AIMED

**Climate Adaptation Scilly**

ANNEX B - SPECIFICATION

Rainwater Harvesting



May 2022

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Council of the Isles of Scilly (the Authority) has received funding from the European Regional Development Fund and the Environment Agency to complete a range of climate change adaptation works. This tender includes design, delivery and installation of rainwater harvesting tanks for businesses.

The Isles of Scilly are one of the most vulnerable areas of the Less Developed Area of the UK to the impacts of climate change, including to drought and water shortages.

The works to be undertaken by the successful Tenderer could be on the islands of St Mary’s, St Agnes, Bryher, St Martin’s and Tresco.

# SPECIFICATION OF WORKS

## Introduction

This procurement process is an opportunity to bid for the design, detailed specification, consenting, manufacture/sourcing and supply, transportation and installation of rainwater harvesting and storage to a defined selection of business premises. The contracted supplier will also work with businesses to define the modifications needed to their internal plumbing to enable them to fully use harvested and stored rainwater for non-potable purposes like flushing guest toilets, washing machines and irrigation.

1. **Budget**

The budget available for all the tasks necessary to complete the works is £250,000. This budget covers all tasks required for this Tender. Tasks and costs (completed by others) to connect the rainwater harvesting systems to business water uses will be borne by the businesses benefiting from the project. The costs for this contract must include site works, any consenting, transport to and between the islands, transport to the site, all materials, and other elements as required. These other elements within the scope of this Contract include advice to be given to the recipients of the rainwater harvesting systems to enable them to brief their own plumbers to make suitable connections. Completion inspections for the Authority by a third party will also be funded from this budget.

1. **Project Timeframe**

The installation and connection by others (ie, by recipients or their contractors) of all rainwater harvesting systems must be completed by March 2023 to meet the timeframes of the European Regional Development Fund funding. Tenderers can propose their own project schedule, but the required completion date for this Contract is **23 December 2022**.

The proposed project stages and interim milestones are:

1. Following a site visit to each proposed premises and discussion with the applicant, determine and report on the location of proposed sites, styles and sizes of rainwater harvesting tanks to be installed, by **12 August 2022**. This report must be reviewed, revised if necessary and agreed formally by the Authority, represented by the Project Director Climate Adaptation Scilly, before any installations can commence. [Design Milestone]
2. Deliver rainwater harvesting tanks and other materials to the Isles of Scilly, by **30 September 2022** [Materials Delivery Milestone]
3. Install all rainwater tanks and harvesting systems, by **2 December 2022** [Installation Milestone]
4. The Authority to confirm by inspection at its own cost at completion of tank installations during project stage 3 that all rainwater tanks are installed appropriately and can be connected by the recipient to internal plumbing, by **23 December 2022** [Inspection Milestone]
5. The final reporting by the Contractor to the Authority on all installations and claims for disbursements will be completed by **27 January 2023** [Final Milestone]

The Authority expects that rainwater harvesting system installations will be inspected as each one is completed, and that connections will be made to internal plumbing by others as soon as feasible, on an ongoing basis.

1. **Number of Premises**

It is expected that about 20 business premises will be fitted with rainwater harvesting systems. The exact number of tanks to be installed will depend on the prices provided for this tender process, which will maximise how much mains water can be replaced using the funding available. On some sites multiple tanks may be the appropriate response to site layout constraints.

Expressions of Interest for installing rainwater harvesting systems have been received from all inhabited islands in the Isles of Scilly, including 1 on Tresco, 4 on St Agnes, 2 on Bryher, 3 on St Martin’s and 10 on St Mary’s. Prices for the off-islands must include all additional costs, including the costs of inter-island shipping and use of local plant to move the tanks to their final location.

A spreadsheet showing applicants’ site details, requested tank sizes, tank shapes, proposed water uses, current water use and notes on various constraints is provided as part of this tender package (EOI results.xlsx). The results of post-application discussions with each applicant also are included. Tenderers must use this spreadsheet to understand the likely sizes, shapes and constraints on installing tanks.

It is expected that the number, size and style of tanks installed at the various premises requested by applicants may change following the initial site visit, to optimise the water savings to be made using the available budget.

1. **Style of Tanks**

Business premises on the Isles of Scilly sometimes have constrained space in which to site tanks. It is intended that only above-ground tanks are to be installed. Businesses interested in installing rainwater tanks have provided dimensions of the space available at their site to situate a tank above ground. Businesses also have indicated what shape of tank they would prefer, from square, rectangular or cylindrical shapes. Part of this contract is to confirm by site visits with the applicants – and through design – the appropriate location and style/shape of tanks to be used.

Tenderers must provide a description of a typical tanks to be supplied, including manufacturer’s specification, together with a schematic of a typical installation. The description must include the make, model, size and style of tank; proportion of collected water that goes to waste due to filter cleaning (if applicable); and inlet filter particle size rejection.

1. **Construction of Footings**

Prior to installation of the rainwater harvesting tanks, footings shall be available or shall be constructed by the Contractor at the Contractor’s cost, suitable to bear the load of a full tank without damaging neighbouring buildings or other structures, nor causing land movement. The style of the available footings or footings to be constructed must be agreed with the business recipient of the rainwater harvesting tank. Businesses have indicated whether or not they have flat ground ready to bear the weight of a full tank.

1. **Transport to the Islands**

Rainwater tanks and other materials must be delivered to a storage location on the island of St Mary’s at the Contractor’s expense prior to eventual site installations. Transport from the UK mainland to the Isles of Scilly could be by the Gry Maritha, which is likely to be at the current price of 4 pence per litre volume of tanks, plus VAT. This price must be verified by the tenderer with the Isles of Scilly Steamship Company as part of their tender submission. The Gry Maritha has limited hold space, so it is expected that only up to 3 large tanks could be transported on each voyage, depending on demand for other loads. In summer the Gry Maritha typically makes 3 round-trip voyages each week. Tenderers may also choose to transport tanks by barge, landing craft, or another chartered vessel. Tenderers must consider how the mainland-to-Scilly delivery route they select affects the project schedule.

1. **Storage of Tanks on St Mary’s Prior to Construction**

The storage location for tanks before installation is expected to be at the Stoneyard adjacent to the Porthmellon Recycling Centre on St Mary’s. No charge will be levied by the Council of the Isles of Scilly for storage of those tanks at this location during the project.

1. **Shipping of Rainwater Harvesting Systems to Off-Islands**

All tanks and materials necessary for the installation of rainwater harvesting systems on the off-islands must be shipped by the Contractor from St Mary’s to any off-island sites that require installations, at the Contractor’s cost. These shipping costs are estimated to be an additional 20% of the costs of shipping from the mainland to the Isles of Scilly. These costs must be included within the quote, as noted above.

1. **Transport of Rainwater Harvesting Systems to Sites**

Tanks and other materials will be transported at the Contractor’s expense to the site at which they will be installed. Interested businesses have been asked to indicate whether tanks can be moved at ground level around their property to the tank space available. There is at least one hiab truck crane available for hire on St Mary’s, with a reach of up to 9 m. A telehandler also may be available on St Mary’s with tyres suitable for rural operating, with a reach of about 5 m. Lifting plant available on the off-islands should be discussed with contractors on those islands.

1. **Rainwater Harvesting Connections to Spouting**

The rainwater harvesting tanks must be connected to the downspouts available at the property in such a way that rainwater is collected from as many downspouts as feasible. An overflow must be provided so that rainwater in excess of the tank capacity will be directed to existing stormwater disposal systems.

1. **Filter and Treatment Systems**

The rainwater harvested by the installed systems will be for non-potable uses. However, a filter on the tank inlet must be provided to remove efficiently solid matter including vegetation, soil and other materials from the rainwater entering the tank. A rodent barrier also must be fitted to the overflow outlet to prevent rodents entering the tank. No further treatment of the rainwater is required for water being used only for toilet flushing or garden/farmland watering.

If the non-potable water may be used for other purposes, the recipient may fit at their own cost additional treatment steps such as floating extraction systems with filter, or an overflow siphon.

1. **Suitability for Fire and Rescue Service Fittings**

The reticulated water network is limited in extent on the Isles of Scilly. When the Fire and Rescue Service is attending fires in non-reticulated areas, it must rely on surface bodies of water, residents’ water tanks and its own water tanks. To assist in the use of rainwater tanks for fire-fighting supply, as many as possible of the tanks must be fitted with BS336 female instantaneous outlet valves, with the agreement of the tank recipients. These valves will be supplied and fitted by the Fire and Rescue Service during tank installation. The tanks supplied by the Contractor should be capable of being fitted with this type of valve. It should be assumed that all of the tank systems supplied will require to be fitted with these valves.

1. **Evidence of Installation**

The completion of all rainwater harvesting system installations must be reported by the Contractor using the form to be provided by the Authority. The information to be collected and provided for each site includes the following to be provided in an editable digital form such as Microsoft Word, Microsoft Excel or equivalent:

* 1. A completed Works Completion form, as provided by the Authority
  2. Description and map (e.g., a screenshot of Google Maps) of the location of the premises at which the rainwater harvesting system was installed
  3. A site sketch, labelled with north and scale showing the location of the rainwater harvesting system as installed at the premises, the specific downspouts that direct water to the rainwater tank(s), and a marked outline of the area of roof expected to contribute to the rainwater harvesting system
  4. Digital photographs (as .jpg format image files) of (1) the general view of the property from the road or access track, ideally showing the location of the tanks in context; (2) the tanks as installed; (3) the external connections available from the tanks to the point of water delivery to the property; (4) the downspouts which are directed to the rainwater tank(s); (5) a view including local context showing any Fire and Rescue Service outlets fitted to the tanks (this information will be included in a guide to be developed in future by others for the Fire and Rescue Service to find suitable water tanks during emergencies)

1. **User Manuals**

The Contractor will supply to each rainwater harvesting system recipient within two weeks of installation a user manual that provides information on the physical characteristics of the system; expected system life, including life of major components; the normal operating regime; temporary diversion of inputs; filter back washing; provisions for extended periods of non-use; and other matters; tasks to be undertaken by the recipient of the system, and their anticipated frequency; tasks to be undertaken by trained service personnel, and their anticipated frequency; major service intervals; any other appropriate matters.

**Additional Information**

1. **Logistics of working on Scilly.** It is complex to work in a remote location such as the Isles of Scilly. Tenderers must include in their tendered prices everything that is required to complete the project, including travel and accommodation for staff and freight transport to, from, around and between the islands. Scheduled flights, a passenger ferry service and a freight service between the mainland and St Mary’s, as well as an inter-island freight service are operated by Isles of Scilly Travel [https://www.islesofscillytravel.co.uk/.](https://www.islesofscilly-travel.co.uk/) Passenger helicopter services also are available. There are several options for haulage and inter-island transport once on Scilly. It is the responsibility of Tenderers to make their own enquiries about transport services as the Authority is unable to provide any further specific information. Tenderers should note that staff accommodation may need to be booked several months in advance, even in the period of late summer/autumn 2022.
2. **Permits and regulations.** The Contractor is responsible for obtaining consents and permits such as consent to install, permits to dig/service clearance and crane permits/lifting plans. All water fittings must comply with the Water Supply (Water Fittings) Regulations 1999, the Building Regulations 2010 Part G (as amended) and Part H, British Standard BS EN 16941-1:2018 Rainwater Harvesting Systems Code of Practice, and all work must also comply with any other relevant guidance, regulations and legislation. This includes labelling, for example, the tank water outlets must be labelled as ‘non-potable’. Notifications required under any applicable regulation will be the responsibility of the Contractor. The Contractor will undertake all roles and responsibilities of the Contractor or Principal contractor as defined under CDM regulations.
3. **Local contractors.** Tenderers should be aware that skilled local subcontractors, including freight companies, plumbers and experienced rainwater harvesting installers may be available on the Isles of Scilly. Tenderers should make their own enquiries about local contractors, as the Authority is unable to provide any specific information. Use of local subcontractors and suppliers will result in a higher score in the assessment of tenders (see scoring method for details).
4. **Project meetings.** It is expected that during the Contract execution regular meetings with Climate Adaptation Scilly will take place. Tenderers should plan for and include in their tender price weekly progress meetings during the 2-month period of tank installations at the Porthmellon Enterprise Centre, St Mary’s, Isles of Scilly, TR21 0JY (where the Climate Adaptation Scilly project office is located). Outside the installation period, Tenderers must also plan for and include in their tender price monthly project progress meetings with the Authority and other agencies, as suitable. Arrangements may be made for the monthly meetings to take place by video conference or on site, where appropriate.
5. **Stakeholder and community engagement.** The Climate Adaptation Scilly team based on St Mary’s will be operating a communications plan for the project. It may be necessary for the Contractor to take part in or contribute to supporting this project activity from time to time. The contractor must liaise closely with South West Water, a key stakeholder, to ensure that rainwater harvesting installations are undertaken in a suitable manner.
6. **Rectification.** If inspection by the Authority shows that there is any variation from the agreed design or specification on each installation it will require rectification by the Contractor at their expense before the installation will be signed off as complete for payment.
7. **Issues and variations.** During project execution, any issues that may affect completion of the works, including changes in scope, timeframes, quality or cost of the project must be notified to the other party promptly. Any variations must be agreed in writing between the Contractor and the Authority before they can be implemented. Unagreed or unapproved variations will require rectification at the Contractor’s expense. Note however, that no variation in the requirement to complete the works in their entirety by 23 December 2022 (with all costs defrayed by the end of March 2023) will be permitted.

# VARIATIONS FROM THE SPECIFICATION (VARIANT BIDS)

**No variations from the specification will be accepted.**