



hub

North Scotland

COUNTESSWELLS Primary School

**PROJECT SUCCESS AND
QUALITY APPRAISAL**

January 2024



INTRODUCTION

Countesswells Primary School project is a 2-stream primary school (434 pupils) with additional nursery accommodation for up to 60 pupils including sports hall, car parking and an all-weather synthetic pitch on a greenfield serviced site within the expanding residential zone of Countesswells, on the western boundary of Aberdeen City.



The Authority, Aberdeen City Council (ACC), partnered with hub North Scotland (hNSL) to procure and deliver the school through their Design and Build Development Agreement (DBDA) structure. Morrison Construction was engaged as the main contractor with a design team led by Halliday Fraser Munro architects. Project Management services were provided by Turner & Townsend with Cost Management services by Currie & Brown.

This project was successfully handed over on 1st March 2023 to an exceptionally high level of quality. This paper seeks to investigate what measures the project team put in place to achieve this standard so that these can be incorporated in the development of future projects.

WAS THE PROJECT A SUCCESS?



WHY WAS THE PROJECT A SUCCESS?

PRE-CONSTRUCTION STAGE

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| Strong Leadership | The hNSL team structure was in place from the projects outset defining clear roles, responsibilities with a defined escalation process and single point of contact at senior levels. This was continuously reviewed and updated. |
| Vision | A clear vision was defined for the project by hNSL at the outset and was continuously reviewed. This was placed at the head of meeting minutes. |
| Excellent Relationships | From the outset, there was an excellent relationship between all of the project team – ACC, hNSL and the Supply Chain. |
| Resource: | An intensive appointment process following the standard hNSL procurement methodology was carried out to ensure that an appropriately experienced team with necessary capacity was available to ensure sufficient audit and reporting on Programme, Progress, Budget, Design and Quality at all stages in the projects development. |
| Key Project Drivers | Enhanced efforts were implemented by hNSL from the outset to understand key drivers which were regularly revisited to ensure they remained relevant. These were placed at the head of meeting minutes. |
| Ownership | Key sense of ownership and doing it right first time from site management was passed onto site delivery teams. |
| Communication | Use of single information sharing platform encouraged high levels of design and delivery team interface. |
| Quality Forums | Detailed coordination workshops were held with the hNSL, the design team, client and supply chains with a specific focus on interface design, buildability and required quality – workshop agendas changed regularly to interrogate different elements of the specialist design. |
| Site Visits | A series of site visits were conducted across newly completed school facilities to understand the successes and challenges with them both during construction and operation. |
| Design to Construction | Key members of the construction delivery team were continuously involved from the initial design stage right through to handover ensuring that buildability and lessons learned were incorporated and that achieving necessary quality standards, safety and future maintenance were given priority in the design. |
| Advance Supply Chain Appointment | Key subcontractors with design input were appointed by hNSL in advance following a mini-tender exercise to incorporate design requirements, buildability quality and lessons learnt in the developing design as early as possible. |
| Design Error reduction | All room layouts and key operational functionality drawings were signed off by the Authority ahead of Financial Close, with Stage 1-4 building warrants approved ahead of construction. |
| Clash Detection | A thorough clash detection exercise was completed at several stages of the design development process to reduce the risk of errors during the build stage. |
| Brief Development | The hNSL team worked collaboratively to develop the Brief with ACC to ensure it reflected user requirements, industry best practice and innovation whilst maximising best value. |
| Programme | Continuously challenged, initially using hNSL benchmarking, the team collaboratively agreed a position which was considered sufficient for delivery, commissioning and handover whilst achieving required levels of quality. |
| Commercial | Affordability Cap set at projects outset was agreed with all parties as being appropriate to achieve required levels of quality using the right materials to achieve this. Rates were benchmarked with the hNSL cost database and established local supply chain members who were known to deliver a quality product. |
| Procurement and Local Supply Chain | Subcontractors were selected based on the hNSL open-book tendering process with quality, reliability and local experience featuring high on the selection criteria in agreement with the Authority. This resulted in over 90% of work packages being appointed to local subcontractors who could be relied upon to perform whilst still achieving cost benchmarks. |

CONSTRUCTION STAGE

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| Quality Control Process | The project quality strategy was agreed at an early stage alongside hNSL management team, ACC Clerk of Works and supply chain to ensure compliance. Quality was managed using the Fieldview system which was instrumental in ensuring compliance a clear and timeous process. All identified issues were allocated to appropriate owners then checked off when actioned. Sufficient training and continuous support was provided from the outset. |
| Continuous Responsibility | The same team members were involved in the pre-construction stages of the project right through to Handover providing high levels of knowledge continuity. |
| Delivery team given space to focus on quality | The site delivery team was arranged so that the contracts manager dealt with the contract process, reports and client meetings whilst the site supervisors, who are all long serving and from a trades background, were “out on the park” much more picking up on any quality issues early before they become snags. |
| Respect | Site managers were respected by operatives and this was reciprocated. A strong, open, friendly culture existed with a clear hierarchy where there was no fear of raising quality issues to embed the Quality First Time culture. |
| Culture | High levels of directly employed operatives created positive culture of everyone having responsibility and wanting to deliver the best for their company as they valued the company they worked for. |
| Motivation | Site managers were all promoted tradesmen so the operatives carrying out the works see a career route for themselves if they do the job right and a reason for doing so. |
| Working Groups | Groups were established using personnel from across many trades to informally discuss potential areas where safety and quality could be improved. |
| Recognition | Notable performance was recognised across the trades with awards made for particularly significant performance. |
| End User Engagement | Advanced tours of the building were facilitated by hNSL with the end users who understand the layout better in reality than on paper or a 3D electronic environment. This highlighted several design refinements to improve the operation of the building which were instructed immediately with no impact on programme. |
| Quality ownership | Sub-contractors were also engaged to use the Fieldview system to manage the rectification of issues raised snags/defects during the works. |
| Collaborative Access | The whole team was given access to the Fieldview system to allow any issues to be raised and also to record the completion of works and the commissioning of services. Reports were generated in real-time for use during project inspections and for planning rectification works as the project moved to completion. |
| Completion Criteria | Completion criteria workshops were set up early in the construction phase to enable all necessary targets to be highlighted and to ensure that where particular evidence may be required to meet completion criteria. Weekly progress reports were produced by the hNSL Project Manager. |
| Commissioning and completion programme | Established early in the construction phase which proved instrumental in securing a streamlined completion process which included the demonstration of systems and services to operational personnel prior to handover. |
| Information | Accurate design information was available to all so the right information was available at all times. |
| Lessons Learnt | hNSL led lessons learnt workshops at key stages in project through an open and transparent forum with all team members present. |
| Unified Quality Standards and Expectations | The first available wing was snagged together with the Subcontractors, Clients Clerk of Works, Design Team, hNSL Project Manager and Site Managers to set the quality standard going forward for all members of the team. |

WHAT COULD HAVE BEEN IMPROVED

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| Quality Plan | Although the required Quality Levels were achieved, an Overriding Quality Plan led by hNSL would align and compliment the various Quality Strategies being implemented by the team. |
| Completion Criteria Requirements | More diligence during Stage 2 development to ensure achievement is possible. E.g. References to factory testing of plant which proved difficult to deliver. |
| Meetings | Hold more face-to-face workshops and meetings to resolve issues although it is recognised Covid related lockdowns drove the move to email and virtual meetings on this project. |
| Hub Process | Ensure all team members have a clear understanding of the hNSL process and what is and isn't possible at certain stages. |
| Design sign off | <ul style="list-style-type: none"> Enhanced emphasis required on brief development at project outset. Stakeholder engagement plan to be agreed at outset of Stage 1 and regularly refreshed. More engagement and workshops with end users including Head Teacher, QIOs etc. Involve correct people at sign off (End users, F.M. teams etc . Raise issues earlier in the process to avoid changes later. More emphasis during Stage 1 in finalising layouts. Ensure that the Authority and all internal stakeholders are in agreement with the finalised layouts during Stage 1. Delay commencement of market testing until the majority of participant design sign off has been completed during Stage 2. |
| Reduction in levels of change | <ul style="list-style-type: none"> Increased engagement with key stakeholders and end users as early as possible to understand actual requirements during stage 1 and stage 2. Establish pre-engagement/informal change control process before formal change request issued to understand impact at high-level. Close down the brief as early as possible. Room layouts should be fully populated with the finalised furniture design during Stage 2 to allow all wall mounted services to be coordinated around these. Enhanced involvement of the Estates and Assets Team in Stage 2 of the process and receive their input in developing the design. Ensure incorporated in the Stakeholder Engagement Matrix. |
| BIM Requirements | <ul style="list-style-type: none"> ACC to outline their policy on BIM at project outset and provide all clients requirements documentation required under ISO1950. Agree at start of the project what level of BIM is required and include in ACR. Prepare BIM execution plan during Stage 2 responding to the Councils requirements in line with ISO19650. |
| BMS/Energy in Use | <ul style="list-style-type: none"> Demonstrations: Despite requests, some members of the clients team did not attend demonstration sessions leading to them not understanding how the building works. Those who will be operating the building should be fully trained on the BMS system. Operational Settings: BMS and should actively tailor the operational hours of the building and individual zones within the building to suit the weekly requirements of the facility, rather than leaving the system to run in its default setting. |

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| BMS Adjustment | <p>Although a remote access to the BMS was provided, the Authorities systems would not permit access to it.</p> <ul style="list-style-type: none"> • Necessary personnel responsible for the BMS to have the authority to be able to adjust it. |
| Energy Monitoring | <p>More robust energy usage monitoring to be adapted at the outset of the project. hNSL commissioned an independent team to carry out an energy in use assessment which identified issues around BMS settings which did not reflect the actual use of the building (i.e. heating at weekends and during holidays).</p> |
| Social Impact Success | <p>The hNSL team invested considerable time and effort with ACC to understand the Social Impact requirements for the project and then worked with Morrison Construction and the wider supply chain to successfully deliver and improve upon these. These results are shown in the diagram below across the key ACC Social Impact Requirements of:</p> <ul style="list-style-type: none"> • Making Communities Resilient • Supporting Small, Medium Enterprises • Creating Job Opportunities • Delivering Skills and Experience |

The diagram overleaf shows how these goals successfully align with the National Performance Framework Outcomes and confirm that an overall Social and Local Economic Value of £6,449,649 or add of 37.85% was achieved by the project further underlining its measure of success.



HOW COUNTESWELLS PRIMARY SCHOOL ALIGNS WITH THE NATIONAL PERFORMANCE FRAMEWORK

Countesswells Primary School Social Impact

Making communities resilient

- £17 million development
- 434 pupil primary school
- Additional 60 early learning and child care places
- All-weather pitch
- Two playgrounds

Supporting SMEs

- £4.6 million to Local SMEs within 30 miles radius of project.
- £326,000 to Local Supply Chain within 30 miles radius of project.

Creating job opportunities

- 13 new jobs created
- 5 apprentices – total of 271 weeks on contract
- 2 graduate trainees recruited – total of 111 weeks on site.

Delivering skills and experience

- 11 weeks of meaningful work experience placements
- 8 school engagement activities
- 5 further and higher education engagement activities
- 4 employability engagement activities

NPF Outcomes



Education - We are well-educated, skilled and able to contribute to society.



Communities - We live in communities that are inclusive, empowered, resilient and safe.



Children & Young People – We grow up loved, safe and respected so that we realise our full potential.



Health – We are healthy and active.



Fair Work & Business – We have thriving and innovative businesses with quality jobs and fair work for everyone.



Economy – We have a globally competitive, entrepreneurial, inclusive and sustainable economy.



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National Performance Framework



Overall Social and Local Economic Value £6,132,266

+35.99% Social and Local Economic Value Add



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