

MOOR HALL: A BLUEPRINT FOR MICHELIN SUCCESS

A CHR commercial kitchen case
study in culinary architecture

Orchestrating a five-acre culinary ecosystem



CHR
FOOD SERVICE EQUIPMENT
DELIVERING PROFITABLE SOLUTIONS



Moor Hall, situated in five acres of beautiful gardens in Aughton, Lancashire, is a Grade II listed gentry house of mid-sixteenth-century origin. In 2015, a multi-million pound renovation was launched to transform this historic site into an elite gastronomic destination.

Chef Mark Birchall’s brief for the project was incredibly ambitious: to create a “centre of excellence for food”. He laid out his ultimate vision to the design team with the clear directive, “I want to be in the world’s top 50 restaurants.” To fulfil this goal, Mark partnered with CHR Equipment to design a world-class infrastructure capable of supporting culinary perfection extreme longevity.

Chef Mark Birchall has known Paul, Ron the CHR family business for more than two decades. Entrusting CHR with the Moor Hall project was based on a deep, proven understanding of the food, the operational stress of a high-end kitchen the infrastructure required to deliver it.

Elite Kitchens are built on precision trust.

The Challenges of a listed building

In the world of high-end gastronomy, ventilation usually relies on brute force – massive extraction hoods conspicuous external ducting. However, Moor Hall’s Grade II listed status rendered traditional solutions impossible, as planning consent strictly prohibited any external ventilation.

As CHR noted, “Moor Hall was challenging! Both Grade two listed buildings presented CHR with lots of challenges as the planning consent restricted the use of any external ventilation.” To circumvent this technical bottleneck, CHR relied on precision engineering meticulous planning to operate a world-class kitchen within a tight physical envelope.

Engineering an elegant solution

To overcome the severe ventilation constraints, CHR designed a sophisticated, all-electric kitchen. Key features of this innovative design included:

- **All-Induction Infrastructure:** Paired with a height-restricted canopy design to drastically minimise heat output air flow rates.



The Chef

Mark Birchall (Roux Scholar, ex-L’Enclume) possessed a singular vision: to create a world-class gastronomic destination a ‘centre of excellence for food’ in his native Lancashire.

• The Live-Fire Exception:

The true engineering feat was integrating a specially managed charcoal solid-fuel chargrill. Handling live-fire smoke particulate matter with no external venting required a miracle of internal filtration mechanical electrical (M&E) coordination, managed strictly to the latest DW172 TM50 standards.

- **Bespoke Fabrication:** The final design included over 40 meters of custom fabrication fitted on vermiculite-backfilled stainless steel plinths. This eliminated air voids to prevent vermin, creating an easy-to-clean, cable-free environment.

Precision before construction

Achieving this “no-vent” miracle required intense

The Venue

Acquired in 2015, Moor Hall is a Grade II* listed gentry house dating back to 1533. The five-acre estate required a multi-million-pound renovation to transform strictly protected historic bones into a modern culinary powerhouse.



Invisible Engineering:
The Vermiculite Seal

Bespoke Fabrication: Built to exact CHR specifications to perfectly match the open kitchen profile.



Solid Fill: Plinths backfilled with vermiculite to eradicate all air voids.

The Result: A 100% vermin-proof, pipe-free cable-free installation that guarantees an ultra-hygienic environment.

collaboration from the very beginning. CHR worked closely with architects, surveyors, builders, planning cost consultants QED design engineers.

To ensure seamless integration among the trades eliminate site issues before they ever arose on the physical build, the team utilised:

- Over 100 BIM Level Two drawings 3D renders
- Comprehensive structural load calculations
- Full TM50 energy appraisals

Engineering Around 16th-Century Constraints

The 1533 Heritage Constraint	The CHR Modern Solution
Grade II Listed status with strict planning spatial limits.	Over 100 BIM Level 2 drawings generated for flawless multi-trade integration from concept to construction.
Zero external ventilation permitted; strict height limits on extensions.	Heavily modified under-canopy design an all-electric/induction kitchen to minimise flow rates.
Historic structural voids prone to pests hygiene risks.	Bespoke stainless-steel plinths, backfilled with vermiculite to create a sealed, cable-free environment.

All manufacturers worked as one unified team to ensure Moor Hall opened on time within budget.

Agile problem solving

This philosophy of “precision before construction” ultimately saved the project’s timeline. When builders’ delays on The Barn threatened the launch, CHR was able to rapidly deploy temporary kitchen cabins within just three days. This agile response

allowed Chef Mark to open the main restaurant perfectly on time, unaffected by the structural setbacks.

Executing the build under pressure

Concept is one thing; reality is another. CHR navigated a delayed builder’s site, coordinating complex M&E, FOG ventilation installations around multiple trades simultaneously racing to complete the heritage restoration.

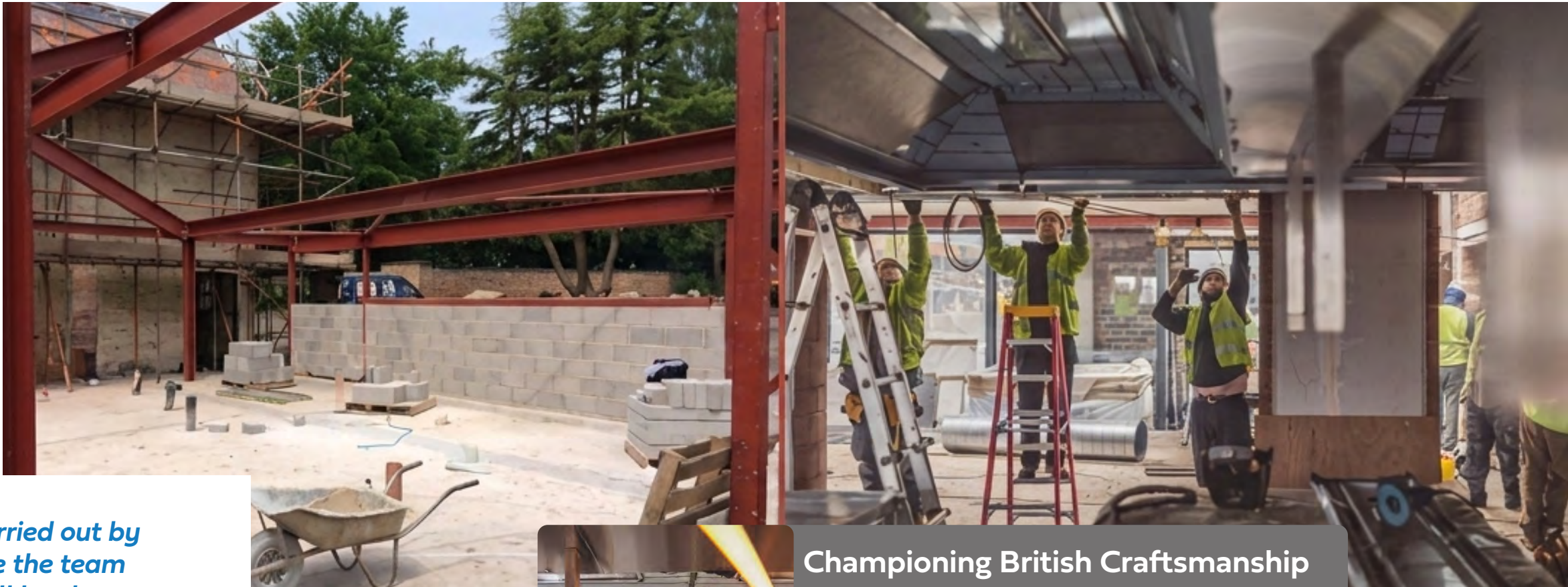
How the kitchen works for the team

The resulting kitchen is spacious linear, purposefully designed to support a growing brigade of chefs. At the heart of the operation is the bespoke EcoChef cooking suite, featuring induction zones, planchas, bespoke heater drawers a Dekton work surface. Mark Birchall describes the EcoChef as a “game changer” for his team. Traditional gas stoves emit massive amounts of excess heat, but the EcoChef runs incredibly cool. As a result, the chefs are not sweating in a sweltering environment during busy summer services, making their highly demanding jobs much more comfortable.

This cooler ambient temperature also preserves the integrity of fresh ingredients, ensuring delicate items don’t “die on the plates” while waiting at the pass. Because the kitchen is entirely open to the dining room, senior chefs have clear visibility of every dish leaving the kitchen, ensuring presentation quality standards remain flawlessly high.

Why gas is a ghost of the past

While the culinary world often romanticises the blue flame, the engineering at Moor Hall treats gas as a relic. CHR began measuring the inefficiency of legacy gas infrastructure in 2005 made the radical move to stop gas kitchen design entirely in 2010. This fourteen-year head start in electric innovation was



The work carried out by CHR for me the team at Moor Hall has been exceptional. They were impressively knowledgeable and completely understand the needs of the business, what needed to be done how that needed to be delivered.

Chef Mark Birchall

critical for Moor Hall’s “EcoChef” bespoke cooking suite.

This shift isn’t merely about environmental optics; it is an exercise in “cost of ownership” brigade wellness. The EcoChef suite features built-in energy monitoring to record usage, allowing the

business to track its ROI with digital precision. By keeping air flow rates low through induction, the kitchen maintains a stable, temperate environment for the staff—a necessity for the gruelling consistency required for Michelin service.

In this context, sustainability is synonymous with resilience. By moving away from gas, the restaurant reduces its carbon footprint while simultaneously gaining total control over its internal climate—an essential luxury when the architecture itself refuses to breathe.

Championing British Craftsmanship

75%

of all purchases, from design to manufacturing, were executed in UK factories.

>50%

of the bespoke equipment was manufactured delivered from within a 5-mile radius of the site.

Minimising carbon footprint before the kitchen even turns on.



Stealth Hygiene: The secret inside the plinths

In an “open kitchen” format, the aesthetic of the pass must match the luxury of the dining room. At Moor Hall, this extends to the

open wine cheese rooms, where the visual “glow” is achieved through an almost obsessive elimination of clutter. The secret to this “surgical” look is hidden beneath the floor.

Every area of the kitchen was fully bespoke, with over 40 meters of fabrication fitted onto stainless steel plinths that were backfilled with vermiculite. This unseen detail serves a dual purpose:

Vermin-Free Integrity: Backfilling eliminates the air voids where pests traditionally thrive in commercial environments.

Cable-Free Aesthetics: It allows for a “pipe-free

cable-free” installation, ensuring the floor remains seamless easy to clean.

By powder-coating the fabrication to match the front-of-house finishes, the engineering team ensured that the back-of-house infrastructure was as visually refined as the guest-facing reception bar.

Finishing touches “the open kitchen glow”

Lighting a Michelin-star kitchen is a delicate balance of ergonomics theatre. At Moor Hall, CHR employed “Kelvin coordination” to ensure the food looks as vibrant under artificial task lighting as it does in the West Lancashire daylight. This is crucial for plating accuracy, where the hue of a micro-herb or a reduction must be consistent from the preparation zone to the guest’s table.

The system was engineered with sophisticated dimming capabilities that prioritise the psychological experience of both the chef the guest. During evening service, the front-of-house team can lower ambient lights to create a sophisticated, moody atmosphere in the dining room, while the chefs maintain the high “lux levels” necessary for precision work. It is a seamless transition that ensures the “theatre” of the open kitchen never compromises the “safety” of the surgical operation within.

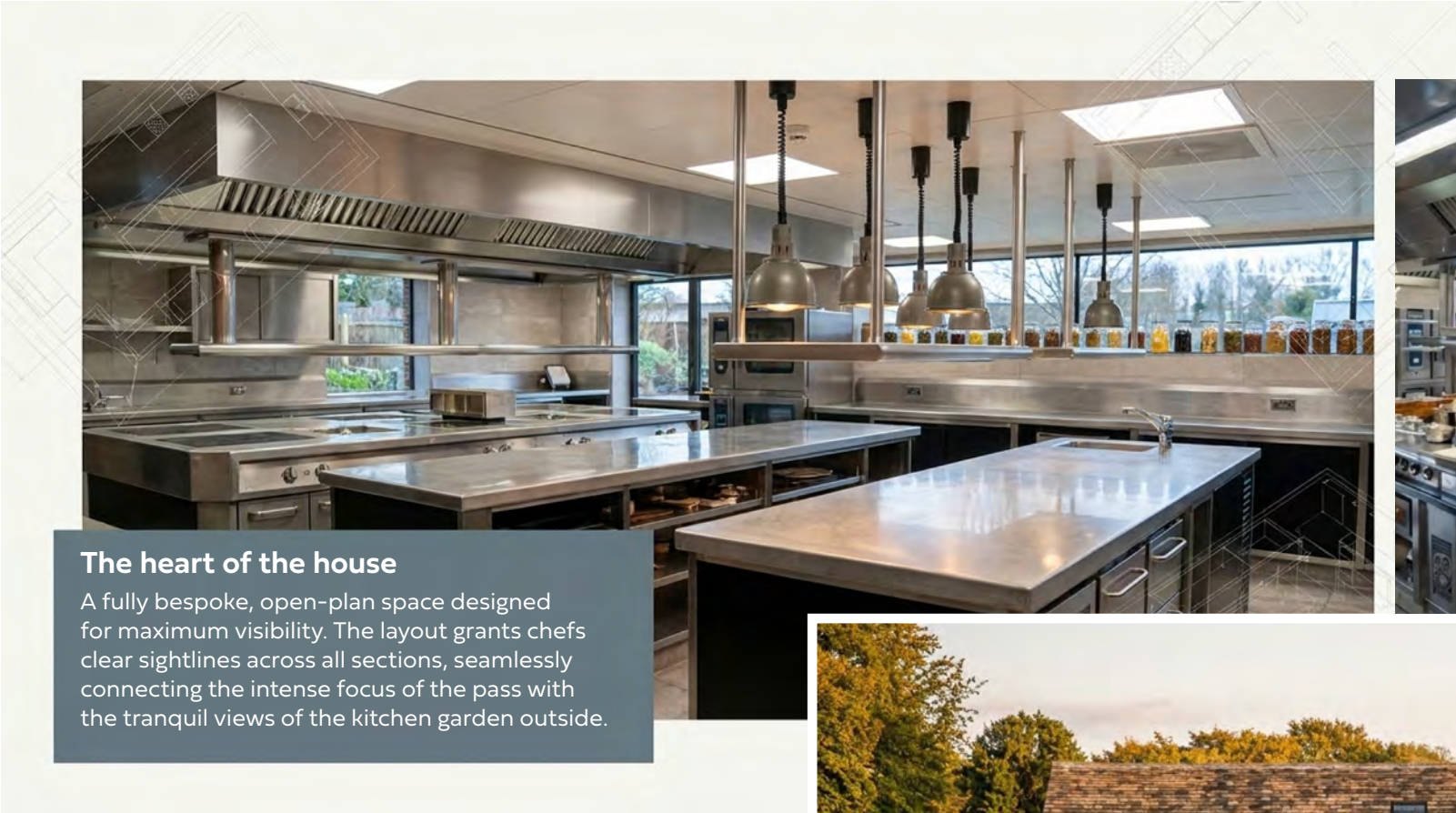
The Barn Michelin success

The broader site also features The Barn, a 70-cover casual dining space on the first floor, which houses comprehensive production areas on the ground floor. This specialised area features dedicated zones for meat ageing, butchery, dairy, cheese production charcuterie.

The combination of world-class infrastructure an unyielding dedication to quality has yielded extraordinary results. Supported by this superb working kitchen, Mark Birchall has successfully achieved his coveted 3 Michelin star status at the main Moor Hall restaurant. Meanwhile, The Barn has earned 1 Michelin star a prestigious Michelin Green Star, cementing Moor Hall’s reputation as a globally recognised, sustainable culinary powerhouse

Resilience: The three month cabin pivot

Perhaps the most human secret behind Moor Hall’s success is the “testament of the team” during a chaotic build. When building contractors fell behind



The heart of the house
A fully bespoke, open-plan space designed for maximum visibility. The layout grants chefs clear sightlines across all sections, seamlessly connecting the intense focus of the pass with the tranquil views of the kitchen garden outside.

schedule, threatening the March 2017 opening of the Main House, CHR executed a high-stakes pivot. To keep the project on track, the team operated out of temporary cabins for three months, allowing Mark Birchall to begin his Michelin journey while the site was still a live construction zone.

This bridge allowed the Main House to function as a destination while the “Barn”—the site’s contemporary casual dining experience—continued its transformation for a September 2017 opening. This feat of project management was only possible through the use of over 100 BIM (Building Information Modelling) Level 2 drawings. These “digital twins” were the absolute authority on site, used by architects, joiners, plumbers electricians to ensure that every millimetre of bespoke fabrication fit into a 16th-century shell that offered no room for error.

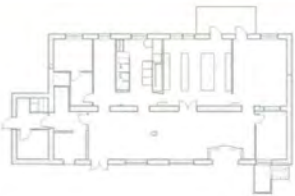
Conclusion: The Blueprint for a destination

The transformation of Moor Hall from a mid-sixteenth-century gentry house into a global gastronomic destination is a triumph of invisible



The Barn: A hub of neighbourhood excellence

Opened in September 2017, the converted barn operates as both a contemporary casual dining experience (now holding its own Michelin Star) the central production engine for the entire estate.



- Central Production
- Meat Ageing
- Artisan Dairy
- Butchery
- Charcuterie Display

precision. It is a site where 1282 origins meet 21st-century TM50 energy assessments, proving that heritage high-tech engineering are not mutually exclusive, but rather complementary forces.

As we move further into an era of “flashy” restaurant design, Moor Hall stands as a reminder that the ultimate luxury isn’t found in the upholstery or the art.

It is found in the silent harmony of the engineering—the vermiculite-filled plinths, the Kelvin-coordinated task lights the induction suites that allow a 500-year-old building to house the future of British cuisine.

In the end, the most impressive part of the £800,000 transformation is that you can’t see the engineering at all; you can only taste the result.

Your Vision, Engineered



Are you upgrading a large-scale venue, hotel group or stadium? Partner with CHR to hit your ESG targets, significantly reduce overheads and elevate your culinary output.

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sales@chreqquipment.co.uk
chreqquipment.co.uk | ecochef.uk

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