Built AI

CONFIDENTIAL

PROJECT DELIVERY PLAN

B99 Malthouse Block

Boiler House Replacement — Delivery & Governance

Prepared for	Grimshaw & Bolt Ltd
Prepared by	Built AI Ltd
Date	27 April 2026
Reference	KW-2026-4471

1. Document Control & Distribution

1.1 Document Identification

Document Title	Project Delivery Plan — B99 Malthouse Block Boiler House Replacement
Document Owner	Built AI Ltd
Project	B99 Malthouse Block Boiler House Replacement
Site	Kettlewick College, Malthouse Lane, Kettlewick, Somerset, BA22 9KW
Client (Principal Contractor)	Grimshaw & Bolt Ltd
End-Client	Kettlewick Estates
Project Reference	KW-2026-4471
Sub-Contract Form	JCT Intermediate Building Contract 2016 with Contractor's Design Portion
Document Status	ISSUED — alongside Tender Letter Proposal Rev 1
Document Author	Built AI Ltd
Document Date	27 April 2026
Document Revision	Rev 1 (Initial Issue)

1.2 Document Purpose

This Project Delivery Plan (PDP) describes how Built AI Ltd will deliver the Mechanical, Electrical, Public Health and Controls-interface scope for the B99 Malthouse Block Boiler House Replacement project, in our role as MEP sub-contractor under Grimshaw & Bolt Ltd as Principal Contractor.

The PDP is a strategic / management document and is intended to be read in conjunction with:

- The Tender Letter Proposal Rev 1 (commercial and technical scope).
- The Priced Bill of Quantities Rev 1 (line-item pricing and exclusions).
- The Programme / Work Schedule Rev 1 (time-based delivery plan).

The PDP does not duplicate detailed information held in those companion documents; it provides strategic and management-level coverage and cross-references the source detail.

1.3 Revision History

Rev	Date	Description of Change	Prepared / Approved By
Rev 1	27-Apr-2026	Initial issue alongside Tender Letter Proposal Rev 1	Built AI Ltd

(Empty rows reserved for future revisions during delivery.)

1.4 Distribution List

Recipient Role	Name / Organisation	Format	Mode
Principal Contractor	Grimshaw & Bolt Ltd (Commercial / PM)	PDF + Word	Email + secure file-share
Employer's Agent / CA	As nominated by Kettlewick Estates	PDF	Via Grimshaw & Bolt
MEP Designer	Services Design Solution Ltd	PDF	Via Grimshaw & Bolt
Kettlewick College Estates APs	AP (Heating / Electrical / Gas)	PDF	Via Grimshaw & Bolt
Built AI Director	Built AI Ltd	Word + PDF	Internal
Built AI Project Manager	Named at appointment	Word + PDF	Internal
Built AI Site Supervisor	Named at appointment	PDF	Internal
Built AI Commercial Mgr	Named at appointment	Word	Internal
Built AI Comm. Manager	Named at appointment	Word	Internal

External distribution beyond the recipients above requires written approval from the Document Owner.

1.5 Related Documents (Cross-References)

- TLP — Tender Letter Proposal Rev 1 (24 Apr 2026, Built AI).
- BoQ — Priced Bill of Quantities Rev 1 (27 Apr 2026, Built AI).
- PROG — Programme / Work Schedule Rev 1 (27 Apr 2026, Built AI).
- SDS — RIBA Stage 3/4 design package, document reference 06642P (Services Design Solution Ltd).
- ASB — SOCOTEC Asbestos Refurbishment & Demolition Survey 257744-1004563.
- ITT — Grimshaw & Bolt Instruction to Tender + Scope of Works.
- GB-CPP — Grimshaw & Bolt Construction Phase Plan (TBC pre-mobilisation).
- SBS-Q — SBS Cambridge Quote 18-SQ0023969 Ver 1 (24 Apr 2026).
- RT — SDS Risk Tracker (TBC); TT18 — SDS Doc 23 Table 18 Provisional Sums.

1.6 Document Storage and Access

- Master copy (Word) — Built AI secure file-share /B99_Hardy_Block/02_Project_Delivery_Plan/Current/.
- Archive (superseded revisions) — Built AI secure file-share /B99_Hardy_Block/02_Project_Delivery_Plan/Archive/.

- Read-only PDF copy for distribution — secure project SharePoint folder shared with Grimshaw & Bolt.
- Version control — all changes tracked via revision number; superseded copies retained for full project lifecycle + 12 months.
- Retention — held for life of project + 12 years post-Final Account, per JCT 2016 record-keeping requirements.

1.7 Review and Approval

This PDP is a live document. It is reviewed and re-issued at the following triggers:

- Pre-mobilisation review — once Grimshaw & Bolt has issued their Construction Phase Plan and the Letter of Intent has been received. Anticipated revision: R1.
- Mid-construction review — at Week 6 (mid-point of construction) to capture any scope, programme, or interface changes. Anticipated revision: R2.
- Pre-Practical Completion review — at Week 12 to align handover and aftercare commitments. Anticipated revision: R3.
- Material change — any material change to scope, programme, contract or principal interfaces triggers an unscheduled revision.

Approval at each revision is by the Built AI Director and (where applicable) confirmed by Grimshaw & Bolt's Project Manager.

1.8 Document Confidentiality

This Project Delivery Plan is issued in commercial confidence to the recipients listed in Section 1.4. It contains commercially sensitive information including pricing methodology, supplier relationships, sub-contractor identities and internal organisational arrangements. It may not be reproduced or disclosed to third parties without the written consent of Built AI Ltd.

Project on a Page

B99 Malthouse Block Boiler House — Single-page summary

TENDER TOTAL
£481,954
ex VAT, fixed

PROGRAMME
14 weeks
Mon 6 Jul ⁄ Fri 9 Oct 2026

PRACTICAL COMPLETION
9 Oct 2026
Defects Liability: 12 months

Key Project Facts

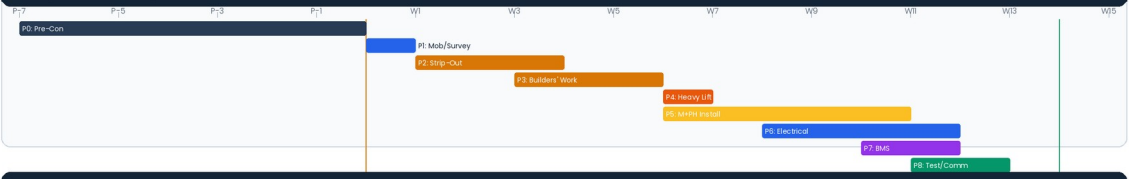
Site	Kettlewick College, Somerset, BA22 9KW
Principal Contractor	Grimshaw & Bolt Ltd
Sub-Contract Form	JCT IC 2016 with CDP
Project Reference	KW-2026-4471
MEP Designer	Services Design Solution Ltd
Heat Generation	3 × IDEAL EVO Max 2 (450 kW)
Thermal Storage	3 × 2,000 L PD 5500 Cat 3
VE Savings Available	Up to £56,737

Top Five Risks

- H LARC slippage past 17 Jul
- M IDEAL price rise post 31 May
- M Heavy-plant lift weather window
- M Gas supply pressure verification
- M BMS specialist appointment timing

H = High · M = Medium · All risks have mitigations in §11.3

Programme Strip — 14 Weeks On Site



Major Milestones

M1 11 May 26	M2 29 May 26	M3 17 Jul 26	M4 17 Aug 26	M5 22 Sep 26	M6 5 Oct 26	M7 9 Oct 26
Letter of Intent	IDEAL Order Lock-in	LARC Cert. of Reocc.	Heavy-Plant Lift-In	Hydraulic Test Pass	Witness Commission.	Practical Completion

2. Project Overview & Objectives

2.1 Project Background

The Kettlewick College (Kettlewick College) at Kettlewick is a Grade II* listed, operationally-live officer-training establishment of the Royal Navy. The Malthouse Block (building reference B99) is a principal accommodation and administrative building on the estate, with heating and domestic hot water currently served by a dedicated boiler house containing five Wessex atmospheric cast-iron sectional boilers, two Hamworthy direct-fired DHW generators, two Nalco buffer / pressurisation vessels, associated primary distribution and a Main Control Panel. The existing plant has reached the end of its useful economic life and the heat-source infrastructure is being replaced in its entirety.

The Kettlewick Estates, via its facilities-management partner Kettlewick Estates, has procured Grimshaw & Bolt Ltd as Principal Contractor for the project. Built AI Ltd is engaged as the Mechanical, Electrical, Public Health and Controls-interface sub-contractor. The mechanical and electrical design is at RIBA Stage 3/4 by Services Design Solution Ltd (document reference 06642P).

The works are to be executed during the Kettlewick College summer-term stand-down window (July–September 2026) over a 14-week construction programme, with Practical Completion targeted for Friday 9 October 2026. Continuity of heating and domestic hot water to Malthouse Block is to be maintained throughout via a temporary boiler installation provided by Grimshaw & Bolt Ltd.

2.2 Project Objectives

- 1. Restore Malthouse Block to a reliable, long-term heat-source baseline. Replace the end-of-life Wessex / Hamworthy / Nalco plant with a modern fully-condensing modular cascade providing a 25+ year design life on the boiler-house permanent infrastructure.
- 2. Maintain heating and DHW continuity to the live, occupied building throughout the works, via the Grimshaw & Bolt-provided temporary boiler installation, with no unscheduled service interruption.
- 3. Deliver the works safely under Grimshaw & Bolt's CDM 2015 Principal Contractor framework, with zero RIDDOR incidents and full compliance with JSP 375, JSP 317, JSP 850 and the Kettlewick College Safety Rules.
- 4. Achieve Practical Completion by Friday 9 October 2026 within the agreed 14-week site possession window.
- 5. Achieve Practical Completion at the agreed fixed sub-contract sum of £481,954.33 (excl. VAT, baseline specification), with any Value Engineering options elected by Grimshaw & Bolt / Employer captured as instructed reductions to the Final Account.
- 6. Hand over a fully commissioned, fully documented installation to Kettlewick College Estates with a 12-month Defects Liability Period, BSRIA BG 1/2007-format O&M documentation, two operator training sessions and a registered manufacturer warranty pack.
- 7. Maintain heritage / conservation sensitivity — the Malthouse Block is in a Grade II* listed estate, and works are executed with full respect for the building's heritage status.

2.3 Key Performance Indicators (KPIs)

KPI	Target	Measurement
Health & Safety	Zero RIDDOR; ≥ 95 % daily PPE compliance	Site-supervisor weekly log
Programme	≤ 5 % deviation from baseline weekly	Weekly Gantt update vs baseline
Quality	≥ 95 % ITP hold-points cleared first-time	ITP register
Commercial	Final Account ≤ Contract Sum + agreed variations	Monthly valuation vs Contract Sum
Heat continuity	Zero unscheduled DHW or heating outage	Kettlewick College Estates incident log
Snagging	≤ 12 items at handover; resolved 2 wks	Joint snagging list
Commissioning	All 54 BMS points + OEM signed pre-PC	BMS records + OEM certificates
Aftercare	DLP response within SLAs (5 WD / NWD / 24 hr)	Defects log + helpdesk records

2.4 Project Scope Summary

The full scope is detailed in the Bill of Quantities Rev 1 across nine Sections (A through I). Section A (Preliminaries on a sub-contractor basis) and Section F (Mechanical and Public Health Services with the bulk of the major plant package) are the highest-value scope elements. F1 (temporary boiler) is delivered by Grimshaw & Bolt; F6 (BMS / Controls) is carried as a Prime Cost Sum; B6 / C7-C13 (asbestos) are delivered by separately-appointed LARC. The Provisional Sums (Section I, total £17,500) are client-led per SDS Doc 23 Table 18.

2.5 Major Project Constraints

- Live, occupied Defence-estate site — heat continuity to Malthouse Block must be maintained throughout (GB-provided temp boiler in service).
- 14-week summer-term stand-down window — fixed start/finish dates; all long-lead procurement before 31 May 2026.
- Grade II* listed building — heritage-sensitive works.
- Asbestos in works area (SOCOTEC 257744-1004563) — LARC-led licensed removal pre-mobilisation.
- IDEAL OEM 3.5 % price increase scheduled end-May 2026 — order placed 29 May 2026.
- BMS specialist procurement under PC Sum at GB instruction.
- Grimshaw & Bolt as PC — Built AI integrates under their CPP and Site Rules.

- Single-day heavy-plant lift-in window (skylight position).
- OEM commissioning notice periods (IDEAL 4 wk; others 2 wk).
- Kettlewick College blackout dates TBC pre-mobilisation.

2.6 Critical Success Factors

- 1. Early procurement of long-lead items — orders no later than Friday 29 May 2026.
- 2. Smooth interface with Grimshaw & Bolt as Principal Contractor — Built AI PM at GB pre-construction kick-off; integrated RAMS / COSHH / CDP design.
- 3. Smooth handover from LARC to Built AI — Cert. of Reoccupation by Friday 17 July 2026.
- 4. Effective coordination of heavy-plant lift-in — single concentrated 5-day operation in Week 7.

2.7 Programme Headlines

Full 75-activity working-level programme is held in Programme / Work Schedule Rev 1. Headline milestones:

- M1 Letter of Intent / Contract Award — Mon 11 May 2026.
- M2 IDEAL Cascade Order Placement — Fri 29 May 2026.
- M3 Cert. of Reoccupation issued by LARC — Fri 17 Jul 2026.
- M4 Heavy-Plant Lift-In begins — Mon 17 Aug 2026.
- M5 Hydraulic Pressure Test complete — Tue 22 Sep 2026.
- M6 Witness Commissioning Session — Mon 5 Oct 2026.
- M7 Cut-over to new permanent cascade — Mon 5 Oct 2026.
- M8 PRACTICAL COMPLETION — Fri 9 Oct 2026.
- M9 Seasonal commissioning revisit — Mon 1 Feb 2027.

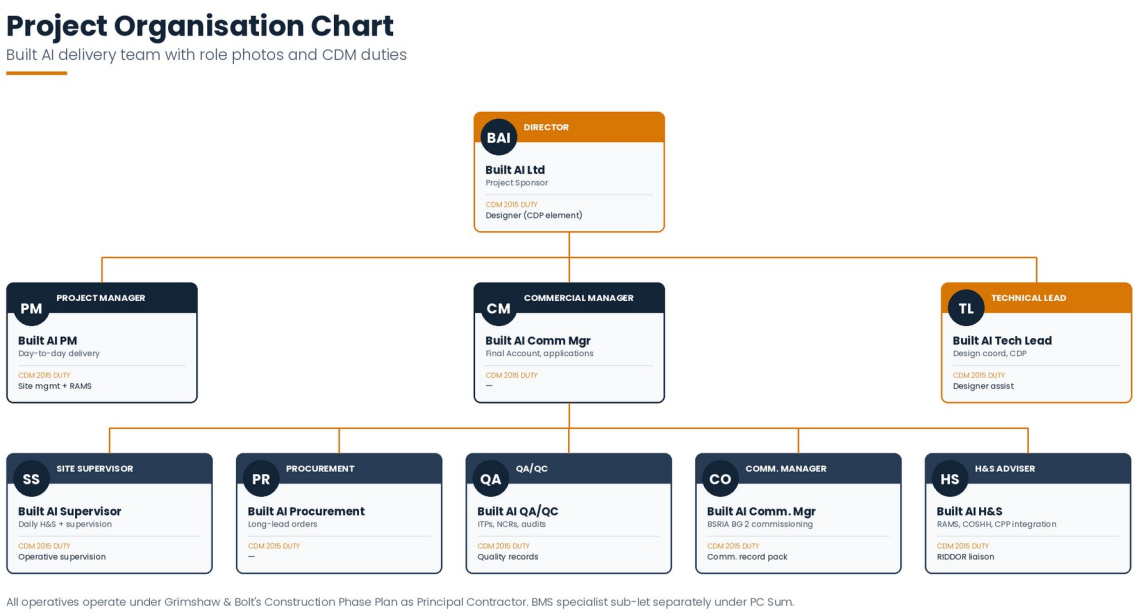
Phase-by-Phase Timeline & Risks

11 phases from procurement through to seasonal commissioning

Phase	Name	Dates	Key activities	Watch-outs
0	Pre-Construction	11 May – 17 Jul 2026	LARC asbestos works · Long-lead procurement · RAMS / CDP submittals	LARC slippage · IDEAL price rise
1	Mobilisation + Surveys	29 Jun – 10 Jul 2026	GB site induction · Stage 4a confirmatory surveys · Tie-in verification	Survey access blocked
2	Strip-Out & Removal	20 Jul – 7 Aug 2026	Boilers, DHW gen, Nalco vessels · MCP & wiring decom. · Pipework strip-out	Unidentified ACMs
3	Builders' Work	27 Jul – 14 Aug 2026	Plinths, sump, fire-stopping · Skylight remove/store · Chimney repointing	Heritage compliance
4	Heavy-Plant Lift-In	17 Aug – 21 Aug 2026	IDEAL boilers via skylight · Thermal stores in · PHEs, BTBS, PressDS	Crane weather window
5	Mech & Public Health	17 Aug – 18 Sep 2026	Primary LTHW pipework · Gas Safety Panel · DHW + insulation	Pipework offsets
6	Electrical	24 Aug – 16 Sep 2026	Schneider Acti 9 DB · Sub-main install · Bonding / FA / E-stop	LV panel access
7	BMS / Controls	14 Sep – 30 Sep 2026	MCP install · 54-pt I/O outstation · SAT + cause-and-effect	BMS specialist timing
8	Testing & Commissioning	21 Sep – 6 Oct 2026	Hydraulic pressure test · BSRIA BG 29 chemical clean · OEM commissioning	Witness availability
9	Changeover & Handover	5 Oct – 9 Oct 2026	Cut-over from temp · Training (2 × 4 hr) · PC + O&M handover	Heat continuity
10	Defects & Seasonal Comm.	12 Oct 2026 – 8 Oct 2027	12-mo Defects Liability · BMS summer revisit (Feb 27) · Aftercare	Defects response SLA

3. Project Organisation & Responsibilities

3.1 Project Organisation Structure



Kettlewick Estates is the Employer, operating via Kettlewick Estates as Employer's Agent (KW-2026-4471). Grimshaw & Bolt Ltd is the Principal Contractor under CDM 2015 and the Employer of Built AI under the JCT IC 2016 sub-contract with Contractor's Design Portion. Built AI Ltd is engaged as the Mechanical, Electrical, Public Health and Controls-interface sub-contractor. Services Design Solution Ltd is the MEP designer (RIBA Stage 3/4, document 06642P). Asbestos removal is undertaken by a separately-appointed Licensed Asbestos Removal Contractor (LARC). The BMS specialist is procured via Prime Cost Sum at Grimshaw & Bolt's instruction.

3.2 Built AI Internal Structure

Built AI's project team is led by the Director (Senior Responsible Owner). Reporting to the Director: a part-time Project Manager, a Commercial Manager (monthly valuations and Final Account), and a Technical / Design Lead (CDP design, RFIs, ITPs). Reporting to the Project Manager: a full-time Site Supervisor (SMSTS / SSSTS), a Temporary Works Coordinator (BS 5975), a Commissioning Manager

(BSRIA BG 2/2010 trained), trade operatives (mechanical, electrical, BWIC, gas, insulation), and a QA/QC Manager.

3.3 Key Roles & Responsibilities

Role	Held By	Key Responsibilities
Senior Responsible Owner	Director, Built AI	Overall accountability; signs PDP; sign-off variations >£10k
Project Manager (PM)	TBC at appointment	Day-to-day mgmt; GB interface; programme; PDP custodian
Site Supervisor	TBC at appointment	Full-time on-site; supervision under GB CPP; daily H&S log
Commercial Manager	TBC at appointment	Valuations; variations; PS/PC Sum; Final Account
Technical / Design Lead	TBC at appointment	CDP design; RFIs; ITPs; SDS Ltd interface
Temporary Works Coordinator	TBC at appointment	BS 5975:2019 — heavy-plant lift, scaffold, skylight
Commissioning Manager	TBC at appointment	BSRIA BG 2/2010; OEM coord; witness commissioning
QA/QC Manager	TBC at appointment	ITPs; hold-points; NCRs; quality reporting

3.4 Grimshaw & Bolt Interface Roles

- Grimshaw & Bolt Project Manager — daily / weekly coordination; programme updates; variation administration.
- Grimshaw & Bolt Construction / Site Manager — site rules; daily co-ordination; CPP administration.
- Grimshaw & Bolt Commercial Manager — monthly valuations; variations; Final Account.
- Grimshaw & Bolt Health & Safety Manager — RAMS approval; toolbox talks; CDM 2015 PC discharge.
- Grimshaw & Bolt Logistics / Site Setup Lead — compound, welfare, parking, deliveries, waste.
- Grimshaw & Bolt Asbestos / LARC coordinator — LARC mobilisation; Cert. of Reoccupation issuance.

3.5 RACI Matrix — Top-Level Responsibilities

R = Responsible (does the work); A = Accountable (final sign-off); C = Consulted; I = Informed.

Activity	Built AI	GB (PC)	SDS Ltd	LARC	BMS PC Sum	Employer

Construction Phase Plan + F10	C	**A/R**	I	I	I	I
Site establishment / welfare	I	**A/R**	—	—	—	I
Asbestos removal + Cert. of Reoccupation	I	A	—	**R**	—	I
Temp boiler install + commissioning	C	**A/R**	—	—	—	I
Stage 4a confirmatory surveys	**A/R**	I	C	—	—	I
Strip-out / BWIC / M&E / PH install	**A/R**	I	C	—	—	I
Heavy-plant lift-in	**A/R**	C	—	—	—	I
BMS specialist scope	C	A	C	—	**R**	I
Hydraulic / chemical / gas / electrical testing	**A/R**	C	C	—	—	I
Witness commissioning	C	C	C	—	C	**A/R**
PC certificate	C	**A/R**	C	—	—	I
Defects rectification (DLP)	**A/R**	C	—	—	C	I

3.6 Communications Authority

Communications between Built AI and the Employer (Kettlewick Estates) are routed through Grimshaw & Bolt as Principal Contractor. Direct Built AI-to-Employer contact is avoided unless explicitly invited by Grimshaw & Bolt — this respects the contractual chain and avoids inadvertent commitment outside the JCT IC sub-contract framework.

3.7 Resourcing & Headcount Profile

Headcount on site varies through the 14-week programme. Indicative peak headcount: 2 in Week 0 (Mobilisation), 4 in Phases 2–3 (Strip-out / BWIC), 6 in Phase 4 (Lift-in including rigging contractor), 6 in Phase 5 (Mech & PH peak), reducing to 4 in Phase 9 (Handover). Peak overall headcount approximately 10 on-site (Week 7–8 lift-in + mech overlap).

3.8 Sub-Contractor Management

Built AI directly manages four second-tier sub-contractors: crane / rigging contractor (Phase 4), specialist flue contractor (Phase 5), insulation sub-contractor (Phase 5), and the existing Apollo FA maintainer (Phase 6 — sub-let for fleet compatibility). The BMS specialist is appointed by Grimshaw & Bolt via PC Sum drawdown and is not an Built AI sub-contractor.

4. Scope Breakdown (Cross-Referenced to BoQ Rev 1)

4.1 Scope Boundary Definition

Category	In Built AI Scope	Out of Built AI Scope
PC preliminaries	—	All — Grimshaw & Bolt
Temp heat continuity	Hydraulic / electrical / BMS interface points; changeover sequencing	Boiler hire, fuel, maintenance, removal — Grimshaw & Bolt
Asbestos	Pre-strip brief; CAR 2012 Reg 5 stop-and-notify	Licensed removal, disposal, four-stage clearance — LARC
Internal redecoration	—	All — Excluded contract-wide
Mechanical & PH	Sections C, D, F (excl F1 GB scope; excl F6 PC Sum)	F1 (GB); F6 carried as PC Sum
Electrical	Section G	Supply alterations upstream of new sub-main; standby gen / UPS / PFC
BMS / Controls	Interface points (hook-ups, sensor pockets, conduit, containment)	Specialist scope (F6) — appointed by GB at PC Sum drawdown
Statutory consents	—	All — Employer's responsibility
Performance / capacity testing	—	Excluded per TLP Section 10.5 — variation if instructed
Aftercare (3-month)	—	Excluded — standard 12-month DLP only

4.2 Section-by-Section Scope Detail

Section A — Preliminaries (sub-contractor basis). Part-time PM; full-time Site Supervisor (no full-time Site Manager); TWC; refined-attendance QM; condensed BG 1/2007 O&M; programme management; weekly progress reporting. £51,525.60.

Section B — Surveys and Stage 4a Verification. Plant-room dimensional survey, gas / LV supply verification, flue route survey, B2 Risk-Tracker verifications (Risks 19–30). Excludes B6 series asbestos sampling (LARC scope).

Section C — Strip-Out, Removal and Preparation. Decommissioning, drain-down and removal of 5 × Wessex boilers, 2 × Hamworthy DHW gens, 2 × Nalco vessels, MCP, redundant pipework. Excludes licensed asbestos removal (LARC), C7/C8/C9/C10/C11 series, scrap metal audit, hazardous waste consignment.

Section D — Builders' Work in Connection. EI 120 fire-stopping, skylight remove/reinstate, chimney top repointing, services diversion, sump pit, floor protection, fittings, builders' clean. New concrete plinths × 6. Excludes D8/D9/D10 redecoration, Structural Engineer plinth-loading sign-off (D5.7).

Section E — Testing and Commissioning. Hydraulic pressure testing, BSRIA BG 29/2020, gas tightness IGEM/UP/1, electrical BS 7671 Pt 6, OEM commissioning, hydraulic balancing, witness commissioning. Excludes factory-witnessed tests, performance/capacity testing (E19), aftercare 3-month (E20).

Section F — Mechanical and Public Health Services (Baseline). 3 × IDEAL EVO Max 2 cascade; 3 × 2,000 L thermal stores; 2 × Stokvis 700 kW DHW PHEs; Stokvis 250 kW heating PHE; Grundfos pumps; 2 × Flamco PressDS; expansion vessels; Arrow BTBS; 4-hr FR flue; Gas Safety Panel; full Albion valve schedule. F1 (temp boiler) by GB. F6 BMS as PC Sum. Six VE options offered separately.

Section G — Electrical Services. New 12-Way 125 A TP&N DB, LSZH-SWA sub-main, BS 7671 + NICEIC, containment, bonding, LED + emergency lighting, Apollo FA loop extension, latching E-stop.

Section H — Statutory Notifications and Permits. Nil per SDS Doc 23 Table 17. Gas Safe and Electrical certifications administered within Section E.

Section I — Provisional Sums (Doc 23 Table 18 — Client-Led). £17,500 client-led PS allowances. Drawdown only against written Employer instruction.

4.3 Embedded Scope Decisions (Rev 1)

- Grimshaw & Bolt as Principal Contractor (not Built AI).
- Asbestos removal by separately-appointed LARC.
- Grimshaw & Bolt providing temporary heat continuity (confirmed by Jamie, GB, 24 April 2026).
- BMS / Controls scope as Prime Cost Sum.
- 14-week programme prelims with no full-time Site Manager.
- Internal redecoration excluded.
- BSRIA BG 79/2020 specialist O&M authoring excluded.
- Performance / capacity testing excluded.
- 3-month aftercare attendance excluded.

4.4 Optional Scope (VE Options)

Six independently-electable Value Engineering options carried on the VE Options tab of the Priced BoQ Rev 1 workbook. Total maximum saving £56,736.86.

5. Methodology & Sequencing Strategy

5.1 Overall Delivery Strategy

- Procurement-led front loading — long-lead orders placed 29 May 2026 before site mobilisation.
- Strip-out cleared by LARC — Phase 2 strip-out cannot start until Cert. of Reoccupation issued (Friday 17 July 2026).
- Concentrated lift-in window — Week 7 single concentrated heavy-plant lift-in operation.
- Trades-overlapping installation — Phases 5 (Mech) and 6 (Electrical) overlap from Week 8.
- Late-window BMS — Phase 7 BMS PC Sum sits in Weeks 10–12.
- Dense commissioning window — Phase 8 commissioning runs Weeks 11–13.
- Single-day cut-over — head of Week 14 AP-permitted cut-over from GB temp to permanent.

5.2 Critical Path Summary

LOI (M1) → IDEAL order (M2) → LARC clearance (M3) → strip-out → plinth formation → plinth cure → heavy-plant lift-in (M4) → primary LTHW pipework → insulation → hydraulic pressure test (M5) → chemical clean → IDEAL OEM commissioning → witness commissioning (M6) → cut-over (M7) → handover → PRACTICAL COMPLETION (M8).

5.3 Phase Methodology

Phase 0 — Pre-Construction. Procurement and submittals only. No site presence. Run in parallel with GB-coordinated LARC and GB-led temp boiler installation. Cert. of Reoccupation milestone (M3) at end of Week 2.

Phase 1 — Mobilisation. GB-administered induction. Site setup integration. Stage 4a confirmatory surveys verify design assumptions (gas / LV / flue / B2 Risk Tracker). Verification report issued to Contract Administrator.

Phase 2 — Strip-Out. Sequenced removal — boilers first, DHW gens, Nalco vessels, MCP, then pipework. Refined attendance per the agreed scope reductions.

Phase 3 — Builders' Work. Penetrations and EI 120 fire-stopping in parallel with strip-out where access permits. Concrete plinths (× 6) C32/40, A393 mesh top and bottom, 75 mm cover, ± 3 mm level. 7-day cure to lift-in strength = critical-path constraint.

Phase 4 — Heavy-Plant Lift-In. Skylight pre-removed. Crane positioned. Lift sequence: cascade → thermal stores → DHW PHEs → heating PHE + PressDS → BTBS. Skylight reinstated and hose-tested same day as final lift.

Phase 5 — Mech & PH. Pipework installation begins Week 7 (parallel with lift-in completion). Primary LTHW first, DHW second, gas third, flue parallel. Pumps and pressurisation in Week 10. F7 insulation final pass in Week 11.

Phase 6 — Electrical. Sub-main first, DB second, containment and cabling third, final connections to plant after mech installation complete. Apollo FA loop extension witness-tested by existing maintainer.

Phase 7 — BMS (PC Sum). Specialist appointed by GB in Week 9 ready for Week 10 mobilisation. MCP, outstation, sensors, programming and SAT.

Phase 8 — Testing & Commissioning. Hydraulic pressure test → chemical clean (UKAS sampled) → gas tightness → electrical inspection → OEM commissioning attendances → hydraulic balancing → witness commissioning.

Phase 9 — Changeover & Handover. Cut-over from GB temp to permanent cascade under AP (Heating) Permit-to-Work (single day). GB de-mobilises temp plant. As-built docs, O&M manuals, training, snagging walk, Practical Completion.

Phase 10 — Post-PC. 12-month DLP commences at PC. BMS summer commissioning revisit at PC + 16 weeks.

5.4 Concurrent-Working Permissions

- Phase 2 (Strip-Out) ↔ Phase 3 (Penetrations): Week 4 — penetrations only in cleared zones.
- Phase 4 (Lift-In) ↔ Phase 5 (LTHW pipework start): Week 7 — LTHW pipework start in non-conflict zones.
- Phase 5 (Mech) ↔ Phase 6 (Electrical sub-main): Week 8 — different operatives, different work areas.
- Phase 5 (Insulation) ↔ Phase 6 (Final connections): Week 11 — sequenced, F7 insulation completes before G4 final connections.
- Phase 6 (Electrical) ↔ Phase 7 (BMS): Week 10–11 — BMS specialist installs in MCP after Built AI electrical termination complete.
- Phase 7 (BMS) ↔ Phase 8 (Hydraulic test): Week 11 — hydraulic test does not require BMS live.
- Phase 8 (Commissioning) ↔ Phase 9 (As-built docs): Week 13 — documentation finalised in parallel with commissioning.

5.5 Programme Risk Buffers

- Plinth concrete cure — 7-day strength check in Week 6, 2-day float to lift-in.
- Lift-in operation — 5-day window (Mon–Fri Week 7), 1-day weather buffer Friday.
- OEM commissioning attendance — Week 12–13 with 1-week notice float.
- Witness commissioning — 2-day session Week 14 start, 2-day float before PC.

5.6 Sequencing Hold-Points

The Programme Rev 1 holds 16 quality hold-points (HP1–HP16), 9 milestones (M1–M9) and 10 critical interfaces (I1–I10) — full register on the Key Interfaces tab of the Programme.

6. Procurement & Long-Lead Strategy

6.1 Procurement Principles

- All long-lead items ordered before site mobilisation — orders placed by Friday 29 May 2026.
- Lock the IDEAL OEM price — order placed before 31 May 2026 cutoff.
- Single-supplier consolidation where appropriate — SBS Cambridge as primary mech / valves / metering supplier.
- Direct OEM relationships maintained — IDEAL, Stokvis, Flamco, Arrow, Grundfos, Schneider, Siemens.
- Two-quote rule for items >£5k — except where a single-source nomination is dictated by SDS Stage 3 specification.
- Material-quality verification at delivery — receiving inspection against PO and submittal data sheets.

6.2 Long-Lead Schedule

Item	Supplier	Lead	Order By	On-Site By
3 × IDEAL EVO Max 2 — 150 kW cascade kit	IDEAL via SBS	8–10 wks	**29 May 2026**	Mon 17 Aug
2 × Stokvis 700 kW DHW PHE	Stokvis (or VE alt: UKE via SBS)	6–8 wks	29 May 2026	Mon 17 Aug
1 × Stokvis 250 kW heating PHE	Stokvis (or VE alt: UKE-5)	6–8 wks	29 May 2026	Mon 17 Aug
3 × 2,000 L thermal stores + frame	Mikrofill / Telford	6–8 wks	29 May 2026	Mon 17 Aug
Twin-wall 4-hr FR flue	OEM via flue installer	4–6 wks	29 May 2026	Mon 17 Aug
Albion Valves take-off (full schedule)	Albion via SBS	4 wks	29 May 2026	Mon 24 Aug
2 × Flamco PressDS pressurisation	Flamco via SBS	4 wks	29 May 2026	Mon 7 Sep
Flamco Flexcon expansion vessels	Flamco via SBS	4 wks	29 May 2026	Mon 7 Sep
Arrow Valves BTBS	Arrow via SBS (or VE alt: DAB)	4 wks	29 May 2026	Mon 24 Aug
Grundfos pump suite	Grundfos via SBS	3 wks	5 Jun 2026	Mon 7 Sep
Schneider Acti 9 12-Way 125 A DB	Schneider via wholesaler	2 wks	26 Jun 2026	Mon 24 Aug

Gas Safety Panel	SBS / specialist panel	4 wks	29 May 2026	Mon 24 Aug
MID Class 2 metering	SBS	4 wks	5 Jun 2026	Mon 7 Sep

6.3 Procurement Critical-Path Items

- IDEAL Cascade — 8–10 wks lead, lift-in Mon 17 Aug. Order any later than Fri 5 Jun 2026 = at risk.
- Stokvis DHW PHEs — 6–8 wks lead, lift-in Mon 17 Aug. Same logic.
- Thermal stores — 6–8 wks lead, lift-in Mon 18 Aug. Same logic.
- Twin-wall flue — 4–6 wks lead, install Phase 5 from Mon 17 Aug. Order any later than Fri 12 Jun = at risk.

6.4 Pricing Lock-In Strategy

- IDEAL Cascade — order placed before 31 May 2026 locks pre-3.5 % rise.
- Stokvis DHW + heating PHEs — SBS Quote 18-SQ0023969 Ver 1, 30-day validity (extension request if order slips).
- Albion valve schedule (via SBS) — same SBS quote, 30-day validity.
- Grundfos / Flamco / Arrow — same SBS quote, 30-day validity.
- Specialist flue contractor — quote validity TBC at Phase 0.
- Crane / rigging — 28-day quote, booked 2 weeks pre-mobilisation.

Materials price escalation beyond the 12-month contract-sum-fixed window is excluded per TLP Section 8.5 A5.3.

6.5 Delivery Logistics

GB-administered welfare and storage compound is the receiving point for all deliveries. Built AI PM coordinates with GB Logistics 48 hours ahead of each delivery slot. 26 t rigid maximum vehicle for boilers / thermal stores. Receiving inspection at delivery against PO + OEM data sheet + factory cert.

6.6 Sub-Contractor Procurement

- Crane / rigging contractor — Phase 4 lift-in. 2-quote from local Somerset / Plymouth crane firms; CPCS-carded operators; 10 t mobile crane minimum. Booked 2 weeks pre-mobilisation.
- Specialist flue contractor — Phase 5. OEM-recommended installer list. Engaged at Phase 0 with OEM order.
- Insulation sub-contractor — Phase 5 F7 series. Standing supply chain / framework. Engaged at end of Phase 0.
- Existing FA maintainer — Phase 6. Sub-let to maintainer of existing system. Engaged at end of Phase 0.

BMS specialist is not an Built AI sub-contractor — appointed by Grimshaw & Bolt via PC Sum drawdown.

6.7 Submittals Register

- RAMS by phase — to GB H&S Manager by 22 May 2026.
- COSHH assessments — to GB H&S Manager by 22 May 2026.
- CDP design package — to SDS Ltd + GB PM by 22 May 2026.
- Lift Plan + Method Statement — to GB H&S + GB TWC by 5 Aug 2026.
- Plinth Temporary Works Design Cert — to GB TWC by 22 May 2026.
- Flue installation Method Statement — to GB H&S + Built AI PM by 1 Aug 2026.
- Insulation specification Method Statement — to Built AI PM by 1 Sep 2026.
- BMS specialist scope of works — to GB PM at PC Sum drawdown.

7. Quality Plan

7.1 Quality Management Framework

Built AI operates a documented quality management system aligned to BS EN ISO 9001:2015 principles. For this project, quality is managed through Inspection and Test Plans (ITPs) per work package, a Hold-Point Register, a Non-Conformance Register (NCR), a Submittals Register, and a comprehensive records pack issued at Practical Completion.

7.2 Quality Roles

- QA/QC Manager — owns ITP register, hold-point clearance, non-conformance log, quality reporting.
- Project Manager — approves ITPs pre-issue; chairs monthly quality review.
- Site Supervisor — daily quality observations; issues NCRs on observed defects.
- Technical Lead — ITP technical content; CDP design QA; submittals approval.
- Trade Foremen (Mech / Elec / BWIC) — first-line ownership of trade-specific ITPs.
- Independent Verifiers — UKAS lab, NICEIC test, Gas Safe certification, OEM commissioning agents.

7.3 ITP Register (Issued by Phase)

- ITP-01 Stage 4a survey verification (Phase 1) — HP1.
- ITP-02 Strip-out and waste segregation (Phase 2).
- ITP-03 Concrete plinth formation and cure (Phase 3) — HP2.
- ITP-04 Skylight remove / reinstate (Phases 3, 4) — HP3.
- ITP-05 Heavy-plant lift-in (Phase 4) — TWC sign-off.
- ITP-06 Primary LTHW pipework + pressure test (Phase 5) — HP9.
- ITP-07 DHW pipework (Phase 5).
- ITP-08 Gas pipework + Gas Safety Panel (Phase 5) — HP5, HP11.
- ITP-09 Flue installation + smoke test (Phase 5) — HP6.
- ITP-10 Sub-main and DB installation (Phase 6) — HP4.
- ITP-11 Final electrical connections + bonding (Phase 6) — HP12.
- ITP-12 Apollo FA loop extension (Phase 6) — HP7.
- ITP-13 BMS specialist (SAT) (Phase 7) — HP8.
- ITP-14 Chemical clean and dose (Phase 8) — HP10.
- ITP-15 OEM commissioning attendances (Phase 8) — HP13, HP14.
- ITP-16 Witness commissioning + Practical Completion (Phase 9) — M6, M8 + HP15, HP16.

7.4 Inspection Standards & References

Mechanical pipework BS EN 10255 / BS EN 1057 / BS EN 12828; PH BS 6700 / BS EN 806; Gas IGEM/UP/1, IGEM/UP/1A, GSIUR 1998; Water treatment BSRIA BG 29/2020; Commissioning BSRIA BG 2/2010; Insulation BS 5422, Part L2B; Flue BS EN 1856-1; Electrical BS 7671:2018+A2:2022; Fire-stopping BS 9999, Approved Document B; Concrete BS 8500-1, BS EN 13670; Lifting BS 7121; BMS BG 9/2011; Legionella HSG 274 Part 2; O&M BSRIA BG 1/2007.

7.5 Non-Conformance Management

A Non-Conformance Register (NCR) is maintained throughout delivery. Each NCR records: NCR number, date, raised by; location, drawing / spec reference, photograph; description; root-cause analysis; disposition (rework, accept-as-is with concession, return to supplier, repair-and-retest); corrective and preventive action; closure approval. NCRs reviewed in the weekly progress meeting; material non-conformances notified to the Contract Administrator within 48 hours.

7.6 Quality Records and Handover

Complete quality records pack issued with O&M manuals at Practical Completion: all 16 ITP sign-offs, hydraulic pressure test certificate, chemical clean / dose / UKAS analysis, Gas Safe purge and pressure test record, Electrical Installation Certificate + Schedule of Test Results, flue smoke-test report, Apollo FA cause-and-effect witness sign-off, BMS Site Acceptance Test records, OEM commissioning records, witness commissioning sign-off, manufacturer warranty registrations, as-built CAD + PDF drawings, fire-stopping schedule, and photographic record of installation.

8. Health, Safety & CDM 2015 Integration

8.1 CDM 2015 Roles

- Client — Kettlewick Estates (via Kettlewick Estates).
- Principal Designer — as nominated by Grimshaw & Bolt / Employer.
- Principal Contractor — Grimshaw & Bolt Ltd.
- Designer (CDP) — Built AI Ltd (CDP element only).
- Other Designers — Services Design Solution Ltd (RIBA Stage 3/4).

Built AI discharges CDM 2015 designer duties for the Contractor's Design Portion only. Principal Contractor duties are discharged by Grimshaw & Bolt.

8.2 Integration with Grimshaw & Bolt's Construction Phase Plan

- Receive GB CPP draft for review at LOI / pre-construction kick-off (Built AI PM).
- Issue Built AI RAMS for inclusion in CPP within 2 weeks of LOI.
- Issue COSHH assessments within 2 weeks of LOI.
- Issue CDP design risk register within 2 weeks of LOI (Tech Lead).
- Attend pre-construction kick-off meeting hosted by GB.
- Operative inductions under GB CPP — Day 1 on-site (Mon 29 Jun 2026).
- Daily H&S log integration with GB.
- Weekly H&S tour with GB H&S Manager.
- Monthly H&S audit with Built AI QA/QC + GB H&S.

8.3 Site-Specific Hazards and Controls

- Asbestos — Cert. of Reoccupation must be issued by LARC before intrusive works; CAR 2012 Reg 5 stop-and-notify on suspect material.
- Live gas service — Gas Safe registered operatives only; gas-tightness test before purge; emergency push-to-break.
- Live electrical supplies — AP (Electrical) attendance for sub-main work; lock-out / tag-out at point of isolation.
- Working at height — scaffold per BS EN 12811-1; harnesses where edges; daily inspection record.
- Heavy plant lifting — Lift Plan per BS 7121; CPCS-carded slingers / banksmen; exclusion zone; weather watch.
- Chemical hazards — COSHH assessments; PPE; spill kits; emergency eyewash; data sheets posted on site.
- Hot works — Hot Works Permit; fire-watcher; extinguishers; permit closed only after 1-hour cool-down.

- Confined spaces — Confined Space Permit; gas test pre-entry; rescue plan.
- Manual handling — assessment; mechanical aids; team lifts above 25 kg.
- Live-site interface — pedestrian routes per GB plan; deliveries timed outside high-traffic windows.
- Heritage / fragile finishes — floor / wall protection; agreed photograph baseline pre-start.

8.4 RAMS Register

Thirteen RAMS documents (RAMS-01 to RAMS-13) issued for inclusion in Grimshaw & Bolt's CPP, covering: Stage 4a surveys; strip-out and removal; concrete plinth formation; skylight remove / reinstate; heavy-plant lift-in (incl. Lift Plan); hot works; gas pipework + commissioning; flue installation; electrical installation + testing; Apollo FA loop extension; chemical dosing and water treatment; BMS Site Acceptance Testing; witness commissioning.

8.5 Health & Safety Performance Targets

- RIDDOR incidents — Zero.
- Lost-time injuries — Zero.
- Near-miss reports — all logged within 24 hr.
- PPE compliance — ≥ 95 % daily.
- Toolbox talks — weekly minimum, all operatives.
- Operative inductions — 100 % before work commences.
- Permit-to-Work compliance — 100 % for all permit-required activities.
- H&S audits — monthly minimum.

8.6 Emergency Procedures

- Personal injury — first aider; GB site H&S; 999 if serious; GB H&S → RIDDOR if applicable.
- Fire — fire alarm activation; evacuation per GB plan; 999.
- Gas leak — stop work; isolate GSV; ventilate; Gas Safe operative + GB + Kettlewick College AP (Gas).
- Electrical incident — isolate at DB; first aid; GB + Kettlewick College AP (Electrical).
- Chemical spill — spill kit; PPE; ventilate; GB H&S.
- Suspect ACM uncovered — STOP WORK; clear area; do not disturb; Built AI PM → GB PM → LARC (CAR 2012 Reg 5).
- Out-of-hours emergency — Built AI 24-hr named contact; GB on-call.

8.7 Specialist Competencies

- Site Management — SMSTS / SSSTS.
- Temporary Works — TWC trained per BS 5975:2019.

- Gas works — Gas Safe registered (commercial).
- Electrical works — NICEIC registered, BS 7671 trained.
- Lifting operations — CPCS slinger / banksman / crane-operator cards.
- First aid — minimum 1 × First Aider on site at all times.
- Fire warden — minimum 1 × trained fire warden on site.
- Confined space — confined-space training (if entered).
- BMS commissioning — BG 9/2011 trained (under PC Sum specialist scope).

9. Environmental & Sustainability Plan

9.1 Environmental Policy

Built AI operates a documented environmental management framework aligned to BS EN ISO 14001 principles. For this project, the environmental commitments are: comply with all relevant environmental legislation (Environmental Protection Act 1990, Hazardous Waste Regulations 2005, Water Resources Act 1991, Clean Air Act 1993, JSP 418, JSP 850); operate under Grimshaw & Bolt's site environmental controls; minimise environmental impact through waste segregation, materials reuse where practical, and chemical-handling best practice.

9.2 Waste Management

Waste arising from the project is managed under Grimshaw & Bolt's site Waste Management Plan. Built AI provides a pre-mobilisation Waste Forecast, segregates waste at source (ferrous, non-ferrous, packaging, general), retains Waste Transfer Notes for every collection, and ensures hazardous waste consignment compliance. Asbestos arisings are entirely within the LARC scope. Streams: ferrous metal (boilers, pipework, frames) via GB-administered route to recycler; non-ferrous metal (copper); insulation post-Cert. of Reoccupation only; concrete arisings to GB waste skips; packaging to GB recycling stream; general construction waste to GB general skip; chemical containers via hazardous-waste consignment; flushing effluent via standard trade-effluent discharge to foul (pre/post samples retained).

9.3 Chemical Handling

- LTHW corrosion inhibitor (e.g. Sentinel X100) — bunded chemical store; spill kit + GB H&S notification on spill.
- Biocide (e.g. Sentinel X300) — bunded store; same response.
- Pre-clean / cleaning chemicals — bunded store.
- Sealants, fire-stopping compound — sealed cabinet.
- Concrete / mortar — per supplier; wet-concrete clean.

All chemical data sheets posted on site and accessible to all operatives. Spill kits positioned at chemical-storage and dosing locations.

9.4 Energy and Carbon

In-use energy: the new IDEAL EVO Max 2 cascade delivers 96.7 % gross seasonal efficiency (per Stage 3 design) versus the existing Wessex atmospheric boilers (~70 % efficiency). Estimated CO_2 reduction in operation is 25–30 % vs the pre-replacement baseline. Embodied carbon: Stage 3 design has selected modular cascade and packaged plant to reduce installation labour, fabrication offsets and on-site cutting. Construction-stage energy: site lighting LED only; idling restrictions on plant; deliveries consolidated to reduce vehicle movements.

9.5 Water Management

Flushing effluent disposed of via standard trade-effluent route. Pre-clean and post-clean samples retained. Hose-test water (skylight reinstate) to standard surface-water drainage. Operative welfare water consumption per GB welfare provision; no separate Built AI water installation.

9.6 Noise, Vibration and Dust

- Noise — coring penetrations: diamond core (low-noise) over impact tools; pre-notification to Kettlewick College Estates.
- Noise — pipework cutting / grinding: schedule away from Kettlewick College peak occupancy windows.
- Vibration — concrete break-out: low-percussion break-out for plinth removal; schedule with Kettlewick College.
- Dust — strip-out and break-out: wet-cutting; dust extraction; floor protection; daily clean.

9.7 Heritage Sensitivity

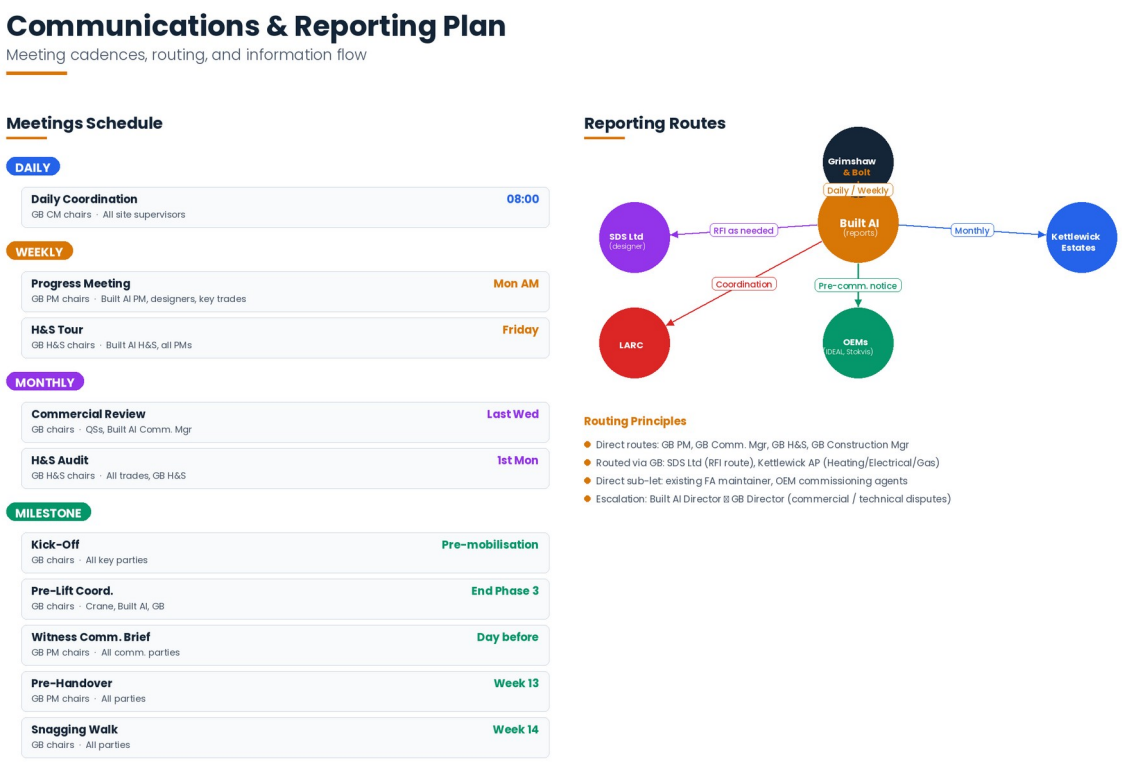
- Photographic baseline pre-start of any retained finishes within the working area.
- Lime mortar repointing of chimney top to match existing.
- Skylight remove-and-reinstate without alteration to listed envelope.
- All penetrations agreed with Grimshaw & Bolt / Conservation Officer if outside Stage 3 scope.
- Final clean to leave retained finishes in pre-start condition (or better).

9.8 Sustainability Targets

- Waste diverted from landfill — ≥ 95 % (recycling + reuse).
- Hazardous waste consignment compliance — 100 %.
- Chemical spills — Zero.
- Environmental incidents — Zero.
- Energy efficiency gain (in-use) vs pre-replacement — ≥ 25 %.
- Heritage-finish damage — Zero.
- Noise / dust complaints from Kettlewick College Estates — Zero.

10. Communications & Reporting

10.1 Communications Principles



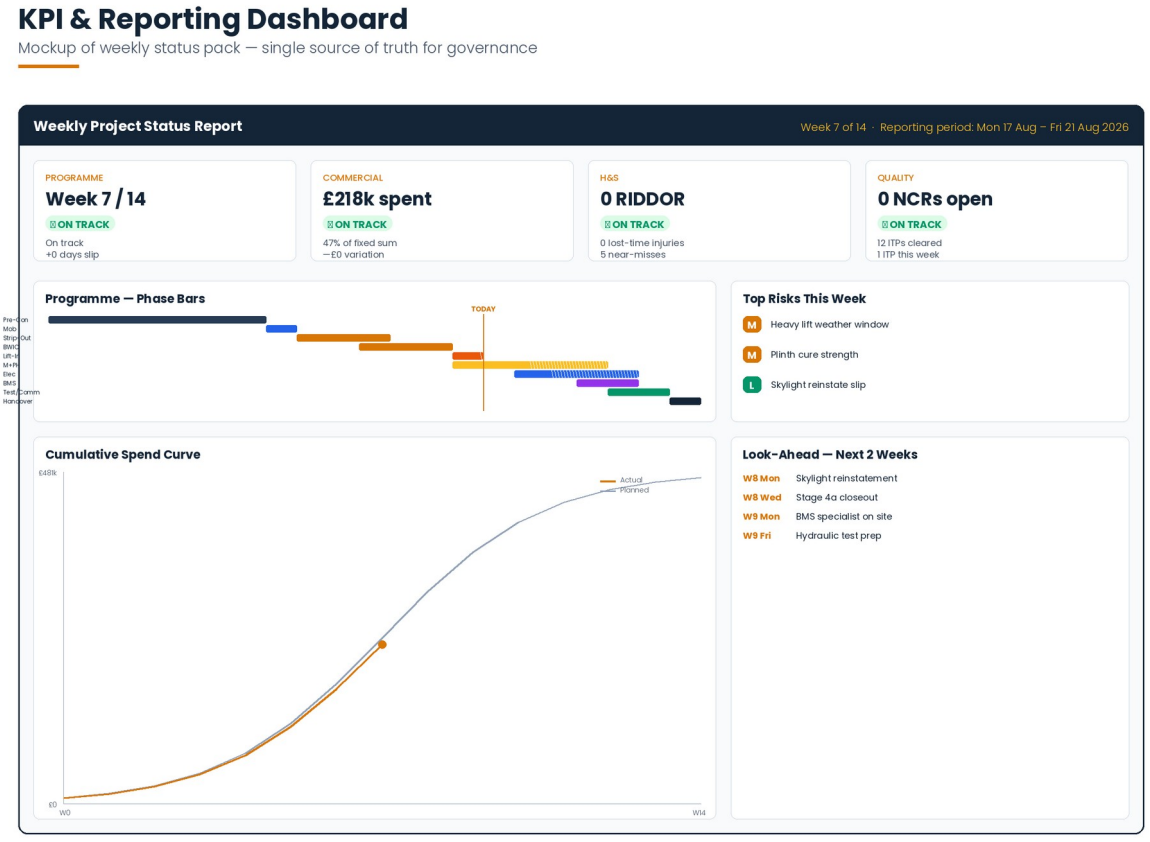
- Single chain of communication — Built AI communicates upward to the Employer via Grimshaw & Bolt as Principal Contractor only.
- Daily site-level coordination — between Built AI Site Supervisor and Grimshaw & Bolt Construction Manager.
- Weekly project-level coordination — between Built AI PM and Grimshaw & Bolt PM at a structured weekly progress meeting.
- Monthly commercial coordination — between Built AI Commercial Manager and Grimshaw & Bolt Commercial Manager.
- Document control — all formal communications written and routed via the project record system; verbal commitments confirmed in writing within 24 hours.

10.2 Meetings Schedule

- Daily site coordination — daily 08:00 (GB Construction Manager chairs).
- Weekly progress meeting — weekly Monday (GB PM chairs).

- Monthly commercial review — monthly (GB chairs).
- Monthly H&S audit — monthly (GB H&S chairs).
- Pre-construction kick-off — once, pre-mobilisation (GB chairs).
- Pre-lift-in coordination — once, end of Phase 3 (GB chairs).
- Pre-commissioning meeting — once, end of Phase 7 (Built AI chairs).
- Witness commissioning briefing — day before witness session (GB PM chairs).
- Pre-handover meeting — once, Week 13 (GB PM chairs).
- Snagging walk — once, Week 14 (GB chairs).
- Defects period quarterly — quarterly post-PC (GB chairs).

10.3 Reporting Schedule



- Weekly Progress Report — weekly Friday from Built AI PM.
- Monthly Valuation — monthly from Built AI Commercial Mgr.
- Variation Register — updated weekly; issued monthly.
- RFI Log — updated continuously; issued weekly.
- NCR Log — updated continuously; issued weekly.
- Hold-Point Register — updated weekly.

- H&S Incident Report — as-occurring within 24 hr.
- Monthly H&S Performance Report — monthly.
- Programme Update — weekly Friday (re-baselined Gantt).
- Procurement Status Report — weekly during Phase 0.
- Commissioning Status Report — weekly during Phase 8.
- As-Built Drawings (issued for review) — pre-PC.
- Final Account — post-PC.

10.4 Document Control & Numbering

- Tender pack — TLP Rev 1, BoQ Rev 1, PROG Rev 1.
- RFIs — RFI-001, RFI-002 …
- NCRs — NCR-001, NCR-002 …
- Variations — VAR-001, VAR-002 …
- RAMS — RAMS-01 to RAMS-13.
- ITPs — ITP-01 to ITP-16.
- Submittals — SUB-001, SUB-002 …
- As-built drawings — A-XX-YY-ZZ per GB / SDS convention.

All formal documents version-controlled and issued through Built AI's project file-share, with a read-only copy sent to Grimshaw & Bolt's project SharePoint.

10.5 Stakeholder Communication

Direct routes: GB Project Manager (daily/weekly), GB Commercial Manager (weekly/monthly), GB H&S Manager (weekly/monthly), GB Construction Manager (daily on-site), existing FA maintainer (sub-let direct), OEM commissioning agents (Built AI books direct). Routed via GB: SDS Ltd (RFI route), Kettlewick College AP (Heating / Electrical / Gas), LARC (Cert. of Reoccupation only), BMS Specialist (interface info pre-Phase 7), Kettlewick College Estates (training and FM at handover), Employer / Kettlewick Estates (no direct contact).

11. Risk Management & Risk Register

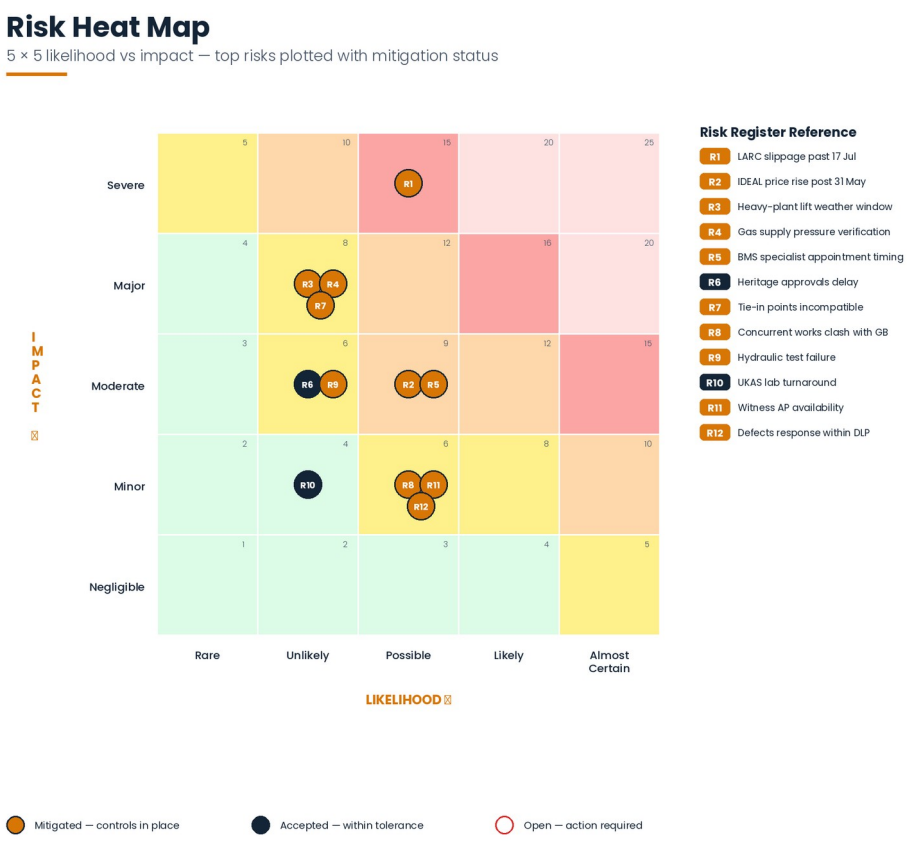
11.1 Risk Management Approach

Built AI operates a project-level Risk Register covering pre-construction, construction and post-PC phases. Risks are logged at LOI, scored on probability × impact (1–5 each, max score 25), owned by a named accountable party, and reviewed weekly during construction. Risk categories: Programme, Cost, Quality, Health & Safety, Commercial, Interface.

11.2 Risk Scoring Convention

Probability (1 = Very Low <10 % to 5 = Very High >75 %); Impact (1 = Very Low to 5 = Very High >£50k or >10 days). Risk Score = P × I. Tiers: Low (1–4 green), Medium (5–9 amber), High (10–25 red).

11.3 Top-Level Risk Register (Issue Rev 1)



ID	Risk	Cat.	Score	Owner
R01	LARC asbestos clearance slips beyond 17 Jul 2026	Programme	**10**	GB PM

R02	IDEAL cascade order placed after 31 May 2026	Cost	6	Built AI Procurement
R03	GB temp boiler not operational by Mon 6 Jul 2026	Programme	**10**	GB PM
R04	Concrete plinth fails 7-day strength check	Programme	8	Built AI BWIC
R05	Heavy-plant lift-in blocked by weather (Week 7)	Programme	9	Crane contractor
R06	Stage 4a survey reveals undersized incoming gas / LV	Cost	8	Built AI Tech Lead
R07	BMS specialist appointed late by GB — Phase 7 slip	Programme	**12**	GB PM
R08	Suspect ACM uncovered during Phase 5 strip	H&S/Prog	**10**	Built AI Site Supervisor
R09	OEM commissioning agent unavailable for booked window	Programme	6	Built AI Comm Mgr
R10	Witness commissioning fails — re-test required	Programme	6	Built AI Comm Mgr
R11	Kettlewick College blackout dates conflict with construction window	Programme	9	GB PM
R12	Materials price escalation beyond tender validity	Cost	6	Built AI Commercial Mgr
R13	Grimshaw & Bolt reject Built AI RAMS / CPP integration	Programme	3	Built AI PM
R14	Crane / rigging contractor unavailable for booked dates	Programme	4	Built AI PM
R15	Defects period response slips against SLA	Commercial	4	Built AI PM
R16	Internal redecoration request post-PC	Cost	4	Built AI Commercial Mgr
R17	GB de-mobilisation of temp boiler delayed beyond Week 14	Cost	2	GB PM
R18	Gas Safe purge or pressure test failure	Programme	4	Built AI Gas Safe
R19	Hydraulic pressure test failure — leak	Programme	6	Built AI Mech
R20	Snagging > 15 items at handover	Quality	6	Built AI PM

11.4 Risk Review Cadence

- Weekly — top-tier risks reviewed at the weekly progress meeting; mitigations updated.
- Monthly — full register reviewed at the monthly commercial / progress meeting.
- At gate transitions — register reviewed at end of each Phase to identify Phase-specific residual risks.
- At material change — any unplanned event triggers an unscheduled review.

11.5 Issues Log

A separate Issues Log is maintained to track risks that have crystallised. Each issue carries: issue number, date raised, raised by; description and root cause; impact; mitigation in progress; resolution and date closed; lessons learned. Reviewed weekly. Material issues notified to GB within 24 hours.

11.6 Lessons Learned

A Lessons Learned register is maintained throughout the project and finalised at PC. Output captured: what went well; what did not (root cause and recommended change); systemic / process recommendations for Built AI QMS. Reviewed at the project closure meeting (post-PC) and selected lessons fed into Built AI's QMS update cycle.

12. Logistics, Site Access & Heavy-Plant Lift-In

12.1 Site Access

- Site address: Kettlewick College, Malthouse Lane, Kettlewick, Somerset, BA22 9KW.
- Operative access via Kettlewick College main vehicle gate, with daily security check per Kettlewick College Safety Rules.
- Working hours: Mon–Fri 07:30–17:00, single shift. Out-of-hours work only by exception.
- Working days: 5 / week. UK Bank Holidays excluded (Spring Mon 25 May; Summer Mon 31 Aug 2026).
- Kettlewick College blackout dates: TBC pre-mobilisation.

12.2 Vehicle Access and Parking

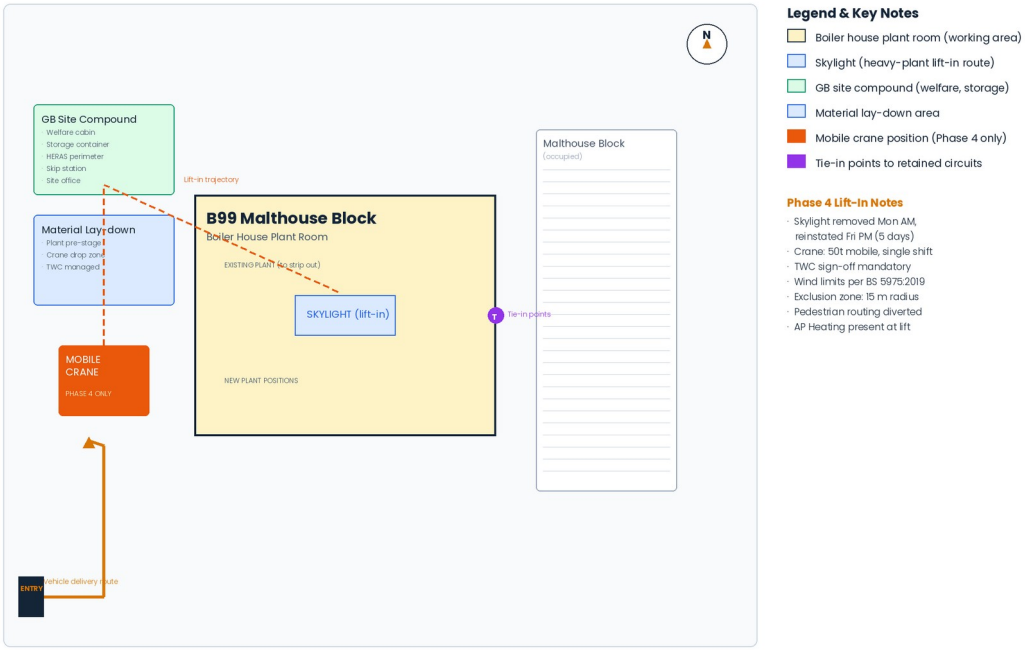
- Operative parking — 4–6 spaces on the Kettlewick College estate at no cost (GB-coordinated).
- Delivery vehicles — direct to compound, 26 t rigid maximum.
- Crane (lift-in) — roof-lift position pre-agreed with Kettlewick College Estates.
- Site visitors — pre-notified to GB Construction Manager 48 hrs ahead.

12.3 Site Compound and Logistics

The site compound is established and managed by Grimshaw & Bolt as Principal Contractor. Built AI integrates as follows: shared GB site office (a desk and IT access), GB welfare cabin, GB-allocated locked storage container, GB-allocated lay-down area, GB-administered skip / waste compound, GB HERAS perimeter security, GB first-aider available with Built AI Site Supervisor as backup, GB fire plan with Built AI fire warden integrated.

Site Logistics Plan

B99 Malthouse Block boiler house — schematic plan-view (not to scale)



12.4 Material Delivery Schedule

- Pre-mobilisation (W-2) — pre-positioned tools, consumables, RAMS, COSHH bins.
- Phase 0 → Phase 4 (W-1 to W6) — major plant: IDEAL cascade, thermal stores, PHEs, flue, valves, pumps, DB.
- Phase 5 (W7–W11) — pipework, fittings, insulation, pressurisation, expansion vessels.
- Phase 6 (W8–W11) — containment, cabling, lighting, sub-main cable.
- Phase 7 (W10–W12) — BMS specialist deliveries (under PC Sum).
- Phase 8 (W11–W13) — chemical inhibitor, biocide, dosing kit.
- Phase 9 (W13–W14) — O&M binders, training materials.

All deliveries coordinated 48 hours in advance with GB Logistics Lead. Built AI's Procurement Manager provides GB PM with a weekly rolling delivery schedule from Phase 0.

12.5 Heavy-Plant Lift-In (Phase 4) — Detailed Logistics

Single concentrated 5-day operation Mon 17 Aug to Fri 21 Aug 2026. The most operationally complex part of the programme.

12.5.1 Pre-Lift-In Preparations (Phase 3)

- Concrete plinths formed and at 7-day cure strength — by Fri 14 Aug 2026.
- Skylight removed, protected, stored — by Mon 10 Aug 2026.

- Lift Plan + Method Statement issued and approved — by Wed 5 Aug 2026.
- Crane positioning agreed with Kettlewick College Estates — by Wed 5 Aug 2026.
- Lift access route agreed — by Wed 5 Aug 2026.
- Exclusion zone signage and barriers prepared — by Fri 14 Aug 2026.
- Slingers / banksmen confirmed (CPCS-carded) — by Fri 14 Aug 2026.
- Lift-in equipment on site — by Fri 14 Aug 2026.
- Weather forecast review — Fri 14 Aug 2026.

12.5.2 Lift-In Sequence

- Mon 17 Aug — Lifts 1-4: IDEAL cascade boilers (×3) and frame + headers.
- Tue 18 Aug — Lifts 5-8: 3 × thermal stores + 3-vessel support frame.
- Wed 19 Aug — Lifts 9-11: 2 × Stokvis DHW PHE skids + Stokvis 250 kW heating PHE.
- Thu 20 Aug — Lifts 12-14: 2 × Flamco PressDS + expansion vessels.
- Fri 21 Aug — Lifts 15-16: Arrow BTBS + skylight reinstate (manual + scaffold).

Each lift takes approx 30–60 min including positioning, attaching, lift, lower, release. Total 16 lifts in 5 days — averaging ~3 lifts per day, allowing weather contingency.

12.5.3 Risk Controls during Lift-In

- Weather (wind, rain) — wind-speed monitor; ≥ 25 mph stop-work; daily forecast review.
- People in exclusion zone — 5 m exclusion zone; banksman; GB Site Manager involvement.
- Live Kettlewick College operations — lift windows pre-notified; pedestrian routing.
- Crane stability — mat protection; crane outriggers per Lift Plan.
- Falling objects — hard hat zone; tool tethering; debris netting.
- Skylight area open — safety net / harness for any working at edge.
- Suspended load over plant room — plant room cleared during each lift.
- Crane operator fatigue — maximum 8-hr shifts per BS 7121.

12.5.4 Lift-In Hold-Points

- HP-LiftIn-1 — Lift Plan approved (GB TWC + Built AI TWC).
- HP-LiftIn-2 — Crane positioning verified (Built AI PM + Crane Operator).
- HP-LiftIn-3 — Plinth strength verified, 7-day cube test (Built AI BWIC).
- HP-LiftIn-4 — Skylight clearance verified (Built AI BWIC).
- HP-LiftIn-5 — Each item position verified against drawings (Built AI PM + Mech Foreman).
- HP-LiftIn-6 — Skylight reinstatement hose-test passed (Built AI BWIC).

12.6 Out-of-Hours Procedures

- Out-of-hours emergency contact — Built AI 24-hr named contact maintained throughout.
- Out-of-hours work — only by exception, agreed in advance with GB and Kettlewick College Estates.

- Emergency response — covered in Section 8.6.

12.7 Welfare & Site Conduct

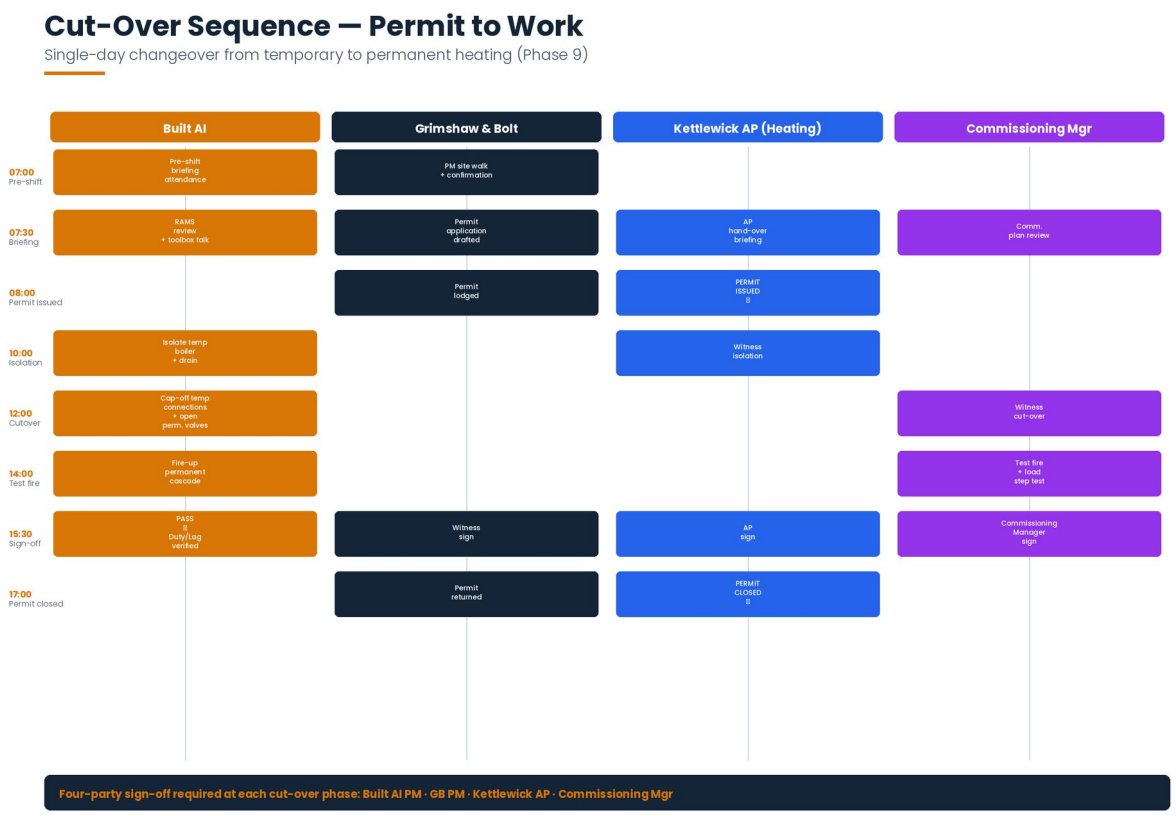
- All Built AI operatives operate under GB Site Rules.
- Hot-meal facilities and welfare via GB welfare cabin.
- Kettlewick College car parking allocation respected — no overflow into estate areas.
- Smoking only in GB-designated areas.
- Mobile phone discipline — no calls in plant-room operations.
- Heritage / occupancy sensitivity — no loud-volume radio, no operative shouting near occupied areas.

12.8 Site Closure (Phase 9 Handover)

- All Built AI materials and tools removed by close of Week 14 (Fri 9 Oct 2026).
- GB clears Built AI-allocated storage container.
- Final clean of plant room (Phase 9.6 — joint handover inspection).
- Snagging walk completed Fri 9 Oct 2026 (am).
- Practical Completion certificate issued Fri 9 Oct 2026.

13. Commissioning, Handover & Aftercare Plan

13.1 Commissioning Strategy



The commissioning strategy is integrated with Programme Rev 1 Phase 8 (Weeks 11–13) and Phase 9 (Weeks 13–14). The objective is to deliver a fully verified, documented, and signed-off installation that meets the SDS Stage 3/4 design intent across mechanical, electrical, gas, public-health, and BMS scopes — ready for Practical Completion on Friday 9 October 2026.

Commissioning is delivered in five sequential blocks: pre-commissioning checks; pressure / leak / electrical testing; cleaning + dosing; OEM commissioning attendances; witness commissioning + cut-over.

13.2 Commissioning Manager Responsibilities

The Commissioning Manager (BSRIA BG 2/2010 trained) owns the commissioning programme and is the single point of accountability for: commissioning programme — sequencing, OEM bookings, hold-point clearance; pre-commissioning checks; OEM coordination; witness commissioning; commissioning records pack; BMS specialist coordination (under PC Sum); seasonal commissioning revisit at PC + 16 weeks.

13.3 OEM Commissioning Attendances

- IDEAL Commercial — cascade lead/lag, modulation, interlock witness. 4 wks notice. 2 days. HP13.
- Stokvis Energy Systems — DHW PHE duty / flow / temperature verification. 2 wks notice. 2 days. HP14.
- Flamco — pressurisation make-up, dry-run, alarms. 2 wks notice. 1 day.
- Arrow Valves — BTBS performance, alarms. 2 wks notice. 1 day.

If VE 4 (UKE for Stokvis) is elected, the Stokvis attendance is replaced by UKE commissioning attendance on the same notice / duration profile.

13.4 Witness Commissioning Session

A formal Witness Commissioning Session is offered to the Employer with 10 Working Days notice, scheduled for Mon 5 to Tue 6 Oct 2026.

- Boiler cascade lead/lag and modulation — cold start, ramp-up, modulation across load steps.
- DHW peak demand test — simulated peak ≥ 60 °C delivery temperature.
- Pressurisation make-up + alarm trip — manual trigger, alarm verification.
- Gas safety panel functional test — solenoid trip, leak detect, E-stop.
- BMS point-by-point I/O verification — all 54 points (under PC Sum specialist).
- Legionella regime verification — DHW ≥ 60 °C / return ≥ 50 °C demonstration.
- Electrical safety documentation — EIC + Schedule of Test Results review.
- Hydraulic balancing records — FODRV settings, flow rate verification.

13.5 Cut-Over Procedure

The cut-over from the Grimshaw & Bolt temporary boiler installation to the new permanent IDEAL cascade is a single-day controlled operation under formal Shutdown Permit-to-Work issued by the Kettlewick College Authorised Person (Heating). Scheduled for Mon 5 Oct 2026.

- 07:30 — Pre-cut-over briefing (Built AI PM, GB PM, Kettlewick College AP, Commissioning Manager).
- Permit-to-Work issued by Kettlewick College AP (Heating).
- GB temporary boiler isolated and drained; cap-off retained.
- Permanent cascade fired and modulating to design output.
- Malthouse Block secondary circuits hydraulically transferred to permanent cascade.
- DHW load transferred to permanent DHW PHE.
- 4-hour stability run with continuous monitoring.
- Verification: DHW delivery ≥ 60 °C, heating return ≥ 50 °C, cascade modulating correctly.
- Permit-to-Work closed by Kettlewick College AP.
- Sign-off by AP, GB PM, Built AI PM, Commissioning Manager.

Risk envelope: Built AI owns the permanent installation risk. Grimshaw & Bolt owns the temporary installation risk through to de-mobilisation.

13.6 Handover and O&M Documentation

13.6.1 O&M Manual Format

BSRIA BG 1/2007 condensed format. Issued in: Draft — 4 weeks before PC (Wed 9 Sep 2026) for Employer review; Final — at PC, in bound paper (×3 binders) and electronic PDF. BSRIA BG 79/2020 specialist authoring is not included per TLP exclusion.

13.6.2 O&M Manual Content

- Project directory — contacts, organisation, supplier list.
- System description — hydraulic schematic, cascade philosophy, control philosophy.
- Operational procedures — start-up, shutdown, isolation, drain-down.
- Maintenance schedule — item-by-item with OEM literature.
- Spares schedule — part numbers, supplier, recommended stock.
- Test and commissioning records — full pack.
- Warranty schedule — manufacturer warranties registered in Employer's name from PC.
- As-built drawings — CAD + PDF, full schematic + plant-room layout.
- Asbestos information — cross-reference to LARC works and Kettlewick College asbestos register.
- Health & Safety File contributions — issued to GB for inclusion in their CDM 2015 H&S File.

13.6.3 Training

- Session 1 (Wed 7 Oct 2026) — system overview, normal operation, BMS interaction (Kettlewick College FM team).
- Session 2 (Thu 8 Oct 2026) — emergency procedures, fault diagnosis, first-line response (Kettlewick College FM + duty engineer).

Both sessions video-recorded with Employer consent and issued with the handover pack.

13.7 Practical Completion

Practical Completion is achieved when: all scope items installed, commissioned, witnessed, documented and accepted; joint handover inspection completed; all ITPs cleared; all hold-points cleared; witness commissioning signed off; cut-over completed and stable; O&M manuals (final) issued; training delivered; snagging list issued and agreed; GB de-mobilisation underway / scheduled; manufacturer warranties registered. From PC, the 12-month Defects Liability Period commences and manufacturer warranties run.

13.8 Defects Liability Period (PC + 12 months)

13.8.1 SLA Response Times

- Emergency (no heat / no DHW / safety) — 24 hours response; resolution as fast as practicable.
- Urgent (partial loss / risk of escalation) — Next Working Day response; 5 WD resolution.
- Routine (minor defect / aesthetic) — 5 WD response; 20 WD resolution.

13.8.2 Defects Helpdesk

A defects helpdesk number is published at PC and routes to the Built AI PM during the DLP. After-hours coverage via Built AI's 24-hr emergency contact.

13.8.3 Defects Period Reviews

- 1-month review (PC + 4 wks) — defects log + early-life observations.
- 3-month review (PC + 12 wks) — quarterly defects review.
- 6-month review (PC + 24 wks) — half-life review + outstanding-defects status.
- BMS seasonal commissioning (PC + 16 wks, ~1 Feb 2027) — re-tune set-points, trend review, re-calibrate sensors.
- 9-month review (PC + 36 wks) — pre-end-of-DLP defects sweep.
- End-of-DLP inspection (PC + 12 mo) — final defects walk; closure of DLP; release of retention moiety.

13.9 Aftercare — Excluded (Per TLP)

Discrete priced 3-month post-handover aftercare attendance (E20 series — reactive call-outs, weekly BMS trend review, set-point fine-tune, aftercare reports) is excluded from this contract per TLP Section 8.5 C.7. Standard JCT 2016 DLP-period response is retained as detailed in Section 13.8.

13.10 Final Account

Final Account submitted to Grimshaw & Bolt Commercial Manager within 3 months of PC. Contains: tender sum (Contract Sum + agreed variations); final account valuation against agreed variations; Provisional Sum drawdown reconciliation (Section I — I1.1 to I7.1); Prime Cost Sum drawdown reconciliation (BMS specialist, Section F6); variation register reconciliation; final retention release (moiety at PC, balance at end of DLP); outstanding defects (carried into DLP).

14. Appendices

The PDP carries the following appendices, each a separate document maintained throughout delivery and updated at each PDP revision.

Appendix A — Project Organisation Chart and RACI Matrix

The high-level org chart and top-level RACI matrix are included in PDP Section 3. The detailed activity-level RACI is held as a separate Excel workbook (B99_RACI_Matrix.xlsx) and updated on appointment of named personnel and at each PDP revision.

Appendix B — Risk Register

A separate Excel workbook (B99_Risk_Register.xlsx) holding the full operational risk register with weekly updates throughout delivery. Issued at Rev 1 with 20 risks (PDP Section 11.3). Owner: Project Manager.

Appendix C — ITP Register and Individual ITP Documents

Sixteen ITPs (ITP-01 to ITP-16) issued by Phase per PDP Section 7.3. Each ITP is a discrete document held in the project file-share, signed off as work progresses. The ITP Register tracks ITP status, hold-points, sign-offs and corrective actions. Owner: QA/QC Manager.

Appendix D — RAMS Register and Individual RAMS Documents

Thirteen RAMS documents (RAMS-01 to RAMS-13) issued for inclusion in Grimshaw & Bolt's CPP per PDP Section 8.4. Each RAMS held as a discrete document. The RAMS Register tracks issue date, approval status, review cadence and version. Owner: Project Manager.

Appendix E — Submittals Register

A discrete log of all pre-procurement and pre-installation submittals (per PDP Section 6.7), tracking submittal ID, content, recipient, approval status and feedback. Owner: Technical Lead.

Appendix F — RFI Log

A discrete log of all Requests for Information raised with Grimshaw & Bolt (and routed to SDS Ltd where applicable). Tracks RFI ID, raised date, content, response, response date, programme impact. Owner: Project Manager.

Appendix G — NCR Log (Non-Conformance Register)

A discrete log of all observed non-conformances per PDP Section 7.5. Tracks NCR ID, root cause, disposition, corrective action, preventive action, closure approval. Owner: QA/QC Manager.

Appendix H — Variation Register

A discrete log of all variations (Employer-instructed, design-change, scope-change). Tracks variation ID, raised date, source, scope, value, programme impact, approval status, Final Account inclusion. Owner: Commercial Manager.

Appendix I — Hold-Point Register

Held within the Programme / Work Schedule Rev 1 (Key Interfaces tab — HP1 to HP16 + I1 to I10 + M1 to M9). Owner: QA/QC Manager.

Appendix J — Programme Rev 1

The Programme / Work Schedule Rev 1 (5-tab Excel workbook: Cover, Master Gantt, Detailed Programme, Key Interfaces, MS Project Import) is the time-based companion to this PDP. Updated weekly during delivery.

Appendix K — Cross-Reference to Tender Documents

- TLP — Tender Letter Proposal Rev 1 (24 April 2026, Built AI).
- BoQ-int — Priced Bill of Quantities Rev 1, internal QS (24 April 2026).
- BoQ-cli — Priced Bill of Quantities Rev 1, client issue (24 April 2026).
- Email-A — Covering Email Version A Concise Rev 1 (24 April 2026).
- Email-B — Covering Email Version B Detailed Rev 1 (24 April 2026).
- PDP — This document, Project Delivery Plan Rev 1 (27 April 2026).
- PROG — Programme / Work Schedule Rev 1 (27 April 2026).

Appendix L — Glossary of Abbreviations

Abbreviations used throughout this PDP. AP — Authorised Person. BMS — Building Management System. Kettlewick College — Kettlewick College. BWIC — Builders' Work in Connection. CAR — Control of Asbestos Regulations. CDM — Construction (Design and Management) Regulations. CDP — Contractor's Design Portion. COSHH — Control of Substances Hazardous to Health. CPP — Construction Phase Plan. DB — Distribution Board. DHW — Domestic Hot Water. DLP — Defects Liability Period. EIC — Electrical Installation Certificate. FODRV — Fixed-orifice double regulating valve. FR — Fire Resistance. GSV — Gas Solenoid Valve. ITP — Inspection and Test Plan. JCT — Joint Contracts Tribunal. LARC — Licensed Asbestos Removal Contractor. LOI — Letter of Intent. GB — Grimshaw & Bolt (Principal Contractor). LTHW — Low Temperature Hot Water. LV — Low Voltage. MCP — Main Control Panel. MEP — Mechanical, Electrical, Plumbing. MID — Measuring Instruments Directive. NCR — Non-Conformance Report. NICEIC — National Inspection Council for Electrical Installation Contracting. NWD — Next Working Day. OEM — Original Equipment Manufacturer. PC — Practical Completion (or Principal Contractor). PC Sum — Prime Cost Sum. PDP — Project Delivery Plan. PH — Public Health. PHE — Plate Heat Exchanger. PM — Project Manager. PRV — Pressure Relief Valve. PS — Provisional Sum. RACI — Responsible / Accountable / Consulted / Informed. RAMS — Risk Assessment + Method Statement. RFI — Request for Information. RIBA — Royal Institute of

British Architects. RIDDOR — Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. SAT — Site Acceptance Testing. SDS — Services Design Solution Ltd. SMSTS — Site Management Safety Training Scheme. SSSTS — Site Supervisor Safety Training Scheme. TLP — Tender Letter Proposal. TWC — Temporary Works Coordinator. UKAS — United Kingdom Accreditation Service. VE — Value Engineering. WBS — Work Breakdown Structure. WD — Working Day. WP — Working Pressure. WRAS — Water Regulations Advisory Scheme.

Built AI

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