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ENGINEERING PRACTICE REPORT

JANUARY 2019

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[redacted]

[redacted]
Engineering Practice Report

Engineering Practice Report

Career Summary & Introduction

[redacted]

I have worked within the Building Services industry for the past 19 years and am currently employed as Operations Leader for [redacted].

I started my career as a Student Engineer working for [redacted] where I completed an Apprenticeship Scheme in conjunction with [redacted] Community College, where I trained as a Mechanical Building Services Engineer. I progressed from Engineering to project management and as Contracts Manager ran the [redacted] Office prior to the company merger with [redacted].

Following this, I held a post as Operations Manager at [redacted] for a short period of time before joining [redacted] as a Project Leader on major schemes. Over 4-5 years I delivered One Hyde Park and the Leadenhall Building, before taking up my current role where I am responsible for projects in the southern business within the Healthcare, residential and commercial sectors.

I am responsible for over 80 staff plus operative and sub-contract labour and I feel within my career I have achieved a level that I will be able to demonstrate my capabilities as an engineer and Leader within the Building services industry.

The following table details some of my career highlights and projects which have been key to my progression and achievements to date. Further within the report I have then completed detailed case studies to demonstrate some of the key elements that have contributed to my career events and the competence criteria I believe this supports.

Date	Career Highlight	Description
1999 – 2003	[redacted] *Student Engineer Training* - [redacted] Hotel, [redacted] - [redacted] Hospital	Whilst on Block release at [redacted] C I worked through all departments within the first two years then moved on to project Engineering on site. - 300 Bed New Build Hotel - [redacted] Wing (Acute Services)
2004 – 2005	*Project Engineering / Management* - [redacted] Court - [redacted] Hospital - [redacted] Link Bridge - [redacted] Management Award	Small Works projects where I was responsible for the Mechanical engineering and overall project delivery. - Pump and Calorifier Plant Replacement - New 30 Bed Semi-secure Mental Health Unit - Re-configuration of Hospital wing for new link - Industry Recognition Award

[redacted]

2006 – 2007	*Contracts Manager* - [redacted] Framework - [redacted] Prison - [redacted]	Overall Regional Responsibility for circa £20m Turnover - New Build Schools in [redacted] - Diversion Works for New Cell Block - New Build Offices on the [redacted] site – First Commercial Building to gain BREEAM Excellent
2008 – 2009	*Operations Manager* - [redacted] Court	Overall Regional Responsibility for circa £20m Turnover - Refurb of existing 7 Storey Commercial Space
2010 – 2014	*Project Leader* - [redacted] - The [redacted] Building	Responsible for Overall Delivery of MEP Services - 84 Luxury Apartments with Leisure Suite - 52 Storey Commercial Tower in [redacted]
2015 - 2018	*Operations Leader* - [redacted] - [redacted] - [redacted] - [redacted] - [redacted] - [redacted] Hospital - [redacted] - [redacted] - [redacted]	Regional Business Operational Responsibility - New Commercial Offices and TV Studios - Mixed Use Development - Approx 550 Apartments / Student Accommodation - 39 Storey Residential Tower - New Acute Hospital Wing on Existing Site - New Semi-secure Mental Health Hospital - Commercial & Leisure Facilities - Commercial Offices & Theatre - [redacted] Business School 18 Month Programme

Qualifications / Courses

10 GCSEs A-C, 2 A-Levels
HND Building Services Engineering
EngTech
IOSH Managing Safely
Black CSCS Card Holder
Leadership In Action
Exploring Leadership
[redacted] (2015) [redacted] Business School
[redacted] Executive Development Programme

[redacted]

[redacted]Hotel, [redacted]

With approximately 330 Bedrooms, the [redacted]Hotel [redacted]was the second hotel built by the chain for the accommodation of airline staff between long haul flights. The project consisted of two main buildings linked by a full height Atrium with care parking and leisure facilities at Basement Level.

MCIBSE Competence	Description
	With the programme being the main driver for the client, the [redacted]otel represented an opportunity for exploring the use of DfMA when arguably this was still a new concept. The hotel was built out of pre-cast concrete with bathroom PODs and the main contractor challenged us to keep pace with build. I understood early on in the programme that developing our DfMA strategy would be key to the successful delivery of the MEP. As a mechanical Engineer responsible for the CHW, LTHW, Domestic services and Ventilation, I was able to plan and implement a strategy using our offsite facility and supply chain to maximum benefit.
A1 / A2	With back to back bathroom PODs I designed and manufactured a riser module which contained the ductwork, piped services bracketry, drainage and containment in 3 storey sections. These were craned into position and connected as installed allowing following trades to progress. The selection of material for the pipework was key to the installation conditions and I engineered a solution using pre-fabricated Instaflex coils which were dropped down the full length of the riser. This coupled with a manifold solution and PEX pipework from the manifold to the FCU and PODs led to minimal site installation time and a huge reduction in on site waste. The specification required the FCUs to be at a lower noise level than which had previously been achieved within the bedrooms. Together with the specialist manufacturer I was able to select components and a unit which achieved duty and NR ratings, which was offsite tested and proven through all ranges prior to installation. All of which was key whilst ensuring the fan energy targets were achieved for the true operational constraints.
A2	The Atrium presented a problem for both summer potential overheating and heat loss during winter. I combined a design of displacement ventilation provided through bespoke manufactured units with underfloor and trench heating, which enabled us to achieve the comfort cooling required during summer conditions at low level and the radiant effect of U/F heating in the winter months. The original design basis, heating and cooling through high level ventilation, presented challenges within the CFD model therefore I carried out research into similar spaces and was able to change the design with the consultant team ahead of the installation becoming critical.

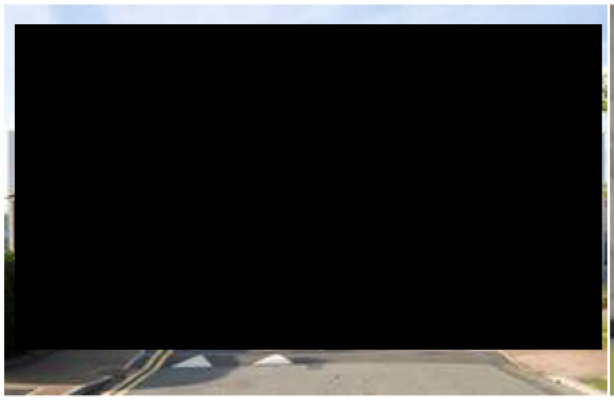
[redacted] **Hospital**

The first new build as part of the redevelopment programme at the site, The [redacted] Adult acute unit was designed for patients who required secure surroundings and slow release back into society. With a semi-circle curve to the building shape, the bedrooms, communal space and plant areas were positioned gain maximum natural daylight and ventilation.

MCIBSE Competence	Description
B1	The key to the success of this project related to the selection and adequate installation of services that met the safety and security requirements of the patients.
C3	With this being the first of the new developments on the masterplan for the site, the project set the standards for future schemes. Having not been involved in this type of facility and it being my first project management role, it was imperative to research other facilities and understand the client needs.
B2	Health Building Note 35 – 'Accommodation for people with mental illness', Part 1: 'The acute unit'. DH, 1996, which is now HBN 03-01, described the building services requirements to ensure that the "Environment" is suitable for the patients whilst maintaining both their and staff safety. The publication of the DH National Service Framework for Adult Mental Health in 1999 led to a major modernisation of adult acute mental health services. Facilities had to go from the traditional dark and dreary places to those which aid a persons recovery with security still at the heart of the design. Ensuring I picked up the design requirements over and above the existing standard had to be guaranteed so I implemented a strict approval process. This followed an internal governance procedure as well as an approval process by the external client / project management team. I oversaw the selection of anti-ligature light fittings, specialist cast resin basins, and security equipment that would meet or exceed these requirements. All containment, even in concealed locations had to be fixed at closer than British standard intervals and was galvanised steel. Accessories had to be selected to ensure they were anti-tamper and services access for commissioning and maintenance was carefully planned at the outset.
C2	The project was under the original Procure 21 scheme which meant we had an agreed target cost, importantly I was looking after the client's budget and our own. Operating the contract in this way required close commercial control and appropriate notices within set timeframes should they be required. I had to ensure our team were up to speed quickly with the contract mechanisms to enable a smooth relationship which was built with the trust and main contractor.

[redacted]

[redacted]




With a retained facade and new build structure sitting behind, the new offices built at [redacted] in [redacted] were designed and built to achieve BREEAM Excellent as the first commercial space to do so.

MCIBSE Competence	Description
	The key engineering challenges on this project related to the installation and commissioning of relatively new technologies in order to achieve the energy targets and BREEAM rating set by the client team.
C3	I undertook a management visiting role where we had a full-time site delivery team on the project. I was responsible for inception through to commissioning leading the bid and supporting the site team with resources, client / main contractor management and functional requirements for delivery.
A1 / A2 / E3	The main HVAC scheme design provided tempered air through the concrete slab (TermoDeck) controlled by VCDs into the space. Co-ordination was critical as the hollow cores were used as ducts for air distribution as well as wire ways to allow for surface mounted electrical devices. The slab acted as a heat sync as well as mechanism to transfer air resulting in the opportunity for night time cooling in summer and the stored heat energy in winter months to maintain a background condition. Having not delivered a scheme of this type before I ensured both the team and I undertook site visits and product research to gain a better understanding of its use. I fully understood the importance of ensuring that a building like this was delivered in line with expectations of not only the client but with new innovations for the industry I had responsibility to ensure it was delivered in line with the engineering design. The LV power was supported by a CHP unit as well as wind turbines at roof level. I ensured that he team paid particular attention to this element of the works as it was new to many who designed and installed the project. Workshops were held where the design was commissioned on paper first and equipment selection was undertaken with specialist advice. HWS were provided via solar heating at roof level combined with a top up Calorifier arrangement, the material selection was key on this element so I developed a sign off procedure ensuring standard materials could not be confused with the specialist copper required. The use of LED lighting was also undertaken where possible but at the time with this being relatively new technology, the opportunity was limited. I therefore worked with the consultant and team on energy efficient lamp selection and lighting layouts to reflect the minimum lux requirements without excess.

[redacted]

[redacted] **Building**

[redacted]

A 52 storey commercial development constructed with a full steel frame. Major plant is situated at both basement and roof level with localised plant on each floor.

MCIBSE Competence	Description
C2 / C3	I led a team of 20 Engineers and managers from bid stage to completion of the MEP shell and core services with an approximate value of £50m. At peak I had over 150 men on site over the 52 floors plus 4 basement areas, made up from our own direct workforce and sub-contract specialist labour.
C1	Key challenges during the build were local logistics with a tight hoarding line and working at height through the build process. This movement of men and materials led to meticulous planning of works and programming in finite detail. I pulled together a team of key individuals and commenced the MEP pre-construction activities ahead of the original planned timescales. This allowed me to input into the construction activity sequence and overall project execution plan, ensuring the project MEP services would be constructed in the most efficient manner possible. 3 months before the MEP commencement date I had scheduled and the team had drawn 860 Modules, completed procurement and planned all Factory acceptance tests whilst having carried out commissionability reviews on all systems.
C4	The building had two separate incoming 33kV power supplies which transformed to 11Kv within the basement before distributing locally and to roof level LV transformers. There were four 10 mVA generators at roof level generating at 11kV leading to HV cable pulls the full height of the building. A specific element I instigated due to the critical nature of the systems was to undertake a desktop study of the power management system and cause and effect with the outputs being key to successful commissioning.
E3	Chillers were situated in the basement with Cooling towers at roof level along with the main LTHW Boilers. With a plantroom situated on each floor for local distribution, the primary systems fed top to bottom without pressure breaks, providing an engineering challenge with equipment selection and pressure testing. Early on in the process I identified key components over and above
A1 / A2	those specified for off-site testing and incorporated a number of engineering challenges I knew the project had the potential to face. My main concern was that the plant and equipment was not only specification compliant but would be able to withstand the rigorous testing and running procedures it would endure during its operation. I highlighted specific areas such as Plate heat exchangers (to mitigate potential plate shift), valve and coupling testing (tests to destruction in certified premises) and software testing for the power management system to understand the cause & effect. This resulted in confidence in our selections and I was able to make adjustments where necessary ahead of time. A key example is the Chillers being rated to PN40, an abnormal selection criteria from what we would usually install within the industry. I travelled to China to pressure test the units and found that the

[redacted]

C1	gasket arrangement on the end plates was not adequate resulting in the re-manufacture of these components. I targeted a strategy of 70% + DfMA and ensured I used this approach widely on the scheme with on-floor plantrooms, all risers pre-fabricated, main plant skids and a full cooling tower plant and access platform delivered inclusive of galvanising to roof level. The roof works alone reducing the programme by 6 weeks Vs a traditional approach. Commissioning KPIs were developed and managed in detail based on previous knowledge and experience and research in to tall building construction / commissioning. I ensured a reverse pass of the programme to build confidence in our approach to the project, from pre-construction to delivery.
B3	Overall commercial responsibility sat with me as the project leader, therefore I ensured that as well as monthly contract reviews, I had weekly cost control reviews with my commercial leader. All instructions were only valid when signed by me and I ensured valuations were agreed with the engineers and manager responsible. The smoke extract system in the basement areas had been poorly designed and I took direct responsibility for the re-design, equipment selection and cause & effect scenarios. With 9 Zones and 3 different fan speeds, there were a number of damper scenarios that had to be proven to ensure the system would adequately achieve the Building control requirements. I sketched and re-designed the system with the project team developing a strategy which was then adopted and accepted by the consultant. With the initial design varying between 4 and 18 air changes within zones we achieved 10-12 in all areas.

[redacted]

A mixed use development on the [redacted]ite with Retail, commercial, Studios and data space, constructed where the media village was previously situated.

MCIBSE Competence	Description
C1 / C2 / C3	As I entered my new role I was tasked with the responsibility of ensuring the project completed on time and to budget with a 3 month delay in place and 6 months to completion.
D1	Within the first two weeks I spent time with each staff member to understand their challenges and carried out a detailed review of the information available including programme to completion. This review resulted in a re-shaping of the team and resetting the plan. The project required additional central support and I adapted the plan for success.
E1	With design information still awaited and therefore challenges on procurement I developed a TRR (Tender Recommendation Report) which was an update of a previous document used to ensure as we progressed we did so with compliance and confidence. The content ensured that we were specification and standard compliant or where this was not possible, an alternative approach was clearly identified. The sign off procedure meant that each member of the team reviewed and agree the package ensuring interfaces were covered. I also introduced an external review of the design and increased resource for co-ordination, targeting dates ahead of when required. I developed and signed off a plan that met the original dates and with changes made to the delivery strategy we were able to achieve the project completion date and exceed margin expectations.
E2	As part of my overall visiting role, I undertake and chair contract reviews on a monthly basis which cover progress and commercial performance. I also carry out regular safety tours and will visit projects outside of my portfolio to complete safety audits and stand down reviews. It is important to create a culture for safety and health where the operatives who work on our projects feel part of the process. A recent concentration which started at this project is around a focus on High Potential Incidents and their ability to cause harm even if they do not do so. Focusing on the high risk elements rather than the low harm potential has given us the ability to challenge more fundamental ways we still choose to carry out tasks and seek better alternatives. I discuss planned Vs actual with our workforce directly giving them the opportunity to change the plan to ensure a safe outcome.

[redacted]

[redacted]

The development consisted of 4 separate blocks, [redacted] - 12 Affordable apartments, [redacted] -The new [redacted], [redacted] - a high end commercial office space and [redacted] - 34 Luxury High End Apartments.

MCIBSE Competence	Description
	I took overall responsibility for the project with 6 weeks to completion of [redacted], when the commencement of [redacted] hinged on moving the [redacted] into their new premises. At this stage we were completing [redacted], commencing [redacted] and pricing / designing [redacted]
B1	The mixed use requirements of the [redacted] club, from the restaurant and bar, to the offices and Gallery, provided a number of engineering challenges. The key elements during the commissioning period related to those within the library area and Gallery area. With books and paintings that had been stored over many years, it was critically important to ensure the conditions around temperature and humidity were achieved in a proven stable environment before they were placed in their new home. I immediately reviewed the environmental monitoring methodology alongside the technical data on the equipment that had been installed. The review found that the units were trying to condition two spaces to two differing set points and on room stats rather than a shared common return air path. By reviewing the system in depth we were able to re-position sensors and revise the control strategy to ensure the system was commissionable prior to physically experiencing the issue.
A2 / B3	The next challenges for the development related to the high end luxury apartments within [redacted]. My previous experience of the completion of [redacted] and the engineering lessons learnt allowed me to run design workshops both internally and with the client team during the early stages. The key issues related to how this type of building is used in reality versus design and design guidance for such premises. The main issues being; water quality of the LTHW and CHW systems, Domestic water temperatures and services co-ordination associated with finishes. Water quality issues were derived from a common LTHW and CHW system where circulation was interrupted when occupants were not present for prolonged periods. I worked with the team to engineer a solution with HIU and CIU interfaces which allowed the landlord systems to sit independent from the tenants, enabling monitoring and treatment to be stand alone. Previous experience had shown a rise in domestic CWS temperatures where occupants do not live full-time in this type of dwelling. Management of

[redacted]

	legionella therefore becomes a considerable challenge for the maintenance team. With my prior knowledge I challenged the consultants to design an automatic draw off solenoid system to ensure even when the apartments are unoccupied, water turnover still takesplace.
C4	Quality of installation at all levels is paramount and on this type of project, the checking process and expectation requires an even greater level of inspection. It was key to ensure that the team had produced and set out a Quality plan together with specific system ITPs at day1. I ensured the team were adequately resourced to follow these plans and bring the client team on the journey as we installed and completed the services elements. This allowed us to reduce the number of snags raised whilst utilising benchmarks and standards for our workforce to adhere to. The detailed co-ordination of the services within the apartments including interfaces was a key enabler to the success.

[redacted]

Business Role

[redacted]

MCIBSE Competence	Description
	Training & Development
E4 / E5	I undertake the initial assessments for our Graduate and Cadet training schemes whilst providing the requirements on a yearly basis for the southern business. These schemes are key to our industry and I make a personal investment in ensuring we continue to recruit for the future and at the highest calibre possible. I undertake graduate inductions and ensure that the trainees have a direct link back to senior management for support. I am involved from review of initial applicant CVs, Video interviews and assessment centres. I have been party to the development of internally planned CDP courses around key industry topics such as Fire Stopping and smoke extract systems. These will be run for our engineers of all grades by internal and external parties. I am part of the selection and nominating process for our internal Management development programme and [redacted] with over 20 staff completing the MDP from [redacted] in the last year.
E1	It is important to promote and continue our graduate and trainees development and I actively encourage our young engineers to gain engineering chartership and membership of CIBSE. This enables them to carry a professional accreditation which shows their capability whilst carrying the importance of representing the industry as a whole. As a business we actively encourage this as part of the graduate scheme.
D1 / D2 / D3	*Operative Forums* Every 6 months I instigate and chair an Operative forum for our direct labour force. An elected representative from each project attends and we share key business messages with the team to take back and share with the site teams. A typical Agenda will cover: - Business Update – New work and structure changes - Health & Safety – Site specific and general discussion - Quality – Big Quality and right first time - Training - Benefits inc. Pension Updates The representatives are selected by the site operatives to ensure that they are happy with the candidate who participates. A briefing note is produced following the session so they can communicate effectively.
D1 / D2 / D3	*Functional Support and Input* Within the southern area of the Business I oversee work winning for all projects, allowing me to interact with clients and consultants at day1. I am then part of the committee to settle the project tenders and agree / approve our final submissions. A recent example is where we supported a main contractor in securing a major project scheme at [redacted] the project was secured on off-site capability and innovation, by assembling a team we were able to develop a strategy under a PCSA agreement which reduced on site labour by 60% and deliveries by 80%.

[redacted]

[redacted]

	I have worked closely with our Business Unit Leader over the last 2 years re-shaping the way we support our projects. With Legacy issues arising more and more within the industry through lack of technical input we now have a head of Digital Engineering, a Technical leader with a fully supported technical team and a Design lead fully linked into our Engineering Excellence department. These individuals are industry experts and in their field, they are not project based but are there to guide, support and audit our projects for compliance through standards, design and guidance notes. These will be industry or consultant standards but in addition our own business standards built up from experience and selections in the past.
E3 / E5	*Driving Industry Change & Innovation* It is no secret that resource and more importantly quality resource is becoming harder to find within the Building services industry and construction in general. Therefore we cannot stand still and continue to deliver the way we always have. The Farmer report demonstrates these challenges and has been key in influencing government led industry change. DfMA is a huge part of our business agenda but has always been part of my career since my initial training. We are now able to build larger modules with faster and safer methods due to crane and transport capacities. It is imperative that crane selection is now made on a project basis including MEP not just construction elements to ensure we maximise our opportunities. Productivity continues to be an industry challenge and in the past year I have been part of a development group looking at productivity measurement tools to enable accurate work planning and recording of productivity levels. More importantly we need this information to understand what is impacting our productivity so we can action the remedy. The reduction in labour availability is heavily linked to maximising DfMA as set out above and ensuring the labour we have can be as productive as possible for those elements that still need to be installed on site. The tool utilises a measure from the 3D BIM model which provides a take-off off material and labour hours. These are then put into a work pack and monitored by marking up the model in a digital format on a weekly basis. The resultant effect being a percentage based on traditional labour norms and or time and motion studies. Over the past 5 years I have been lucky enough to be part of a company driving innovation in the industry. It has enabled me and our teams to explore new technologies such as wireless switching which was implemented on the [redacted] Project. More recently we have developed a method that enables power management switching to utilise existing PCB contacts without the need for additional wiring, contacts and panels. I continue to support new technologies in conjunction with bench testing from our experienced teams, enabling us to move forward with confidence and hopefully influence the way we work in the future.
E1	As well as driving innovation in our industry it is important to stay up to date with the latest engineering thinking. I undertake this in a number of ways; I read relevant publications such as the BSRIA and CIBSE Journal as well as CSA documents, this coupled with a passion to get into the detail of every design on every project I am responsible for. This provides the latest consultants thinking as well as the opportunity to discuss and understand what lies behind their engineering decisions. I understand that by becoming a Member I am representing CIBSE and will ensure I uphold the professional approach that comes with this responsibility. I will continue to improve my knowledge whilst upholding behaviour that exhibits professionalism and integrity whilst co-operating with fellow members on all matters. I will continue to approach Health and safety in the workplace positively whilst ensuring diligence in my approach to all aspects of project delivery.

[redacted]

Short Term Objectives – I plan to achieve CEng status and support and encourage my peers to follow suit with applications for MCIBSE. This will mean our senior leadership team for the business will be setting the standard for our staff to aspire to and become industry leaders with this level of engagement. Over the next year I will continue with my Executive development programme working particularly on increasing my capacity. This will enable me to spend more time supporting young engineers in their development and review how we can work more closely with CIBSE and other leading bodies on their journey to Chartership. I will continue to develop strong business relationships with Consultants and clients whilst pushing MEP to the forefront of their minds in project delivery.

Medium Term Objectives – I will continue to push and research innovative ways of delivering MEP installations, with DfMA at the heart of the agenda. The ever increasing shortage on labour and advancing of technology means the way we deliver our projects today will not and cannot be the same in 10 years time. Therefore the next few years are important in developing those strategies and methods to support a new delivery model. I will mentor and support engineers in their Chartership and membership applications and work closely with the business technical lead in continuing to develop relevant learning modules keeping our people at the forefront of MEP innovation. I will be striving to progress to Director level where I can influence a business strategy with development as one of the core values.

Long Term Objectives – I have been lucky enough to be involved in and to lead the delivery of some of Londons most iconic buildings, however my long term goal is to not only have influenced and impacted individual client projects but to have supported the industry through a time of change and improvement whilst developing the next generation of engineers. Leaving a lasting impact on individuals and the way we construct in the modern world is something to aspire to and something I believe our industry requires.

Personal Development Plan

Name: [redacted]	Time in Role: 4 & ½ Years	Job Title: Operations Leader	Line Manager: [redacted]	Date:4/01/19

Biography

I trained through an apprenticeship in building services engineering where I progressed to project engineer, lead engineer and then project manager. At 25 years old I was appointed contracts manager for a regional satellite office where I was responsible for a number of projects and all operating P and L. I then took a role as Operations Manager for a small fit out company, quickly followed by joining [redacted] as a major projects leader. After the delivery of 2 significant projects for the group I am know in the role of operations leader for London & SE.

Career Aspirations

In the short term I would like to be able to influence the wider business where our projects become more consistent and joined up in delivery by maximising and taking advantage of a joined up approach. I would like to gain Engineering chartership as well as complete my journey on the executive development programme.
Long term I would like the opportunity to impact the [redacted] business on a wider scale by taking on a senior / director position. This would enable me to have greater a impact and say on how the entire business operates and continues to improve. Alongside this I would like to get more involved in industry promotion and development encouraging the next generation of engineers to develop.

Areas of Strength

Reliable and trusted member of the business and recognised as someone who delivers. Calm and level headed with the ability to adapt to my audience and build relationships with many different personalities.

Identified Development

- *Engineering Chartership & CIBSE Membership*
- *Completion of EDP*
- *Promote and develop Graduate & Cadet Scheme*
- *Mentor [redacted] Project Leaders*

Areas for Development

Increase my capacity to be able to deal with growing demand on time. Use EDP experiments to assist in this and work on influencing in the wider business.

People Development

- *Promote Professional recognition and development at all levels in the business and support membership applications*
- *Promote and attend CPD events*

	Development Objectives	Actions	Completion Date	Comments
1	Develop and implement our operating model across the business delivering the plan to our projects and embedding in the business	Take time to communicate important messages and provide information on challenges for teams to reflect on. Involve the projects more in how we progress and share good news stories.	Ongoing	Host PL Day Undertake and plan 6 weekly BU review
2	Make time for planning and reflection – increase capacity	Book specific slots in the diary to take time for planning and strategy	Ongoing	
3	Develop change management & Business strategy skills / knowledge	Continue to read leadership books and understand transferable skills, complete EDP and run micro-experiments	Ongoing	Think about Legacy

[redacted]

Snr Secretary

Business Unit Leader

DE / DfMA
[redacted]

PROCUREMENT
[redacted]

TECHNICAL
[redacted]

FINANCE
[redacted]

HUMAN CAPITAL
[redacted]

COMMERCIAL
[redacted]

DESIGN
[redacted]

ESTIMATING & COST PLANNING
[redacted]

PLANNING
[redacted]

[redacted] SOUTH

[redacted] RAIL

[redacted] WEST

[redacted] CHtM

[redacted] Ent Solu

[redacted] NORTH

[redacted]

[redacted]

[redacted]

[redacted]

Organisation Chart Series : 1 of 3

** Demonstrates a Functional Reporting Line into the Overall Leadership Team – See Master Organisation Chart