

30.09.2026

Project Information Memorandum (PIM)

Procurement of Single-Party Framework for Works-Related
Technical Services in Geothermal Engineering Consultancy at
Grangegorman, Dublin, Ireland.

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Executive Summary

The subject of this procurement competition is the establishment of a Single-Party Framework Agreement for the provision of Geothermal Engineering Consultancy Services to support the Grangegorman Development Agency's (GDA) decarbonisation of thermal energy through the potential use of geothermal energy on the Grangegorman Site, Dublin 7, Ireland.

Applicants should note that the process will take place in the English language.

This Project Information Memorandum (PIM) provides an overview of the Single-Party Framework, context, procurement competition and contract arrangements in the first instance.

A detailed description of the initial drawdown, as well as the services that will be required, is provided including alignment with the Republic of Ireland context.

The Open Procurement procedure is described including detail on evidence required for Suitability Assessment as well as Award Criteria and evaluation methodology.

Finally, terms and conditions associated with the competition are outlined.

This PIM must be read as part of the complete set of Procurement Documents made available as part of this competition through the eTender/ OJEU platforms.

The GDA, who are the Contracting Authority, encourages Applicants to take note of the deadline for receipt of queries and clarifications. We encourage queries on the process, Project and documentation.

Definitions

Reference should also be made to definitions and Interpretations provided in standard Capital Works Management Framework (CWMF) forms.

In this Project Information Memorandum (PIM) the following terms and expressions have the following meanings:

Term	Meaning
Agreement	The Form of Contract entered into between the Contracting Authority and the successful Applicants of this competition
Applicant; Tenderer	an Economic Operator seeking to be awarded the contract
Consultant; Service Provider; Well Design and Management company	Successful Tenderer
The Contracting Authority (CA)	the Grangegorman Development Agency (GDA) as constituted under the Grangegorman Development Agency Act 2005 and includes, if the context so admits or requires, its advisors, employees, officers, contractors, agents and the like
The Project (the initial drawdown from this framework)	A geothermal engineering study of the Grangegorman Site identifying and detailing an appropriate integrated well design, costing, procurement and well delivery strategy. This includes engineering support for the execution of the procurement of a Well Delivery Contractor and production of well delivery plans. The outputs, materials, and lessons learned generated as part of the project will become public-facing deliverables of the Gemini project.
Response; Submission	the Information uploaded by Applicants wanting to be considered for this competition
Procurement Documentation	All documentation made available to Applicants as part of this Tender Competition
Grangegorman Site	The site at Grangegorman as defined under the GDA Act. The Grangegorman site is home to a number of Healthcare and educational buildings and/ or campuses including TU Dublin.

GEMINI	The GEMINI project seeks to advance geothermal energy adoption throughout Ireland. Featuring four demonstration sites, GEMINI will highlight diverse applications of geothermal technology across various sectors. GEMINI is funded by the Special EU Programme Body (SEUPB) peace plus programme
Work Package 2 (GEMINI)	The Project forms part of Package 2 of the overall GEMINI Project which is designed to promote the development of deep geothermal on the island of Ireland
Work Package 2 (GEMINI) Partners	Codema (overall Project director); Geological Survey Ireland,(GSI) University College Dublin (UCD) Dublin Institute for Advanced Studies (DIAS) Research Management and Logistics Limited (RML) University of Ulster (UU)
Grangegorman Stakeholder	Any party with a direct interest in the project development given the Grangegorman context shall include (but not limited to) the Technological University Dublin (TU Dublin), the Health Service Executive (HSE), Local Community Representative Forums, Dublin City Council (DCC).;Geological Survey of Ireland (and its contractors),(GSI), CODEMA; Department of Further and Higer Education, Research, Innovation and Science (DEFERIS)

1 Introduction

1.1 Overview

It is proposed to establish a Single-Party Framework Agreement for the provision of Geothermal Engineering Consultancy services described under the headings of General Services and Works Related Services (refer to Section 2 of this PIM) and using The GEMINI Geothermal Design Project as the basis for this Framework competition which will be the first project requiring the services of a Geothermal Engineering Consultant. The scope of service required for this project is detailed duration further in this document. Subsequent potential appointments will be drawn down in accordance with the Framework Agreement (reference 00PROC-GDA-1162-XX-CC-K-PM_50_50_25-0001-FrameworkAgreement).

A Framework Agreement constitutes a means of establishing overall terms and conditions in accordance with which, for a specified duration, individual contracts may or may not be awarded.

The Contracting Authority will use the Framework Agreement as and when requirements within its scope arise. It is emphasised that a Framework Agreement constitutes no guarantee to purchase a specific quantity of supplies or services from a particular economic operator. The Contracting Authority reserves the right to operate outside of the Framework Agreement at its discretion, particularly should it become apparent that doing so would offer greater value for money. Notwithstanding the foregoing, the Framework Agreement approach has been adopted in order to leverage efficiencies and maximise cost savings over the duration of the framework.

The Tenderer submitting the Most Economically Advantageous Tender (MEAT) will, subject to GDA governance approvals, be requested to enter into a single operator framework agreement to provide technical specialist services in respect of Geothermal Engineering Consultancy services for the overall Grange Gorman Development Project in accordance with the European Union (Award of Public Authority Contracts) Regulations SI 284/2016.

Where a Framework Agreement is entered into with the successful Tenderer, the subsequent contract(s) may be awarded based directly on the original terms or alternatively the GDA may invite the economic operator, in writing to supplement their original tender as required.

The successful Tenderer may engage specialist sub-consultants where required but will remain the single point of contractual responsibility. Any proposed sub-consultant must have experience relevant to the project and must be identified to the Contracting Authority before appointment. The Contracting Authority reserves

the right to reject any proposed sub-consultant where concerns arise regarding their relevant experience. Sub-consultants must provide a Collateral Warranty for the benefit of the Contracting Authority.

In broad terms, the competition will adopt the following structure:

1.1.1 Step 1 - Suitability Assessment

Applicants are required to submit completed Suitability Assessment Questionnaire - SAQ (the 'Response') as instructed together with the respective appendices and declarations.

Applicants will then be assessed, in accordance with the PIM and SAQ on the basis of the rules, criteria and weightings set out, which are aimed at establishing the technical and professional knowledge / abilities of Applicants as well as their economic and financial standing.

Applicants invited to participate at Tender stage of this competition may be required to submit additional documents in support of verifiable declarations made in their Responses in accordance with Article 56 of Directive 2014/24/EC, or to supplement the information referred to in Article 56.

1.1.2 Step 2 - Tender

Evaluation of Tenders, submitted by Applicants passing Step 1 – Suitability Assessment, will be carried out against the published award criteria to identify the MEAT.

Any provisional selection as the Preferred Tenderer will be conditional on it entering into the contract on terms satisfactory to the Contracting Authority and satisfying any other notified conditions to the satisfaction of the Contracting Authority.

The Contracting Authority reserves the right to reject the Tender of a Preferred Tenderer if they cannot satisfy any conditions of its provisional selection or for any other reason which the Contracting Authority considers appropriate (as allowable by Directives). In this case, the Contracting Authority may provisionally select the next highest ranked Tenderer as the Preferred Tenderer (subject to any necessary adjustments to the scores if the original Preferred Tenderer had a price which was a reference point for the allocation of marks under any price marking formula).

The Contracting Authority is not liable for any costs or expenses incurred by a Preferred Tenderer arising out of or in connection with its selection or de-selection and anything occurring between such stages.

The Framework Agreement will have a duration of four (4) years. The period for delivery of any contracts awarded under the framework may extend beyond the date of expiry of the Framework Agreement.

1.2 Summary of Services Required

The Service Provider will be required to provide general consultancy advice, concept screening, design development, cost assessment and procurement relating to Geothermal Engineering Consultancy services and the decarbonisation of heat energy at Grangegorman. The service will require on-site support, assessment and supervision of works.

The Service Provider will engage and coordinate with other consultants, Project GEMINI Partners, technical advisors, contractors employed by the Contracting Authority, as necessary.

Stakeholder engagement including with TU Dublin, HSE, Dublin City Council and the local community may also be required.

1.3 Estimated Value

The estimated expenditure for Technical Consultancy Services over the duration of this Framework is estimated at approximately €1,750,000 excluding VAT.

This Framework extends beyond the Project GEMINI timelines.

It should be emphasised that this value is not a guarantee of any spend over the life of the Framework Agreement.

1.4 Framework Drawdowns

The recommendations of the initial report, to be undertaken by the successful Tenderer, will form the direction and specifications of subsequent assignments, and therefore it is not possible in advance to give precise details of future drawdowns.

The process under which services required under the framework will be drawn down is summarised below:

- The GDA will issue a 'Request for Proposal' describing the service required;
- The Consultant will respond with a Proposal including all required information for example – cost, programme, methodology, deliverables and the like;

- If the Proposal is accepted the *An Instruction to Proceed* will be issued with a GDA PO number to be referenced for invoicing purposed.

Any Works Related contracts awarded to the Consultant over the duration of the Framework shall be subject to the Standard Conditions of Engagement for Technical Services (COE 1) and any other applicable requirements of the Capital Works Management Framework (“CWMF”) as set out by Department of Public Expenditure and Reform.

2 Scope of Services Required over Lifetime of Framework

2.1 Overview

The Grangegorman Urban Quarter is a 73-acre site located in Dublin's North Inner City (refer to Appendix 1 for site location information). It accommodates a university campus, as well as healthcare facilities, a primary school and lands zoned for commercial use. The site is master planned and a centralised, gas powered, energy system provides thermal energy to all Stakeholders by means of an existing district heating system.

Two of Grangegorman's largest stakeholders are public-sector bodies and are therefore subject to the Government of Ireland's Public Sector Climate Action Mandate, which requires carbon-emission reductions of 30% by 2030 and 50% by 2050. As owner of the existing energy centre and district heating system, the GDA is responsible for decarbonising thermal energy at Grangegorman and supporting its stakeholders in meeting these statutory targets.

The Grangegorman Site has been identified as a potentially suitable site for a geothermal district heating system. Initial studies and a 1 km NQ diameter (48mm) coring borehole have determined a geothermal gradient of 28°C/km at a depth of 1km beneath the site.

It is anticipated that any well would be targeting karsted/fractured carbonate reservoirs within the Mississippian section of the Carboniferous (Ballysteen and Waulsortian Formations), although the depth to basement is as yet uncertain, regional geological modelling has indicated possible basement at a depth of around 2 km with +/- 300m uncertainty. 2D or Pseudo 3D reflection seismic is planned to be acquired and processed before any proposed drilling operations begin.

Funding has been obtained from the Special EU Programme Body (SEUPB) as part of the GEMINI Project to execute a pilot geothermal exploration well on the Grangegorman Site, subject to a feasibility study (the initial drawdown from this Framework) which would provide additional data to form a Business Case for the decarbonisation of thermal energy at Grangegorman by means of geothermal energy. This is the long-term objective of the GDA and the basis for this framework.

The successful Tenderer will be required to provide Geothermal Engineering Consultancy services to the GDA to assist in the delivery of the above, as well as the successful delivery of a decarbonised thermal energy system at Grangegorman by means of geothermal energy.

2.2 Initial Framework Drawdown (The Project)

The successful Tenderer will initially be required to provide a geothermal engineering study with an integrated well design, procurement and well delivery workstream. This delivery forms part of Project GEMINI at Grangegorman (Work Package 2), a project funded by the Special EU Programme Body (SEUPB) Pease Plus Programme.

There are 3 main scopes of work within this project

- Option Definition
- Drilling Design and Planning
- Techno-economic Archetype Definition

The first two scopes are directly interlinked and will be carried out in series. The third scope is independent and can be carried out in parallel or in-series to the first two.

This Project is outlined in Section 3.

2.3 Subsequent Framework Drawdowns

Beyond the initial framework drawdown two principal scope items are currently envisaged.

2.3.1 Management and supervision of the delivery of Grangegorman wellbore

The likely scope of this project is described in Section 3.7 here-in and will require management of the procurement of drilling rig and related services; preparation of final well planning document; implementation of well delivery processes; overall management and on-site supervision of the drilling programme including pad construction, mobilisation, operations, demobilisation and site restoration; and participation in operational lessons learned process and documentation.

2.3.2 Grangegorman Geothermal Decarbonisation Project

The likely scope of this project will be to undertake detailed feasibility and design study for the utilisation of geothermal as part of the decarbonisation of Grangegorman District heating network / campus. This project will build on the results of the initial framework drawdowns to develop and cost specific geothermal solutions for campus heating and cooling loads. These solutions will range from deep to shallow geothermal options and may incorporate other heating and cooling decarbonisation technologies where justified to support the geothermal solutions. Heating/Cooling demand definition and rationalization may form part of this project.

3 The Project

3.1 Options Definition Scope

This contract will require the Geothermal Engineering Consultant to determine the borehole depth, diameter, construction method and completion type that can be delivered considering the two-year timeframe for delivery, the available capital works budget of approximately €5 million, the anticipated rig market availability, the Grangegorman Site constraints and the statutory approvals route, including, but not limited to:

- Planning approval from the local municipal authority and the granting of the appropriate environmental licenses.
- Establish an affordable, programme-realistic and technically justified geothermal engineering pathway for the Grangegorman site before committing to a final well design. The Consultant shall explicitly test whether the available funding and time can support all the borehole objectives, or whether the project should be reframed around a different well type that still delivers useful subsurface data and/or legacy geothermal infrastructure.
- Determine the deepest practicable borehole that can be drilled, logged, tested, completed and closed out within the remaining GEMINI programme and available capital budget, considering the geological constraints.
- Define the potential operational use of the borehole under each feasible depth and completion scenario.

The Consultant shall present the Contracting Authority with a factual based recommendation on the maximum practical well depth and the most appropriate borehole type. The final criteria on which the recommendation should be based will be agreed at project kick-off but a weighted analysis of the following criteria is envisaged

- The ability to successfully execute the planned borehole within the project window (must be complete by September 2028)
- The ability to successfully execute the planned borehole within the available fixed budget.
- The ability of the data generated by the borehole to constrain / inform the geological and flow modelling work being undertaken in Gemini
- The ability of the borehole to contribute to the larger assessment of

geothermal feasibility at the Grangegorman site.

- The potential for the borehole to be completed/reused to provide heat as a proof of concept in the short/medium term

The recommendation shall consider the following non-exhaustive list of design options to be assessed as part of the Optioneering Phase:

Candidate wellbore pathway	Purpose	Key question to be answered by Consultant
Slim-hole cored and logged scientific well to minimum 1800m TVD.	Acquire core, geophysical logs, temperature, geomechanical and dynamic reservoir data to reduce subsurface uncertainty.	Can a scientifically valuable well be delivered within budget and programme if a production-scale or closed-loop completion is not achievable? Can potential limitations of handling test fluid at surface be overcome?
Rotary slim-hole well to a depth of at least 1200m TVD.	Reach the deepest practical geological target using a cost-effective drilling method, with logging and testing (as above) as the primary output.	What depth is realistic with available rigs and what resource or geothermal technology uncertainty would be reduced?
Slim-hole with back-reamed and retrofitted closed-loop section	Create an exploration borehole to 1800m TVD be converted into a useful borehole heat exchanger over part of its depth.	Can a 500m or deeper section be enlarged and completed safely and economically as a coaxial closed-loop heat exchanger?
Purpose-designed deep closed-loop borehole to at least 1200m TVF.	Deliver a legacy closed-loop thermal asset using a coaxial borehole heat exchanger. Data programme as above.	Can a deep closed-loop base design at Grangegorman be drilled toward 1,800 m within the available budget and programme?
Open-loop production or injection well to at least 1800m TVD.	Create the first element of a deep geothermal doublet if reservoir conditions, well design and programme are compatible.	Is an open-loop well technically and financially feasible. What reservoir testing could be realistically be achieved using a single borehole?

Table 1: Non-exhaustive list of design options to be assessed as part of optioneering phase.

3.1.1 Grangegorman Drilling Design & Planning Scope

The below provides a summary scope of the deliverables and services required under this Contract:

- Determine a reservoir testing plan that would provide flow test, pressure and in-situ stress information. In the case of deep borehole closed-loop borehole configurations the determination of whether a thermal response test will be required. It should be noted that production of saline fluids to surface may not be feasible due to cost to store and dispose of these in a compliant manner.
- Provide a fully engineered and costed well and pad design for the chosen borehole option.
- Prepare and manage to an achievable drilling schedule.
- Develop all necessary ancillary plans to facilitate operations such as noise abatement, HSE, waste disposal & mobilisation.
- Inform and participate in community engagement activities.
- Recommend a preferred procurement and well delivery strategy for the selected well option, including the scope to be tendered, risk allocation, contract form, required contractor capability and decision gates before drilling.
- Assist in obtaining all necessary statutory consents, including but not limited to, permission from the local municipal planning authority and all necessary environmental licenses. This will require the Consultant to liaise with these statutory authorities, attend in-person meetings and provide all necessary documentation to meet the requirements of the authorities.
- Prepare all necessary procurement documentation required for a successful procurement of an appropriate Well Drilling and associated services companies, including all services to be provided by same.
- Assist in the creation of lessons learned documents and templates for the design and planning phase.

The Project will align with the CWMF Work Stages 1 to 3, described in Section 3.

3.1.2 Techno-Economic Archetype Definition Scope

As a separate task that is not connected explicitly to the above option screening and borehole design and planning, the Geothermal Engineering Consultant shall also complete a techno-economic assessment of three notional geothermal system cases. The purpose of this task is to generate generic business case inputs for use by GDA and the Gemini project, for example as inputs into economic modelling tool being developed as part of WP2. These 3 cases are:

Archetype 1 - Deep open-loop geothermal system: hot water is produced from the deep carbonate reservoir through a production well, passed through heat exchangers into the Grangegorman district heating system and re-injected through a separate injection well. Minimum temperature requirement is 70°C

Archetype 2 - Hybrid open-loop geothermal system with high-temperature heat pump: a production and injection pair is used, but brine at approximately 50°C is lifted to the operating temperature required by the district heating network using high-temperature heat pumps and associated plant.

Archetype 3 - Deep closed-loop geothermal system: a closed-loop coaxial borehole heat exchanger is installed, modelled and costed as a long-term ground heat exchanger asset.

The assessment shall build on previous feasibility studies carried out at the site which will be made available to the successful tenderer.

The scope is to prepare a comparative techno-economic assessment for use in future economic modelling of deep open-loop, hybrid open-loop with high-temperature heat pump, and deep closed-loop geothermal system options for the Grangegorman district heating network including an all in cost versus depth function for each type.

3.1.3 Project Timelines

The desired project timelines are outlined in Section 3.3. The SEUPB funded portion of Grangegorman drilling project must be complete by September 2028. Considering this hard deadline, it is currently assumed that option analysis and concept selection must be complete by the end of December 2026, the well design and costing progressed to the point of ordering long lead items by end of March 2027, and the Project, including completion of the scope outline in 3.1.1 including the preparation of procurement documentation, must be completed within 6 months of commencement of the project by the end of June 2027. These assumptions will be reviewed as part of the initial kick-off meeting upon award.

The techno-economic archetype scope must be complete by end October 2027.

Note:

The Contracting Authority encourages Applicants to take note of the deadline for receipt of queries and clarifications. We encourage queries on the process, Project and documentation.

3.2 Governance

3.2.1 Public Spending Code and Infrastructure Guidelines

All Irish public bodies are obliged to treat public funds with care, and to ensure that the best possible value for money is obtained whenever public money is being spent or invested.

The Public Spending Code is the set of rules and procedures that ensure that these standards are upheld across the Irish public service.

In the case of this project the Contracting Authority will be operating in accordance with the Public Spending Code.

Identified roles within the Public Spending Code as regards the implementation of the project will be fulfilled as follows:

- Contracting Authority: GDA
- Sponsoring Agency: GDA Executive
- Approving Authority: GDA Board

3.2.2 Capital Works Management Framework (CWMF)

The CWMF¹ contains an integrated set of contractual provisions, guidance material and technical procedures which cover all aspects of the delivery process of a public works project in the Republic of Ireland from inception to final project delivery and review.

Tenderers are to be familiar with the structure and guidance of the CWMF.

In the case of this framework, the Contracting Authority will be following CWMF guidance for all projects.

It is understood by the Contracting Authority that the CWMF standard contract suite relating to Works will require careful review and consideration to establish suitability for projects. Review and recommendation of appropriate procurement routes and contract forms will be part of the role of the Geothermal Engineering Consultant.

¹ [Capital Works Management Framework overview Website Link](#)

3.3 Project Milestones

The development of a programme for design, statutory approvals and preparation of procurement documentation will form a deliverable under this Contract. The below illustrates anticipated indicative milestones for the purposes of tender.

Governance	Project Phase	Milestone	Anticipated Time frames
Sign-Off point	Project Preparation	Approving Authority Approval	In place
	Procurement	Appointment of Geothermal Engineering Consultant	November 2026
	Design Phase Preliminary (Option Definition)	Completion of Phase Deliverables (at least one viable option)	8 weeks
Sign-Off point	Design Phase Preliminary	Sponsoring Agency Approval	Allow for 1 weeks* at completion of Work Phase
	Design Phase Development (Detailed Engineering of Chosen Option)	Completion of Phase Deliverables (Ready to order Long Lead items)	8 weeks
Sign-Off point	Design Phase Development	Sponsoring Agency Approval	Allow for 1 weeks* at completion of Work Phase
	Planning & Procurement Preparation Phase (HSE, Schedule, Cost, Regulatory)	Completion of Phase Deliverables (Ready for procurement and regulatory approval)	10 weeks
Sign-Off point	Planning Phase	Approving Authority Approval to go to Tender	Allow for 1 weeks* at completion of Work Phase
	Archetype Definition Phase (Techno-economic input creation)	Completion of Phase Deliverables (3 archetype outputs & costs developed)	16 weeks
Sign-Off point	Archetype Phase	Sponsoring Agency Approval	Allow for 1 weeks** at completion of Work Phase

Table 2: Project milestones.

* This assumes continuous review and stepped approvals of work in progress deliverables

**This work package is independent of the other phases and can be run in parallel or concurrently. The deliverable must be complete by October 31st, 2027.

Continuation to Procurement, Operations and Close-Out Phases will form a separate drawdown from this framework and an indicative outline of this potential future project is broadly outlined in Section 4.6. Proceeding to this future phase will be dependent on the successful outcome of the initial drawdown, The Project, and on funding approvals.

Please note specific time and milestone constraints:

- Borehole Operations Deadline: All operations, demobilisation, site-remediation, final reporting and incurred expenditure must be complete by September 15th, 2028

3.4 GEMINI Context

3.4.1 GEMINI structure & roles related to Grangegorman

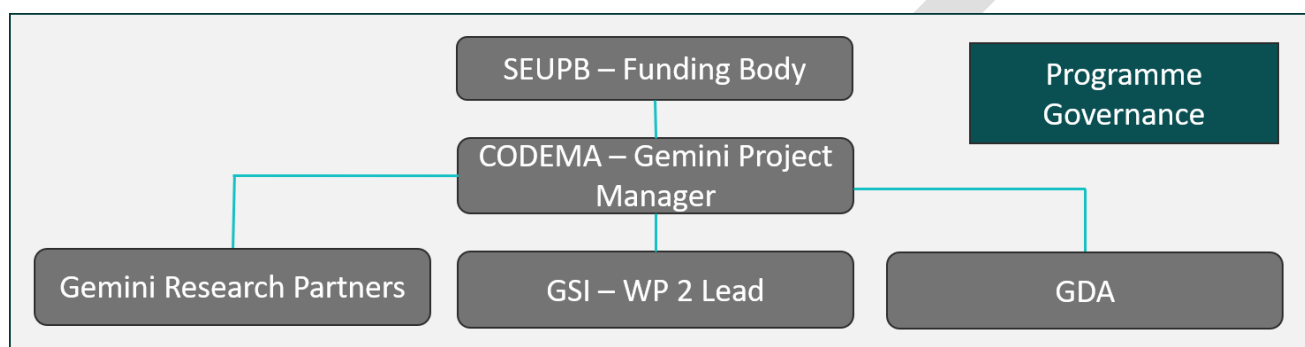


Figure 1: Overview of GEMINI Work Package 2 structure.

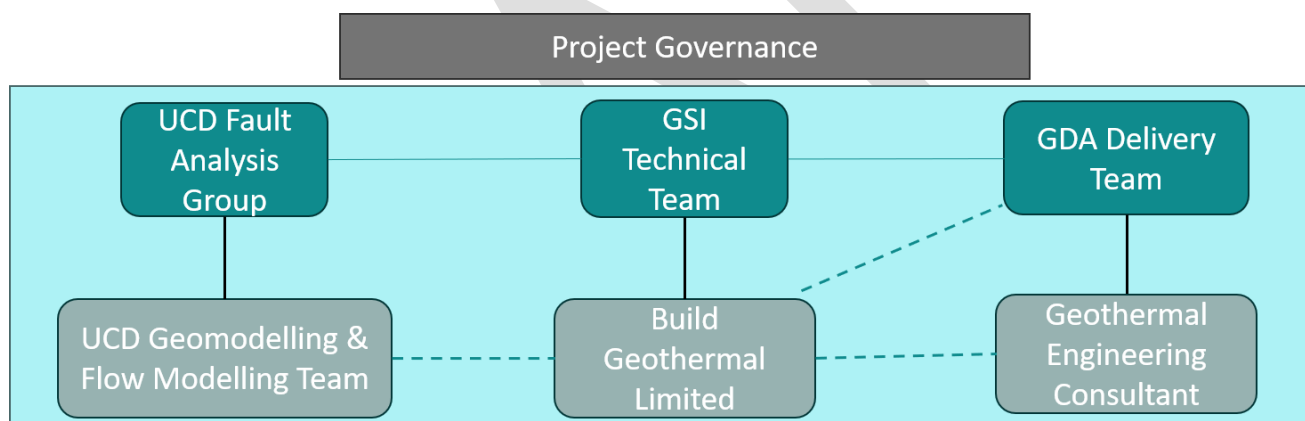


Figure 2: Overview of Grangegorman Demonstration Project Delivery Structure.

Gemini is funded by the SEUPB. CODEMA as the overall Gemini project manager are accountable to the SEUPB to ensure that promised outputs are delivered and the budget managed accordingly. They act as the interface between GDA as a project partner and SEUPB. The Geological Survey Ireland (GSI) are a partner and the Gemini Work Package 2 Lead. In that role they are accountable for ensuring WP2 produces the promised outputs including those relating to Grangegorman Drilling project which is a key activity in WP2. There are additional project partners whose deliverables relate to the Grangegorman project which include research organisations and communications and stakeholder engagement partners.

For the delivery of Grangegorman demonstration project GDA is the Contracting Authority and accountable for the successful delivery of the project. The GSI

technical team and their appointed contractor, Build Geothermal Limited, fulfil the role of technical advisors to GDA. Part of this role will be to act as the conduit and assurance point for geoscience information produced by one of the research partners, University College Dublin (UCD), which will be an input into optioneering and design work carried out by the Geothermal Engineering Consultant. UCD have built the 3D geological model of Grangegorman and are developing the reservoir model that the borehole will inform and constrain. GSI and its advisor will be responsible for specifying the formation evaluation programme for the wellbore (coring, geophysical logging etc), which GSI will be funding separately. They, along with UCD, will be a key stakeholder in agreeing the in-situ stress and dynamic reservoir testing programme with GDA. Any requests for technical information or geoscientific advice or clarification on Gemini related deliverables not within the remit of GDA will be routed to GSI. GSI are responsible for ensuring lessons learned from the demonstrator are captured and will facilitate this process. Only GDA can provide instruction to the contractor unless specifically delegated, as per the Contract.

3.4.2 Gemini Reporting

The successful Geothermal Engineering Consultant will report directly to the Contracting Authority. This Service Provider will be required to name a point of contact for each phase of work. The consultant will take instruction only from the Contracting Authority.

The Contracting Authority will be responsible for ensuring that appropriate updates and reporting as required will be provided to the GEMINI Work Package 2 leaders (GSI). The Geothermal Engineering Consultant may from time to time and as part of scheduled reporting and meetings be required to make direct updates or provide specific evidence to these groups.

3.4.3 Borehole Planning Technical Requirements

The Contracting Authority will ensure that the GEMINI Technical Advisors (GSI) requirements are accounted for in all instructions to the Geothermal Engineering Consultant. For practical reasons it is envisaged that the GEMINI Technical Advisors will be in attendance at all update meetings.

3.4.4 Gemini Project Requirements

The Contracting Authority, working with GSI, will be responsible for communicating all GEMINI Project requirements to the Geothermal Engineering

Consultant. These are to be accounted for by the Geothermal Engineering Consultant in the detail deliverables programme to be agreed with the Contracting Authority.

These requirements will include but are not limited to:

- During operations phase facilitating access to drilling logs for correlation to any observed seismicity events
- Participating in lessons learned workshop at the end of the initial framework scope.
- Contributing to the definition of formation evaluation programme, and managing the costing, procurement and delivery of that programme.

3.4.5 Contributing to the definition of in-situ stress testing programme, and managing the costing, procurement and delivery of that programme. Contributing to the definition of reservoir testing programme, and managing the costing, procurement and delivery of that programme. External Communications

The Contracting Authority will be responsible for ensuring that all public/ stakeholder/ community communications are aligned to GEMINI requirements as identified by the GEMINI Overall Comms Team.

The Geothermal Engineering Consultant will be required to participate in one in person stakeholder engagement forum and contribute expert advice to development of stakeholder materials.

Please also refer to section 2.8 in relation to meeting anticipated meeting attendance.

3.5 Additional Project Team

The Contracting Authority will provide specific expertise to complete the Project Team for the Project at Grangegorman. This will include but may not be limited to:

- Planning expertise who will advise on statutory requirements;
- Environmental Management expertise who will advise on statutory requirements;
- PSDP (Project Supervisor Design Process) to meet the Contracting Authority's statutory requirements.

The Geothermal Engineering Consultant must engage and coordinate with these and any other specialists provided to the Project by the Contracting Authority.

3.6 Confidentiality and Information Sharing

It is noted that processes adopted and information obtained throughout the project, e.g. any information that is derived from the drilling of the well will be made publicly available.

The aim of the GEMINI Project is not simply to deliver the borehole and associated data but to document the process of planning and executing the well along with the lessons learned. The Geothermal Engineering Consultant will be expected to participate in knowledge capture including (but not limited to) programmed workshops alongside GEMINI Technical Advisors and GEMINI Project Interface at the end of each significant phase of the project.

The purpose of documenting the process for delivery is to serve as a guide for potential future geothermal projects in Ireland. The wider GEMINI team will use this learning, knowledge capture and well information in a geothermal development roadmap that will form part of an online toolkit.

3.7 Project Meetings and Communications

The Geothermal Engineering Consultant will report directly to the Contracting Authority. The Geothermal Engineering Consultant will be required to name a point of contact for each phase of work. A 1 hour weekly progress meeting will be established for each phase of work.

4 Detail of Services Required

4.1 Overview of Project Phases

The project has indicatively been broken down into phases of work. These will align to deliverables milestones as well as governance sign off points.

- Preliminary Design Phase (aligned to CWMF Work Stage 1)
 - Development and recommendation of options.
- Developed Design Phase (aligned to CWMF Work Stage 2a)
 - Detailed engineering, schedule and costing of chosen option
- Final Design and Planning Phase (aligned to CWMF Work Stage 2b)
 - Preparation of HSE and Regulatory inputs, cost and schedule
- Procurement Phase (aligned to CWMF Work Stage 3)
 - Preparation of procurement strategy and documents

Note:

- Insurances, evaluation, award of tender
- Contract negotiation and signing.

The above will form part of a follow-on project, to be drawn down from this Framework.

This Project will conclude prior to issuing of Procurement Documentation (3b). A follow-on project, would include the remainder of the procurement phase and work aligned with following CWMF Stages:

- Operations Phase (aligned to CWMF Work Stage 4)
 - Final design, costing and schedule based on tender outcomes
 - Operational plan including drilling programme and final HSE plan
 - Management of the delivery of the borehole including onsite supervision
- Close out Phase (aligned to CWMF Work Stage 5)
 - Well test interpretation
 - Lessons learned
 - final documentation

The anticipated activities and deliverables associated with each Project Phase of this project are outlined in the following sections.

Initial Drawdown – ‘The Project’			Second Drawdown	
Preliminary Design	Developed Design	Final Design & Planning		
CWMF WS 1	CWMF WS 2a	CWMF WS 2b		
		Procurement	Final Procurement, Mobilization & Operations	Close Out
		CWMF WS 3 (a)	CWMF WS 3/CWMF WS4	CWMF WS5

Table 3: Overview of Project Phases.

The Archetype definition project sits outside the CWMF stages as it is unrelated to works.

4.2 Indicative meeting Frequency

It anticipated that an in-person day (all in-person events will be held in Dublin) will be required up to 2 times per work phase (see following sections for detail understanding of work phases).

Any in-person day will be aligned, as far as is feasible, to include for a number of events, workshops, meetings.

Phase	CWMF WS	Event	Frequency	Description
Preliminary Design	1	Kick off meeting	once	In-person workshop
Preliminary Design	1	Coordination Meeting	weekly	online
Preliminary Design	1	Regulatory & Stakeholder engagement	once	Online
Preliminary Design	1	Option presentation Workshop	once	End of stage workshop In person or online
Developed Design	2a	Coordination Meeting	weekly	online
Developed Design	2a	Cost & Schedule Presentation Workshop	once	End of stage workshop In person or online
Final Design & Planning and Procurement	2b & 3a	Coordination Meeting	Weekly	online
Final Design & Planning and Procurement	2b & 3a	Regulatory & Stakeholder engagement	once	In-person workshop
Final Design & Planning and Procurement	2b & 3a	Lessons Learned Workshop	once	End of stage workshop In person or online
Archetype Project		Progress Meeting	Biweekly	online
Archetype Project		Results Presentation	Once	End of stage workshop In person or online

Table 4: Indicative minimum meeting frequency.

4.3 Preliminary Design Phase

The Design Phase, as described herein, is commensurate with Capital Works Management Framework (CWMF) Work Stage 1.

The objective of this phase is identify at least one viable drilling option that fulfils the Gemini project carbonate deep demonstration drilling requirement in the remaining available time (prior to Sept 15 2028) and within the allotted budget.

4.3.1 Services Required

The primary function of the Geothermal Engineering Consultant at this Phase is to identify the optimal option to deliver a successful borehole at the Grangegorman site within the allocated GEMINI programme timeline and budget.

The Consultant shall determine what depth and type of wellbore can be drilled within the available time, capital budget and likely rig market, and shall identify the corresponding long-term use of that wellbore. This assessment shall include minimum of slim-hole core well, rotary slim-hole, back-reamed retrofit closed-loop, purpose-designed deep closed-loop and open-loop production/injection well pathways.

Assume a base case of a deep closed-loop borehole for Grangegorman using a coaxial closed-loop design as a starting point, to a nominal 2000 m target depth.

The primary outcome will a multicriteria assessment of the options and recommendation for design to bring forward to the next stage. The Contracting Authority, with input from Gemini partners, will chose a single option to bring to the next phase.

4.3.2 Deliverables

The deliverables produced the Geothermal Engineering Consultant during this stage will include:

01	Kick-off meeting within 1 week of award to frame options considered
02	Option screening and definition
03	Assessment of major delivery risks and benefits of each option
a	Multi-criteria analysis weighted on delivery risk versus project objectives

04	Presentation of option assessment and recommendation This should include details of the cost of optionality, i.e., a comparison of data only vs future production use borehole design scenarios.
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4.4 Developed Design Phase

The Design Phase, as described herein, is commensurate with Capital Works Management Framework (CWMF) Work Stage 2a.

The objective of this phase is to engineer the drilling option chosen at the outcome of the previous stage to a point where GDA internal approval to order long lead items can be achieved.

4.4.1 Services Required

The primary function of the Geothermal Engineering Consultant at this Phase is to lead the well engineering planning process that includes integration of geological prognosis, review of relevant offset wells and analogues (if not done in phase 1), coordination with permit and regulatory consultants.

The primary outcome is a developed design with associated cost and programme in order to gain approval for, and place, orders for long lead items and to forecast expenditure for the project.

4.4.2 Deliverables

The deliverables produced by the Geothermal Engineering Consultant during this stage will include:

01	Project Programme
02	Preliminary project risk assessment and mitigation planning
03	Regulatory Engagement and Compliance
a	Identification of relevant statutory regulations around waste management, health and safety, noise abatement and well safety
04	Preliminary Design and Cost
a	Preliminary schedule for the drilling project from design to demobilisation

b	An outline well design document including a discussion of well design rationale; key data gaps for well planning and any resulting associated cost/schedule risk; and a contingent completion design for a closed loop borehole heat exchange system.
c	Prelim base well design including (not limited to) casing, cementing, testing, completion strategies, directional drilling requirements, wellhead, metallurgy and drill pad design.
d	List of required materials, services and equipment requirements
e	Rig requirement specifications
f	Preliminary Noise abatement plan
g	Preliminary Waste management plan
h	At least one viable well test concept given site constraints / costs
i	Preliminary wellbore suspension/abandonment plan
j	Market engagement report for costing, identification of long lead items, realistic time schedule etc
k	Preliminary cost estimate including cash flow requirements related to long lead items, consumables etc.
l	Preparation of long lead item procurement documents
05	Presentation of plan

4.5 Planning & Procurement Definition Phase

The Planning and Procurement phase as described here-in is commensurate with Capital Works Management Framework (CWMF) Work Stage 2b with elements of Stage 3 incorporated.

The objective of this phase is to further define the engineering and planning of the single chosen drilling option to a point where final investment decision on the drilling can be made and the procurement of drilling and related services can be sanctioned.

4.5.1 Services Required

The final design and planning and procurement phase shall convert the single preferred option into a tenderable and deliverable project. The primary function of the Geothermal Engineering Consultant in this Phase is to lead the finalisation of design, schedule and cost), as well developing initial operational plan including all relevant HSE, noise and waste plans and input to regulatory process. in coordination with permit and regulatory consultants. The development of the procurement strategy and preparation of procurement documents is a key component of this stage.

4.5.2 Deliverables

The deliverables produced by the Geothermal Engineering Consultant during this stage will include:

01	Project Programme
02	Updated project risk assessment and mitigation table
03	Regulatory Engagement and Compliance
a	Identification of relevant statutory regulations around waste management, health and safety, noise abatement and well safety.
b	Detailed project description and documentation required for planning and environmental regulatory approval applications.
c	Well safety regulatory submissions (if required)
d	Preliminary Health and Safety Plan (developed in conjunction with assigned PSDP as per Irish Workplace Health and Safety regulations.)
e	Coordinate and respond to/ incorporate EIA/ AA input
04	Procurement Plan
a	Procurement Strategy and Plan to include for all equipment, services and personnel including recommended lotting, contract form, pricing structure and risk allocation.
b	Development of procurement documentation including tender specification and award criteria preparation. (All Procurement must be carried out in accordance with EU Public Procurement Rules)
c	Contract recommendations
d	Technical file for drilling contractor procurement, including drawings, specifications, testing requirements, data acquisition requirements, HSE requirements and reporting requirements.
e	Tender evaluation inputs that test contractor ability to deliver the selected well type

	within the constrained programme and budget.
f	Tender-ready well design basis memorandum, including design assumptions, exclusions, drilling envelope, casing programme, testing requirements, suspension/completion requirements and residual-use assumptions.
05	Design Finalisation
a	Detailed Schedule for the drilling project from procurement to demobilisation including uncertainty analysis
b	A detailed cost estimate (including but not limited to items listed) including a cost sensitivity analysis (i.e., which are the most sensitive parts of the cost estimate). To include spend profile with any particular cash flow requirements related to long lead items/ consumables and the like.
c	Update of well design if required
d	Agreed data acquisition programme (coring, geophysical logging, reservoir testing etc)
06	Lessons learned document and design process documentation to facilitate information sharing as outlined in previous section

4.6 Archetype Project

The objective of this part of the project is to generate input data to Gemini WP2 economic modelling tool (T2.6.1) and to potential future GDA business cases. It is considered standalone from the drilling option and design study rather than dependent on it. The intention is to create techno-economic development archetypes for a success case. For the purposes of this element of the project, it is assumed the borehole drilled as part of the Gemini project will not form a meaningful part of long-term decarbonisation and would only be an exploration/monitoring borehole.

4.6.1 Services Required

The primary function of the Geothermal Engineering Consultant at this Phase is to design and cost three different deep geothermal development archetypes to inform geothermal feasibility assessment of the decarbonisation of the district heating system at Grangegorman. Considering current and future heat demand scenarios to be provided by the Contracting Authority, and utilising geoscience and reservoir data provided, plus the consultant's own experiences, 3 different systems should be designed and costed including subsurface and surface components up to the point of the heat-exchanger to the District Heating system. These are:

- A deep open loop doublet type system
- A hybrid open loop system where input fluid is boosted by a high temperature heat pump
- A deep closed loop borehole heat exchanger system including high temperature heat pump.

These archetypes will feed into wider Gemini output of a generic deep geothermal for district heating economic model.

4.6.2 Deliverables

- Recommended borehole and completion design for each archetype.
- District heating interface note setting out surface plant, heat exchanger, high-temperature heat pump, metering, controls and energy center implications for each system option.
- Planning, licensing and environmental requirements register for the selected borehole type and system option, including specific reinjection, abstraction, induced seismicity, NORM, water management and urban drilling controls where relevant.
- Geothermal archetype report detailing the assumptions and inputs used for the deep open-loop, hybrid open-loop with high-temperature heat pump, and deep closed-loop systems.
- Techno-economic model for the three archetypes, including capital cost, operational cost, energy output, and cost uncertainties. Generate an all in cost versus depth function for each archetype.
-

4.7 Operational Phase (Next Phase of Framework Contract)

The Procurement Phase as described herein is commensurate with elements Capital Works Management Framework (CWMF) Work Stage 4 with elements of Stage 3. This section is included for reference only and is beyond the scope of the initial framework drawdown. This phase will be required only if the Contracting Authority elects to proceed to well delivery following completion of the Option Definition, Design and Procurement Definition phases.

4.7.1 Services Required

Well pad is constructed; rig is safely mobilised; technical well objectives are met; well is delivered on budget & schedule; agreed safety metrics are delivered; compliance with regulatory, planning and environmental permits is achieved; the Wellbore is left in a safe and compliant state with respect to applicable Irish environmental, safety and resource regulations.

If instructed, the Consultant shall manage delivery of the well in accordance with the selected well option, including pad construction, site mobilisation, drilling supervision, cost control, HSE assurance, testing, data acquisition, completion or suspension, and handover of all records required to support future use of the asset.

4.7.2 Deliverables

The deliverables to be produced the Geothermal Engineering Consultant during this stage will include:

DRAFT

01	Update Project Programme
02	Update Project risk assessment and mitigation table
03	Regulatory Engagement and Compliance
a	Determination of appropriate environmental and safety metrics for the drilling operation based on relevant legislation and industry best practice.
04	Final Design, schedule and Cost
a	Drilling programme including any required noise abatement & lighting procedures, suspension/abandonment plan, data acquisition plan The detailed operational programme must be aligned with the planning and regulatory consents.
b	Authorisation for Expenditure (AFE) level cost estimate
c	Finalisation of well design including final designs for well pad, casing, cementing, testing and completion
d	Final Suspension/Abandonment design
e	Final well testing plan that considers health, safety, environment and budget constraints
f	Final waste management plan in accordance with Irish legislation and best practice
g	Final drilling schedule
05	Running Drill Well on Paper (DWOP) exercise involving relevant contractors and stakeholders
06	Operational Supervision
a	Supervision of well pad construction
b	Supervision of mobilisation
c	Supervision of wellsite operations
d	Oversight of drilling contractor and other on-site services
e	Management of health safety and environment (HSE) protocols and performance including waste management and removal.
f	Cost management and reporting
g	Identification, troubleshooting and resolution of technical and operational issues encountered during operations
h	Participation in Gemini communications and stakeholder events
i	Supervision of wireline logging
j	Supervision of injection test to determine minimum horizontal stress magnitude
07	Execute agreed suspension/abandonment plan
08	Supervise Rig release and demobilisation
09	Final lessons learned process documentation to facilitate information sharing

4.8 Cost Estimate

The cost estimate should cover all relevant activities pertaining to drilling and testing of the geothermal exploration well. In broad terms the estimate should cover pre-operation planning costs including long lead items and site prep, mobilisation costs, operation costs, and demobilisation and site cleanup costs. It is expected that these would include (but are not limited to) items listed in Table 1 below.

This should consider all pre-operational, operational, and post-operation costs including mobilisation, and include contingency. The contingency amount should reflect the level of uncertainty based on availability of input data. A high and low case estimate should be provided. (NOTE: A full probabilistic cost estimation process can be employed if sufficient inputs are available). A trouble-free time estimate should be provided with non-productive time (NPT) assumption added to this.

It is noted that cost estimates identified in previous sections must include but will not be limited to the below.

Pre Operational Planning Phase	Operations Phase (cont'd)	Consumables (Tangibles)
Well management services for detailed engineering, costing and procurement for the well(s) and drilling program development	Tool Rental	Wellhead (if required)
Regulatory & environment application preparation	Tubular Rental (if not included with rig)	Bits & Reamers
Engineering Safety approvals including development of ERP	Geophysical Logging	Casing & Accessories
Well site surveying & construction (incl matting if required)	Coring Services	Drilling Fluid Materials
Planning approval including noise modelling, dust management etc	VSP	Cement
Community engagement townhall and communications plan	Cementing Services	Rig Water
Long lead orders	DFIT/XLOT testing	Fuel
Drilling Rig Day Rate	Suspension/Abandonment Services	Misc

Table 5: Overview of activities for cost estimate - non exhaustive list.

4.9 Information Management

Grangegorman Development Agency (GDA) manage and deliver all projects in accordance with the ISO 196502 suite of standards.

GDA have developed specific 'Exchange Information Requirements' (EIR) and will require all members of our project teams and delivery teams (design consultancy teams, works/building contractors and their full supply chains) to comply with these requirements, produce and manage/maintain a project-specific 'BIM Execution Plan' (BEP) using the GDA Digital BIM Execution Plan (dBEP) template.

GDA require that all relevant information management and information production roles and responsibilities, both project specific and/or as set out in ISO 19650, are fully resourced and addressed to ensure that GDA remain compliant with the requirements set out in ISO 19650 regardless of the size, value or complexity of a project. All project related information will be contained within a project specific information management plan.

An information management plan template will be produced by GDA and managed/ maintained by the relevant Project information manager, through the various phases of a project, as a tool to support and enable information exchange and communication. The information management plan will remain a live document for the full duration of the project and/or a specific project related task.

All Applicants/bidders, and any specialist sub consultant employed on the Applicants/bidders team (and members of our project teams and delivery teams) must understand and comply with all acceptance criteria as defined within the information management plan issued as part of the documentation during the procurement competition.

² The ISO 19650 standard is an international standard for managing information over the whole life cycle of a built asset using building information modelling (BIM)

5 Physical Context & Background

5.1 The Grangegorman Site

The Grangegorman site represents one of the largest urban development sites in Dublin City and is just over 1km from the city centre. The Grangegorman site extends to approximately thirty (30) hectares and is largely a brownfield site. The overall planned will provide new and improved health facilities to serve the North Dublin Area in conjunction with the Health Service Executive (HSE) and will also consolidate Technological University Dublin (TU Dublin), formerly Dublin Institute of Technology (DIT), into a single campus. This is being coordinated and implemented by the Grangegorman Development Agency (GDA). The GDA is a statutory agency established in 2006 by the Irish Government to redevelop the Grangegorman site in Dublin city centre. The GDA was established by the [Grangegorman Development Agency Act 2005](#) which also sets out the GDA's functions.

The site has been granted Strategic Development Zone (SDZ) designation, recognising its significance to the Government as a project of economic and social importance to the Irish State. A copy of the Approved Grangegorman SDZ Planning Scheme is available at <https://www.dublincity.ie/residential/planning/strategic-planning/strategic-development-zones/grangegorman-sdz>

5.2 Site Constraints

A number of development projects – of varying scale – have been carried out and/ or are due for completion shortly at Grangegorman. These include:

- HSE Phoenix Care Centre;
- HSE Primary Care Centre;
- Dublin 7 Educate Together National School
- TU Dublin Greenway Building;
- TU Dublin Lower House;
- TU Dublin Printmaking Workshop; TU Dublin Central Quad;
- TU Dublin East Quad; and
- TU Dublin Academic Hub and Library.

A number of Construction Projects are likely to be in progress on the Grangegorman site at the same time as the Exploratory geothermal well. These are:

HSE Residential Care Neighbourhood (housing); and
TU Dublin West Quad

A number of further developments are at various stages of design development, these include:

TU Dublin's West Quad; TU Dublin's Research Hub 2 (FOCAS); and
TU Dublin's Indoor Sports Complex (Phase I).

Please refer also to Appendix 1 for Site Map.

6 Roles and Performance

6.1 Geothermal Engineering Consultants Team

For reference the Contracting Authority is looking for teams with Technical Competence in the following, non-exhaustive, areas:

- Well pad specification
- Well Design & Planning
- Casing and tubing design, including metallurgy design.
- Drilling fluid programs.
- Cementing design for thermal wells.
- Flow rate / permeability testing design
- Well suspension and abandonment
- Directional drilling and wellbore stability.
- Well integrity management and cementing for geothermal applications.
- Lost circulation zones and mitigation techniques appropriate for open loop geothermal applications
- Drilling and completions of open loop geothermal doublet systems
- On-site drilling operations management
- Well costing and on-site cost management
- Safety and environmental management of drilling design and operations.
- Design, execution and interpretation of reservoir well tests
- Well suspension and abandonment techniques
- Familiarity with concepts of well design and completions for deep borehole heat exchangers and associated heat pumps.
- Familiarity with European public tendering processes
- Knowledge of relevant supplier markets and pricing for drilling and testing operations.
- Appropriate training certification and experience in Well Control e.g IWCF lvi 4 or equivalent (on-site staff)
- Documented experience implementing HSE standards in geothermal well projects.
- Techno-economic assessment of geothermal systems, including CAPEX, OPEX, heat supply cost, sensitivity analysis and carbon performance.

- District heating integration, including heat exchanger interface, high-temperature heat pump selection, operating temperature assessment and metering implications.
- Deep open-loop geothermal production and injection system concept development, including reservoir deliverability, reinjection, scaling/corrosion, induced seismicity and monitoring requirements.
- Deep closed-loop borehole heat exchanger design, including coaxial heat exchanger design, thermo-hydraulic modelling, grout/backfill specification, wellhead design and long-term operation.
- Ability to conduct Risk Assessments, integrate into emergency response planning, and conduct hazard identification analysis specific to geothermal drilling.
- Knowledge and experience of implementing noise mitigation strategies for drilling operations

7 Procurement Process

7.1 Introduction

The method of procurement of services is an Open Procedure in accordance with the European Union (Award of Public Authority Contracts) Regulations SI 284/2016.

Refer to eTenders Notice for the Closing Date for Receipt of Responses.

Responses are electronic only, submitted via the eTenders portal.

Late or incomplete responses will not be accepted.

7.2 Suitability Assessment

The reader is to refer to the Suitability Assessment Questionnaire (Questionnaire), including annexes and related documents that accompanies this PIM.

Qualitatively assessed criteria are described in detail at Appendix 2 here-in.

The purpose of the Suitability Assessment Stage is to identify whether the Applicant has at its disposal the appropriate number and range of skills required to deliver a high standard of service. Tenderers are reminded that they may rely on the resources of other entities on condition that these are clearly described and can prove that they will have these resources at their disposal if required.

Part 1 Suitability Assessment responses must include a completed European Single Procurement Document (ESPD).

7.2.1 Format and Packaging

All responses must be uploaded to eTenders in the format set out in the Procurement Documents. All documents must be in pdf format unless expressly noted otherwise.

The Suitability Assessment Response will include:

- SAQ Evidence & Declaration Response Document
- QC Part 1 Suitability Assessment Questionnaire
- QC Part 2 Application Declaration Document
- eESPD Form
- H&S Complaisance Declaration
- Professional Indemnity Certificate

7.2.2 Health and Safety Supplement

Applicants will be acting as Designers and as such must demonstrate their suitability and competence against Criteria as defined at 3.4a, 3.4b, 3.4c & 3.4d by completing the declaration as part of the Questionnaire.

Evidence must be provided on the request of the Contracting Authority.

7.3 Tender

Tenderers who successfully demonstrate they have met the minimum SAQ Criteria in Part 1 will have Package 2 (Tender) of their submission opened for evaluation. The Tender submission will be checked for compliance with the PIM, ITT and Particulars and evaluated according to the Award Criteria Scoring Methodology.

The purpose of the Tender is to identify the MEAT.

The successful tenderers responses to the Technical Merit Criteria will be incorporated as part of the contract.

The minimum standard of 60% will be applied to all individual Technical Merit criterion and sub criterion where a breakdown in marking is indicated as well as to the overall score.

Qualitatively assessed criteria are described in detail at Appendix 3 here-in.

7.3.1 Format and Packaging

All responses must be uploaded to eTenders in the format set out in the Procurement Documents. All documents must be in pdf format unless expressly noted otherwise.

The Tender Response will include:

- Qualitative Response Document
- Form of Tender and Schedules
- Tender Price Response Spreadsheet (MS Excel)

7.3.2 Award Criteria and Weighting

		Max available marks	Min quality Threshold
Technical Merit			
A	Proposed Methodology for Option development	300	60%
B	Proposed Methodology and Project Management Approach to design, planning, and procurement of chosen option	300	60%
C	Proposed Methodology for Archetype Definition	200	60%
	Total: Technical Merit (Value "T" in Scoring Formula)	800	60%
Price			
	Lump sum Price (Option, Design, Planning + Procurement Definition Phases)	100	n/a
	Hourly rates (including Management of drilling stage)	100	n/a
D	Total: Price (Value "P" in Scoring Formula)	200	n/a
TOTAL OVERALL		1,000	

Table 6: Award criteria and weighting.

Technical Merit Award Criteria – Marking Scheme Summary

Category	Applicable Percentages	Meaning
Excellent	100% 95% 90%	An excellent response providing comprehensive and convincing assurance that the Tenderer will deliver to an excellent standard.
Very Good	85% 80% 75%	A very good response that demonstrates real understanding of the requirements and provides convincing assurance that the Tenderer will deliver to a very good or high standard.
Good	70% 65% 60%	A good response that demonstrates understanding of the requirements and provides convincing assurance that the Tenderer will deliver to a good standard. Does not provide sufficiently convincing assurance to award a higher mark.
Satisfactory	55% 50% 45%	A satisfactory response which demonstrates a reasonable understanding of the requirements and gives reasonable assurance of delivery to an adequate standard. Acceptable level of detail, accuracy and relevance.
Poor	40% 30% 20% 10% 0%	A response where serious reservations exist. This may be because, for example, insufficient detail is provided, or the response has fundamental flaws, or is seriously inadequate or seriously lacks credibility with a high risk of non-delivery.

Each of the responses to the technical/ quality criteria/sub-criteria will be evaluated bearing in mind the above scoring guidance and having regard to the professional judgment of the evaluators.

The Tender Evaluation Team can use one of the noted applicable percentages in evaluating each of the scoring categories.

Tenderers are to note that separate statements in the above scoring bands are individual and not cumulative. If a response has characteristics of more than one scoring band, the evaluators, in their professional judgment, shall determine into which band the response falls.

Any Tender:

Not passing on a 'pass / fail' criterion, or

Achieving less than the minimum quality threshold (Min Threshold on Table 1 above) on any of the criteria/sub-criteria

Achieving less than 60% of the total available quality marks
will be excluded from further consideration.

Table 7: Technical Merit Award Criteria.

The following scoring formula will be used to assess tenderers overall comparative score.

Technical Merit Award Criteria = 80%, or 800 Marks

Cost Criterion = 20%, or 200 Marks

Score = $((T/T_o) \times 800) + ((1 - (0.5 \times (D - D_o)/D_o)) \times 200)$

Where:

- To = Tender Score of the compliant Tenderer with highest Technical/Quality Score
- T = Technical Quality Score of the Tender being considered
- Do = Lowest eligible (compliant) price submitted
- D = Price of Tender being considered

It is to be noted that:

- The Price Criteria will be assessed as a combination of 50% of the Lump Sum Cost for the initial drawdown from this Framework ('The Project') and 50% of the Hourly Rate Costs.
- The Technical Merit Award Criteria will be assessed by evaluation team without sight of the returned Cost/Pricing Criteria. Subsequently Technical and Price scores will be combined as per formula above to give overall comparative scores.

7.4 Queries

All queries in relation to this competition must be sent via the eTender portal according to the deadline published on eTenders and will be addressed as described in section 2.3 of the Instructions to Tender documentation

7.5 Clarification of Responses

The Contracting Authority may seek clarification on aspects of the Applicants' / Applicants' evidence submitted in response to the Competition. Under no circumstances will new material that changes a submission be accepted as part of the clarification process.

Tenderers should respond to such requests within seven (7) calendar days of the date of the request or such later or earlier date as the Contracting Authority may, at its absolute discretion, specify.

Tenderers may be asked to attend a clarification or elaboration meeting and must comply with such a request. In such an event the Tenderer will bear all its costs and expenses in attending any such meeting. Tenderers should note that the Contracting Authority may elect to hold such meetings with only those Tenderers whom the Contracting Authority considers, at its absolute discretion, it is necessary to do so.

8 Additional Conditions

8.1 Contract Period

Indicative performance periods have been indicated throughout Procurement Documentation.

The Contracting Authority reserves the right to extend the term for a period or periods of time such that the conclusion of all deliverables and services detailed and provided for under the contract are performed and duly accepted.

8.2 Award to runner-up

If for any reason it is not possible to conclude the Agreement with the designated successful tenderer emerging from this competitive process; or if having concluded the Agreement, the Contracting Authority terminates the Agreement; the Contracting Authority reserves the right to admit the next highest scoring tenderer on the basis of the same terms.

This shall be without prejudice to the right of the Contracting Authority to cancel this competitive process and/or initiate a new contract award procedure at its sole discretion.

8.3 Canvassing

Tenderers must not canvass directly or indirectly any member of the Contracting Authority, officer or employee of the Contracting Authority, its advisers, or any member of the Evaluation Committee.

Failure to comply with this requirement will result in disqualification from the selection process. Any breach of this section will entitle the Contracting Authority to cancel and terminate any existing contracts that the Tenderer has with the Contracting Authority. The Contracting Authority may recover any loss or expense resulting from any such termination.

8.4 Collusion / Improper Influence

Collusion, or any attempt by interested parties/Tenderers to influence, in any way, the procurement process, will result in the disqualification of that/those interested parties/Tenderer(s). Examples of such improper influence are collusion, price fixing, bid rotation or market division.

The Contracting Authority may disqualify a Tenderer if the Tenderer is economically, legally, commercially, financially or otherwise related to one or more other Tenderers in a way that would impede in any way the incentive that the Tenderer should have to compete to be a successful Tenderer in the competition. Any breach of this section will entitle the Contracting Authority to cancel and terminate any existing contracts that the Tenderer has with the Contracting Authority. The Contracting Authority may recover any loss or expense resulting from any such termination.

8.5 Publicity

No publicity whatever regarding this PIM, the competition and/or process is permitted unless and until the Contracting Authority has consented in writing, at its absolute discretion, to the relevant communication. The Contracting Authority may issue such communications and generate such publicity in relation to this process as it considers appropriate and without notice to Tenderers.

The Contracting Authority has the right to publicise or otherwise disclose to any person information regarding this process, the identity of the Tenderers (including the identity of their members and sub-consultants), shortlisted Tenderers, the Tender process or the award of the Contract (including, without limitation, details of the Contract price) at any time.

8.6 Errors

If a Tenderer discovers any error or omissions or lack of clarity in this PIM and/or SAQ, the Tenderer must immediately notify the Contracting Authority in writing of such error, omission or lack of clarity.

8.7 Compliant and Unqualified Response

Tenderers must submit a fully compliant Response which is not qualified in any way.

8.8 No Warranty and Termination

The publication of this PIM does not warrant or imply that any Tenderer will be awarded a contract or considered in the second stage of this process (ITT) or that any Tenderer will be awarded or invited to enter into the Contract on any particular conditions.

The Contracting Authority reserves the right, for any reason whatever at its absolute discretion, to reject any and all Responses, not to select any Tenderer or Tenderer or to award any contract or Contract nor implement any arrangement contemplated by this PIM nor to provide a Tenderer with any additional information, not to proceed with the process, to withdraw from discussions, to suspend the process or discussions and/or to terminate, at its absolute discretion, this PIM, the process and/or the competition at any time and without reason.

8.9 Change in Events

Any material information or change in events which relates to a Tenderer and/or its Response that come to light subsequent to the submission of its Response must be clearly identified and clearly disclosed in writing to the Contracting Authority by the relevant Applicant as soon as possible.

8.10 Conflicts

A Tenderer must disclose in its Response any potential conflicts of interest or potential perceived conflicts of interest which a Tenderer might have with any aspect of this process, or its Response, or with any other Tenderer.

Tenderers must also disclose any potential conflict of interest or perceived conflict of interest which a Tenderer might have with regard to any other aspect of the Project, the general project for the development of the Grangegorman campus, the Contracting Authority or any of the stakeholders TU Dublin, HSE, DEFERIS, Grangegorman Estate Management (GEM) and Dublin City Council (DCC).

In arriving at any decision in this regard, the Contracting Authority will have regard to the nature and complexity of the Grangegorman project, the extent of expertise available for particular disciplines connected with the project and the protections and procedures put in place or agreed to be put in place by a Tenderer to protect against or minimise any actual or perceived potential conflict arising.

8.11 Change in Tenderer or Key Personnel

It is not permitted, after a Tenderer has submitted a Response, to add, delete or substitute constituent members of a Tenderer, its consultants or sub-consultants, or alter the intended shareholdings, control or responsibilities of individual members and/or proposed subconsultants without the prior written approval of the Contracting Authority.

The Contracting Authority reserves the right to withhold approval for any such

changes and to disqualify the Tenderer concerned from any further participation in the procurement process where any such change is made.

Approval will only be granted provided the Tenderer, in the view of the Contracting Authority, continues to meet the conditions for suitability assessment as set out in the SAQ and would not have received a lower score which would have impacted upon its ranking to the extent that it would not have been selected and provided it does not substantially alter the composition of the consortium in question. Any proposed changes must be notified to the Contracting Authority as soon as possible. Failure to notify any changes may result in disqualification of the Tenderer.

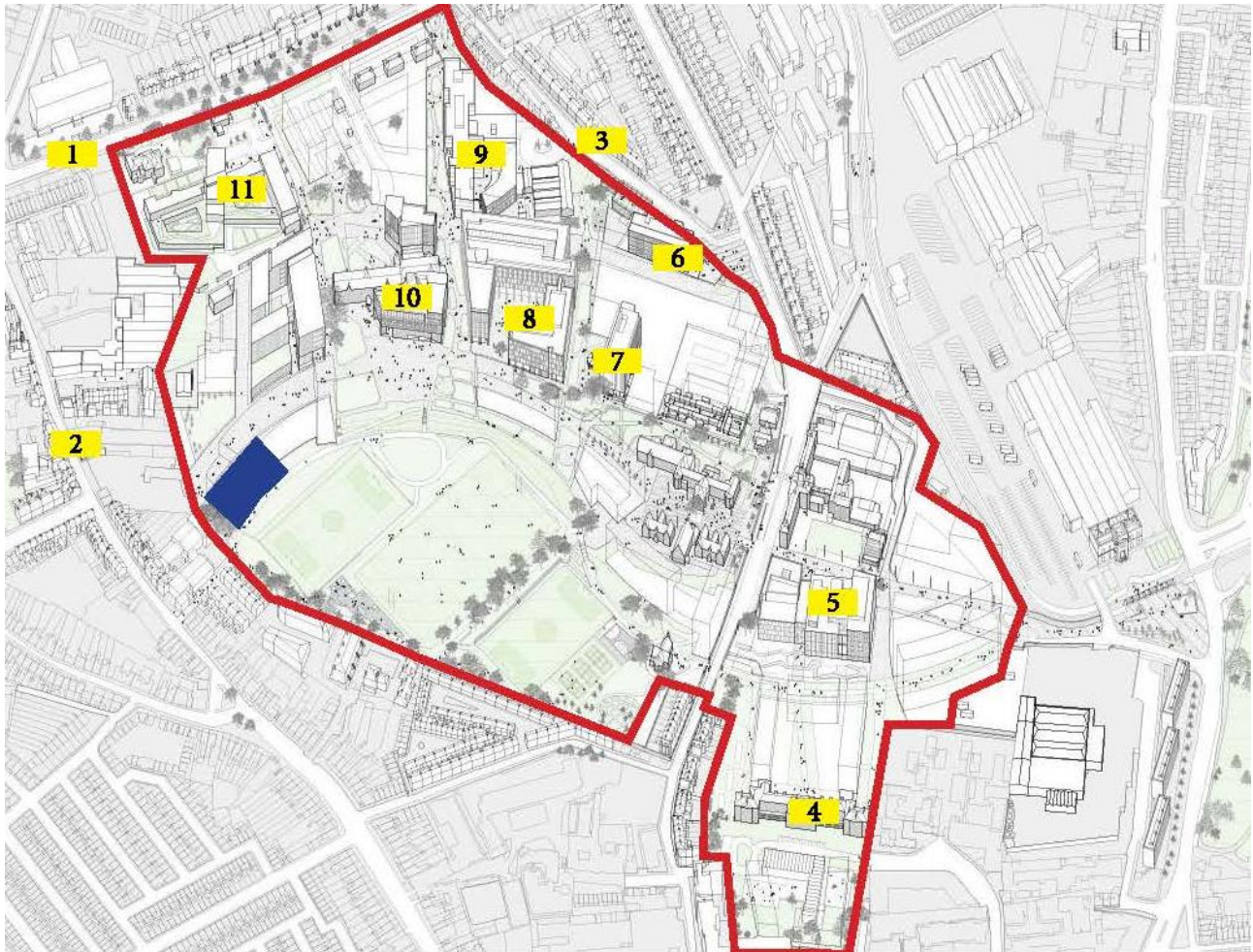
Any such change is at the risk of the Tenderer.

8.12 Own Costs

The Contracting Authority is not responsible for and will not pay for any expense or cost incurred or loss suffered by a Tenderer in the preparation or submission of its Response or otherwise. Further, the Contracting Authority is not responsible for any travel or accommodation costs incurred by the Tenderer unless previously agreed in writing by the Contracting Authority. Each Tenderer is fully responsible for the entirety of all expenses and/or costs it incurs in the presentation or submission of a Response or in participating in this process and competition.

Appendix 1

SITE MAP / LOCATION Grangegorman Site



KEY

- Proposed Well location
- Grangegorman Site boundary
- 1 North Circular Road
- 2 Grangegorman Upper
- 3 North Circular Road
- 4 Lower House
- 5 East Quad
- 6 D7 Educate Together
- 7 Greenway Hub
- 8 Central Quad
- 9 c.104 bed residential care centre
- 10 Academic Hub
- 11 West Quad
- 12 Phoenix Care Centre
- 13 Existing Energy Centre

Table 1.A: Grangegorman site map

Appendix 2 – Evidence required as part of Suitability Criteria

The below outlines the particular Suitability Criteria where evidence must be provided as part of this submission. The following pages detail the nature of this evidence along with relevant minimum requirements.

Please note that criteria numbering is consistent with the CWMF Suitability Assessment Questionnaire. This Appendix should be read in conjunction with that document (file name: *QC1-Part-1-v3.1-04-11-2024_SuitabilityAssesementQetionnaire*).

As outlined in Suitability Assessment Questionnaire evidence must be provided for all other used Criteria on the request of the Contracting Authority.

	Criteria where evidence is required as part of this submission
3.4	Technical Capability Criteria
3.4a	Educational and Professional Qualifications (Management)
	Project director
3.4b	Educational and Professional Qualifications (Personnel)
	Drilling Engineer
	Drilling Operations Manager
	Surface Facilities Engineer
	Reservoir Engineer
3.4c	List of Works Carried out over the past 7 years

Criteria 3.4a - Educational and professional qualifications (management)

Criteria - 3.4a Submission Requirements

The Applicant must provide evidence as described below, in the format provided as part of Procurement documentation, relating to the Project director role as identified below proposed for this project.

Management staff proposed at Suitability Assessment Stage must follow through to submission made for the Tender Stage.

It is permissible to propose the same staff member at different levels, ie Management (3.4a) and personnel (3.4b).

Each Applicant must submit:

Project director CV (completed in pro-forma provided) for individual proposed with overall responsibility for the project. The proposed role holder must clearly demonstrate the following:

- Suitable (Minimum Level 8 NFQ) professional qualification (or equivalent) in Petroleum Engineering, Geosciences, Mechanical Engineering, or related field from an accredited institution.
- Minimum 10 years relevant postgraduate experience.
- Involvement in the design and execution of at least 2 geothermal wells, preferably in a European regulatory context.

Criteria - 3.4a Minimum requirements

The minimum standard is to demonstrate that the proposed Project director is competent to fulfil the role for which they are nominated by means of complying with the qualifications and experience requirements set out above.

Criteria - 3.4b Educational and professional qualifications (Personnel)

Criteria - 3.4b Submission Requirements

The Applicant must provide evidence as described below, in the format provided as part of Procurement documentation, relating to their personnel as identified below proposed for this project.

The personnel proposed at the Suitability Assessment Stage must follow through to submission made for the Tender Stage.

The CV's provided may address more than one role each within this criteria, to a maximum of two (2), this should be clearly identified. It is permissible to propose the same staff member at different levels, ie Management (3.4a) and personnel (3.4b).

Each Applicant must submit at least one for each of the following:

- a) **Drilling Engineer** CV (completed in pro-forma provided). The proposed role holder must clearly demonstrate the following:
 - Suitable (Minimum Level 8 NFQ) professional qualification (or equivalent) in Petroleum Engineering, Geosciences, Mechanical Engineering, or related field from an accredited institution.
 - Minimum 5 years relevant (drilling engineering) postgraduate experience.
 - Involvement in the design and execution of at least 1 geothermal well, preferably in a European regulatory context.
- b) **Drilling Operations Manager** CV (completed in pro-forma provided). The proposed role holder must clearly demonstrate the following:
 - Minimum 10 years relevant drilling engineering/ operations.
 - Involvement in the onsite execution of at least 1 geothermal well, preferably in a European regulatory context.
- c) **Reservoir Engineer** CV (completed in pro-forma provided). The proposed role holder must clearly demonstrate the following:
 - Suitable (Minimum Level 8 NFQ) professional qualification (or equivalent) in Petroleum Engineering, Geosciences, Mechanical Engineering, or related field from an accredited institution.

- Minimum 5 years relevant (reservoir engineering) postgraduate experience.
 - Involvement in the design and execution of at least 1 geothermal well, preferably in a European regulatory context.
- d) **Surface Facilities Engineer** CV (completed in pro-forma provided). The proposed role holder must clearly demonstrate the following:
- Suitable (Minimum Level 8 NFQ) professional qualification (or equivalent) in Petroleum Engineering, Geosciences, Mechanical Engineering, or related field from an accredited institution.
 - Minimum 5 years relevant (reservoir engineering) postgraduate experience.
 - Involvement in the design and execution of at least 1 geothermal well, preferably in a European regulatory context.
 - Experience with high temperature heat pump integration

Criteria - 3.4b Minimum requirements

The minimum standard is to demonstrate that the proposed management staff are competent to fulfil the role for which they are nominated by means of complying with the qualifications and experience requirements set out above.

Assessment will be per role not per CV.

Criteria - 3.4c List of Technical Services Provided of a Similar Nature

Criteria - 3.4c Submission Requirements

Each Applicant must submit details, completed in pro-forma provided, of two (2) to three (3) Projects undertaken within the past 7 years.

It is not necessary for Projects to be complete. It is up to the Applicant to select relevant Projects and to demonstrate that the Projects are comparable in nature, scale and complexity and meet minimum requirements set out.

Criteria - 3.4c Minimum requirements

As a minimum requirement each of the Project characteristics and technical services must be demonstrated in at least one of the Projects submitted.

- a) Onshore drilling operations to measured depths > 1.5 km;
- b) Low-enthalpy geothermal well design and testing;
- c) Drilling operations in Urban/ sub-urban environment.
- d) Provision of design and costing of full geothermal doublet and associated heat recovery systems.
- e) Procurement and management of drilling services

The Contracting Authority will at its own discretion refer to named Referees.

Appendix 3 – AWARD CRITERIA

A1: Proposed methodology for option development

Tenderers must submit a narrative describing their understanding of and approach to the contextual constraints as they understand them from the Procurement Documentation provided. In particular, responses under this criterion should demonstrate understanding of scope, and the proposed methodology for the first component of the project which is to determine what well depth and well type can be delivered within the remaining two-year programme and approximate €5 million capital budget before committing to the final well design.

The Tenderers should consider how novel thinking and flexibility of approach may be used in this context.

Response to be Maximum 2 x A4 pages (including any images/ diagrams etc).

B1: Proposed Methodology and Project Management Approach for delivery of Design, Planning and Procurement Definition

This criterion will be used to assess the Tenderers technical and procedural approach to this second and third components of the Project.

Tenderers must submit a narrative describing their approach to organised to the technical design, planning, and procurement requirements. The response should address project management methodology as well as knowledge sharing and proposed approach to working with the wider team that is described in the Procurement Documentation provided.

The response should identify roles that proposed team members will carry out and describe how the proposed team will be structured to deliver on the methodology outlined.

B3: Proposed Methodology for Archetype Definition

This criterion will be used to assess how Tenderers propose to address definition of the three technoeconomic archetypes for geothermal heat supply at Grangegorman.

Tenderers must submit a narrative describing their proposed methodology for design, performance estimation, costing, system integration, and economic analysis for each archetype.

The response should identify roles that proposed team members will carry out and describe how the proposed team will be structured to deliver on the methodology outlined.

C: Price

The Tenderer must complete the Form of Tender providing:

- A lump sum price for delivery of the Option, Design, Phase, Planning and Procurement Definition Phases .

This lump sum must be broken-down according to the Form of Tender instructions provided which is aligned to CWMF Work Stages.

- Hourly rates that will be applied to the delivery of subsequent projects under this Framework.

It is noted that hourly rates provided will be included within the Contract and will be used as reference for any additional time/ fees that may be agreed over the course of the Contract duration.

END