



DEPARTMENT: HO Construction
Report NO: 60R18502/K.K084/7002
Report TITLE: Construction Management Plan
Enabling Work Phase

PROJECT REFERENCE

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PROJECT LOCATION: CLITHEROE
PROJECT TITLE: EDB JMBM DEMO Plant
CLIENT: JMBM
CLIENT PROJECT NO 16086 - eLNO®DEMO
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Hold Record

Specify any Holds within the document.

Hold No.	Section	Description of Hold
1	7.2	Use of existing tented structure for storage of project materials
2	10.8	Use of Waste management area subject to agreement
3	App A	Personnel Organogram
4	App C	Sub-contractor confirmation

Revision Tracking

Specify significant change from previous revisions of the document.

Rev.	Section	Description of Change

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1.0 PURPOSE

The objective of the Construction Execution Plan is to describe/define the methodology used by Jacobs in execution of the field construction phase of the proposed Demonstration Plant project. The Construction Execution Plan should be read in conjunction with Jacobs Construction Phase HSE Plan.

This Construction Execution Plan will remain a live document and be updated to reflect any major changes to the scope, any changes in the planned execution of the scope, and any development of Jacobs role beyond the current appointed role.

The Construction Execution Plan for the Demonstration Plant Project is based on Jacobs previous experience of similar sites coupled with the knowledge of the Client's operational procedures, expectations and standards.

The Plan aims to achieve the following construction goals:

- Establish and implement exemplary standards of delivery throughout the construction period
- Target zero accidents and maintain the very highest standards for Health & Safety
- Target zero environmental discharges and effluent emissions
- Integrate Jacobs Beyond Zero principles in all aspects of the project induction including any workshop sessions
- Actively promote consideration of all aspects of "Constructability" throughout the project life cycle (see also Constructability Implementation Plan).
- Achievement of consistently high levels of construction quality
- Thorough planning of all site activities
- Establish and maintain harmonious industrial relations with a target of zero IR disruption
- Compliance with all relevant and appropriate legislation and by-laws
- Establish and maintain good Client relationships
- Ensure everybody associated with the project is aware of the strategy and considers its implications during all phases

A Jacobs risk register and mitigation plan will be developed during the EDB phase and will be maintained and developed through execution including input from both Jacobs construction and Johnson Matthey Ltd. Key mitigation measures identified through this register (and from other sources) are and will be included as appropriate in updates of this Construction Execution Plan.

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2.0 SCOPE

2.1 OVERALL SCOPE OF FACILITIES

The scope of this Construction Execution Plan (CEP) relates only to the initial excavation and piling of the proposed project areas. A subsequent Construction Execution Plan will be developed for the main build of the proposed eLNO® Demonstration plant. The scope of this CEP relates to the following elements: -

Enabling works (Planning Application Phase 1)

Relocation of temporary cabins including demolition of minor existing structures
Fencing off and demarcation of site area (see attached sketch Appendix D)
Install temporary site accommodation cabins.
Divert existing services out of the construction area.
Disinvest/Dismantle existing Hydrogenation unit if design footprint requires.
Cut and fill of main site are, export of unsuitable surplus material anticipated that 10% of as dug cannot be re-used.
Import 6F2 and Type 1 stone and compact to form piling mat.

Piling and Civil Works (Planning Application Phase 1)

Establish temporary concrete mix storage and pumping plant.
Mobilise Piling Rigs 2No anticipated
Install circa 900No, 6 to 10m deep bored CFA Piles, including Concrete deliveries to suit
Crop Piles, Fabricate reinforcement cages and form Pile caps and ground beams

* Any Asbestos present will be removed under the control of Johnson Matthey Ltd prior to any Jacobs involvement in fieldwork.

2.2 JACOBS' FIELD SCOPE

The field scope planned for implementation by and under the control of Jacobs will be managed by the Jacobs Permit to work system and Daily Co-ordination meetings.

During detailed design phase, and prior to mobilisation to site, a fully detailed project schedule for the site activities, including the shutdown scheduled activities, will be formulated. The schedule will include input from Jacobs engineering team, procurement team, and construction team.

Any tie-ins related to the enabling phase to the existing plant will be agreed and scheduled with the Johnson Matthey operations team.

Pre-commissioning and Commissioning will be by Johnson Matthey, however none is currently envisaged during this phase of works.

2.3 PROJECT DESCRIPTION

The project is related to the construction of a new Demonstration Process Building and associated infrastructure at the Johnson Matthey site in Clitheroe, UK. This initial phase of works however involves only the site preparation of the ground and piling. The subsequent phase of the works will however involve the main build of the process building and associated tank farm / utility area.

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The project site is contained wholly within the existing secure perimeter of the JM Clitheroe site and will be fenced to ensure clear demarcation between existing operational and project construction areas.

2.4 TIMESCALES

The study phase of the project commenced in July 2018 with the appointment of Jacobs for the Engineering Design Basis study (EDB). The EDB study has developed the design and progressed certain aspects of the design into detailed work packages for implementation.

The project Construction Management (CM) team will commence mobilisation to site November 2018 to prepare for a construction start of around February 2019.

Current Timeframes of the initial phase of works are:

November / December 2018	Minor enabling works and preparations, removal / relocation of existing site cabins, temporary Heras fencing of the site area.
March / April 2019	Cut and Fill and Piling Mat
April / May 2019	Piling

The project is time-critical therefore the provision of a detailed design package of works for the construction activities is crucial in time management planning. This will ensure familiarisation with the scope of works and generation of the work packages for the disciplines involved.

2.5 KEY CONSTRUCTION CHALLENGES

Major challenges identified to date are as follows:

- Working within a restricted footprint and bounded by existing live production facilities
- Management of works to avoid impact on adjacent boarding school and residential areas. Noise and dust mitigation measures described in Method statements. Design specifications tailored to mitigate effects e.g. Non Impact piling etc. Working hour restrictions
- Overlap of detailed design and construction
- Pedestrian & materials access to be maintained at all times for operational & construction activities during construction
- Traffic management for deliveries of materials and timing to avoid disruption of operations
- Construction co-ordination issues with parallel working with operations in adjacent facilities

The site is non-NAECI.

2.6 CONTRACT TYPE AND CONDITIONS

Purchase Orders and contracts will be placed during the execution phase as described in the Project Execution Plan, (Ref 1), supporting activities of assembling enquiries, evaluating bids, recommending award and administering post-award, control & handling of vendor data will be managed by Jacobs engineering team. Johnson Matthey will be responsible for the Purchase Orders for civil work and scaffolding activities. The general philosophy will be to place orders as soon as is practical following sanction (generally in the priority sequence needed to support the construction schedule). This will then provide the best practical flow of vendor data to support engineering design.

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3.0 SITE LOCATION AND CONTACT DETAILS

Johnson Matthey Ltd

Clitheroe works
Pimlico Industrial Area
West Bradford Road
Clitheroe
BB7 4QB

Project Sponsor JM: TBC

Project Sponsor Jacobs: TBC

Project Manager JM: Scott Wilson

Project Manager Jacobs: Phil Mason

The project will be delivered by a single Jacobs team drawn from several locations but acting under the direction and control of, and reporting through, a Single Project Manager.

Jacobs

Manchester Park Square,
Birdhall Lane,
Cheadle Heath
Stockport
SK3 0XF

Project Construction Manager: TBC

4.0 SITE ORGANISATION AND RESPONSIBILITIES

The Site Management Team

The initial positions and responsibilities will include:

Construction Manager

Structural & Civils – part time resource from HO

Cost Engineer - part time resource from HO

QA Manager - part time resource from HO

Health and Safety Advisor

Head Office support will be on hand / call-off as necessary

An organisation chart (covering primary roles) is included in the Appendix A and descriptions of roles and responsibilities are attached in Appendix B.

The Construction Manager has overall responsibility for the site office organisation and all field administration issues during the construction phase of the project. He reports to the Project Manager, who will be based in Jacobs office in Park Square.

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5.0 WORKING HOURS

To fulfil the project requirement, we propose a 45 Hour working week based on a curfew of 18.30 to avoid disturbance of adjacent boarding school and residential accommodation.

Monday to Thursday	07.30am to 17.00pm.	9½ Hr working day
Friday	07.30am to 14.00pm.	6 Hr working day with ability to extend to suit schedule requirements.
Saturday if required	07.30am to 15.30pm.	8 Hr working day.
Sunday	No working currently planned except to cover shutdowns etc	

Work hours may be altered to facilitate either deliveries or programme requirements at the discretion of the Construction Manager.

All permanent changes to the project working cycle are to be notified to the Johnson Matthey Ltd Project and Site Management in writing, prior to implementation, through the Jacobs Construction Manager.

A site system will be used for all employees within the Jacobs boundary, to assist in control, and in headcount of resource for activities in discrete locations.

6.0 COMMUNICATIONS & REPORTING

6.1 COMMUNICATIONS - GENERAL

Communications to and from site during the construction phase will be managed and controlled by the Jacobs Construction Manager. All substantive correspondence with Johnson Matthey Ltd will be copied to the Project Manager, who retains ultimate accountability and responsibility for project performance, cost and schedule.

6.2 CONSTRUCTION PROGRESS MANAGEMENT & REPORTING

The Construction Manager (CM) is responsible to the Jacobs Project Manager for providing the site monitoring of performance with regard to progress against agreed programmes, quality and cost of all construction work on the project. The CM will have assistance from the lead discipline engineers / supervisors / superintendents and Project Planner who will provide construction progress information to enable overall project consolidation and reporting.

Site Project Controls will be under the responsibility of the Construction Manager and Project Manager and will provide the following services:

- Construction Schedule(s) development and updating
- Cost and manpower forecasting, trending, and reporting
- Site quantity and man-hour reporting
- Reporting construction progress and performance
- Reporting Subcontractor progress and performance
- Preparation of detailed, rolling work programmes
- Monitoring of indirect and construction equipment costs

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6.3 SCHEDULE

Primavera will be the primary planning software tool used by Jacobs. This may be supplemented by Microsoft Project if required.

Pre-construction will include any home office construction activities as well as limited site support for the pre-planning of the works

The preliminary construction schedule will be initially developed for the Enabling phase of the works but will be subsequently developed for the main build.

Jacobs will agree the optimum working pattern to meet the programme commitment and achieve the maximum utilisation of manpower and equipment within the TIC budget.

The main schedule will be developed and finalised prior to site work commencing, with the relevant sections of the schedule being utilised to form part of the reporting requirements. The project planner will work closely with the engineering team and the Construction Manager to develop the corresponding Level 4 Work Packs, the progress of which then rolls-up to provide overall status reporting. Look-ahead for these Level 4 work plans will be used to monitor and manage the work.

A separate shutdown schedule detailing the daily activities will be developed going forward.

6.4 COST

Construction Cost Control consists of managing change, assessment of revised costs and variations, a forecast for construction costs, cost to date information reports, commitments to date, and manhour reporting. This information will be used for analysis to inform corrective or mitigating actions that may be required and reporting to the management team to ensure the construction activities are delivered within the estimate.

An up-to-date record of all contract value changes and additional work is in place and current, and other construction costs will be included and recorded at site level. The original construction estimate will be revisited and costed to capture any growth in scope or design changes.

Administration of the cost element of the works includes:

- Processing interim cost reports

- Works forecast final cost, incorporating change/variation/growth, review savings in scope, review efficiencies (under/over spends)

- Variation and change control functions, including status reporting

Site changes, will include additional works issued, the results of Technical Queries (TQ's) or revised work requirements and these will all be included within a site instruction issue. The site instruction will include references to all of the supporting documentation and a forecast of the costs, along with the reasons for the extra work. A full site instruction list is kept by the cost engineer and these variations notes are referenced whilst agreeing the interim and final valuations.

Variations shall be managed in accordance with the contract conditions. No works shall proceed which are a variation to the base scope of works without approval in writing from Jacobs and Johnson Matthey Ltd.

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6.5 CO-ORDINATION

Jacobs shall co-operate fully with Johnson Matthey Ltd to ensure that all agreed safety and project management systems are fully implemented throughout the duration of the project. Jacobs CM management team will attend all liaison meetings as required. Regular reviews meetings are to be implemented throughout the Site construction phase for safety, progress and control of construction activities.

Regular coordination, communication and progress meetings will take place throughout the construction phase of the project. Tie-ins and other works identified as interfacing with existing operations will have dedicated planning and coordination meetings

Daily internal meetings - Jacobs / Johnson Matthey - will be held to co-ordinate activities, allocate resources, and plan for future needs. Labour and equipment / materials look-ahead schedules will be considered. Any impact through deliveries etc will be reviewed through the procurement report by exception.

Communications with the Client and Jacobs will be made informally on a daily basis with the daily coordination briefing. In addition, formal meetings will be convened weekly to review safety, progress, costs and any other business.

Monthly management project review meetings will be held between Jacobs and Johnson Matthey Ltd. These meetings will provide a detailed review of engineering, procurement, and construction progress and costs.

7.0 CONSTRUCTION STRATEGY

7.1 GENERAL

Following local preparation of the site area a cabin supplier will relocate existing cabins and bring in new cabins to form the site establishment.

An Enabling works contract will divert services out of the construction area, fence the area, prepare a wheel cleaning facility, site run-off management system and undertake a bulk cut and fill exercise. This initial contract will also lay and compact an 800mm thick crushed stone piling mat. This stage of the contract will entail up to 15,000 m3 of material movements off and on to the site. This equates to around 35 HGV movements per day over a two month period.

A piling contract will then drill and concrete circa 900 bored CFA piles using two rigs.

A Main civil contract will mobilise and commence pile caps ground beams and slabs. Due to the constrained nature of the site we would look to prefabricate reinforcement cages where possible.

The main civil/structural contract would follow on in the phase 2 planning application.

7.2 MAIN SITE ESTABLISHMENT

The office facilities and contractors welfare accommodation will be established in the area immediately North of the construction plot, South West of Building 29 where current office accommodation is established on the complex. Cabins will be double stacked.

EPC contractor's onsite stores compound and laydown area is limited on site. The current proposal would be to use the area currently designed as the tank farm East of main plot as a laydown for the main build with tank farm construction following on later.

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The existing on-site tented structure to be used as covered storage, this is subject to JM approval, (Hold 1).

The project accommodation is subject to formal Occupied Building Siting Analysis (OBRA).

There is limited parking on the JM site however for the initial Enabling phase it is anticipated that there will be sufficient parking on the main site for this activity to be undertaken without causing disruption to the site's existing operations.

Personnel access to the Johnson Matthey site will be through the main gate. Signs depicting Emergency Exit gates and muster points will be displayed for the workforce to ensure all routes for safe access / egress are familiar to the site team.

Pedestrian access will be established for the CDM controlled work areas, including personnel gate to the fenced area. The contractors compound at the site will also be a controlled area to segregate delivery traffic and pedestrian access.

Work inside the designated fenced off work boundary will managed by Jacobs, under a permit, issued by Jacobs.

Pedestrian routes to the work areas will be risk assessed to determine the levels of segregation required from site traffic movements.

7.3 RIGGING AND LIFTING

Although no crane lifts are anticipated in the initial Enabling phase of works, subsequent phases would entail the use of cranes etc. Lifting and crane studies will be prepared by the Jacobs lifting representative and HSE Advisor, prior to any work commencing. All such crane studies / method statements and risk assessments will be included in the permit request documentation to be forwarded to the Johnson Matthey Safety Department for inspection / review and approval.

All lifting and rigging will be carried out by suitably qualified and experienced persons who have provided documentary evidence of such training through the provision of training records or suitable industry recognised and certified construction schemes i.e. Signallers & Riggers etc. prior to commencing work on site.

In all cases where there is a potential for lifting plant or materials over existing plant a Mandatory review is to be carried out by Jacobs and Johnson Matthey Ltd with formal written approval required from Johnson Matthey Ltd prior to work commencing.

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8.0 CONSTRUCTION HSE

8.1 HSE PLAN

Early in the Pre-construction execution phase, Jacobs will develop a Construction Phase Safety, Health, and Environmental Plan for the Johnson Matthey Ltd site. This will reflect the pre-construction Information documentation assembled during the EDB study to clearly identify all known existing site hazards and potential hazards which may be present during the construction phase delivery of the project. This Plan will require further detailed development through the construction phase and updated as required through the construction phase to reflect changing circumstances as the project progresses.

Key features of the plan will include:

- Construction management team, construction contractors, and employees' responsibilities
- Safety, health, and environmental requirements required by Jacobs and Johnson Matthey
- The preparation of a Safety, Health and Environmental Action Plan for Jacobs incorporating all approved subcontractors approved by Jacobs and Johnson Matthey Ltd project management teams, prior to the commencement of work
- A Health and Safety induction course for all Jacobs and construction contractor employees, including supervisors and subcontractors, prior to commencement of any works on site. This will run concurrently with any CDM specific and Johnson Matthey Ltd site induction courses
- Appointments by all contractors of key personnel such as First Aiders, competent persons, permit acceptors, and health and safety representatives
- Regular issue of safety bulletins by the Jacobs HSE Manager/Advisor
- Presentation of regularly scheduled weekly health and daily safety toolbox talks and supervisory safety meetings to ensure compliance with applicable safety requirements
- Preliminary and hazard assessment by contractors of activities with high potential hazards, e.g., critical crane lifts, ladder and scaffolding working, lockout/tag-out, confined space entry, and process tie-ins for the Demonstration Plant Project
- Procedures for a respiratory protection plan and the use of personal protective equipment
- Investigation and analysis of accidents, including near misses
- Recording and reporting of Jacobs and contractors' safety performance
- Ongoing review of contractor's individual safety and health procedures through periodic inspections and audits of both field and administrative performance
- Independent safety audit by visiting management

Jacobs will develop the HSE Plan utilising procedures contained in Jacobs Health, Safety and Environment management procedures and will comply with all statutory and regulatory requirements. Applicable procedures will be integrated alongside any Johnson Matthey standard Site Safety plans to develop a comprehensive site-specific plan.

Project rules and regulations will be modelled to meet or exceed HSE statutory requirements. Strong emphasis will be placed on safety constructability during the planning and detailed engineering phases of the project to assure the most sensible, safe approach to the tasks involved. A Job Safety Analysis system will be employed.

Supervisory "ownership" of the health and safety program will contribute towards the overall project success of the endeavour.

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8.2 JACOBS HSE ABSOLUTES

Jacobs Absolutes will be embedded on the Johnson Matthey Ltd Demonstration Plant Reinstatement project as part of the Jacobs approach towards safety.

These fundamental HSE Program elements **must** be followed:

DEMONSTRATE management commitment by providing our people, contractors, clients, and the general public a safe and healthful work environment;

IMPLEMENT the Jacobs HSE process and procedures;

SECURE contract language that clearly defines Jacobs' HSE Roles and Responsibilities and **ENSURE** alignment with Jacobs' HSE objectives;

KNOW the client's HSE requirements and expectations of Jacobs;

DEVELOP a location-specific HSE Plan including a **Hazard Assessment Safety Action Plan**;

ENSURE compliance of all subcontractor and consultant HSE Programs and Site-Specific HSE Plans prior to mobilization and during work;

ASSIGN the appropriate number of experienced HSE resources;

PLAN each task by developing a **Safe Plan of Action** or equivalent;

CONDUCT HSE orientation for all personnel;

PROVIDE people the instruction and training to safely perform their work;

CONDUCT HSE observations including **Safety Observation Reports** or equivalent; document findings and take corrective action;

MONITOR compliance with company, client and regulatory standards by conducting HSE audits such as **Safety Evaluation Reports** and Safety Sampling;

MEASURE HSE performance and track continuous improvement;

RECOGNIZE superior HSE performance;

MAINTAIN HSE records;

INVESTIGATE all incidents to prevent recurrence;

PROMOTE HSE both on and "off-the-job".

Strict adherence to these does not guarantee success; ignoring them almost guarantees failure.

8.3 PROJECT HEALTH AND SAFETY

Key aspects of Construction Health and Safety are:

- Rules of conduct
- Reporting injuries, accidents, hazardous conditions and "near misses" incidents
- Maintaining high standards of housekeeping
- Use of personal protective devices
- Proper use of scaffolding and ladders
- Safe use of compressed air equipment
- Excavation safety
- Safe use of power tools, portable electrical equipment and power actuated tools
- Work on electrical installations (appropriate isolations and control)
- Electric welding
- Compressed gas cylinders - proper use and storage

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Safe use of vehicles and refuelling equipment
 Use of cranes and other lifting equipment
 Manual materials handling and proper body mechanics
 Handling of hazardous substances
 Hazard waste disposal
 Work in confined spaces
 Utilisation of proper lock-out/tag-out
 Fire and rescue
 Medical first aid/evacuation
 Equipment and tools inspections
 Proper signage and communications
 Fall protection methods
 Permit to work

In addition, the specific circumstances of the Johnson Matthey site require further focus on:

Working in the vicinity of process plant containing potentially toxic/hazardous fluids
 Site Evacuation procedures in the event of the Johnson Matthey site alarm activation.

Objectives of the Jacobs project team and site construction team involved on the Demonstration Plant Project are summarised as follows:

Management is responsible for Safety on Site. Only when senior management exerts sustained leadership in planning and establishing safety goals, demanding accountability for safety and health performance, can a safety and health program be effective in a construction and completion environment. The lead is extended from the Director of Operations through to the Project Manager, Construction Manager and project supervision.

All accidents and injuries are avoidable. This is a real goal, not a theoretical objective, and is the responsibility of everyone concerned to take the necessary steps to identify and mitigate possible dangerous occurrences.

Safety is a condition of employment. The safety for everyone depends upon the attention, knowledge; attitude and prudent action of each and every employee connect to the project.

Training to work safely. Employees must be trained to work safely. Management provides guidelines, goals, work methods, processes and procedures to ensure employees' have the necessary tools and information to work safely. They must be actively followed and visibly monitored and managed as part of their own personal responsibility.

Safety Audits. Safety audits provide for an ongoing assessment of health and safety conditions, procedures and practices and is a mechanism to permit for timely corrections in the safety adopted. They are mandatory requirement within Jacobs. The frequency and timings of site safety audits will be established in the Health and Safety plan and will be dependent upon a number of factors.

Tool Box Talks. Tool box talks provide a vehicle for delivering targeted messages and focused positive reinforcement of the safety aims and objectives associated with the project. For supervision and management it provides a good opportunity to receive EDBback from employees.

Jacobs CM team are critical to a successful Safety Programme. The team employed by Jacobs provide the solutions to safety problems. Involvement is a

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dynamic learning and teaching process which serves as a stimulus for employee cooperation, engagement and participation. Providing opportunities for individual participation (and feeding-back on actions taken as a result) enhances the programme's effectiveness and the safety attitude of the employees.

8.4 SAFETY TRAINING

A project-specific induction will be developed for the job, with the intent that this includes the integrating of Johnson Matthey Ltd requirements into a common process administered by Jacobs. Site Inductions will be mandatory for all site personnel, and for all visitors. Any visitors who have not been inducted will be accompanied at all times. The Jacobs construction manager will establish the Induction process in conjunction with the Clients health & safety representatives and the home office HSE Safety Advisor.

There may be a specific requirement for further HSE training to ensure alignment with Johnson Matthey Ltd 's own Safety Standards; any such requirements will be identified prior to mobilisation on site to ensure a seamless delivery of all required site inductions.

8.5 EMERGENCY RESPONSE PLAN

JM site is a COMAH site and they do have their own Emergency Response Team on site, Johnson Matthey and Jacobs will establish a consolidated process for dealing with all site emergencies. It is the intention that the emergency procedures for the site are communicated to all site personnel during the induction process.

All site tasks which take place within a confined shall have an escape/rescue plan included (or referenced) within the Method Statement.

Jacobs will implement a permit system for the Jacobs CDM construction works. Johnson Matthey have the opportunity to review all risk assessments and method statements for the Permits required for all elements of the works.

Johnson Matthey Safe System of Work (SSoW) will be implemented for all work activities. Permits for Work will be required for:

- All works outside the Jacobs CDM designated envelope
- Tie-ins of all types (i.e. including electrical and instrumentation connections)
- Interaction between project activities and the site wide emergency arrangements (e.g. obstruction of roads, interruption of fire-fighting capabilities)
- Interaction between project activities and site operations (e.g. power-down, control system changes, utilities for temporary facilities).

Jacobs will nominate a competent person(s) to become a Permit Acceptors. Selected personnel will be trained as Permit Acceptors by Johnson Matthey within the requirements of their Permit to Work system. Under the permit to work system personnel will be supervised at all times and will report to the permit to work issuer before commencing work. The contractor as part of this process will carry out point of work risk assessments.

No work will commence without the appropriate permit being raised and approved. In addition toolbox talks will be conducted on a daily basis to ensure all contractors and subcontractors are fully aware of existing hazards and the precautions they are expected take to minimise any risks. The introduction of any new hazards will be identified during these discussions.

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8.6 H&S PROJECT INDUCTION

The HS&E Project induction is the first opportunity to engage with personnel in relation to HS&E and as such it is important to ensure that all essential HS&E information is communicated during this session, this will be a joint induction incorporating the Johnson Matthey Ltd site induction and incorporate the Johnson Matthey Safety Rules.

The induction provides an opportunity to assess the HS&E attitudes, beliefs and behaviours of the attendees and to communicate both Jacobs' and Johnson Matthey Ltd's expectations to all personnel employed on the project.

The inductions will be structured to be more than just a provision of information, but to engage attendees in what this information means to them. It will include but not be limited to the following:-

- Leadership commitment to HS&E (Jacobs & Johnson Matthey)
- HS&E Expectations & Beyond Zero
- Alarms & Testing, Muster points & Emergency gates
- Site security, Rules & Regulations
- Location (Including key contacts)
- Local rules (Including welfare, Security, Driving, work equipment etc)
- Traffic management
- Asbestos awareness
- RAMS, SPA & PTW
- Hazard Identification or reporting (SOR)
- Incident reporting and investigating
- Waste Management
- Emergency response
- Critical risk
- Prohibited Items (see below)

Pre-planned notification of attendance to the site induction are to be forwarded to Jacobs site administration. The schedule for inductions will be Mondays & Wednesdays at 08.30am. All information of site inductions including records will be retained on site.

As part of the induction process all new starters will complete a security pass & induction questionnaire. On completion of the induction presentation the inductee will complete the project induction test paper covering the key subjects specific to the project site. Hard hat stickers denoting the date of the induction will be issued on completion of the induction process.

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8.7 PROHIBITED & CONTROLLED ITEMS

The items listed below present fire or other risks on-site and require specific measures for the protection of the staff and plant.

Prohibited Items are:

- Matches Lighters / any other Potential ignition sources
- Weapons
- Firearms
- Fireworks
- Controlled Drugs (Other than prescription)
- Apple watches & Smart watches
- Mobile Phones (unless certified Intrinsically Safe)
- Alcohol
- MP3 Players
- E-cigarettes
- Jewellery

Any of the above items must be left off site or in a locker.

Controlled Items are:

- Volatile flammables
- Chemicals or Substances
- PAT tested certified items
- Torches
- Radios & other transmitters
- Cameras
- Video equipment
- Laptops
- IPads & Tablets
- Battery powered tools

9.0 QUALITY

9.1 QA/QC

This section of the plan is intended to define the Construction Quality methods and Procedures for the project.

The Construction Manager along with the Lead Discipline Superintendents will be responsible for the implementation and compliance with quality control procedures and completion of all requisite documentation for all construction activities. During the Construction Phase and on a day by day basis the Field Superintendents / Supervisors and will be responsible for ensuring that all work meets the quality criteria and is carried out in accordance with project specifications and discipline / contractor Inspection and Test Plans.

The Project Quality Manager has developed the Project Quality Plan setting out the Quality Objectives for the project. The Quality Manager will also ensure the project gate reviews and audits are undertaken in line with the Quality plan, Jacobs SOPs, and project specific procedures. Compliance with project procedures and quality objectives will be supported by the project Construction Manager and Jacobs Manager of Construction.

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In the subsequent build phase inspections of fabricated and purchased items and installed works will be undertaken by the appointed QC inspectors for the project. A dedicated QC resource will be assigned to the fabrication facility to ensure the required level of inspection and documentation is in place and a second resource has a roving role visiting suppliers, the fabrication shop and the construction site. Materials received at site will be checked and documented by the site material controller / QC inspector.

The control of pre-fabrication will be by regular inspection of the fabrication workshop and where applicable the onsite fabrication. The responsibilities of the inspector will be outlined specifically in the contractors QA/QC plan, but as a minimum will include the following:

Ensure that inspections and tests are performed by Contractors in accordance with the applicable procedures and standards and witness performance of these inspections and tests as outlined within the QA/QC plan (ITP)

Ensure that inspections and tests are documented and documentation is properly filed.

Surveillance of work performance.

Audits of Contractors record keeping, etc.

Documentation of non-conformities and follow-up corrective actions.

The project documentation database, (JPI), will be utilised for vendor documentation and all project design information. The database is maintained by a resident document controller based in Jacobs Park Square office and the site construction will have access to JPI for issued information and also to maintain construction and quality records generated by the project.

The project team will be responsible for maintaining records for all Technical Queries, Non - conformance Reports, and Concession Requests raised at site and support in relation to closing out these records will be available from the Jacobs design team assigned to the project.

Inspection verification and witnessing of tests will be carried out by Jacobs in-conjunction with the Johnson Matthey team. Any deficiencies found during inspections and testing shall be recorded as a punch list item or a Non-Conformance. The NCN shall state the corrective action proposed and requires a commitment by the Contractor to carry out and complete the required corrective action within an agreed timescale.

Items to be verified will include, but not be limited to:

Ensuring that all corrective actions have been completed and approved.

Any temporary conditions that are to continue as interim arrangements are clearly identified so that restoration can be established prior to commissioning.

Acceptability of the prescribed tests for equipment and systems.

Accuracy of as-built drawings.

Confirmation that the installation and test records have been completed.

The Works shall be deemed complete when a complete set of quality control documentation is signed off and the Dossier issued to Johnson Matthey for review and approval. These records will be compiled on a progressive basis during the construction phase and in some instances will be submitted for review on partial completion basis.

The Discipline Supervisors are responsible for the preparation and control of quality records for the installed works. Individual quality files for each discipline will be maintained by the project administrator who will be responsible for checking the completeness of these records.

9.2 PED/ PSSR COMPLIANCE

No pressurised equipment is to be installed in the Enabling Phase of the works.

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10.0 TEMPORARY FACILITIES

10.1 LOCATION

The facilities for Jacobs within the site boundaries for the construction phase have been discussed and agreed with the Johnson Matthey. The facilities fall into the following:-

Proposed Facility/Locations.

Office and welfare accommodation South East of plant 29. Double stacking over existing cabins.

Fenced stores and laydown area will be established in the future tank farm area to the East of the main proposed Demonstration building.

Local storage within the tented store, adjacent and east of Building 29.

10.2 ACCESS, FENCING AND SITE SECURITY

10.2.1 ACCESS

The access is controlled by Johnson Matthey Ltd and a site access security pass is required.

For the enabling phase only contractors car parking will be allocated on/around the proposed construction area. Existing parking spaces and or additional parking to be provided in the laydown area to the east of the main building area, (proposed tank farm/utility area).

All roadways within the site complex are controlled by current Public Highways legislation with a speed restriction of 10mph, Disciplinary action will be taken against all Contractors driving vehicles found to be exceeding the site speed limit.

All vehicles must:

- Carry, if applicable, a Department of Transport Certificate;
- Be suitable for the purpose for which they are intended;
- Be in a safe condition in respect of steering, tyres, brakes, lights etc.;

Diesel and petrol driven cars are allowed on the Clitheroe site.

At no time must access for security and emergency vehicles be restricted (unless by specific prior agreement and subject to risk assessment).

Any route through the site will involve encountering a number of tight corners and restricted height pipe bridges. Deliveries involving loads of abnormal size should be notified to Johnson Matthey Ltd, well in advance of delivery at site, so that an accurate assessment of routes can be made avoiding low pipe bridges and other obstructions as necessary. Drivers of loads of abnormal size (particularly height) should ensure they have their exact dimensions at hand when arriving at the site.

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10.2.2 FENCING & SITE SECURITY

Jacobs will comply with the Johnson Matthey Ltd site security systems and procedures.

Jacobs / Subcontractor personnel and any equipment that Jacobs / Subcontractor personnel bring onto the Premises will at all times be liable to search by Johnson Matthey Ltd Security.

Personnel will comply with site security / gate personnel at all times.

In the interests of Security and Safety, wherever possible the construction site will be 'isolated / ring fenced' from existing plant to minimise Subcontractor hazards and restrict access into plant operational areas, and to delineate CDM responsibilities.

In the event of an emergency evacuation all site personnel will be accounted for by utilising the Johnson Matthey Ltd electronic access pass system.

A suitable attendance recording system will be put in place for all Jacobs' personnel and (sub)contractors' employees which can also be utilised to confirm all staff are accounted for during an emergency evacuation.

10.2.3 VISITORS

All visitors are required to notify the Jacobs Construction Manager prior to their arrival on site.

All visitors shall park in the visitor's car park at the main gate and will report to the main security gate / reception, provide personal details and site contact name and receive a temporary visitors pass prior to logging into the site electronic access monitoring system. Visitors are to remain at the main gate until their host / contact arrives to escort them onto site.

All visitors will be required to complete the 'Visitor's book' within Jacobs site office. All visitors will be given a short form of site induction that will be valid for the day of the visit only and will require an escort whenever going onto site. The badge shall be worn visibly at all times while on site. Visitors are required to return the badge to security prior to leaving.

10.2.4 FIRST AID

Each contractor to provide qualified 1st Aiders and Jacobs will have on site a first aid kit including an AED.

JM also have also a first aid room on site with required first aid kit and equipment (including AED). JM Occupational Health Nurse attends site 2 days a week for JM requirements

Further details are covered in the Project Construction HSE Phase Plan.

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10.2.5 SITE VEHICLES AND PARKING

A project specific 'Transport Plan' will be developed to ensure the safe movement of vehicles on site during plant and equipment delivery and erection and to minimise the environmental impact from the operation of vehicles.

The intent is to establish an anti-clockwise one way system for vehicle accessing and leaving the site using the plant roads.

Wheelwashing will be implemented on exit from the site area.

Site surface water runoff will be managed by the site runoff interception 'siltbuster' settling system.

There are 2nos pipebridges across the existing roads on the site and are located on the North road (clearance 5.2m) and the South / Central road (clearance 5.9m). These are shown on the marked up site layout / photo. JM's operational traffic movements will be co-ordinated to be reviewed to ensure minimal impact to both operations and construction site deliveries. General access to JM site is good from main motorway networks via the A59 and Pimlico road.

Delivery truck marshalling area — There is no availability for a marshalling area external to the site. There are laybys off the A59, however these should not be used for this purpose. There is limited area on the site however a marshalling area could be prepared on the perimeter to the west of the project development, (which will be subsequently developed in to a site perimeter road during the main build phase).

All personnel required to drive site vehicles will be authorised in writing by the Site Construction Manager or other suitably appointed person in accordance with Jacobs procedures.

For the subsequent Construction phases a more detailed travel plan will be developed for the larger amounts of personnel required during this phase.

All personnel required to drive mobile plant will be suitably qualified and experienced. Training records relevant to the plant will be inspected prior to authorisation to drive.

The temporary facilities and routes to and from the work areas shall be designed as far as practicable to maintain a segregation of pedestrian and road traffic.

10.3 CONSTRUCTION GAS AND FUEL STORAGE

All construction activities which require the use of flammable liquids and materials will be independently risk assessed and workers provided with the correct suitable PPE (Personal Protective Equipment) and given tool box talks to advise of the hazards associated with the task, the control measures to be implemented, and action to be taken if an incident occurs.

All purge gas bottles in storage or on site shall be chained within a gas bottle cradle and safely transported to the work area. The work area shall be clearly sign posted / identified for hot works. Fuel storage is to be provided through the provision of a double skinned fuel bowser, to be located on site and stored within the specified area until required on site. Re-fuelling of plant and equipment on the site will be undertaken following the issue of a permit by Johnson Matthey to ensure correct control measures are in place.

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10.4 SITE POWER

Site power will be provided by diesel generators located in agreement with Johnson Matthey.

10.5 SITE COMMUNICATIONS

An internet connection will be established in the site office facilities together with desk phones. The installation of a dedicated communication link for the Jacobs network is currently being assessed by the IT team to run independent of the Johnson Matthey Ltd network.

The site radios for communication around the construction site and between the office location is the preferred option and will be reviewed and agreed with Johnson Matthey Ltd.

Information distribution to the site will be through the Jacobs JPI project database and the 3D model.

10.6 FIRE FIGHTING

Johnson Matthey Ltd 's Site Wide Emergency Procedure will be shared and described to all Site employees during initial project Site induction. See project HSE Construction Phase Plan.

10.7 TEMPORARY WEATHER PROTECTION

Due to the location of the Site it will be expected that construction work will be subjected to some inclement weather conditions during the course of the construction phase. It is not however envisaged that these inclement weather conditions will significantly affect construction activities on site, which will be managed accordingly.

In the case that construction works cannot proceed safely due to the adverse weather conditions, the Site Construction Manager in consultation with the HSE Advisor and the Johnson Matthey Ltd Safety Department will advise Site employees to return to the welfare area or other designated muster point and await further instructions.

10.8 WASTE MANAGEMENT.

Waste Management area - there is a current on-site contractor which JM utilise who will (subject to agreements - Hold 2) extend to cover construction in order to minimise waste streams from site. A construction site waste management area will require to be set up adjacent to the existing site waste disposal area which will reduce the available area immediately north of the proposed construction plot.

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11.0 SITE MATERIALS MANAGEMENT

11.1 MATERIAL CONTROL

Logistics and material control in the field will be the responsibility of the Jacobs Material Controller, who will liaise with HO Procurement on all issues relating to equipment and material delivery. During the initial Enabling phase the material requirements will be limited in nature, however will increase in the subsequent Construction phases.

Goods Received Notifications (GRNs)

GRNs will be generated for all deliveries received by the project under purchase orders administered by Jacobs.

Overage, Shortage, and Damage (OS&Ds)

When inspection of a shipment determines that a shortage or overage of the contents exists as compared to the purchase order and/or shipper's packing list, and that such shortage or overage is attributable to shipper, a non-compliance report will be prepared as the basis for handling the matter with the vendor.

11.2 PROCUREMENT FROM SITE

Procurement of materials from site shall be under the responsibility of the Site Construction Manager, designated Engineer or appointed Materials Controller. It shall be one of the project objectives to minimise site procurement activities as far as practically possible. Offsite procurement will be controlled and liaised through the site construction manager / nominated representative.

Jacobs will discuss and formulate a procurement process with Johnson Matthey Ltd to establish exactly how the procurement of plant, equipment and bulk materials will proceed for the project. The procurement strategy will take into account all possible considerations, such as planned works / shutdowns, logistics, material lead times, Demonstration Plant Install and storage limitations, etc. Further detail will be provided after clarification of the above.

12.0 COMPLETION - GENERAL NOTES

Completion generally occurs in phases, by area, and by specific individual systems. For the initial Enabling phase of work, completion will be signified by the completion of the piling of the main building plot and the subsequent tank farm/utility support area.

All handovers require signed approval by Jacobs and by Johnson Matthey. Each handover is accompanied by a list of project work yet to be completed in the form of a master punchlist. A formal handover with signed documentation provides a clear record of work completed and the acceptance of responsibility.

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13.0 COMPLETION & HANDOVER

13.1 MECHANICAL COMPLETION

Construction completion documentation will be completed for all disciplines as described in Jacobs document, FS WI 02, Construction Completion Documentation.

For the initial Enabling phase the level of completion will be limited to foundation work only, however will increase significantly during the subsequent build phase.

Civil works will be handed over to subsequent trades on an area by area basis. A Certificate of Completion of Construction will be issued as soon as the Construction Completion Report has been signed off which must be completed in advance of handover to commissioning.

13.2 MC HANDOVER DOCUMENT PACKAGES

Construction completion certificates will be generated for each part of the work in this enabling phase e.g. Piling including test certificates, Pile Caps & Ground Beams, Piling mat installed and CBR tested for bearing capacity.

Final handover packs culminating in mechanical completion will be detailed in subsequent work phases – Planning Phase 2

13.3 PRE-COMMISSIONING

None in this phase.

13.4 TRANSFER OF CARE, CUSTODY & CONTROL

Control of works within an area will be clearly identified on a site plan and where control of CDM responsibility is transferred from Johnson Matthey Ltd to Jacobs or vice versa.

A TCCC certificate transfers the corresponding Principal Contractor role under CDM – for the specific defined area.

14.0 COMMISSIONING & OPERATION

None in this Enabling phase Planning Application.

15.0 ACCEPTANCE AND PROJECT CLOSE-OUT

Once the project work is agreed as complete this will be recorded by the formal signing of the project completion certificate by Jacobs and Johnson Matthey Ltd, as detailed within the Jacobs “UKPFSWI02 Construction Completion Documentation.doc”.

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16.0 REFERENCES

1. 60R18502/N.N904/0001 Rev 0. Project Execution Plan
2. FS WI 02, Construction Completion Documentation

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Appendix A: Site Organogram

HOLD 3

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Appendix B: Roles and Responsibilities

JOB DESCRIPTION RESIDENT CONSTRUCTION MANAGER (RCM)

Notwithstanding any masculine references, e.g. his etc., this job description applies to both male and female staff.

JOB TITLE

Resident Construction Manager (R.C.M.)

RESPONSIBLE TO

Manager of Construction
Project Manager

REPORTING PERSONNEL

Construction Superintendents/ Supervisors, Commissioning Engineers

BRIEF DESCRIPTION OF JOB AND SUMMARY OF RESPONSIBILITIES

The Resident Construction Manager is the Company's senior representative full-time at site and is responsible for the proper and timely construction and pre-commissioning of the project in accordance with the requirements of the Contract and of the Project Manager.

MAIN DUTIES/RESPONSIBILITIES

- Organises the site establishment and subsequent removal of suitable temporary accommodation and services.
- Controls the technical and commercial administration of each subcontract with support as required from the Engineering and Project Services Groups
- Liaises, via Project Manager/Engineer with the engineering group to ensure that information is received on site to comply with the programme.
- Complies with all applicable statutory, legal and specific Client requirements and is involved in the preparation of construction safety plans. Ensures that all site construction methods and procedures are safe and adequate in all respect
- Inputs to plans both for construction and commissioning phases and is responsible for ensuring that all activities proceed in accordance with agreed plans.
- Prepares and submits Progress Reports.

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- Liaise as necessary on matters of quality, progress and safety with the Client's Representative(s).
- Monitors Subcontractors' compliance with their own project quality plan and programmes.
- Ensures that the work is accepted by the Client's Representative(s) and manager or assists, as necessary, with the commissioning of and handover of the plant.
- To ensure that the project is adequately staffed with suitably capable, qualified and experienced personnel.
- To ensure that the Company's contractual responsibilities for Plant construction in the field are properly and efficiently discharged within the cost budget.
- To ensure that the company's construction methods, procedures and practices are in all respects, particularly those relating to quality assurance, safety, personnel and industrial relations, properly complied with.
- To ensure that Company policies are properly adhered to in his area of responsibility and that changes or additions to such policies are communicated to his staff and correctly implemented.
- To keep abreast of developments in the construction industry and thus assist in ensuring that the Company's capability continues to develop.
- Ensure project is constructed to drawing, specification applicable standards, and good construction practices.
- Ensure Company's and Client's Industrial Relations policies are followed and that all labour is employed in accordance with the appropriate agreements.
- Co-ordinate and negotiate with Clients construction representative in accord with contract requirements.
- Maintain corporate disciplines
- Carry out any other duties or instructions issued by the Manager of Construction or Project Manager
- The R.C.M. will nominate his deputy who will be fully responsible in the R.C.M's absence from site.

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JOB DESCRIPTION CONSTRUCTION SUPERINTENDENT

Notwithstanding any masculine references, eg his etc, this job description applies to both male and female staff.

JOB TITLE

Construction Superintendent

RESPONSIBLE TO

Reports to Resident Construction Manager (RCM)

REPORTING PERSONNEL

None

BRIEF DESCRIPTION OF THE JOB AND SUMMARY OF RESPONSIBILITIES

A construction Superintendent is assigned to a project with the responsibility for the organisation, administration and general management of the assigned element of fieldwork, including the applicable subcontractors, for the construction of the project.

MAIN DUTIES/RESPONSIBILITIES (not listed in order of priority)

The duties of Construction Superintendents are as set out below but also include any other reasonable activity as directed from time to time to suit the needs of a particular project by the RCM.

- Assists in the setting up and administration of the site organisation for an assigned construction area, section, plant complete project or specific project.
- Studies and becomes familiar with the relevant contract drawings, scope of work, specifications and man-hour estimates, materials and equipment schedules.
- Assesses contractual requirements in conjunction with the sub-contract administrator and ensures that the Subcontractors staff concerned are aware of their responsibilities for workmanship and the standards of quality expected.
- Co-ordinates and controls the activities of sub-contractors supervisory staff, ensures effective communication such that they are all always fully informed on their duties thereby enabling effective control of subcontractors.

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- Co-ordinates and controls the activities of the Jacobs fieldwork team including:
 - Work packaging
 - Method statements and risk assessments
 - Workface planning (in conjunction with the Planner)
 - Progress measurement and forecasting
 - Evaluation/recommendation of corrective measures (in conjunction with the CM)
- Have a working knowledge of all Safety Legislation in force and associated responsibilities including but not limited to:-
 - Jacobs/Client Induction's
 - Permits to work
 - CDM Regulations
 - Assessing and approving Method Statements
 - COSHH requirements
 - Implements the Construction Safety Plan
- Complies with the construction methods, procedures and practices particularly those relating to quality assurance, safety and statutory requirements.
- Ensures that the assigned work is constructed to approved for construction drawings, specification and applicable standards, whilst adhering to good construction practices.
- Checks that the Subcontractors Daily Returns and their assessments of progress are completed promptly and reliably.
- Complies fully and in all aspects with the applicable Quality Control procedures and maintains, whenever so empowered, special regard to the imposed responsibilities as an authorised signatory of QC/Validation documentation.
- Ensures that full and proper records are kept in respect of testing and inspection activities.
- Answers technical queries from subcontractors so that work can continued unhindered, where necessary calling on advice or guidance from senior site staff or ensuring information is requested from the HO engineering department.
- Ensures the use of correct materials and consumables.
- Understand the significance of allowing subcontractors to undertake additional work without first reviewing the contractual and cost implications, ensures adherence to the procedures for technical queries, non-conformity notices and authorisation for extra work.
- Maintains commercial awareness at all times.
- Maintains an awareness of the general welfare of staff and labour whilst on site. Ensures effective communication such that they are always aware and fully informed of their duties, changes in policy or site rules and that they are aware of and understand all rules and procedures affecting their employment and their own work.
- Assists the RCM in ensuring that sub-contractors comply with their relevant collective agreement.
- Maintains good working relations with all parties, including the client, and upholds discipline with the site supervision at all times.

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- Liaises closely with the Planning Engineer in determining acceptability of target dates, the manpower and staff needs, co-ordination of the work programme in relation to individual trades, and requirements for materials.
- Ensures that all Jacobs Engineering purchased equipment is checked for compliance with the Purchase Order and Specification on arrival at site.
- Completes the G.R.N./O.S. & D as applicable and advises HO procurement department.
- Ensures that “As Built” information and drawings are complete accurately and prior to the contractor leaving site

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JOB DESCRIPTION SAFETY ADVISOR

Notwithstanding any masculine references, eg his etc, this job description applies to both male and female staff.

JOB TITLE

Safety Advisor

RESPONSIBLE TO

Reports to HSE Manager

Reports on project issues to CMM and Project Manager

REPORTING PERSONNEL

None

BRIEF DESCRIPTION OF THE JOB AND SUMMARY OF RESPONSIBILITIES

A Safety Advisor is assigned to a project with the responsibility for supervising the safety of all personnel, preventing damage to plant and equipment, and ensuring environmental protection and site security.

MAIN DUTIES/RESPONSIBILITIES (not listed in order of priority)

The duties of Safety Advisors are as set out below but also include any other reasonable activity as directed from time to time to suit the needs of a particular project by the HSE Manager.

- Ensure compliance with the site specific HSE plan
- Prepare and implement an HSE awareness program
- Prepare, implement and review emergency plans, security programs and site access control procedures
- Set up and administer a Site HSE induction training program and assist with other training as required
- Advise site personnel on all aspects of HSE applicable to site activities and security
- Co-ordinate activities with the Resident Construction Manager, ensuring that HSE requirements are implemented, especially with respect to interfaces with other sub-contractors

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- Ensure Method Statements and Risk Assessments received are reviewed and approved in a timely manner
- Ensure that accidents/incidents are recorded, investigated and analysed
- Prepare and submit a monthly HSE Report to the HSE Manager, and CM/Project Manager
- Maintain appropriate records and documentation for the duration of the Project
- Ensure that an adequate supply of safety equipment is provided on site for the use of personnel and monitor the provision and issue of protective clothing and equipment
- Carry out site inspections at frequent intervals to ensure procedures are being properly applied and no new hazards have arisen
- Stop work activity if personnel or materials are endangered

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JOB DESCRIPTION COST MANAGER / ENGINEER

Notwithstanding any masculine references, eg his etc, this job description applies to both male and female staff.

JOB TITLE

Project Cost / Contract Administrator – Jhnson Matthey Site, Easington

RESPONSIBLE TO

Commercial Manager JFS / Construction Manager Jacobs UK - Joint role with Construction Management & Jacobs Field Services

REPORTING PERSONNEL

None

BRIEF DESCRIPTION OF THE JOB AND SUMMARY OF RESPONSIBILITIES

A Cost Manager / Engineer assigned to the project with the responsibility for managing all cost and reporting elements for the site installation activities to meet the commercial needs of the business and manage the day to day commercial aspects to ensure the contract is adhered to and all business processors are followed to ensure the best commercial position for the business is achieved

MAIN DUTIES/RESPONSIBILITIES (not listed in order of priority)

To assist with the site strategy for the project along with the Project Controls, Commercial and Construction Manager to ensure the approach taken is compliant and meets the project commercial needs and also assures alignment of supplier activities and cost control to meet the project requirements.

Develop and improve metrics and reporting of all site project activity, to provide data to support and to inform the Project Manager, Construction Manager of project performance and review the project scope against the original scope and administration of change in project scope and budget.

Ensure client notifications and Early warnings are submitted for scope change etc in compliance with the contract and also ensure that site installation work packs are assessed and manhour allocations are correct and adequately closed out to ensure records are complete deliverables are fully achieved.

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Ensure that site installation work packs are assessed and manhour allocations are correct and adequately closed out to ensure records are complete deliverables are fully achieved

Lead a performance culture, incorporating the Jacobs Values, which develops individuals' capability through an active performance management process so that not only delivery for the business is enhanced but also the skills, capability and personal satisfaction of an individual is maximised. Develops systems and implements controls to support consistent reporting performance within a small project team and has substantial experience in managing cost and implementing project cost control systems.

Identifies any issues around resources, reporting discrepancies, expended hours within the site team and makes own decisions on strategy for managing and reporting all cost elements for the project in line with HO reporting needs and client requirements.

The job holder ensures that all commercial aspects are delivered in line with the strategy and planned budgets. Failure by the job holder to identify and resolve any deficiencies in budgets has the potential to result in a major deficit on the project. It is unlikely that any failure by the job holder would be identified by others quickly enough to avoid adverse impact.

The post-contract commercial administration of all Sub Contracts (i.e. includes subcontracts for fixed installation placed by the Home Office), tasks including:

- Preparing minutes of meeting
- Valuation of the measured Works
- Verifying payment certificates issued to client
- Valuation of variations
- Cost forecasts
- Re-rating of new works
- Measurement of the Works
- Preparation of Contract Supplement Requests
- Valuation of claims for delays
- Agreement of Final Account

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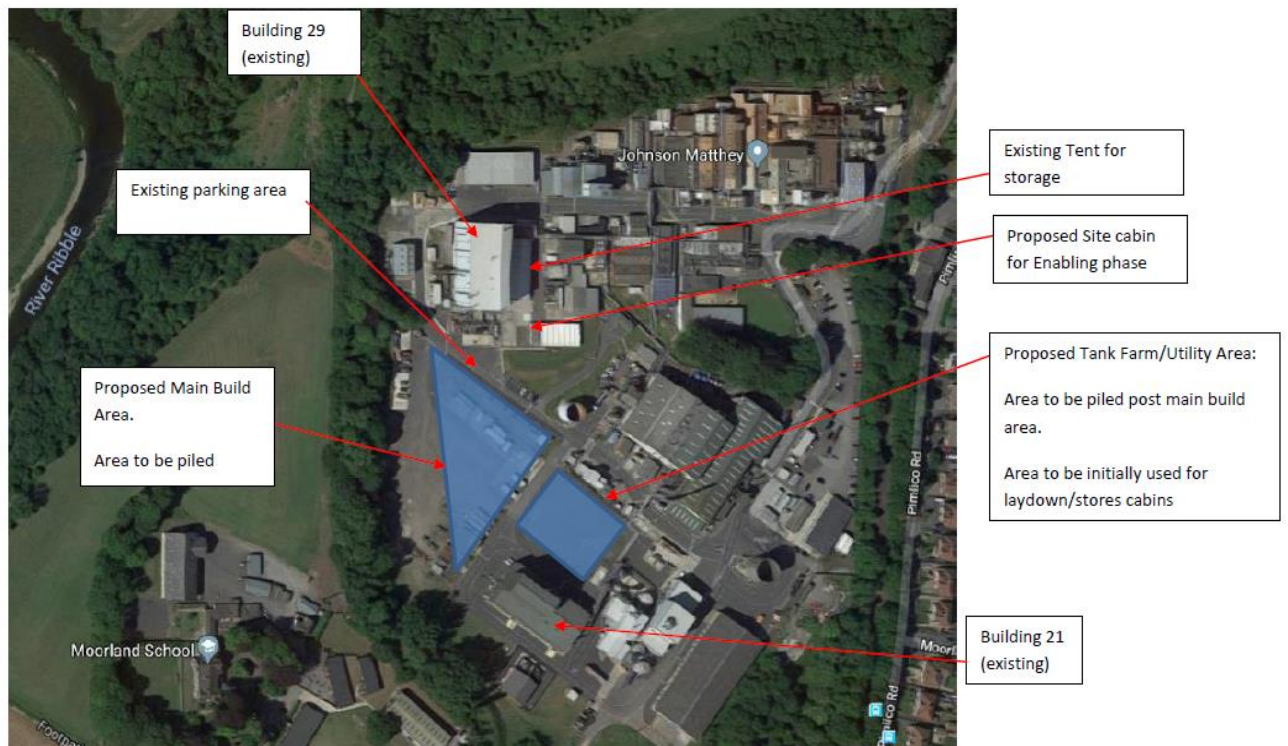
Appendix C: Sub-Contractors / Preferred Contractors

HOLD 4

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Appendix D: Johnson Matthey Ltd Demonstration Plant

Enabling works- Accommodation, Laydown, Parking and Stores Area.



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Appendix E: Proposed Johnson Matthey Ltd Demonstration Plant install- Vehicle Traffic Route Plan

