Installation of photo-voltaic solar panel system at the Morgan Centre and the Parish Hall, Crowthorne

Invitation to tender January 2023

Deadline for submissions Friday 17th February

1.0 Background

1.1 Parish Hall

Built in the 1950s with a number of extensions since, the pitched roof faces roughly east/west. The hall has 2 long-term regular hirers including the Crowthorne Pre-school which uses the hall 8.30-12.30 every weekday. The adjacent car park is owned by Bracknell Forest Council and has a 1.5hr parking limit. Longer term parking and storage for contractors can be arranged.

1.2 Morgan Centre

Built in the 1970s, the Morgan Centre has a flat, unshaded roof. The Centre is in constant use by hall hirers, impromptu visits from members of the public and office staff. The adjacent car park is CPC owned and parking/storage areas are easy to reserve for contractors.

1.3 Consultation

CPC ran an online questionnaire in autumn 2021 and asked the public if the council should install solar panels on the two council buildings. Seventy six percent of respondents agreed that they should be installed compared to 11 percent who disagreed.

1.4 Site visits

Bidders are encouraged to visit the site before submitting a tender. Contact projects@crowthorne-pc.gov.uk or call 01344 771251 to arrange this.

2.0 The project

2.1 Project cost

This tender serves as a quotation for council to assess.

The successful bidder must indicate clearly if they would be willing to accept the award of a contract for a single site (either the Morgan Centre or Parish Hall) in the event that council decides to proceed with a single site only.

Please make it clear in your tender submission what your proposed cost per site is. If you offer a discount if Council proceeds with both sites, please apply the discount to each separate site and not a combined site bid as each building is a separate entity from an accounting perspective so Council must have the cost per site in each potential scenario.

2.2 Project vision

CPC would like to install PV panels on both buildings to:

- Reduce the council's own emissions.
- Reduce electricity bills.
- Support the government's move to green energy and the commitment to reach NetZero by 2050.

2.3 Timeline

Contract published on Contracts Finder government portal	Thursday 19th January
Deadline for submissions (see Format of submissions 6.2)	10am, Friday 17th February
Tender evaluation initiated	Friday 17th February
Contract awarded conditional of satisfactory RAMS	Tuesday 7th March

2.4 Planning permission

CPC will send a pre-application to Bracknell Forest Council. The successful bidder will be required to work with the projects officer who will submit a planning application if advised to do so.

2.5 Pricing and payment schedule

All pricing should be listed exclusive of VAT and valid for 5 months from the date of submission.

Payment will be made upon completion and the RPII report, less 5% snagging. Once the snagging is complete and CPC is satisfied that there are no ongoing issues, the last 5% will be settled.

For the full CPC Financial Regulations, see Appendix 1.

2.6 Inspection

The system must be MCS certificated with appropriate NICEIC certification arranged at the expense of the contractor.

3.0 Specification

The work specification is not exhaustive, but stipulates the preferred requirements. Bidders are expected to visit the buildings in order to understand their use and take their own measurements.

CPC are not obliged to accept the lowest tender but are bound to assess 'best value'. Bidders are welcome to bid for one, or both parts of the project, and should refer to paragraph 2.1 in presenting costings if bidding for both sites but offering a discount in this scenario.

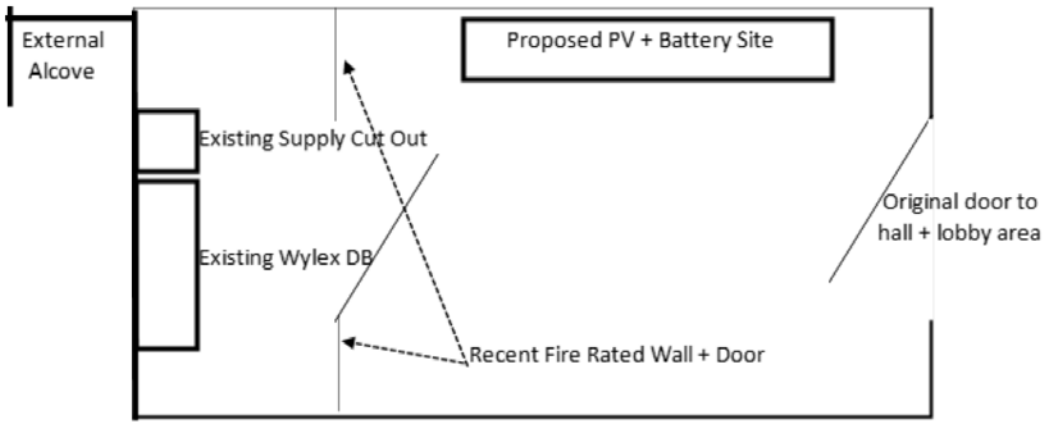
3.1 Morgan Centre, Wellington Road, Crowthorne, RG45 7LD

	Notes
Electrical Distribution	
There is currently a main distribution board in the electrical intake cupboard located in the ground floor entrance lobby area. This distribution board is a Wylex Three Phase 12 TP way board with a 125amp 3 pole incoming switch. The current electrical supply is single phase, the Wylex board has been fitted with a single phase (SP+N) conversion to reflect the incoming supply. Whilst the existing incoming supply is 100amp single phase, there is a three phase (TP+N) incoming supply with only one cut out fuse being utilised and a single phase consumption meter fitted.	
Proposed electrical supply	
It is proposed that the client contact the energy supplier to negotiate a TP+N supply to the building. We don't not believe this will be complicated as the existing cabling and supply connection point appears to be a TP+N unit. Once the TP+N supply is agreed, there will need to be a co-ordinated removal of the SP+N conversion to the main distribution board at the same time as the supply authority attend to facilitate the change to a TP+N. All circuits need to checked in advance for suitability and safety with regard to changing the building supply to TP+N. The electrical installation needs to have a current electrical safety certificate and any alterations will need to be fully tested and issued with electrical certification meeting 18th Edition BS 7671.	
Solar PV and Storage System Installation	
There is sufficient capacity within the existing Wylex distribution board to provide a 32amp TP+N supply to the proposed PV + Battery System. It is proposed to utilise the area within the electrical cupboard to install the Solar inverter and battery units. See Figure I, below table. This area is currently used for storage, which will not be permitted if new usage proposals are adopted. The area has also been separated from the actual electrical intake by a recently constructed fire rated door and wall, we believe the purpose was to fire rate the electrical area as well as provide additional storage. This item needs to be re-addressed as the whole cupboard area will probably revert back to its original "electrical only" use and, as such, additional fire barrier work may be required to the original separating door and wall. It is envisaged that a 10mm, 4 core PVC SWA cable is installed from the Wylex distribution board to a new 4 way, TP+N distribution board located on the wall	

backing onto the main hall. This new board shall house the appropriate circuit protection to the proposed equipment and shall include a suitable surge protective device. Appropriate metal containment can be utilised to connect the new TP+N board to the various elements of PV and Storage System. There will be associated electrical works related to the installation of equipment in the electrical cupboard. There are currently a number of electrical items installed on the wall identified as "Proposed PV + Battery Site", these electrical items will need to be moved to allow the proposed works. We would recommend a provisional sum of £600 is allowed to investigate and relocate these items, they can stay within cupboard providing as their positioning allows new equipment installation.	
DC Distribution	
There is currently an external cable tray, carrying AC cabling, which exits the electrical cupboard out into an alcove by the front door. It is envisaged that metallic containment, probably cable tray, can be installed directly opposite the existing cable tray to carry the DC cables exiting the electrical cupboard, running straight up the wall and over the roof parapet. It is proposed to install a 100mm cable tray on the roof to connect the various areas of solar panels. This tray can't be fixed to the roof but should be mounted onto unistrut placed onto the roof membrane. We would also recommend the use of a proprietary lead free flashing to offer some protection to the roof membrane. We recommend a suitable externally rated flexible conduit is used to contain DC cables passing between the PV modules.	
Solar PV Array	
All items specified are relevant at the time of design and assumed to be available, all items specified must be checked for availability prior to the commencement of work. The array size will be 15.58kWp which will consist of forty one JA Solar JAM60S20-380/MR photovoltaic modules placed onto all parts of the flat roof array so as to avoid shading wherever possible. The modules will be placed onto Renusol Consol+ units and orientated due south. Client will determine suitability of these units in relation to the roof membrane, if required a suitable material may be placed underneath the consol+ units to offer additional protection to the roof membrane.	
Solar Inverter	
The inverter will be a hybrid unit capable of DC input from the solar array and also capable of DC charging up to 15kWh of battery capacity, this unit should be a Huawei SUN2000-10KTL-M1 mounted in the electrical cupboard as previously described.	
Battery Storage	
Battery storage will be DC coupled to the proposed Solar PV Inverter as listed above. Batteries will consist of a Huawei LUNA2000-5-S0 power unit with three LUNA2000-5-E0 5kwH batteries, making up a 15kWh battery storage system capable of charging and discharge at a rate of 5kw.	
Electrical Equipment and Cabling	
All electrical equipment used must meet with appropriate British Standards and be installed in accordance with manufacturers recommendations. Cabling should be	

installed in accordance with BS7671 and must also meet the appropriate British Standards.	
System Documentation and Registration	
This system falls under the ENA Engineering Recommendations G99 and G100 and should be designed in accordance with the appropriate sections of this document. DNO authorisation will be required before the commencement of this project and the DNO will require notification with appropriate documentation once the project is complete. The system must be MCS certificated with appropriate NICEIC certification issued for the electrical fixed wiring associated with this installation.	
Site Access and Safety	
There is appropriate parking approximately ten metres south of the proposed site. The successful bidder will directly manage their preferred scaffolding contractor to arrange scaffolding to suit their needs (probably one strategically placed access scaffold and perimeter scaffold around the roof) and liaise with CPC to ensure all access and use of the site is safe and secure. Where necessary, access to the internal work area will be marked with appropriate barriers and signage to protect staff and members of the public. All works must be preceded by an appropriate Method Statement and Risk Assessment which will be prepared with due diligence and must include a site visit.	
Timings	
The Morgan Centre is booked, often in hourly slots, throughout the week. The successful bidder will liaise with CPC staff to receive a copy of the hall bookings which will indicate when the hall and front door will be busy. Noisy work such as drilling can then be worked around events such as a weekly baby or yoga group.	

Figure I – Schematic diagram of Morgan Centre – not to scale

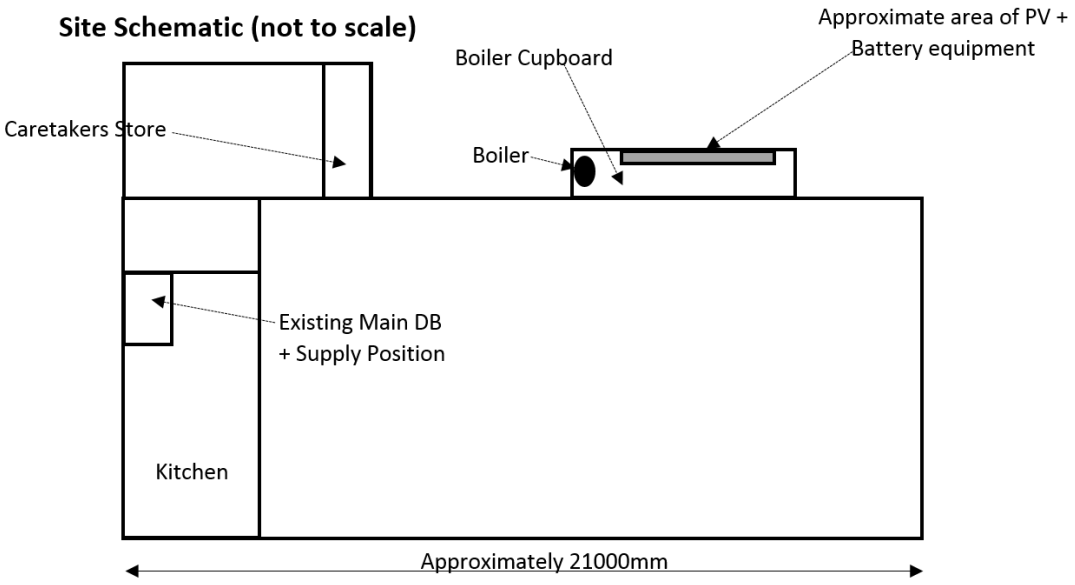


3.2 Parish Hall, Heath Hill Road South, Crowthorne, RG45 7BW

	Notes
Electrical Distribution	
There is a main distribution board in the kitchen. This is a Merlin Gerin Three Phase 8 TP way board with a 125amp 4 pole incoming switch. The incoming supply appears to be 100amp three phase supply fuses on a three phase meter. It is envisaged that a 10mm 4 core PVC SWA sub-main can be connected to the main distribution board (may need to remove part of the kitchen cupboard). The SWA can run up into a false ceiling which should provide access over to the caretakers store. From this store it should be possible to exit through an external wall. The cable can run under the windows and into the rear wall of the boiler cupboard. There is sufficient capacity within the existing main distribution board to provide a 40amp TP+N supply to the proposed PV + Battery System. It is proposed to utilise an area within the boiler room to install the Solar inverter and battery units.	
Solar PV and Storage System Installation	
It is envisaged that the 10mm, 4 core PVC SWA cable installed from the main distribution board will supply a new 4 way, TP+N distribution board located on the external wall. This new board shall house the appropriate circuit protection to the proposed equipment and shall include a suitable surge protective device. Appropriate metal containment can be utilised to connect the new TP+N board to the various elements of PV and Storage System which will also be sited along the external wall. There is a very slight risk of water ingress into this room, the contractor should therefore ensure that all electrical, solar and battery equipment is at least 300mm off floor level. Where appropriate a wall mounting bracket should be used for each battery unit fitted. If this proves difficult, we would suggest a unistrut galvanised channel frame is constructed to bear the weight of equipment off floor level. The boiler room will need additional ventilation, we recommend a PC sum of £500 is allowed for a 150mm fan to be wall mounted as shown in Figure II, below table. The fan is to be controlled via a standard temperature thermostat to ensure the boiler area does not overheat. We are fairly sure this is allowable within a room containing a gas boiler but we would recommend professional advice is sought.	
DC Distribution	
All strings of the PV array should be provided with a means of isolation at the inverter end of the circuit. Cabling to be contained on an appropriate cable tray within the boiler room and to exit the rear of the boiler room close to the boiler. Using an appropriate galvanised cable tray, the cabling should be directed externally up the brick wall to soffit level, from there it can be run within the roof fabric to a position at the roof array.	
Solar PV Array	
All items specified are relevant at the time of design and assumed to be available, all items specified must be checked for availability prior to the commencement of work.	

The array size will be 16.72kWp which will consist of forty-four JA Solar JAM60S20-380/MR photovoltaic modules fixed to Renusole VarioSole + mounting frame anchored by Renusol Slate Solution Anchors with Genius Flashing. The modules will be placed twenty-two on the east and twenty-two on the west facing roofs.	
Solar Inverter	
The inverter will be a hybrid unit capable of DC input from the solar array and also capable of DC charging up to 15kWh of battery capacity, this unit should be a Huawei SUN2000-12KTL-M1 mounted in the boiler cupboard as previously described	
Battery Storage	
Battery storage will be DC coupled to the proposed Solar PV Inverter as listed above. Batteries will consist of a Huawei LUNA2000-5-S0 power unit with three LUNA2000-5-E0 5kwH batteries, making up a 15kWh battery storage system capable of charging and discharge at a rate of 5kw.	
Electrical Equipment and Cabling	
All electrical equipment used must meet with appropriate British Standards and be installed in accordance with manufacturers recommendations. Cabling should be installed in accordance with BS7671 and must also meet the appropriate British Standards.	
System Documentation and Registration	
This system falls under the ENA Engineering Recommendations G99 and G100 and should be designed in accordance with the appropriate sections of this document. DNO authorisation will be required before the commencement of this project and the DNO will require notification with appropriate documentation once the project is complete. The system must be MCS certificated with appropriate NICEIC certification issued for the electrical fixed wiring associated with this installation.	
Site Access and Safety	
There is appropriate parking adjacent to the property but long term parking permits will be required – liaise with CPC. The successful bidder will directly manage their preferred scaffolding contractor to arrange scaffolding to suit their needs (probably, a scaffold to each roof with a platform at gutter height) and liaise with CPC to ensure all access and use of the site is safe and secure. Where necessary, access to the internal work area will be marked with appropriate barriers and signage to protect staff and members of the public. All works must be preceded by an appropriate Method Statement and Risk Assessment which will be prepared with due diligence and must include a site visit.	
Timings	
Some of the work at the Parish Hall needs to take place within the school holidays as a nursery is on site 8:30-12:30 every week day. At the minimum, there can be no access to the nursery areas (hall and kitchen, and their roof space) during nursery hours.	

Figure II – Schematic diagram of the Parish Hall – not to scale



3.3 Equipment maintenance

Submissions must include a schedule for expected annual maintenance costs for 25 years, laid out as follows:

	Maintenance costs					
Item	Years 1-5	Years 6-10	Years 11-15	Years 16-20	Years 21-25	25 year total

3.4 Equipment warranty

Please state warranty period for each piece of equipment.

4.0 Work considerations

4.1 Site works

Confirmation of working hours, storage materials, access, location of skips, final programme of works and Risk Assessment and Method Statements (RAMS) will be agreed with CPC before work starts.

Materials and machinery should not be stored beneath tree canopies, again to minimise root compaction.

During installation, the contractor should secure the work area for the build, ensuring that the public cannot gain entry to the construction site.

The contractor will be held responsible and liable for any damage caused by, or to, machinery and materials left on site, and any vandalism caused by, or to, machinery and materials left on site.

The contractor will be held responsible for, and must make good any damage caused to existing buildings, roads, paths, grassed areas, car parks, drives, fences, drains, sewers, service mains, landscaping etc.

Before the project's completion any area that has been damaged during the installation must be made good and returned to new, or as a minimum to the original condition, at the contractor's expense.

The contractor must protect the whole CPC estate against unauthorised persons, vehicles and encampments by ensuring the access points are locked when not in use. The contractor shall bear the costs incurred in the removal of unauthorised encampments due to the contractor's negligence.

4.2 Removal of existing items and waste

Any works undertaken by the contractor, resulting in waste will need removing from site, and the costs to form part of this tender.

All waste should be stored safely while on site and then removed from site by the contractor. Please supply a copy of Waste Carrier Licence.

4.3 Use of public buildings

The successful company will need to work with CPC to ensure that the hirers of the buildings are aware of any disruption throughout installation.

5.0 Making the most of your bid

5.1 Scoring and evaluation

Tender submissions will be assessed on whether they meet the following criteria – MET or NOT MET. Submissions which fail to meet these criteria will be rejected.

Criteria	
Satisfactory references wrt installation	MET/NOT MET
Evidence of insurance cover (Public, Employer's, Professional)	MET/NOT MET
Evidence of accreditation by requisite industry bodies for solar installation, SEG and electrical contracting.	MET/NOT MET

The following criteria will be scored on a scale of 0-5, and each weighted equally with each criteria worth 25% as shown.

Criteria	Potential score
Value for money • Total project costs – please state total for each building • Projected maintenance costs (see 3.3) • Warranties and guarantees (see 3.4)	0-5
Ability to work on site around hall hirers and H and S guidelines • Member of Renewable Energy Consumer Code (RECC)	0-5
Adherence to work specification (see 3.1 and 3.2)	0-5
Social value • Environmental statement • Equality statement • Any other social value factors • Assurances to use local subcontractors	0-5
Maximum total score	20

Where 0 score = No response, 1 = Significantly below expectations, 2 = Below expectations, 3 = Meets expectations, 4 = Above expectations and 5 = Significantly above expectations

5.2 Format of submission

The tenders must be submitted in line with provisions outlined in section 11 of the CPC Financial Regulations, see Appendix 1.

In short, the sealed tenders must be addressed to the CPC clerk, Melanie Saville, until the prescribed date for opening tenders (10am, Friday 17th February).

Please make sure your delivered submission includes:	/ or x
A developed scheme with diagrams, along with costs for individual components, scaffolding and installation for each hall in turn, including proposed installation dates.	
In a separate summary table state total cost of each building and a cost for completing both projects.	
Evidence to address the criteria listed in 6.1 Scoring and Evaluation Two satisfactory references wrt installation from the last 3 years Two satisfactory references wrt maintenance from the last 3 years	
A table specifying equipment maintenance costs.	
Individual equipment warranty details.	
Recent set of the bidding company's audited accounts.	
Details of any enforcement action under the Health and Safety legislation.	
Confirmation that the bidder will be able to meet the timetable – school holidays for the Parish Hall	
Waste carrier licence	
Membership details of Renewable Energy Consumer Code (RECC)	
Health and safety policy statement	
Equality policy statement	
Environmental policy statement	
Evidence of Public liability insurance (minimum £10 million)	
Evidence of Employers' liability insurance (minimum £5 million)	
Evidence of Professional indemnity insurance (minimum £5 million)	

Bidders must ensure they fully understand this document and the work requirement and specification. If you have any queries please ask - projects@crowthorne-pc.org.uk or 01344 771 251.

Submissions should be marked 'Solar Panel installation tender – CONFIDENTIAL' and posted to The Clerk, Crowthorne Parish Council, Morgan Centre, Wellington Roads, Crowthorne, RG45 7LD to arrive by 10am, Friday 17th February.

Appendix 1 – CPC Financial Regulations.

11. CONTRACTS

1. Procedures as to contracts are laid down as follows:

a. Every contract shall comply with these financial regulations, and no exceptions shall be made otherwise than in an emergency provided that this regulation need not apply to contracts which relate to items (i) to (vi) below:

i. for the supply of gas, electricity, water, sewerage, broadband and telephone services;

ii. for specialist services such as are provided by legal, or other suitably qualified professionals whose qualifications relate to the subject matter under dispute;

iii. for work to be executed or goods or materials to be supplied which consist of repairs to or parts for existing machinery or equipment or plant;

iv. for work to be executed or goods or materials to be supplied which constitute an extension of an existing contract by the council;

v. for additional audit work of the external/internal auditor up to an estimated value of £500 (in excess of this sum the Clerk and RFO shall act after consultation with the Chairman and Vice Chairman of the council and report to council at its next meeting); and

vi. for goods or materials proposed to be purchased which are proprietary articles and / or are only sold at a fixed price.

b. Where the council intends to procure or award a public supply contract, public service contract or public works contract as defined by The Public Contracts Regulations 2015 ("the Regulations") which is valued at £25,000 or more, the council shall comply with the relevant requirements of the Regulations[1].

c. The full requirements of The Regulations, as applicable, shall be followed in respect of the tendering and award of a public supply contract, public service contract or public works contract which exceed thresholds in The Regulations set by the Public Contracts Directive 2014/24/EU (which may change from time to time)[2].

d. When applications are made to waive financial regulations relating to contracts to enable a price to be negotiated without competition the reason shall be embodied in a recommendation to the council.

e. Such invitation to tender shall state the general nature of the intended contract and the Clerk shall obtain the necessary technical assistance to prepare a specification in appropriate cases. The invitation shall in addition state that tenders must be addressed to the Clerk in the ordinary course of post. Each tendering firm shall be supplied with a specifically marked envelope in which the tender is to be sealed and remain sealed until the prescribed date for opening tenders for that contract.

f. All sealed tenders shall be opened at the same time on the prescribed date by the Clerk in the presence of at least one member of council.

g. Any invitation to tender issued under this regulation shall be subject to Standing Order 18d and shall refer to the terms of the Bribery Act 2010.

h. When it is to enter into a contract of less than £25,000 in value for the supply of goods or materials or for the execution of works or specialist services other than such goods, materials, works or specialist services as are excepted as set out in paragraph (a) the Clerk or RFO shall obtain 3 quotations (priced descriptions of the proposed supply); where the value is between £250 to £5,000 the Clerk or RFO shall strive to obtain 3 estimates or utilise a pre-approved supplier. Otherwise, Regulation 10.3 above shall apply.

i. The council shall not be obliged to accept the lowest or any tender, quote or estimate.

Should it occur that the council, or duly delegated committee, does not accept any tender, quote or estimate, the work is not allocated and the council requires further pricing, provided that the specification does not change, no person shall be permitted to submit a later tender, estimate or quote who was present when the original decision making process was being undertaken

[1] The Regulations require councils to use the Contracts Finder website to advertise contract opportunities, set out the procedures to be followed in awarding new contracts and to publicise the award of new contracts.

[2] Thresholds currently applicable are:

a. For public supply and public service contracts 209,000 Euros (£189,330)
b. For public works contracts 5,225,000 Euros (£4,733,252)

These new thresholds are applicable from 1 January 2020.