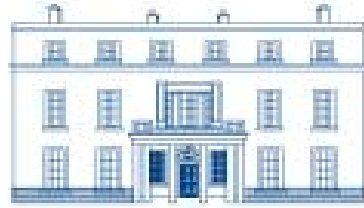


WCMS 01/2009



AN ROINN OIDEACHAIS
AGUS EOLAÍOCHTA | DEPARTMENT OF
EDUCATION
AND SCIENCE



TO: PRIMARY AND POST PRIMARY SCHOOL AUTHORITIES

Summer Works Scheme 2010

Devolved Capital Grants

for

Water Conservation Measures

in

Primary and Post Primary School Buildings

Guide for School Authorities

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1. Introduction

The Minister for Education and Science has announced that part of the Summer Works Scheme fund for 2010 will be set aside to provide for water conservation measures in school.

The purpose of these measures is to enhance water conservation in existing school buildings by allowing school authorities to apply for funding, on a once off basis, for specified works.

To qualify for funding, the works must be carried out in accordance with the terms and conditions and the guidance set out in:

- Circular Letter 0057/2009 Summer Works Scheme 2010 - Scheme of Capital Grants for Small Scale Works and Water Conservation Measures (available on the Department's website).
- WCMS 01/2009 – Water Conservation Scheme, Guide for School Authorities (available on Department's website and www.energyeducation.ie) - this document.
- WCMS 02/2009 Contractors' Code of Practice and Standards and Specifications Guidelines. (This will be published on the Department's website and www.energyeducation.ie in early 2010).

Additional information on water conservation in schools is available in Circular 0046/2008 Guide to water efficiency in Schools which is available at www.energyeducation.ie.

A Consultant's Report is **not needed** for an application for water conservation measures.

To apply for water conservation works, applicants must complete Sections 4 and 5 of Application Form SWS 1, which is available on the Department's website www.education.ie.

The form only requires numerical details on the types of water saving installations that a school will need. Tenders etc. are not required at this stage.

The closing date for receipt of all applications under the Summer Works Scheme is 27 November 2009.

2. General Contractor Requirements and Competencies

Lead Contractor

To successfully compete to carry out water conservation works, the Contractor must meet the general requirements, which will be further detailed in document **WCMS 02/2009 – Contractors’ Code of Practice and Standards and Specifications Guidelines**. (This will be published on the Department’s website and www.energyeducation.ie in early 2010).

The School Authority should familiarise itself with the contents of this document when it is available.

In general terms, the lead contractor appointed by the school authority to complete the works must be a fully qualified Plumbing and Heating Contractor. In this regard, the Contractor must provide the school authority with proof of:

- Full qualification as a Plumbing and Heating Contractor
- A valid Tax Clearance Certificate
- Public and Products liability insurance with a minimum cover of €3.5 million
- Employers Liability insurance cover, where applicable, of €13.5 million
- Ability to carry out the works in line with the guidelines set out by the Department of Education and Science or its Agents
- Willingness to submit their works to performance audits and review by the school authority and/or the Department of Education and Science or its Agents
- A contract with the school authority which meets or exceeds the terms set out in all governing documentation for these works.

Electrical Contractor

Where electrical works are necessary with respect to mains power provision to the automatic urinal controls, these works **must be carried out** by a qualified Electrical Contractor.

This Contractor must be registered with one of the two Licensed Regulatory Bodies for electrical contractors in Ireland, which is either the Electrical Contractors Safety & Standards Association (ECSSA) or the Regulatory Body for Electrical Contracting (RECI).

The Plumbing and Heating Contractor will include for these works in the submitted price and the Electrical Contractor will act as a domestic subcontractor to the plumbing contractor. There should be no need for the school authority to appoint an Electrical Contractor directly.

3. Tendering for the works

Following the application process, the Department of Education and Science will issue an approval letter to all successful applicants. (Unsuccessful applicants will also receive a letter setting out the reason why their application was unsuccessful).

A successful applicant may proceed to tender on foot of the approval letter.

The school authority must select a minimum of three qualified Plumbing and Heating Contractors to tender for the works. The cost of tendering shall be carried by the contractors.

The tendering Contractors must, in all instances, visit the School and inspect the required works.

The scheme is established on a design and install basis so that the tendering contractor will propose the best solution for the school.

It will be necessary for the Contractor to take into account both the requirements of the Department's governing documentation and the water services installations in the school. With regard to the latter, available water pressure and the pressure drop that can exist with respect to various suppliers equipment is critical.

Following the visit, each tendering Contractor must provide a detailed quotation specifying all costs of works, including making good.

This quotation must be laid out in a clear, concise and specific manner, using language that can be readily understood. It must include all proposed works and associated costs and the applicable VAT rates.

Any alterations to, or omissions from, the original quotation will not be met by the Department and will have to be met from the school's own resources.

There is no obligation on a school authority to accept any tender.

Furthermore, the works specified in the tendering process will not be approved to proceed unless the Department's requirements are complied with in full. The school authority and the Department of Education and Science, therefore, reserve the right to accept or reject any tender received. **The Department also reserves the right to withhold the payment of any or all grant aid in the event of a breach of any of the terms and conditions applicable to this work including where tendering procedures have not been properly followed.**

4. Asbestos

Contractors appointed to carry out works must be made aware of and review the School Safety File to establish the position relating to any health and safety issues, such as the presence of asbestos.

It is critical that the school has had an Asbestos check and that the Contractor sees the register prior to signing the contract.

If the school has not been tested for Asbestos, **this must be done prior** to a contract being signed.

5. Handover Documentation

Prior to the demonstration of the equipment and systems installed, any and all operation and maintenance literature, in English, shall be provided to the school authority. This literature must clearly indicate, in non technical terms, all aspects of operating and routine operation and maintenance checks along with postal, telephone and email contact details for suppliers of replacement parts.

6. Inspection, testing and commissioning

Commissioning of installation shall be carried out in accordance with the procedures, checks and tolerances given in the relevant BSRIA application Guides and achieve the Standards set in the CIBSE Commissioning Codes and prevailing standards.

7. Training and Demonstration

After the Contractor is satisfied that all equipment and systems installed are operating satisfactorily, training and demonstration shall take place. Adequate notice shall be given to the school authority and the Contractor will demonstrate, in non-technical terms, the satisfactory operation of all systems and any routine operation and maintenance checks that may be required. A 12 month warranty on parts and operation will be deemed to be part of the terms and conditions governing the works carried out.

8. Specific measures – standards and specifications including installation standards

8.1 Automatic urinal controls

Older Schools that do not have any control devices on their urinal cisterns will benefit considerably by installing cistern flush controllers. A urinal without controls will simply keep filling and flushing water 24 hours a day, seven days a week and is very wasteful. Urinal controls are based on presence detection and only flush the urinals after use (they will also have a setback programme to ensure minimum flushing for hygiene purposes during School holidays).

The automatic urinal controls systems supported under the Summer Works Scheme must be based on passive infrared detection. They must only be installed using the mains power via a fused spur for power (battery operated sensors not allowed) and they must have the sensor installed in a way that it is out of the reach of students at high level, preferably wall mounted. They must also have a setback programme to ensure minimum flushing for hygiene purposes outside school hours and during school holidays.

Typically one automatic urinal control unit will be installed per high level cistern or toilet area.

8.2 Water displacement devices and variable flushing devices

There are two options available to help reduce water when flushing toilets. Both options are available for funding under this scheme but a school authority must choose which option it wishes to use as only one option will be funded under the scheme.

- **Option 1 - Variable flushing devices**

These are retrofitted devices, which allow pupils, having flushed the toilet, to press a button when the toilet bowl is clear. The depressed button will then interrupt the flush and stop unnecessary water wastage. These devices are relatively easy to fit, requiring no plumbing or maintenance. They are not suitable for concealed or built-in toilet cisterns or on dual flush toilets (these are toilets that have a small flush and a large flush option).

- **Option 2 - Water dams and displacement devices in WCs**

Water dams and displacement devices reduce the amount of water that can fill the cistern. The volume of the immersed object will be equal to the volume of the displaced fluid. These devices are appropriate for older toilet cisterns.

The displacement devices installed should be selected so that they reduce the flush amount by:

- 3 litres on a 9 litre cistern
- 1.5 litres on a 7.5 litre cisterns

Water dams and displacement devices should not be used on modern low volume 6 litre cisterns.

If a cistern has been installed since 2000, it will probably have a maximum flush of 6 litres per flush or it may be a dual flush cistern. In such cases, it is not recommended that a cistern displacement device is installed as this could result in double flushing thus leading to water wastage.

The table below gives an overview and identifies appropriate device use under this scheme.

Types of Cisterns	Variable flushing devices	Water dams and displacement devices in WCs
Pre 1993 Toilet Cisterns	Yes	Yes
7 to 9 litre flush (usually installed 1993-1999)	Yes	Yes
Concealed or built-in toilet cisterns nor on dual flush toilets	No	Yes
Dual flush toilets	No	No
Cistern with a maximum flush of 6 litres per flush	Yes if not dual flush	No

8.3 Push type percussion spray taps

Push type percussion spray taps require the user to push down on the tap head to deliver flow. The tap automatically closes off after a delay period. Aerators restrict the flow of water from the tap without reducing water pressure.

Where existing wash hand basins have a central hot and tank fed cold water supply, these should be piped through a thermostatic mixing valve and a single blended supply taken from the mixing valve

to a single low pressure drop percussion spray type tap fitted on the basin. If the existing wash hand basin has two existing taps, just remove the second tap and blank off the hole using a proprietary plug.

Depending on the existing tap, it may also be possible to change the tap head without having to disturb the tap body or wash hand basin plumbing.

All automatic shut-off taps must be of a commercial quality suitable for use in schools. Contractors must show evidence that the products used have Water Regulations Advisory Scheme (WRAS) approval or other independent test laboratory accredited to ISO 17025. Alternatively, supplier companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

Important note on infrared and ultrasound sensors and thermostatic mixing taps

Please note that infrared or ultrasound sensors are not eligible for funding under this scheme. Likewise, thermostatic mixing taps are not eligible for funding.

Important note on tap and thermostatic point of use blending valve pressure drops

It is important to be aware that it is possible to get percussion taps and TMVs with different pressure drops. If percussion taps with a particularly high pressure drop are specified then they may not work with a gravity system.

It is also important to be aware that cold water supplies in a school must be gravity based. Pumped systems are not permitted as a school's toilets must be capable of operation in the event of a power failure.

8.4 Thermostatic mixing valve



A Thermostatic Mixing Valve (TMV) is a valve that blends hot water (stored and distributed at temperatures high enough to kill bacteria) with cold water to ensure increased user comfort because the hot-water temperature remains constant. They also shut-off rapidly in the event of a hot or cold supply failure to prevent scalding or thermal shock.

A TMV funded under this scheme must be a fail safe lockable thermostatic blending valve limiting the temperature to 42 / 43° Celsius. Where wash hand basins are adjoining or back to back, these wash hand basins shall be combined to one blender unit in accordance with manufacturer's instructions.

TMVs must be suitable for the system head pressure available, comply with BS EN 1287 for low pressure, be suitable for under basin installation, provide safe thermostatic shutdown, be complete with isolation valves and check valves and easily removable strainers, and have tamper proof temperature adjustment.

Where existing sinks have a central hot and tank fed cold water supply these should be piped through a thermostatic mixing valve. The blended supply must be taken from the under sink mixing valve to the hot water tap or manual kitchen sink type mixer on the sink (which ever is fitted). So as not to contaminate the mains water supply, separate taps or a manual mixing tap (where the hot and cold water only mixes at the outlet) should only be used with mains water.

All thermostatic mixing valves shall be tested for shut-off in the event of loss of the cold water supply and test certificates forwarded to the Principal prior to handover.

9. DISCLAIMER

This document is a reference document for school authorities and qualified Contractors who wish to carry out water conservation works under the Terms and Conditions of the Summer Works Scheme 2010.

It sets out the general competencies required of Contractors and the standards and specifications that must be adhered to for the proposed works.

The Department of Education and Science and its Agents do not provide any warranty or guarantee concerning the completeness, effectiveness, reliability, accuracy or otherwise of such standards or any work carried out on foot of such standards.

The provision of goods and/or services by Contractors to school authorities for water conservation works is a matter between the Contractor and the school authority.

The Department of Education and Science and its Agents accepts no liability or responsibility, whether for breach of contract, negligence, health and safety violations or otherwise, in respect of any dispute, claim or cause of action arising out of, or in relation to, any product, equipment, work, system or installation supplied or carried out by the Installer for these works. The Installer is entirely responsible for all such matters.

The full terms and conditions governing water conservation works, which school authorities and Contractors should familiarise themselves with, are contained in the following documents:

- Circular Letter 0057/2009 Summer Works Scheme 2010 - Scheme of Capital Grants for Small Scale Works and Water Conservation Measures (available on the Department's website).
- WCMS 01/2009 – Water Conservation Scheme, Guide for School Authorities (available on Department's website and www.energyeducation.ie) - this document.
- WCMS 02/2009 – Contractors Code of Practice and Standards and Specification Guidelines (This will be published on the Department's website and www.energyeducation.ie in early 2010).

Additional information on water conservation in schools is available in Circular 0046/2008 - Guide to water efficiency in Schools, which is available at www.energyeducation.ie.

Planning and Building Unit
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