such as playgrounds on the campus and the sports provision on Craneford Way East Field. A version of this 120-page report was requested in Word format to provide efficient and appropriate search functions but this was refused at the end of August. There may be further queries and responses in relation to this report that will arise in the coming weeks and will be addressed by Heatham Alliance in due course or in the planning process.

General Comments
The response focuses on factual information given in this report. Parts of the report are weakened by the very sparse information it contains about the proposed development, so the impacts on the community and the environment / ecology are not fully identified in this final version of the scope report.

For example, it is not stated whether floodlights, columns and surround fencing are involved in the proposed all-weather pitches. The report does not consider where these might be situated and whether other fencing may be included in the planned upgrade of the Craneford Way East Field.

A full copy of Heatham Alliance's response is attached.

Courtway Residents
In section 15 the socio-economic impact is covered. Pleased to see mention of affordable housing provision and the role the development will play in meeting local housing need.

It is important to be precise on this point and for the EIA to understand and report on tenure and affordability as part of this. For example, what is the impact of providing different types of affordable housing – houses/flats and their tenure - social rent, affordable rent, low cost home ownership, sub market rent?

One of the big potential challenges will be making affordable housing genuinely affordable. So the EIA should give specific consideration to what incomes would be required by purchasers of the affordable home ownership homes and how these can be brought within the reach of young people on average London incomes. To be more precise, consideration should be given to basing this assessment on average London incomes not average Richmond incomes which are amongst the highest in UK and so not a useful comparator for affordability.

Dene Estate Residents Association (DERA)
The Dene Estate Residents Association (DERA) represents some of the college neighbours on the A316. Support in general improved education facilities and housing on the college site. Local residents concerns about the impact on their environment must be taken into consideration.

Residents on the Dene Estate are very concerned about the additional traffic movements on the already busy A316. Our only vehicular access and exit is via Rosebine Avenue. Pedestrians risk their lives in trying to cross the road through a small gap in the centre railings or have to walk about a mile via the subway or the footbridge by Langhorne Drive to the nearest bus/ train link.

If there is a need to alter the Langhorne Drive junction the area to the west at Rosebine Avenue should be considered where a safe surface crossing over the A316 could also be incorporated something we have been seeking for many years.

The use of a regular public bus service through the college site to reduce car use. This service could be continued through the Dene Estate, Meadway area, and onwards as a circular route to link us with vital services in the area, to avoid using our cars and satisfying the "green objective".

The environment around The Duke Of Northumberland's River should be protected and enhanced with careful planting and repair of the river banks. This estate should also be protected from any development of the Council Depot, we are after all a Conservation Area.

Remaining Consultees
The applicant is advised that responses were not received from the following:

- English Heritage (built heritage)
- Crime Prevention Officer
- Metropolitan Police
- NHS Richmond
- South West Trains
- Twickenham Town Centre Manager and Board
- RFU
- Harlequin's RFC
- Heatham Residents Association
- Friends of Heatham House
- SWLEN/Richmond BioDiversity Partnership
- Richmond upon Thames – Sport, Parks and Youth Services

London Borough of Richmond upon Thames

Policy

Section; para	Planning Policy comments
Table 2.2	The provisional list of cumulative schemes has not been checked by the Policy Team. It should be clarified if it will include assessing all housing developments, or just large sites (10 units and above)
Section 4; Saved UDP Proposal Site T29	The saved UDP proposal site includes the "Redevelopment to provide a new college and enabling residential development on the site of the existing college and playing field south of the A316. Retention and upgrading of Craneford Way east playing field." In more detail, this proposal requires the rationalisation, expansion and improvements to the College (either on the site of the current buildings and/or on the College playing field to the immediate south of the A316) with enabling development and associated open space. If development

	takes place on the College playing field south of the A316 the College's Craneford Way playing field to be upgraded. All College facilities to have increased public use reflecting the Council's dual use policy. Access to the trunk and local road network will be addressed at the development control stage.
Section 4; Site Allocations Plan (SA Plan)	The Site Allocations Plan is currently at pre-publication stage; publication is anticipated to take place later in 2014, with submission to Secretary of State in spring 2015 and adoption in autumn 2015. The draft proposal for this site includes the "Redevelopment to provide a new college, offices, secondary school and special school, residential including affordable and open space". Note that the SA Plan proposal site does not include the playing fields to the south. In more detail, the SA proposal requires the provision of a new College, Secondary School, Special School, Offices and residential uses, within a comprehensive scheme. A new College building and headquarter offices fronting the A316 on the existing playing fields. New open space, including for educational establishments, private residential enabling development to fund redevelopment of College to the south of the site and affordable housing (see proposal for Teddington Studios site). If development takes place on the College playing field south of the A316 the College's Craneford Way playing field to be upgraded. All College and School facilities to have public use reflecting the Council's dual use policy. Access to the trunk and local road network will be addressed at the development control stage. Any vehicular access through Heatham Estate must take account of residential amenity.
Community Infrastructure Levy (CIL) and Planning Obligations SPD	The Council's CIL Charging Schedule was approved by Cabinet in July 2014 for adoption on 1 November 2014: http://www.richmond.gov.uk/home/council/decision_making_council/calendar_of_meetings.htm?mgl=ieListDocuments.aspx&CId=163&MId=3407 The Council has also approved a revised Planning Obligations SPD, which will come into effect on 1 November 2014 in conjunction with the Borough's CIL. The development proposal will therefore be subject to the Borough's CIL Charging Schedule and the revised Planning Obligations SPD (2014). The revised Planning Obligations SPD explains the Council's policies and procedures for securing Section 106 developer contributions once the Borough's CIL comes into effect, including what types of site-specific contributions / mitigation measures will be sought through the Section 106 process.
Potential sensitive receptors	Para 3.4 should also include users of the playing fields, such as sports clubs/teams etc.
Waste	The Submission version of the West London Waste Plan has been submitted to the Secretary of State for independent examination in public on 30 July 2014. This DPD will need to be taken into account when assessing the impacts of waste and producing the Waste Strategy.
Water resources and flood risk	As identified in the report, a Flood Risk Assessment will need to be submitted with any planning application for this site. This needs to be carried out in line with NPPF and NPPG policies and guidance on flood risk, the Council's Core Strategy policy CP 3, Development Management Policies DM SD 6, DM SD 7 and DM SD 8, including the Council's Strategic Flood Risk Assessment. As the site is over 1 hectare, a surface

	water drainage strategy will also be required. Environment Agency consent will be required for any works within 8 metres of the Duke of Northumberland River and/or River Crane. This consent is irrespective of planning permission. The development will also need to comply with policies DM SD 9; this sets out the minimum mandatory targets for water consumption to be achieved for the different types of developments. Foul sewerage in particular could potentially lead to significant impacts on- and off-site if there isn't sufficient capacity in the public sewerage network (e.g. overloading of infrastructure, foul water flooding etc). In line with policy DM SD 10, the applicant is required to demonstrate that there is adequate water supply, surface water, foul drainage and sewerage treatment capacity to serve the development. The developer will be required to provide evidence that capacity exists in the public sewerage network to serve their development in the form of written confirmation from Thames Water Utilities. Under the Water Framework Directive (WFD), the River Crane (including Duke of Northumberland River) has been classified as having a "poor" ecological status. Potentially contaminative uses will need to be directed away from locations that are particularly sensitive in terms of groundwater and surface water receptors in order to protect the surface water courses and the groundwater quality. This development proposal should therefore contribute to the improvement of the rivers water quality where possible.
Socio-economics	**Retail** The socio-economic section of the report covers the employment aspects, including the net gain/loss of employment on site. It does not cover impact on town centre of proposals but there is no retail or other restaurant/café type uses proposed which might draw trade from the town centre and have negative effects. The proposals result in an intensification of uses on the site which arguably will have positive spin-offs to the town centre through spending from workers, employment, residential and educational uses. The impact of that expenditure is covered in para 15.5, which appears to cover all the aspects of the scheme.
Socio-economics	**Housing** The socio-economic section of the report covers housing, stating the assessment will consider impacts upon the provision of housing and how the proposed development will assist the local authority in meeting its objectively assessed need housing target, including affordable housing provision. This is considered satisfactory for the purpose of the EIA, however further comments are provided which may be helpful in considering the overall impact of new housing although could be addressed in other parts of the planning application. The residential element of the proposal will contribute to the Council's future housing (including affordable) delivery and the borough's housing target (although not mentioned in section 4 nor the socio-economic section) is as set out in the London Plan, with a higher target currently being proposed under the Further Alterations, subject to Examination in Public in September 2014.

	The size of the enabling residential element, up to 2.5 hectares, is a substantial element of the new development, and its impact may need to be assessed against the other benefits of the proposed uses and the viability case for the overall development. There may need to be further assessment with regard to the scale of affordable housing needs in the borough and local priorities, including issues of affordability, to assess the impact of any proposal in terms of the proportion, tenure and mix of affordable housing proposed. It could be pertinent to recognise further policy requirements for the residential element that will apply to ensure high quality, sustainable development that protects local character, and meets the Council's space standards and addresses particular aspects such as inclusive access. This will be relevant in assessing the impact of the proposal and the benefits of the proposed residential element for future occupiers.
Socio-economics	**Employment / Offices** It is noted that the proposals are broadly in accordance with the UDP Site Proposal - although including a wide range of educational provision, but that they differ from the emerging Site Allocations Plan in respect to the office provision. The approach of the EIA in considering both direct and indirect employment generation in the construction stage and the operation stage is endorsed. It will be important for these to be assessed in the context of the existing and historic employment levels at the College. The impact of the New Technical media Hub will need to be assessed in terms of direct employment and also its contribution to the educational offer on site and in providing space for start-ups and other spin-off benefits to the local economy. The transport issues arising are important it is therefore essential to establish potential journey to work areas as a basis for assessing potential means of travel.
Socio-economics	**Sports playing fields** The EIA will include a baseline assessment of the current provision of recreational facilities (including sport pitches and playing fields) within the local area, along with any deficiencies or surplus capacity in such provision. The Council has commissioned consultants to undertake a Sport, Open Space and Recreation Needs Assessment for the borough, which includes a Playing Pitch Strategy. The consultants are auditing the local provision during the summer/autumn 2014, whereby the supply and demand assessment will be carried out during the latter parts of November/early December. It is anticipated that the final assessment reports will be available end of January/early February 2015. The EIA has to fully consider the loss of and partial replacement of the playing field. The applicant should note that an artificial grass pitch may accommodate more intensive uses in comparison to a natural grass pitch; however, if it is smaller in size, it may not be able to accommodate those sports for which there is an identified demand. The EIA therefore

	needs to assess and compare the different pitches (existing and proposed), and analyse which benefits an "upgraded" (potentially artificial) pitch would bring in comparison to the detriment of the loss of the natural (large) pitch, taking account of supply and demand in the local area. By the same token, it cannot be assumed that an indoor facility (sports centre) may outweigh the loss of a playing field as it will depend on the demand for different sports in the area. The methodology for the EIA has to follow the guidance and methodology contained within the "Playing Fields Policy - A Sporting Future for the Playing Fields of England": https://www.sportengland.org/media/121630/document-5-a-sporting-future-for-the-playing-fields-of-england-planning-policy-statement-.pdf Para 15.4 and Table 15.1 – this should include users of the playing fields, such as sports clubs/teams etc. In addition, an assumption has been made that the change in provision of sports facilities/playing fields on the site is likely to result in "additional/improved provision" – this may be incorrect and the EIA should objectively assess the likely impacts arising from the development, including both positive and negative impacts. For information, if the development proposal may result in an objection by Sport England due to a loss of a playing field, and if the land is owned either by a local authority or an educational institution has been using the playing field, then Circular 02/2009 requires the Council to notify the Secretary of State. Sport England should therefore also be consulted on this EIA Scoping report and involved in any future discussions.
Socio-economics	**Play space** The proposal includes enabling residential development of up to 2.5 hectares, which is likely to result in a significant demand for local play space provision. The EIA scoping report omits the assessment for play space provision. In line with Policy DM OS 7, all developments with an estimated child occupancy of ten children or more should seek to make appropriate play provision to meet the needs arising from the development. The EIA will therefore need to provide an assessment of needs arising from the new development and follow the benchmark standards outlined in the Mayor's SPG on Shaping neighbourhoods: Play and Information Recreation (September 2012). It is expected that the EIA will incorporate a child yield/occupancy and play space needs assessments (including with a breakdown for the different age groups). When assessing needs and play space requirements, consideration can be given to nearby existing play areas, but it should be noted that appropriate facilities would need to be in actual walking distance in line with the Mayor's SPG, i.e. within 100m for under 5 year olds, within 400m for 5-11 year olds and 800m for 12+ age group.
Socio-economics	**Open space** Policy DM OS 6 requires larger developments to provide on-site public open space within the scheme, with the aim to strike a balance between private, semi-private and public open space provision. The EIA should also include an assessment of open space provision in the local area, in line with policy DM OS 6 (Public Open Space). This should be based on actual walking distances rather than as the crow flies. The methodology should follow the public open space categorisation as set out in the

	London Plan (table 7.2).
Socio-economics	**Education** The assessment of the contribution of educational facilities on local baseline assessment is endorsed. As mentioned further above, there is a need to assess the contribution of the Media Hub to educational objectives. As with employment it will be necessary to consider the catchment area from which students will be drawn in order to asses local travel implications.
Other comments Sustainable construction and energy (including energy centre)	Note that sustainable construction and energy are not scoped in to the EIA. The applicant should therefore note the following: Relevant local plan policies in relation to sustainable construction are Core Strategy Policy CP1 Sustainable Development (Code for Sustainable Homes Level 3, BREEAM "excellent" for all other developments), CP 2 Reducing Carbon Emissions as well as Development Management Policies DM SD 1 Sustainable Construction (this sets out the additional requirement for 35% reduction in carbon dioxide emissions beyond Part L 2013 of the Building Regulations), DM SD 2 Renewable Energy and Decentralised Energy Networks, DM SD 4 Adapting to Higher Temperatures and Need for Cooling, and DM SD 5 Living Roofs. It will be expected that the applicant submits the relevant Code for Sustainable Homes and BREEAM pre-assessments, as well as an Energy Statement and the Sustainable Construction Checklist as part of any forthcoming planning application; this does not need to be part of the EIA report. Also understand that an on-site energy centre is proposed to support the development. The applicant should note that a high level heat mapping study has been undertaken for the borough: http://www.richmond.gov.uk/heat_mapping_study.htm

Housing

Noted that the scoping report confirms that the EIA will consider the Socio-Economic impacts and , 'In terms of housing, the assessment will consider impacts upon the provision of housing and how the proposed development will assist the local authority in meeting its objectively assessed need housing target, including affordable housing provision. It will also provide commentary on how increased housing supply will impact on the existing market.' No further comments to make at this stage.

Transport

5.4 Sensitive receptors: It is stated that parking standards will be assessed against the London Plan and Draft Richmond Development Plan which is incorrect, the plan is adopted.

5.5.2 Baseline Surveys: Would like surveys of Haymarket Staff, how they travel now to Teddington and how they will travel to Twickenham, times of staff arrival, movements during the day and staff departure profiles as part of any Transport Assessment. Servicing of Haymarket must also be addressed in the same way, current and proposed including size of vehicles that need access.

It is noted that in the appendices the plan of the site has the red line area around part of the A316, Langhorn Drive and parking in the Stoop, confirmation that this is correct.

A signalled junction at A316/Langhorn Drive is no longer proposed so any surveys undertaken will need to include this junction including queue lengths on Langhorn Drive during matches at the Stoop that could coincide with departure profile of Haymarket staff in particular. Particularly important as we have had a spate of complaints recently on the barrier at Craneford Way being abused.

Urban Design
Photo viewpoints should include Richmond Hill. An additional view from Twickenham Station/ Sorting Office area (London Road) would be welcomed as it might impact on the tree line.

In regards to photomontages; 'wireframes' would be satisfactory for more distant views.

Ecology
The green/blue chains as per policy CP12 have not been included within the key issues (page 73). As the Cranford Way field lies along the Crane and depending upon the amount and extent of development within that part of land the development could impact the river corridor. This needs to be considered.

Do not agree with page 75 para 3 regarding no further reptile surveys required. If the proposed development of Richmond College includes the public recreational field to the south west of the college (i.e. the field alongside the Council Depot with the play area in the corner), then a reptile survey must be completed as part of the ecological assessment of the scheme.

Trees
The Council's Arboriculturalist has advised that they would require any scheme to ensure the retention of the tree line adjacent to the A316. There are a number of mature trees, within the site that should wherever possible be retained. If removal of any mature trees is to be considered, adequate mitigation planting would be required.

In order to consider the application a BS5837:2012 tree survey, Arboricultural Impact Assessment and Tree Constraints Plan would be required. This will ensure the basic application to the assessed. Further detail would be required under condition, unless there are areas of conflict that need further explanation at the time of the application.

Depending on the scheme the Council would welcome replacement trees throughout the site as well as new planting at the front to increase the screening from the A316.

Environmental Health
Satisfied that the main areas regarding noise quality have been suitably outlined and the EIA will provide the information we require in order to make decisions on the potential impacts.

Air Quality
The Council have two relevant NO2 diffusion tubes – tube 31 on the A316 near the rugby roundabout and tube 59 on Whitton Road, opposite Heatham House. Results for both sites exceed the Air Quality Objective and therefore exceed EU/WHO guidelines.

The college site is set back from the road so levels at this site will be lower but the development is likely to result in permanently higher levels for residents in Whitton Road (construction traffic at the development stage and more access traffic once complete).

The development would worsen the air quality of a residential area where levels of NO2 already exceed the Air Quality Objective. As such, the Council would seek appropriate mitigation and a contribution towards the long term monitoring.

A construction management scheme to protect the residents during the construction phase will need to be considered. The Council are part of the South London Air Quality Cluster group. Croydon has recently done a lot of work in relation to a large development in Croydon – ensuring HGV's come one at a time, so no queue/reduced pollution for residents; ensuring each vehicle delivers and removes materials in one trip, so reducing number of movements and sourcing materials locally wherever possible – all makes a difference. In this area, the "one way" residential roads are narrow, in poor condition and with speed humps – not good for large HGV's. We could consider allowing access at the end of Egerton Rd from the A316 for limited times, which would reduce congestion/pollution in the whole area.

In regards to energy for the development, it is now considered better for NO2 reduction to avoid CHP wherever possible and press for more renewables in addition to ultra low NOx boilers.

Contamination
The section on ground conditions (contaminated land) is deemed satisfactory.

The applicant when assessing cumulative impacts should take into consideration the following two sites which are outlined in the Site Allocations Plan which forms part of the Local Plan – Twickenham Stoop and Depot Site

Appendix 2.3: Applicant Response to Scoping Opinion

The Courtyard
Ladycross Business Park
Hollow Lane
Dormansland
Surrey
RH7 6PB

t: 01342 871659
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23 March 2015
Our Ref: CC747

Ms Cathy Molloy
London Borough of Richmond upon Thames
Civic Centre
44 York Street
Twickenham
TW1 3BZ

Dear Cathy,

RE: Richmond Education and Enterprise Campus Redevelopment - Response to EIA Scoping Opinion

Thank you for the EIA Scoping Opinion dated 13 February 2015, issued in response to our EIA Scoping Report for the Richmond Education and Enterprise Campus Redevelopment (July 2014).

We concur that discussions will be required with the Council and other relevant stakeholders as the EIA is progressed to appropriately address any issues arising and inform any mitigation measures considered necessary.

However, because of the proposed outline nature of the planning application, and therefore the level of design detail that will be available, some of the comments made and requests for additional assessments cannot be addressed at this stage.

We have therefore set out a response to the main points below, and this is supplemented by an appended annex which considers all the points raised and how we intend to address them, or not, within the EIA. We would be happy to discuss these further with the Council if you think appropriate.

Phasing and Timeslices

It is acknowledged that the description of the proposed phasing of the development has been unclear. It is accepted that further clarity will be required on this matter when undertaking the assessment of the effects of the proposed development.

A clear phasing plan for the development and each development zone will be produced and will be included in the Development Specification; this will confirm dates and durations of demolition, construction and operation (including first occupation). A phasing programme will also be produced so any overlaps between the development zones can be clearly identified.

This information, along with an overview of the demolition and construction processes (to be contained within a chapter of the ES), will allow worst case 'timeslices' to be identified for each topic. These 'timeslices' will ensure that any onsite sensitive receptors can be adequately considered in the assessments e.g. occupation of college whilst residential development is being constructed.

The Council has requested that a future timeslice, approximately 15 years after completion, be included within the assessments to understand the full residual effect of the mitigation measures. In accordance with best practice, a +15 year scenario will be included in the Transport Assessment, and in the air quality and noise impact assessments. However, this is more difficult for other topics at the outline stage. The landscape strategy for example, detailing the exact requirements for new planting, would be a reserved matter, and only at this stage could photomontages be produced showing the likely residual effects after 15 years. It is therefore proposed that the remaining assessments consider this timeslice qualitatively.

Cumulative Effects Assessment

The Council has requested that consideration be given to the proposed north stand at Harlequins FC and proposed development at the adjacent Council Depot site within the cumulative effects assessment. However, there is currently insufficient information available about these two proposed schemes to undertake a meaningful assessment.

Under the Council's own interpretation of a 'committed development' (i.e. a scheme that is either being constructed, has been approved but yet to be implemented or has a planning application submitted but pending decision), neither of these schemes would need to be considered.

It is therefore for these schemes, when they come forward, to consider their impacts with committed developments (including REEC by that time) and provide appropriate mitigation, rather than the other way around.

Transport

There is one main issue raised by the Council which relates to the consideration of the REEC redevelopment's impact on match days and non-match days at both The Stoop and at Twickenham Stadium: *'Access to the project site will be clearly curtailed on Harlequins and RFU match/event days when crowd/car congestion occurs along A316, Langhorne Drive and Whitton Road. The Transport Assessment needs to fully consider the proposed development's impacts for all users of the local footpaths (including the proposed footpath across Twickenham Rough) and highway conditions on both match/event days and normal days.'*

In terms of traffic and matches/major events at Harlequins FC, the college/school uses are not affected since most matches take place during weekends and during weekdays the matches kick off at 7.45pm (based on this season's fixture list). The proposed residential element of the REEC redevelopment will be affected by matches at Harlequins FC in a similar way to other residents in the area because the highway network will be generally busier. More specifically, when major matches occur at Twickenham Stadium, Whitton Road is closed for all traffic (except emergency vehicles) therefore preventing access to and from the residential

element of the redevelopment. This is currently the case for residents in the Heatham estate. Typically, new developments close to stadiums are not assessed during match events since clearly most/all forms of transport are generally operating at/close to capacity during the build up to kick off and following the end of the match.

We therefore believe it will only be necessary to provide commentary similar to the above in the Transport Assessment in order to address this matter.

Heights

The Council have requested that heights be referred to in mAOD rather than storeys, and that the parameter plans include maximum and minimum dimensions. These issues will be addressed in the next iteration of the plans.

In the Council's pre-application advice (26 January 2015) and Scoping Opinion, there is a statement that because the proposed heights ("*25m for the college building and residential heights along Egerton Road of up to 8m"*) are not in accordance with the Council's Taller Buildings policy (DM DC 3), they are therefore not acceptable.

It is acknowledged that the Council's Taller Buildings policy makes provision for buildings up to 4/5 storeys in only two locations in the Borough; the area around Richmond station and the area around Twickenham station. However it should also be noted that the Richmond upon Thames College Planning Brief makes reference, in paragraph 6.12, to buildings of 5 stories in height being acceptable at '*appropriate locations*' on the site. The acceptability – or otherwise - of any development over 25m on the College site should therefore be considered and properly assessed as part of the townscape and visual assessment.

Height restrictions would impose a significant constraint on the REEC redevelopment, which as detailed in the Draft Site Allocations Plan makes provision for; "*Redevelopment to provide a new college, offices, secondary school and special school, residential including affordable and open space"*. The ability to provide this amount of infrastructure on the same site without requiring some buildings to be taller than the existing surrounding development, whilst including suitable provision for open space etc, is limited.

A townscape and visual amenity assessment will be undertaken for the redevelopment. The assessment process will be ongoing as the design develops, and the Council will be engaged in discussions when sufficient information can be presented. Constructive dialogue with the Council would be welcomed at this stage to best meet the objectives for the site and minimise townscape and visual impacts.

Other Issues and Comments

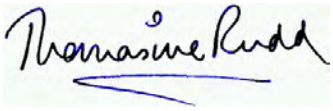
Appended to this letter is a tabulated response which considers all the points raised within the Scoping Opinion and how we intend to address them, or not, within the EIA.

We would be very grateful if this could be circulated to the necessary Council officers for consideration, following which we would be willing to discuss it further to ensure an acceptable approach and way forward can be agreed.

We also note the Council's comments re BREEAM; while this is not part of the EIA, the aspiration is to achieve a "very good" rating for the educational element of the development.

If you have any queries in the interim please do not hesitate to contact me, otherwise we look forward to arranging further discussions with the relevant officers in the near future.

Yours sincerely
for Cascade Consulting



Dr T Rudd
Technical Director
E: topsy.rudd@cascadeconsulting.co.uk

Response to Issues and Comments Raised in London Borough of Richmond upon Thames' EIA Scoping Opinion (February 2015)

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
General	The following bodies to be included in consultation: •Friends of Heatham House •SWLEN/Richmond Biodiversity Partnership •Challenge Court residents •Friends of Heatham House •Heathfield South Neighbourhood Coordinator •Chudleigh Road/Talma Gardens/Tayben Ave/Russell Road and Palmerston Road Neighbourhood Coordinator	The application will include a statement of community involvement and these bodies have been actively involved in the consultation to date as part of the REEC Community Forum.	
	Meetings should also be held with Nuffield Fitness Club, the Council Depot and Harlequins FC as adjoining land owner	These organisations were all involved with early discussions on the redevelopment and discussions will be ongoing during the course of the project. Harlequins FC are represented on the REEC project board.	
Scheme Description	Building heights in number of storeys and metres above ordnance datum are not provided in sufficient detail.	As discussed, the next iteration of the parameter plans will include mAOD, with consideration of parapets, and minimum and maximum dimensions will be provided.	
Scheme Description	The description of the development does not include the proposed number of buildings.		The outline application will include building zones, within which any number of buildings can be constructed to achieve the maximum floorspace for the various uses stipulated in the Development Specification.
Scheme Description	The description of existing and proposed development to be more detailed in the ES.	This will be provided within the 'Proposed Development' chapter of the ES. This along with the Development Specification will include quantities of the various land	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
		use provisions being made, how many people the various land uses will accommodate, and descriptions of the proposed approach to landscaping etc.	
Approach	Worst case scenario must be tested for demolition, construction, operation and cumulative within the ES.	Each topic chapter will clearly document the assumptions made to assess the worst case scenario, how this might differ between the phases, and how this might differ in terms of the use of the minimum or maximum parameters, or use of the illustrative masterplan.	
Approach	Parameter plans must state maximum and minimum dimensions.	This will be addressed in the next iteration of the plans.	
Approach	Further clarity on the phasing of the development is required.	A phasing plan for the proposed development and each development zone will be produced, confirming approximate dates and durations of demolition, construction, and operation (including first occupation). A phasing programme will also be produced so any overlaps between the development zones can be clearly identified.	
Approach	Phasing plan showing how the overall site infrastructure (e.g. access routes, energy centre) will be implemented is also required.	The phasing plans will identify when site infrastructure will be constructed, and when it will be operational.	
Approach	Additional sensitive receptors to include: 1) All users of the College playing pitch to the south of the A316 and the College owned Craneford Way Playfields 2) All users of adjacent sites including Nuffield Health Club, Twickenham Stoop and the Council Depot 3) 'Local community workforce' should include Haymarket employees relocated to the proposed Tech-Hub from the Teddington Studios site	Topics to consider these receptors, where appropriate, within assessments.	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
	4) Construction effects on 'on-site' receptors to be included.		
Time Slices	Use of time slices to consider on-site receptors	The phasing plans, along with an overview of the demolition and construction processes (to be contained within a chapter of the ES), will allow 'timeslices' to be identified. These 'timeslices' will ensure that any on-site sensitive receptors can be adequately considered in the assessments e.g. occupation of college whilst residential development is being constructed.	
Time Slices	'Operation' scenario should include time slice when all mitigation measures will have achieved full effect (typically 15 years after opening)	The Transport Assessment, air quality and noise and vibration assessments will consider an 'operation+15yrs' scenario. The remaining topics will consider this timeslice qualitatively.	It is unclear how the Council expects this scenario to be implemented for other topics at the outline stage. The landscape strategy for example, detailing the exact requirements for new planting, would be a reserved matter, and only at this stage could photomontages be produced showing the likely residual effects after 15 years.
Cumulative Effects Assessment	Cumulative effects assessment needs to include 'committed schemes' on nearby land, including the MOL south of the River Crane.	As detailed in the Scoping Report, consideration will be given to inter-project cumulative effects from the committed developments at Twickenham Railway Station, the former Twickenham Postal Sorting Office development and the Twickenham Rough development. Intra-project cumulative effects will also be considered as necessary.	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Cumulative Effects Assessment	Consider future development plans for adjacent sites such as Harlequins FC and Council depot redevelopment.		These schemes do not qualify under the Council's interpretation of a 'committed development' (i.e. a scheme that is either being constructed, has been approved but yet to be implemented or has a planning application submitted but pending decision), and there is insufficient information to undertake a meaningful assessment. It is for these schemes, when they come forward, to consider their impacts with committed developments (including REEC at that time) and provide appropriate mitigation, rather than the other way around. Alternatively, if sufficient information is available, these schemes can be considered through the REEC Reserved Matters applications.
Cumulative Effects Assessment	Consideration of the approved development for Teddington Studios needs to be taken into account in regard to employment reprovision and affordable housing.	The contribution that the proposed Tech Hub makes to the viability of the REEC project will be assessed.	
Alternatives	Consideration should be given to the alternative scenario of including the wider Harlequins site to the west of the access road within a larger development site.		There is insufficient information about such a larger proposed scheme to include the Harlequins site within the delivery timescales required by the college and other end users. This is therefore not a practicable alternative and has not been studied for the REEC redevelopment.

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Policy	Include Site Allocation Proposals for adjoining sites (TW8, TW9) and West London Waste Plan.	To be addressed in waste chapter as necessary.	
Transport	Access to the project site will be clearly curtailed on Harlequins and RFU match/event days when crowd/car congestion occurs along A316, Langhorne Drive and Whitton Road. The Transport Assessment needs to fully consider the proposed development's impacts for all users of the local footpaths (including the proposed footpath across Twickenham Rough) and highway conditions on both match/event days and normal days.		As previously discussed, new developments close to stadiums are typically not assessed during match events since clearly most/all forms of transport are generally operating at/close to capacity during the build up to kick off and following the end of the match. It is therefore unclear what the Council are expecting in order to address this point, other than providing commentary similar to the above in the Transport Assessment.
Transport	Effects on local pedestrians, buses, trains, cyclists, cars and other vehicles (to include Depot service vehicles) from demolition, pre and post-construction works	The Transport Assessment will consider the potential effects of the additional demand on transport services as a result of the proposed development. The effects during construction will be considered in the Demolition and Construction chapter of the ES.	
Transport	Effects on traffic flow and the local road network including any proposed modifications to the adjacent highway layout/access points from Langhorne Drive or elsewhere around the completed development including Craneford Way entrance (barrier controlled)	The Transport Assessment will consider the potential effects of the additional traffic demand generated by the proposed development on the surrounding highway network, including the site accesses. Any proposed mitigation measures will also be considered.	
Transport	Effects on walking and cycling accessibility through the Proposed	The Transport Assessment will consider	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
	Development area and on the public highway in the adjacent area and towards Twickenham town centre and rail station. Improvements to the pedestrian environment through and within the site are expected from the redevelopment of the site including a new footbridge from the southern part of the Craneford Way playing field (the footbridge design should provide for cycle users). Clarity is still needed on this aspect of the proposal and if proposed an assessment of any related impacts. Should be included in the relevant chapter of the ES e.g. ecological impacts on River Crane	the potential effects of the additional pedestrian and cyclists on the surrounding highway network and other pedestrian routes. Any proposed mitigation measures will also be considered.	
Transport	Effects from increased use of footpath to be created across Twickenham Rough by pupils, workers and residents at the new development.	As above.	
Transport	Measures such as electric vehicle charging points and car clubs should be considered for the development. A travel plan will also be required for each use.	Electric vehicle charging point, car clubs and other sustainable travel measures will be considered as part of a Framework Travel Plan for the whole development. Individual Travel Plan for each use would be prepared as part of the detailed applications for each use. At this point the needs of the future occupiers will be better understood.	
Transport	Service/maintenance vehicle access needs assessment	The Transport Assessment will set out the servicing strategy for the development in terms of access to the site, route through the site and loading/unloading areas.	
Noise and Vibration	Baseline noise survey needs to be continually updated.		The baseline monitoring was agreed with the EHO in April 2014. The data available from these surveys is considered sufficient for the assessment, and continual monitoring is not considered necessary. Noise survey data is normally regarded as

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
			valid for two years unless something has occurred that could affect the data, such as a new road or change of aircraft flight paths. After two years sample measurements would be taken to check whether the survey data was still valid. Recommendations for an updated baseline survey prior to construction commencing, and monitoring during the demolition, construction and operation phases if required, will be provided in the noise assessment and Outline Demolition and Construction Environmental Management Plan.
Noise and Vibration	Noise impacts to residents from the more intensive use of the Craneford Way Playing Field should also be assessed.	Noise from outdoor play/sports areas will be considered with reference to WHO guidelines for community noise, data contained within BS8233 and likely combined use of the pitches.	
Noise and Vibration	Low vibration piling methods to be used (see BS5288); piling methods and times to be clarified in ES.	Piling methods and timing will not be known until detailed design stage, however, estimates of likely piling activity will be taken into account in the assessment. Any necessary mitigation measures will be set out in the Outline Demolition and Construction Environmental Management Plan.	
Air Quality	Site is within an Air Quality Management Area (AQMA) therefore any development should not further reduce air quality in the area.	Full consideration will be given to impacts on AQMA and objectives, within air quality assessment. An air quality neutral assessment will also be completed.	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Air Quality	Issues for consideration should be expanded to include the consideration of impacts on air quality from the proposed Energy Centre/CHP provision.		A CHP plant is not currently part of the outline energy strategy therefore no assessment is required.
Air Quality	Biomass boilers are generally not encouraged in AQMAs		Biomass boilers are not currently part of the outline energy strategy therefore no assessment is required.
Air Quality	ES should clarify what measures will reduce air quality impacts (dust).	Recommendations will be detailed in the air quality assessment, which will be implemented through the Outline Demolition and Construction Environmental Management Plan (to be provided as an appendix to the ES).	
Air Quality	ES should detail mitigation measures to protect sensitive receptors pre-, post and during the development.	Recommendations will be detailed in the air quality assessment, which will be implemented through the Outline Demolition and Construction Environmental Management Plan (to be provided as an appendix to the ES).	
Ground Conditions	Council will need to approve all stages of on-site investigation (the Councils Scientific Officer should be the contact on this topic).		Further specific on site intrusive investigations will be identified in the ground conditions assessment (where necessary), but it is envisaged that these will be carried out under a planning condition or as part of the reserved matters applications.
Ground Conditions	Guidance in the Land Contamination Supplementary Planning Guidance should be adhered to.	This will be referred to in the ground conditions ES chapter as necessary.	This will be referred to when discharging any planning conditions.
Waste	Consideration of the West London Waste Plan (WLWP).	This will be reviewed and referred to within the waste chapter as necessary.	
Water Resources and Flood	No specific issues raised by LBRuT.		

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Risk			
Daylight and Sunlight	No specific issues raised by LBRuT.		
Ecology	Consideration of impact of development on habitat and species found in/beside the River Crane.	Impacts will be considered but are likely to be low. An allowance for an 8m buffer from the top of the bank of the River Crane (as specified by the Environment Agency) has been made within the design. It has also been agreed that a contribution will be made by REEC towards river restoration works within the Crane catchment. The restoration works themselves will be undertaken by the Environment Agency.	No in-channel vegetation or species surveys are considered to be required.
Ecology	Maximising improvements to the River Crane and Duke of Northumberland River.		The red line boundary of the development borders the River Crane and not the Duke of Northumberland River. However, it has been agreed that a contribution will be made towards the restoration of the River Crane and the wider Crane catchment if appropriate.
Ecology	Clarification is required as to whether floodlights, columns and surround fencing are involved in the proposed all-weather pitches within the school/college site or as part of the planned upgrade of the Craneford Way East Field.	Floodlighting is not proposed at the Craneford Way East playing field, only the MUGA pitches in the centre of the main site. Surround fencing will be required in line with Sport England specifications. Ecological implications of this will be considered in the assessment.	
Ecology	Special consideration of the potential for improving the ecological value of the site, such as new habitat creation, green walls, living roofs, open space provision and landscaping should form part of the proposals.	The potential for ecological enhancement of the site is being considered as part of the assessment.	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Ecology	Increased recreational pressure on the River Crane and Duke of Northumberland River from the new residential population should be scoped in.	Sufficient open space provision will be made as part of the REEC proposals to allow the new residential element to be essentially 'self-contained', thereby reducing pressure on these areas. This qualitative assessment will be included in the ecology ES chapter.	The opening up of the Twickenham Rough section with a new footpath link has been included in the River Crane masterplan and LBRuT policy, as have the site allocations for redevelopment at Richmond College, Twickenham Station and the former Postal Sorting Office. Additional recreational pressure on the River Crane because of these developments should therefore have been considered before the site allocations were agreed, and during the granting of planning permission for the first parts of the footpath. The Richmond college proposals link into this planned network, providing improved permeability to Marsh Farm Lane. This qualitative assessment will be included in the ecology ES chapter.
Ecology	Operation impacts on Twickenham Junction Rough expanded to include noise as well as lighting.		As stated above, the footpath link within Twickenham Rough was already included in the River Crane masterplan and LBRuT policy documents, and parts of it have already been given planning permission. The Richmond college proposals merely link into this network, providing improved permeability to Marsh Farm Lane. It is already LBRuT guidance that no lighting be permitted along this route therefore an assessment of this is not

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
			required. This will also restrict the use of the path during dusk and dawn which could be argued as the most sensitive period for species utilising the surrounding habitats e.g. bats, birds, and therefore consideration of noise is not considered necessary, as significant adverse noise effects on ecological receptors are not considered likely. This qualitative assessment will be included in the ecology ES chapter.
Ecology	Noise impacts, both general and vehicular, on bats during both construction and operation should not be scoped out.	Consideration will be given to noise from any operational plant and the potential disturbance of bats commuting and/or foraging along the semi-natural peripheral habitats.	The surveys undertaken have identified negligible bat activity within the college grounds, confirming the habitat as relatively inhospitable to bats and suggesting that the buildings on the site do not support roosting bats. Semi-natural habitats around the site boundaries do however offer foraging and commuting opportunities. As stated in the Scoping Report, no works will be permitted at night and noisy works are limited to the hours of 8am - 6pm by LBRuT's Considerate Contractors Advice Note. It is therefore considered unlikely that significant adverse effects to commuting and/or foraging bat species would arise during the construction phase.

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
			Vehicular noise during operation is considered unlikely to give rise to significant adverse effects on bat species. The traffic generated by the development would be predominantly during school hours, and therefore unlikely to affect the key sensitive periods for bats commuting and foraging at dusk and dawn. The proposed access to the residential area limits the amount of trafficking alongside peripheral vegetation, with one access into the site, thereby minimising potential disturbance. This qualitative assessment will be included in the ecology ES chapter.
Townscape and Landscape	Appropriate visualisations to demonstrate significant viewpoints/long distance views can be prepared using shaded wireline drawings if impact is limited to skyline and building profiles however the views from surrounding streets such as Chertsey Road, Egerton Road, Craneford Way, the Playing Fields and Marsh Farm Lane Alley and Langhorne Drive need full photo montages.		It is not possible to do photomontages of schemes being submitted for outline planning permission as there is not sufficient information on the final detailed design or proposed materials to be used on the facades. As stated in the Scoping Report, a number of views will be selected for the preparation of Accurate Visual Representations (AVRs). This will show the impact of the development based on a simple massing model (wireframe) using the parameter plans to examine the worst case impacts.

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Townscape and Landscape	The Council's 'Taller Building' policy (DM DC 3) needs recognition as a maximum height of 25m as proposed for certain development zones will be categorised as taller than any of its surroundings and this policy's requirement for a comprehensive townscape appraisal will be needed to be addressed within this section of the Environment Statement. A skyline assessment is necessary.	An assessment will be made, taking the form of a series of analytical plans (topography, urban grain, building heights, land uses, movement patterns, landscape elements, landmarks and views). Further clarity is required as to what the Council mean in terms of a skyline assessment to ensure it is covered by the assessment. It is assumed that the proposed analysis of the representative views and how these will change will be sufficient to cover this issue. The issue of heights has already been discussed elsewhere in this document, and the maximum parameters will be tested and presented to the Council prior to submission, for agreement on heights appropriate to best meet the objectives for the site and minimise townscape and visual impacts.	.
Townscape and Landscape	Site topography and survey of levels of surrounding streets, river and other adjacent sites need to form part of the baseline study of townscape/landscape character and visual quality of the site/surroundings.	Updated topographic surveys have been completed for the site, and the 3D model includes this plus the levels of the surrounding area. These will be used alongside the parameter plans (mAOD) to develop the AVRs.	
Townscape and Landscape	The changing levels across the site and in relation to the River Crane, the neighbouring alley and Harlequins site to the west and other neighbouring buildings need to be highlighted with the aid of illustrative	As stated above, the topography and elevation surveys have been included in the 3D model prepared by the architects.	It is unclear what the Council mean in terms of *"while details of previous site usage need further explanation"*. This

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
	material while details of previous site usage need further explanation.	The survey outputs and 3D model will be used in the preparation of the AVRs.	does not typically form part of a TVIA. The cultural heritage chapter will provide an assessment of historic use.
Cultural Heritage	No specific issues raised by LBRuT.		
Socio-economics	The socio economic effects from the proposed development as a whole should be broken down into the Phased Development Zones.	The socio economic effects will be presented in overall terms with effects broken down into the Phased Development Zones where practicable.	
Socio-economics	The Community Infrastructure heading would benefit from being expanded to specifically make reference to: •Impact on child yield and education provision resulting from residential development. •Impact on education provision resulting from college/education development. •Impact on health care resulting from residential development. •Impact on playing fields and access to sporting facilities resulting from college development.	The assessment of community infrastructure within the socio-economic assessment will consider the range of impacts identified.	
Socio-economics	Particular attention should be paid to the potential individual and cumulative impacts on local services and amenities.	Consideration will be given to the individual and cumulative effects for the range of impacts identified above.	
Socio-economics	The quality, quantity and availability of the on-site facilities to the community (such as spas, theatres, sports pitches etc.) needs to be clearly explained as part of the assessment, including broad terms and conditions of use, to enable the local planning authority to understand the actual contribution and benefit the new development will deliver to the local community.	A Community Use Statement is being produced by the Applicant which will be referred to in the socio-economics assessment.	
Socio-economics	The reference to local labour market shall include Haymarket staff in Teddington affected by the proposed Tech Hub.	Reference to the local labour market in the socio-economic assessment will consider the Haymarket staff relocated within the proposed Tech Hub.	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Socio-economics	The use of local employment agreements and skills plans are encouraged by the Council and impacts assessed if measure to be incorporated as part of the future submission.	This is noted, the possibility of implementing local employment agreements and skills plans will be explored as part of mitigation within the socio-economic assessment.	
Socio-economics	The assessment of the requirement for housing in the area should include affordable housing and open market housing needs and to what extent this development contributes to meeting both.	A Viability Assessment is being produced for the residential element of the scheme which will confirm the affordable housing and open market split, and this will be referred to in the socio-economic assessment. The socio-economic assessment will also consider to what extent the proposed development will contribute to meeting Richmond's housing needs including affordable and open market housing.	
Socio-economics	This section will also need to take account of cumulative development impacts linked to the Teddington Studio site as well as those at Twickenham Railway Station and the Former Sorting Office Site.	The socio-economic assessment will consider the cumulative impacts linked to the proposed development and the schemes identified in the scoping report where impact assessments are available for review.	
Socio-economics	An assessment to include economic and community consequences of development (during and post-construction) for the operator and users of Harlequins Stadium and Nuffield Health Centre is a clear requirement as well as Twickenham Town Centre and the RFU.	The assessment will provide comment on the inter-relationship between economic and community receptors.	
Utilities	If no significant effects are anticipated after discussions with the relevant electricity, gas and telecommunications infrastructure providers, these matters need not be included as part of E.S and can be scoped out. Instead, a Utilities Statement should be prepared and submitted as a stand-alone document accompanying the OPA.	A utilities statement is being prepared for submission with the planning application.	

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
Utilities	If utility demands from the Proposed Development are considered to affect the existing networks, the impact, connection points and any capacity upgrades will need to be determined in collaboration with the Statutory Undertaker. A Utility chapter will need to be included within the EIA.	As above	
Micro-climate	An initial assessment of the microclimate implications has not yet been carried out but detailed assessment of daylight and sunlight, overshadowing will be contained in the ES. This needs to be extended to include light pollution, solar glare and wind microclimate.	As the scheme is being applied for in outline, a lighting strategy is not being prepared at this stage. Therefore a high level assessment of lighting will be provided in the townscape and visual amenity chapter only, as part of a night time character assessment.	The facade treatments are not known at this stage, and therefore a solar glare study cannot be completed. This will be undertaken at the reserved matters stage and sufficient mitigation (in the form of materials selected) is considered to be available to offset any impacts identified. It is unclear why a wind assessment is considered necessary as the buildings are not sufficiently high, or densely packed, to create a tunnelling effect. Guidance provided by the London Borough of Tower Hamlets suggests that only buildings over 10 storeys high require a wind tunnel modelling assessment. The parameters have been designed to reflect the existing height profiles of the surrounding area i.e. lower in the south east and getting higher to the north west. This, combined with the set backs from existing boundaries, and minimum distances between the building zones considered in the parameter plans, is unlikely to result in significant adverse wind conditions. Consideration can be

Topic	Scoping Opinion Comment	Scoped In	Scoped Out
			given to recessing entrances and incorporating additional soft landscaping at the reserved matters stage if necessary.
Other	It is considered that the assessment would benefit from providing details of the proposed programme together with specific demolition and construction activities and methods. The Council would strongly recommend a stand alone chapter describing the likely content of the Phased Demolition and Construction Method Statement (DCMS) to be provided as part of the ES detailing the specific mitigation measures to be followed	A chapter will be included in the ES detailing the proposed methods for demolition and construction. However, it must be noted that a contractor is not appointed at the outline stage. The chapter will therefore aim to detail a worst case scenario on which the assessments can be based. A separate Outline Demolition and Construction Environmental Management Plan will be produced documenting all the mitigation measures that have been identified through the assessment process.	
Other	Construction Method Statement to be provide for management of noise, vibration, dust and other emissions.	Best practice measures to be contained within an Outline Demolition and Construction Environmental Management Plan.	

Appendix 2.4: Consultation Log

Summary of Public Consultation Events

28 January 2013 – 12 March 2013: Initial Visioning Consultation

- Material available online
- Distributed to households
- Drop in sessions for community groups on 19 and 25 February

28 April 2014 – 30 May 2014: Pre-planning consultation (1)

- Material available online (new website: www.reec.org.uk)
- Distributed to households
- Drop in sessions for community groups on 1 and 6 May

6 October 2014 – 7 November 2014: Pre-planning consultation (2)

- Material available online
- Distributed to households
- Drop in sessions for community groups 21 October and 4 November

6 – 30 January 2015: Pre-planning consultation (3)

- Material available online
- Distributed to households
- Drop in sessions for community groups 20 and 21 January

21 April 2015: Public Meeting

- Held at Music Studio at Richmond upon Thames College
- Panel presentation and Q&A session for residents
- Approximately 60 people attended

Various dates (commencing June 2014): Local Community Forum

- Meeting dates include 17 June 2014, 15 July 2014, 1 October 2014, 28 October 2014, 24 November 2014, 12 January 2015, 9 February 2015, 2 March 2015, 13 April 2015, 18 May 2015
- Community representation from multiple organisations, including Dene Estate Residents Association, Friends of the River Crane Environment, Heatham Alliance, Court Way Residents Association, Heatham Residents Association, Heathfield South Neighbourhood Watch, Chudleigh Road Neighbourhood Watch, and Court Way Residents, and local ward members.

Website

- Updates on www.reec.org.uk

CHAPTER 3 – APPENDICES

CONTENTS

Appendix 3.1: Topography Survey

Rev	Date	By	Amendment
A	02/08	SAB	SURVEY AREA EXTENDED
B	04/08	EDL	UNDERGROUND SERVICES INFORMATION ADDED (PRELIMINARY)

LEGEND

ABBREVIATIONS

B	BOLLARD	MH	MANHOLE
BOE	BRICK ON EDGE	O/H	OVER HEAD
BOX.	BOXING	P	POST
BT	BRITISH TELECOM	P/L	PAVEMENT LIGHT
B/W	BRICK WALL	RAD	RADIATOR
CATV	CABLE TELEVISION	RE	RODDING EYE
CF	CEILING FALL	RS	ROAD SIGN
CL	COVER LEVEL	RSJ	ROLLED STEEL JOIST
CONC	CONCRETE FINISH	RSS	ROLLED STEEL STANCHION
COU	COVER ORIGIN UNKNOWN	RWP	RAIN WATER PIPE
CPD	CUPBOARD	SC	STOP COCK
DK	DROP KERB	SP	SIGN POST
DL	DERIVED LEVEL	SVP	SOIL VENT PIPE
ELEC.	ELECTRICAL	TL	TRAFFIC LIGHT
ER	EARTHING ROD	TN	TREE NUMBER
F/B	FLOWER BED	TP	TELEPHONE POLE
FAR	FLAT ASPHALT ROOF	UTL	UNABLE TO LIFT
G	GULLY	VP	VENT PIPE
GV	GAS VALVE	VTF	VINYL TILED FLOOR
HLW	HIGH LEVEL WINDOW	WC	WATER CLOSET
IC	INSPECTION COVER	WHB	WASH HAND BASIN
LC	LIGHTING COLUMN	WV	WATER VALVE
LP	LAMP POST	ø	DIAMETER

OVERHEAD DETAIL
BARRIER OR FENCE
CHANGE IN SURFACE
GATE
SURVEY STATION

HEIGHTS

C HEIGHT FROM FLOOR TO CILL
H HEIGHT FROM CILL TO HEAD
SP HEIGHT FROM FLOOR TO SPRING OF ARCH
AH HEIGHT FROM FLOOR TO HEAD OF ARCH
(2890) HEIGHT TO CEILING, BEAM OR DOOR
S/C STRUCTURAL CEILING HEIGHT
F/C FALSE CEILING HEIGHT

TREES

ø DIAMETER(mm)
S SPREAD(mm) diameter
H HEIGHT(mm)

ALL TREE HEIGHTS SHOWN IN (mm)

SERVICE ABBREVIATIONS

(AC)	Assumed Connection
(AR)	Assumed Route but proved connection
BdL	Backdrop Level
BT	British Telecom
CL	Cover Level
cog	cable on ground
CR	Cable Riser
d	depth of service (approx)
Dd	Depth to top of Duct
DP	Down Pipe
DT	Disconnecting Trap
(e)	empty duct
ECR	Electric CR
(ET)	Electronically Traced
G	Gully
GPR	Gas pipe riser
GV	Gas Valve
HV	High Voltage
IC	Inspection Chamber
IL	Invert Level
Ltg	Lighting
LV	Low Voltage
MH	Manhole
MP	Medium Pressure
(NFI)	No Further Information
(NPV)	No Pipes Visible
Pd	Depth to top of pipe
Pe	Polyethylene
PM	Pumped Main
(R)	From Records
RE	Rodding Eye
RWP	Rain Water Pipe
Sd	Sump depth
SI	Spun Iron
SL	Sump Level
(UTL)	Unable to Lift without damage
(UTT)	Unable to Trace
VP	Vent Pipe
WD	Way Duct
WL	Water Level
WPR	Water Pipe Riser

SERVICE LEGEND

FOUL DRAINAGE
SURFACE WATER DRAINAGE
WATER
GAS
ELECTRICITY
TELEPHONE
CABLE TV
FIBRENET
CLOSED CIRCUIT TV
UNKNOWN SERVICE
UNDERGROUND CHAMBER

CAUTIONARY NOTES

ELECTRO-DETECTION TECHNIQUES HAVE BEEN USED IN THE LOCATION OF UNDERGROUND SERVICES. THE RESULTS ARE NOT INFALLIBLE AND TRIAL EXCAVATIONS MUST BE CARRIED OUT TO CONFIRM SERVICE IDENTIFICATION, POSITIONS AND PARTICULARLY DEPTHS. ALTHOUGH ALL REASONABLE EFFORT HAS BEEN MADE IN SEARCHING AVAILABLE RECORD DRAWINGS, THE COMPLETENESS OF THE UNDERGROUND SERVICE INFORMATION CANNOT BE GUARANTEED.

Note: Pipe sizes in mm
All drainage 100 unless otherwise stated

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING WRITTEN REPORT

LEVELS ARE RELATED TO ORDNANCE SURVEY BENCH MARK
LOCATED ON THE MAIN CAMPUS BUILDING
VALUE : 9.78m

3sixty measurement
LONDON
SOUTH BANK HOUSE, BLACK PRINCE ROAD
LONDON SE1 7SJ
Tel: 020 7637 2930
Fax: 020 7637 2931
E-mail: info@3sixtymeasurement.co.uk
Website:www.3sixtymeasurement.co.uk

Client	RICHMOND UPON THAMES COLLEGE
Project	RICHMOND UPON THAMES COLLEGE
Drawing	SITESITPELARLAN
Date	FEB 2008
Scale	A0@1:500
Drawn by	SAB
Checked by	CAM
Project No	07404
Drawing No	-01
Revision	B

CHAPTER 4 – APPENDICES

CONTENTS

Appendix 4.1: The 'Do Nothing' Scenario

The 'Do Nothing' Scenario for the Educational Element of REEC Development

New Secondary School – Richmond upon Thames College Free School

The need for the school is well-established - the Council stated publicly in 2012 that it foresaw a need for two new non-selective secondary schools within the London Borough of Richmond upon Thames. The borough has experienced a significant increase in pupil numbers and there is a sizeable increase currently working its way through the authority's primary schools. Within the Twickenham area, since 2011, five additional forms of primary entry have been created by permanent expansion. In addition, a new one-form entry primary school has been established. In total those expansions and the new school have added 180 places per year to the total number of places available in the primary sector. In addition, a two-form entry primary free school is due to open by Twickenham Green in September 2015. The total number of places available per year at state-funded primary schools in Twickenham will, from this September, be 1,130. Those additional numbers will, of course, feed through into the secondary sector.

During that time, the number of secondary places within Twickenham has increased from a total of 600 per year to 730, but the increase has arisen by the establishment of St Richard Reynolds High, a Catholic school whose pupils all live within the borough and who would otherwise have gone to Catholic schools outside the borough. The number of non-faith secondary places within Twickenham is 580, 200 of which are at Waldegrave School for Girls and therefore not available to boys.

Consultation by LBRuT in 2013 showed that there was significant interest in establishing a non-selective, co-educational school and recent and on-going meetings with prospective parents have also made clear that there is significant and increasing support for the school. Its catchment is anticipated to be close to the school, i.e. within two kilometres. Richmond upon Thames College Free School is therefore essential for local families and for the Council to be able to fulfil its statutory duty to provide secondary schools places for all of its resident children.

The evidence would suggest a 'Do nothing' option would result in under provision of secondary school places in Twickenham from September 2017.

Clarendon / Newhouse Special Educational Needs School

Clarendon is the Richmond Local Authority day special school for pupils with complex learning needs, including autism. The school currently has 100 places for

children aged 7-16 (Key Stages 2, 3 and 4), and is usually full or over-subscribed. A growing minority of pupils have more severe learning difficulties, now necessitating the provision of one or more specialist classes for smaller cohorts with the most complex needs, requiring higher levels of adult support. The school is sited at the western extremity of the local authority in a residential area, and transport links are poor. The single storey building, completed in 1969, is no longer fit for purpose, with poorly configured spaces, insufficient small group rooms and office spaces, teaching areas that are the only means of access to other parts of the school, high maintenance costs and very poor energy efficiency. The regular necessary remedial and reconfiguration work is complicated by the presence of asbestos. Levels of adult supervision are necessarily high, but this is made more difficult by each classroom having external access at present, and by the large number of 'blind spots' in the outdoor space. Clarendon School was judged Outstanding in all areas by Ofsted in June 2014 and is keen to develop as a centre of excellence for SEN.

The Newhouse Centre is the Richmond Local Authority provision for pupils with social, emotional and behavioural difficulties. The Centre has places for 23 pupils, all with statements of Special Educational Needs, and since September 2014 has been managed by Clarendon School. The Centre is sited at the western end of the local authority in a residential area, and transport links are poor. The single storey building has poorly configured spaces, poor security, high maintenance costs and very poor energy efficiency. Levels of adult supervision are necessarily high, but this is made more difficult by each classroom having external access at present, and by the large number of 'blind spots' in the outdoor space.

In both cases refurbishment in occupation would be complex and difficult to manage with the needs of the children, therefore expensive and likely to take a long time to deliver with extensive phasing. The relocation of the schools would prepare new fit for purpose environments in a better strategic location and involve less impact on the existing school cohorts. A 'do nothing' option would forego these benefits.

Richmond upon Thames College

The current college accommodation is over spaced by circa 10,000m². The College incurs a running cost and long term maintenance cost that it cannot fulfil. The do nothing scenario for the college is not a circumstance that is attractive for the learner population of the Borough of Richmond Upon Thames. If the scheme did not proceed, the College would be contractually committed to disposing of some accommodation to accommodate the development of the free school. In addition there are very high costs of planned maintenance (backlog maintenance). The do nothing scenario that has been submitted to the London LEP (and verified by the

London LEP) includes the need to address the backlog costs as well as a significant loss of student numbers as the estate is not of modern.