WEBB YATES ENGINEERS

Basement Impact Assessment – Supplementary Information

J2740 Cambridge House, 373-375 Euston Road

Ref: J2740-S-RP-0010
Revision: 00
Status: S9

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GENERAL NOTES

REVISION HISTORY

Revision	Status	Date	Author	Reviewer	Approver
00	Information	04.04.2018	BM	CP	TW

1 INTRODUCTION

A Basement Impact Assessment (including Site Investigation), referenced J2740-S-RP-0008, Revision 01 has been submitted as part of a planning application for a proposed basement extension for the redevelopment of Cambridge House, 373-375 Euston Road. The Basement Impact Assessment (BIA) was prepared by Webb Yates Engineers Ltd (WYE) and BRD Environmental Limited (BRD).

Campbell Reith Hill LLP (CampbellReith) has undertaken a Basement Impact Assessment Audit, Rev D1, dated March 2018, which identified items to be addressed in order to complete the audit.

This document provides supplementary information which addresses the items identified by CampbellReith. This document shall be read in conjunction with the original BIA, referenced J2740-S-RP-0008, Revision 01.

2 OUTLINE CONSTRUCTION SEQUENCE FOR 1.70M DEEP UNDERPINNING

This section provides an outline construction sequence for the formation of the new proposed lift pits along the party wall which is shared with 37 Warren Street. It is proposed to underpin a part of the party wall which is constructed from brick with a brick corbel footing on top of a mass concrete strip footing. The proposed lift pit structure is to be a reinforced concrete with the base acting as pad foundation.

It is proposed that the construction of the lift pit and party wall will be carried out in a hit and miss construction sequence. The sequence is highlighted in Sketch J2470-S-SK-0056 – Indicative lift pit underpinning sequence which can be found in Appendix A. Pins are to be constructed in three pins sequence, A, B and C. Pin A's are to be constructed first and allowed to be fully cured prior to construction of Pin B's then Pin C's, refer to sketch J2470-S-SK-0056 in Appendix A. Detail sequence and temporary works are to be designed by the contractor.

2.1 INDICATIVE CONSTRUCTION SEQUENCE

Construction sequence for the typical pin is as follows:

1. Break out existing ground bearing RC slab and remove part of the brick corbel footing and mass concrete pad.
2. Excavate a 1.2m wide strip to the formation level of new lift pit RC slab using trench box temporary works to support adjacent ground perpendicular to party wall. Ensure the open face excavation parallel to party wall is battered back to a safe angle.
3. Construct 1.2m width of lift pit RC structure with Kwikastrip system to allow bars to be tied into adjacent pins.
4. Cast reinforced concrete structure
5. Allow concrete to be fully cured and remove part of trench box temporary works outside of the lift pit
6. Back fill and compact ground to the battered back slope to reinstate horizontal equilibrium.
7. Install horizontal prop between walls.
8. Repeat sequence for Pin B's then Pin C's.

Sketch J2740-S-SK-057 in Appendix A illustrates the sequence described above.

2.2 TEMPORARY LOADS AND STABILITY

The existing concrete strip footing adjacent to the underpin will have a temporary increased load during the construction of the pin. The temporary increase loads are thought to be manageable as the building will not be under full occupancy imposed load during construction. As a precaution the construction sequence is in 3 phases in order to prevent having open excavation on both side of an unexcavated pin.

Upon the completion of each pin the party wall footing will be reinstated, as the loads will be distributed to the mass concrete underpin and lift pit raft slab.

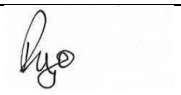
Upon the completion of a typical pin the ground is to be back filled and compacted. The horizontal force due to soil and surcharge pressures from the neighbouring building will be resisted by back filled and compacted ground through the horizontal prop between the two RC walls.

3 OUTLINE PROGRAMME

An outline construction programme has been included in Appendix B. The detailed programme for construction phase will be produced by the contractor.

4 TECHNICAL PERSONNEL

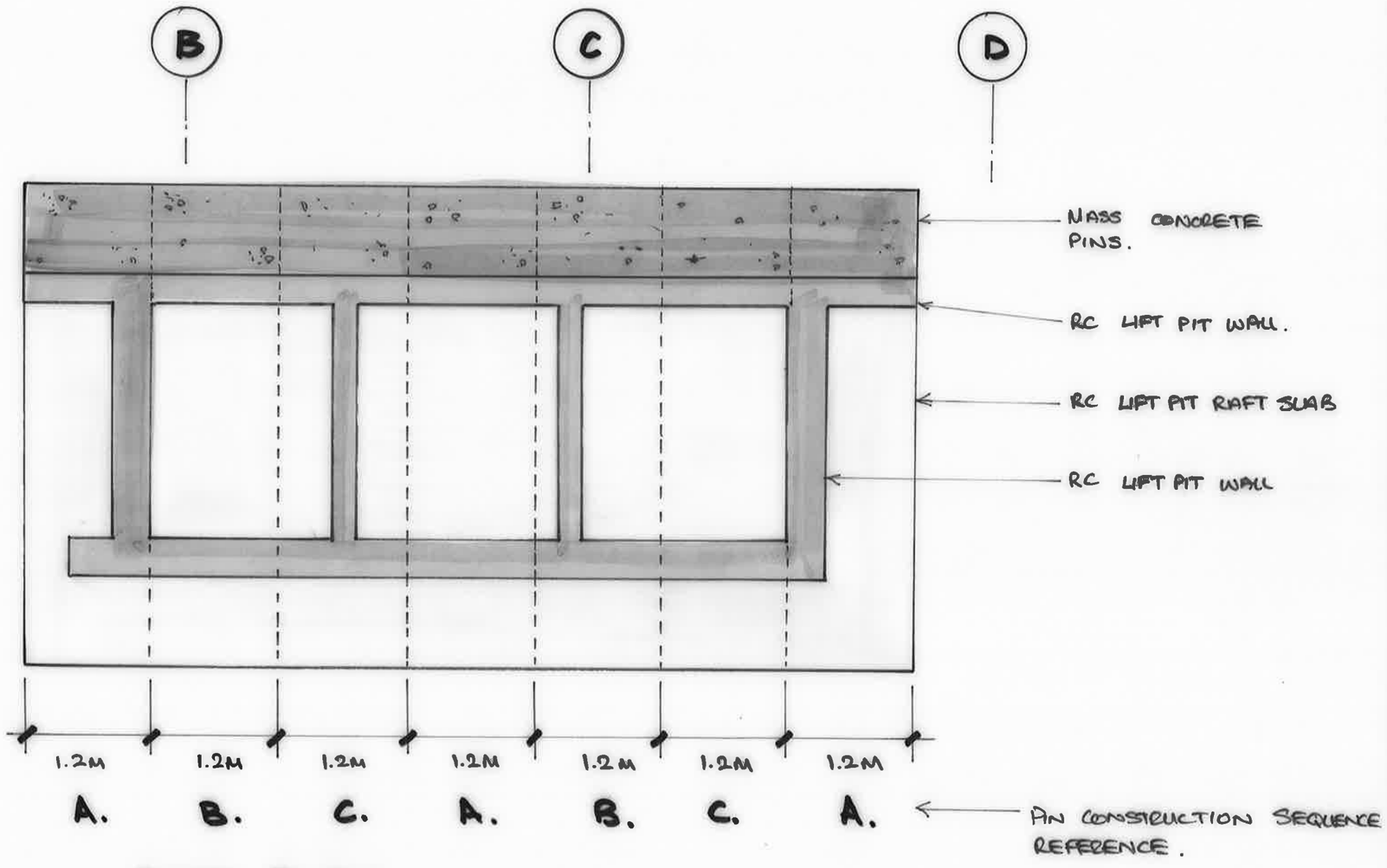
Additional information on technical personnel;

Name	Company	Qualifications	Signature
Camilla Ingemann Parby	WYE	Danish Equivalent BEng (Hons)	
Guy Roy Parker-Dennison	WYE	Engineering Design and Appropriate Technology MEng (Hons)	
Tom Webster	WYE	MEng CEng MICE MIStructE	
Richard Mayo	WYE	Meng CEng MICE	
Brian Devonshire	BRD	BEng(Hons) MSc	
Ana Leon Gomez	BRD	Spanish equivalent BSc & MSc, EurGeol [Note: EurGeol is a higher qualification than CGeol]	

5 APPENDIX A - INDICATIVE CONSTRUCTION SEQUENCE SKETCHES

NOTES:

- OUTLINED CONSTRUCTION SEQUENCE: CONSTRUCT A, B THEN C.
- ALLOW EACH PINS TO BE FULLY CURED PRIOR TO CONSTRUCTION OF ADJACENT PIN.
- PINS TO BE MAXIMUM 1.2M WIDE.
- REFER TO WEBB YATESS SKETCH : S2740-S-SK-057 FOR PIN TEMP. WORKS.
- NOTE THAT THE DETAILED SEQUENCE AND TEMP. WORKS DESIGN IS TO BE CARRIED OUT BY CONTRACTOR.



3

PART PLAN

NTS.

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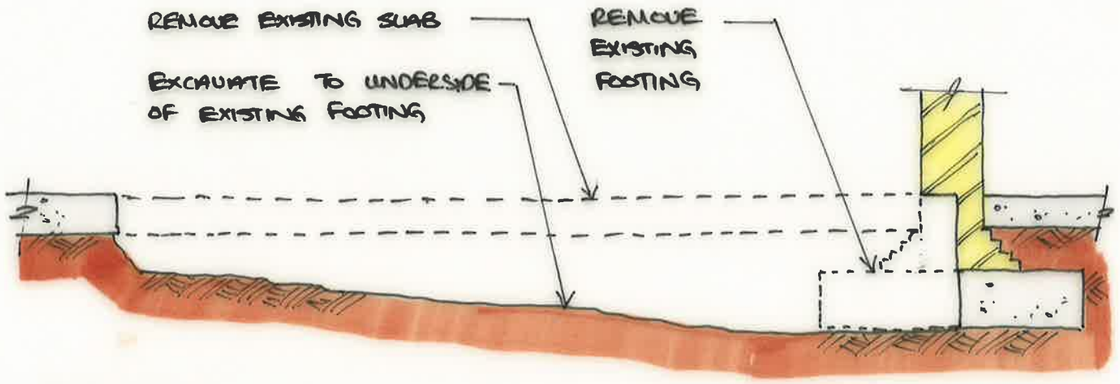
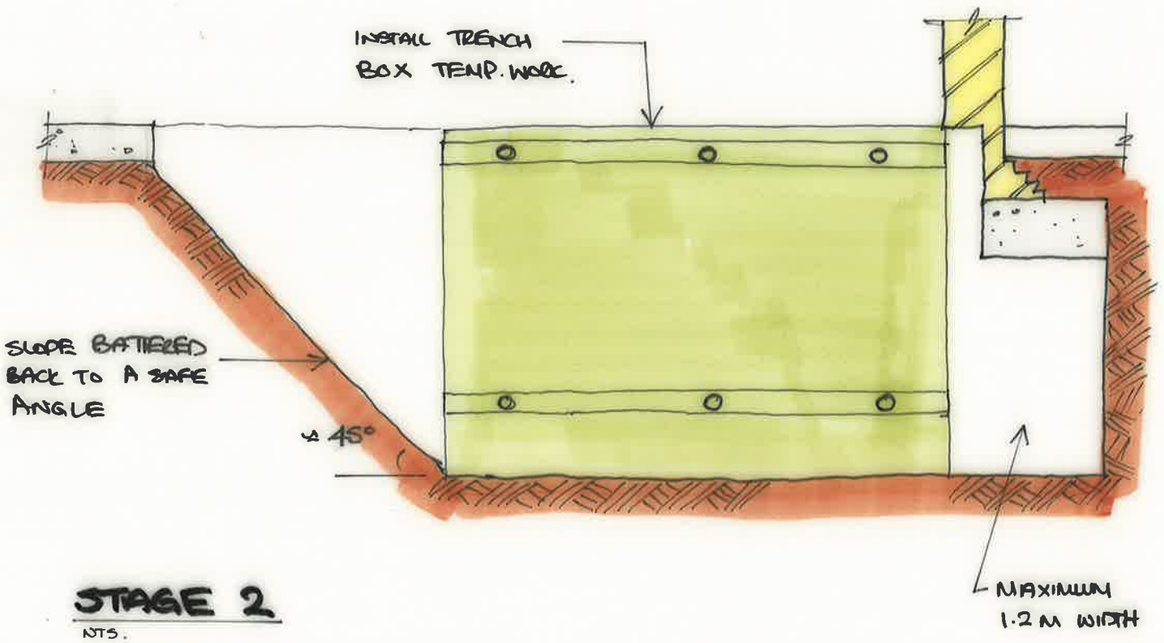
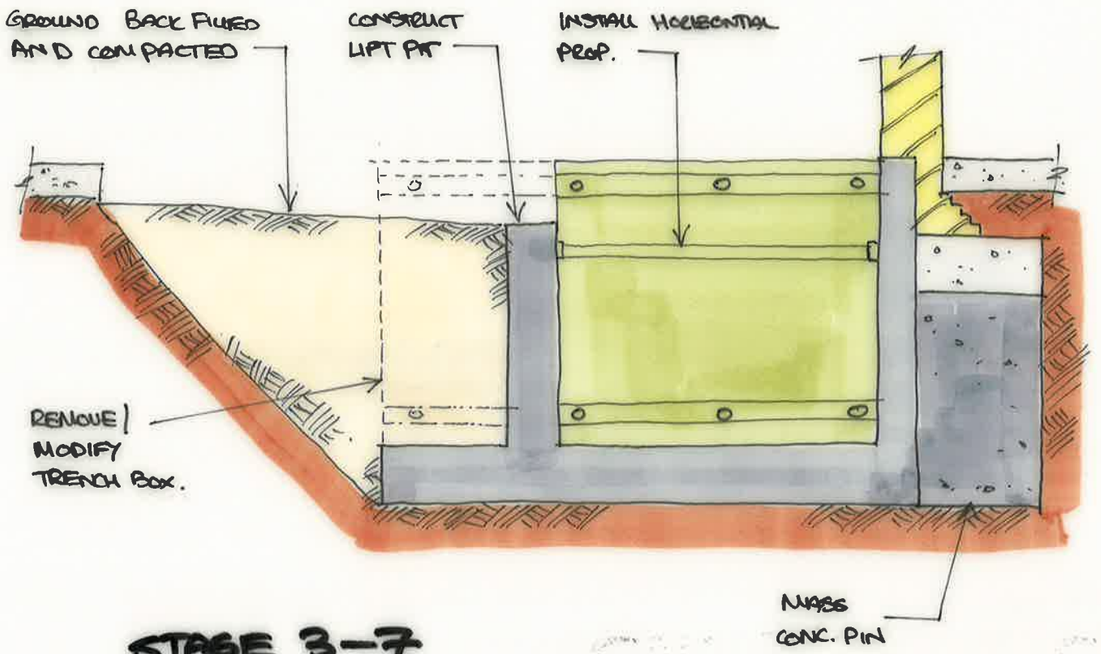
Drawing No	S2740-S-SK-056		
Project	CAMBRIDGE HOUSE.	Status	S9 - FOR INFO.
Drawing Title	INDICATIVE CONST. SEQ.		
Date	Drawn by	Scale	Revision
APR 2018	BM.	NTS.	00



STAGE 1
NTS.



STAGE 2
NTS.



STAGE 3-7
NTS.

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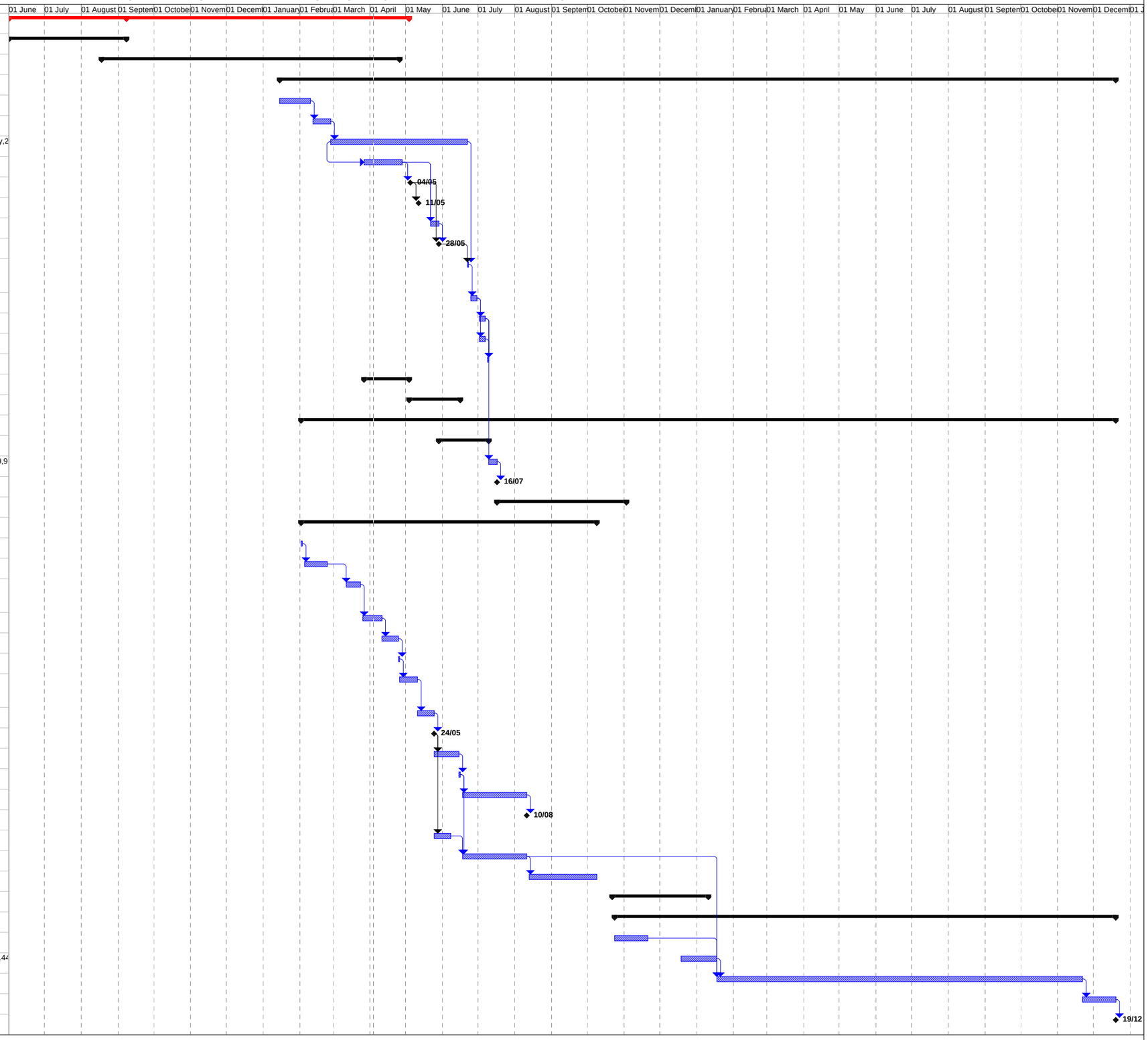
Drawing No	J2740-3-SK-057		
Project	CAMBRIDGE HOUSE.	Status	S9 - FOR INFO.
Drawing Title	TYPICAL PIN CONST. SEQ.		
Date	APR 2018	Drawn by	BM.
Scale	NTS.	Revision	00

6 APPENDIX B – OUTLINE PROGRAMME

Detail programme for the construction phase will be produced by the contractor.

Cambridge House - Programme Revision7A - Single Stage D&B procurement starts at end of RIBA Stage 4

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Design Period**	**232 days**	**Thu 01/06/17**	**Thu 03/05/18**	
2	**Design Deliverables - Feasibility**	**71 days**	**Thu 01/06/17**	**Fri 08/09/17**	
20	**RIBA Stage 3**	**170 days**	**Fri 18/08/17**	**Wed 25/04/18**	14
70	**RIBA Stage 4**	**488 days**	**Mon 15/01/18**	**Thu 19/12/19**	42,68
71	Approval to proceed / previous stage sign off	4 wks	Mon 15/01/18	Fri 09/02/18	23,42
72	Confirmation of stage 4 appointments	11 days	Mon 12/02/18	Mon 26/02/18	71
73	Stage 4 Detailed Design	16 wks	Tue 27/02/18	Thu 21/06/18	42,68FS+1 day,2
74	Stakeholder meetings - first round	22 days	Tue 27/03/18	Fri 27/04/18	73SS+4 wks
75	Design freeze	0 days	Fri 04/05/18	Fri 04/05/18	74FS+5 days
76	Mid stage cost review	0 days	Fri 11/05/18	Fri 11/05/18	75FS+4 days
77	Final stakeholder meetings / sign offs	1 wk	Tue 22/05/18	Mon 28/05/18	74FS+3 wks
78	Design info issued for costing	0 days	Mon 28/05/18	Mon 28/05/18	77,75
79	Issue of draft stage 4 report and draft stage 4 cost plan for approval to proceed	1 day	Fri 22/06/18	Fri 22/06/18	73,78
80	Client review	5 days	Mon 25/06/18	Fri 29/06/18	79
81	Issue of final stage 4 cost plan	5 days	Mon 02/07/18	Fri 06/07/18	80
82	Issue of final stage 4 report	5 days	Mon 02/07/18	Fri 06/07/18	80
83	Project board meeting / approval	1 day	Mon 09/07/18	Mon 09/07/18	82,81
84	**Compilation of SQ docs**	**26 days**	**Tue 27/03/18**	**Thu 03/05/18**	68
93	**OJEU procurement SQ stage**	**30 days**	**Thu 03/05/18**	**Fri 15/06/18**	
98	**OJEU Procurement ITT**	**474 days**	**Fri 02/02/18**	**Thu 19/12/19**	
99	**Finalise ITT documentation**	**30 days**	**Tue 29/05/18**	**Mon 09/07/18**	
109	Client review	5 days	Tue 10/07/18	Mon 16/07/18	85,86,87,88,89,9
110	Approval to Proceed (Birkbeck)	0 days	Mon 16/07/18	Mon 16/07/18	109
111	**ITT**	**78 days**	**Tue 17/07/18**	**Fri 02/11/18**	
121	**LU / asbestos enabling works**	**173 days**	**Fri 02/02/18**	**Mon 08/10/18**	
122	Meeting with LU	1 day	Fri 02/02/18	Fri 02/02/18	
123	Birkbeck approval to proceed	3 wks	Mon 05/02/18	Fri 23/02/18	122
124	Compile baseline survey / pre-condition survey scope	2 wks	Mon 12/03/18	Fri 23/03/18	123
125	Surveyor tender process	2 wks	Mon 26/03/18	Tue 10/04/18	124
126	LUL to approve surveyor appointment	2 wks	Wed 11/04/18	Tue 24/04/18	125
127	Appoint surveyor	1 day	Wed 25/04/18	Wed 25/04/18	126
128	Contractor liaison with LUL re RAMS / Submit application for permit to enter	2 wks	Thu 26/04/18	Thu 10/05/18	127
129	2 week response period	2 wks	Fri 11/05/18	Thu 24/05/18	128
130	Granting of permit	0 days	Thu 24/05/18	Thu 24/05/18	129
131	Baseline / precondition surveys	3 wks	Fri 25/05/18	Thu 14/06/18	130
132	Submission of survey reports	1 day	Fri 15/06/18	Fri 15/06/18	131
133	8 week response period	8 wks	Mon 18/06/18	Fri 10/08/18	132
134	Issue of LU licence to proceed with main works	0 days	Fri 10/08/18	Fri 10/08/18	133
135	Abestos Removal Tender	2 wks	Fri 25/05/18	Thu 07/06/18	130,28
136	Asbestos Removal On site	8 wks	Mon 18/06/18	Fri 10/08/18	132,135
137	Issue of Asbestos Clearance certificate	8 wks	Mon 13/08/18	Mon 08/10/18	136
138	**Post Contract Award**	**52 days**	**Mon 22/10/18**	**Thu 10/01/19**	
147	**Construction (Stage 5 +)**	**290 days**	**Wed 24/10/18**	**Thu 19/12/19**	
148	Building Regulation Application	4 wks	Wed 24/10/18	Tue 20/11/18	140
149	Mobilisation of main works	3 wks	Wed 19/12/18	Thu 17/01/19	142FS-2 wks,144
150	Contractor on site	43 wks	Fri 18/01/19	Thu 21/11/19	149,148,136
151	Client Fit Out	4 wks	Fri 22/11/19	Thu 19/12/19	150
152	Handover	0 wks	Thu 19/12/19	Thu 19/12/19	151,120



Task | Summary | External Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone
Split | Project Summary | Inactive Task | Inactive Summary | Manual Summary Rollup | Finish-only | Progress
Milestone | External Tasks | Inactive Milestone | Manual Task | Manual Summary | External Tasks | Deadline