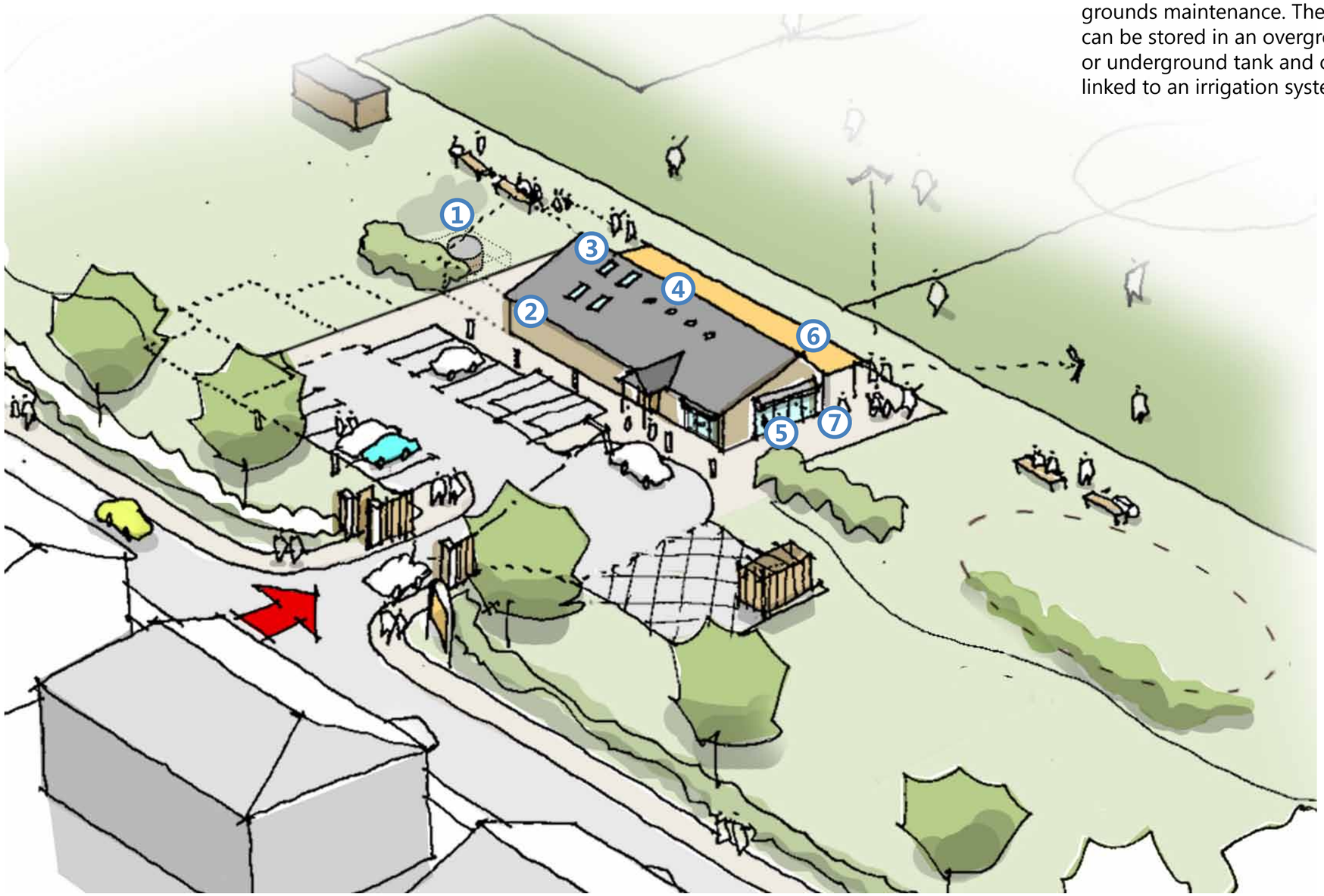
S1 Sustainability
PASSIVE DESIGN

Clubhouse Design Guidance Notes: **Display Panel**



① Rainwater Harvesting

Rainwater collected from the roofs can be used in pitch and grounds maintenance. The water can be stored in an overground or underground tank and can be linked to an irrigation system.

② Well Insulated Building

A well insulated building reduces heating costs. Analyse the insulation within the clubhouse to determine if it can be improved.

③ Natural Light

Natural light through rooflights and windows reduces the need for artificial light and lowers energy consumption. Opening rooflights can also improve natural ventilation.

④ Sun Tubes

Sun tubes are an effective method of allowing natural light into central windowless spaces, minimising the need for artificial lights in the day time.

⑤ Solar Gains

Large windows to the south lets sunshine into the building warming the internal space naturally.

⑥ Sunshade

Overhanging eaves and/or solar control glass can limit overheating in the summer but allow sunshine in when the sun is low in the sky during winter.

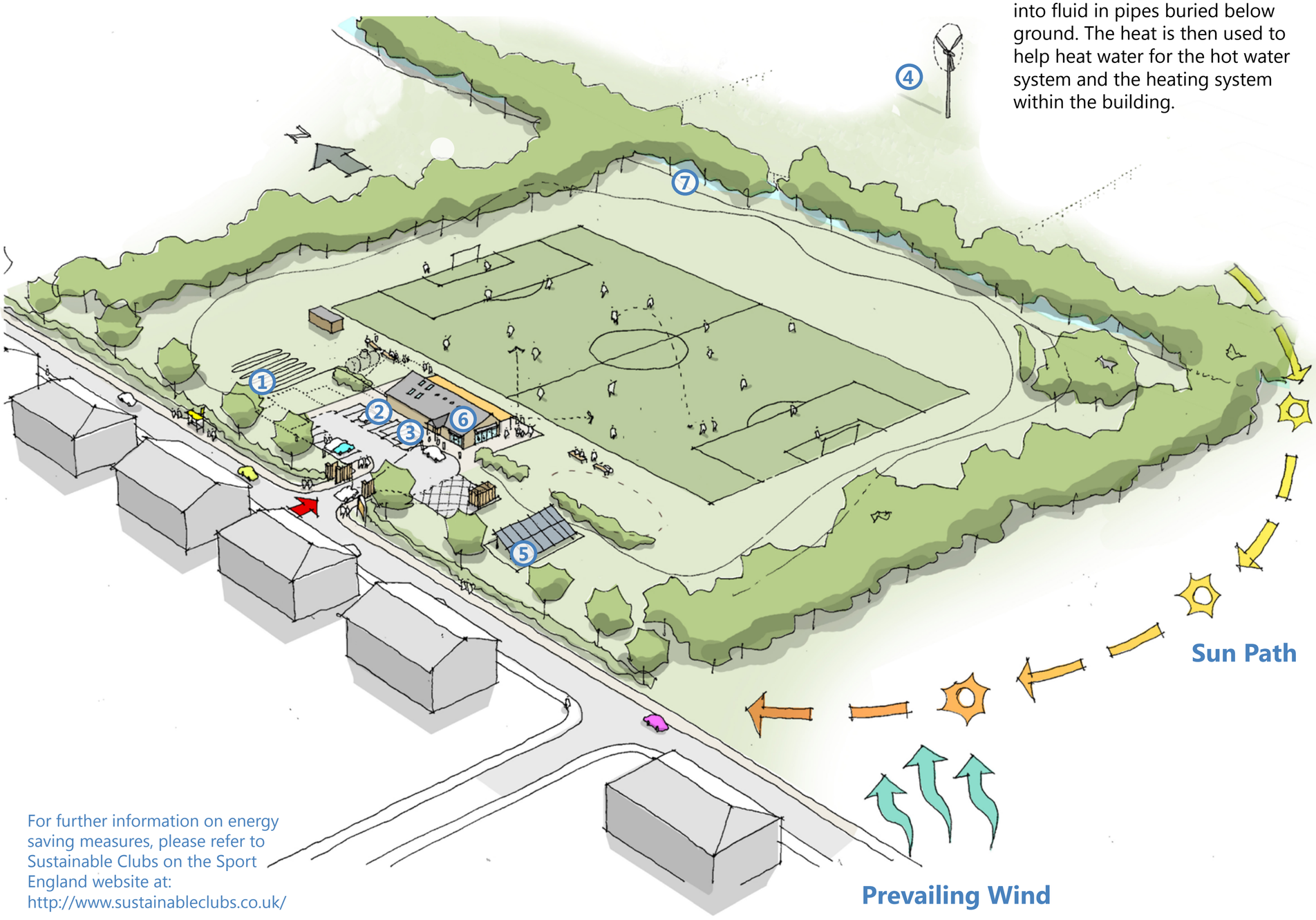
⑦ Natural Ventilation

Natural ventilation reduces the need for air conditioning and mechanical ventilation. It uses outdoor air flow caused by air pressure differences to provide ventilation and cooling.

Passive Design: Reduces energy demand

S2 Sustainability
RENEWABLE ENERGY

Clubhouse Design Guidance Notes: **Display Panel**



① Ground Source Heat Pump

Heat from the ground is absorbed into fluid in pipes buried below ground. The heat is then used to help heat water for the hot water system and the heating system within the building.

② Air Source Heat Pump

Air source heat pumps absorb heat from the outside air. This heat can then be used to help heat water for the hot water system and the heating system within the building.

③ Biomass Heating

Biomass is a wood fuelled system that burns pellets or logs to power the central heating system and the hot water.

④ Wind Turbine

Wind turbines should be located in an area that is not accessible and away from the sports field. A converter changes the energy into electricity that can be used within the building.

⑤ Solar Panels

Solar panels convert sunlight into electricity. Solar panels should be located on a south facing rooftop or mounted on the ground in an open area.

⑥ Solar Thermal

Solar water heating systems use heat from the sun to heat water. The water flows through panels fitted to the roof. The water is then stored in a tank and brought up to temperature using a conventional boiler, and used as hot water for the showers and taps.

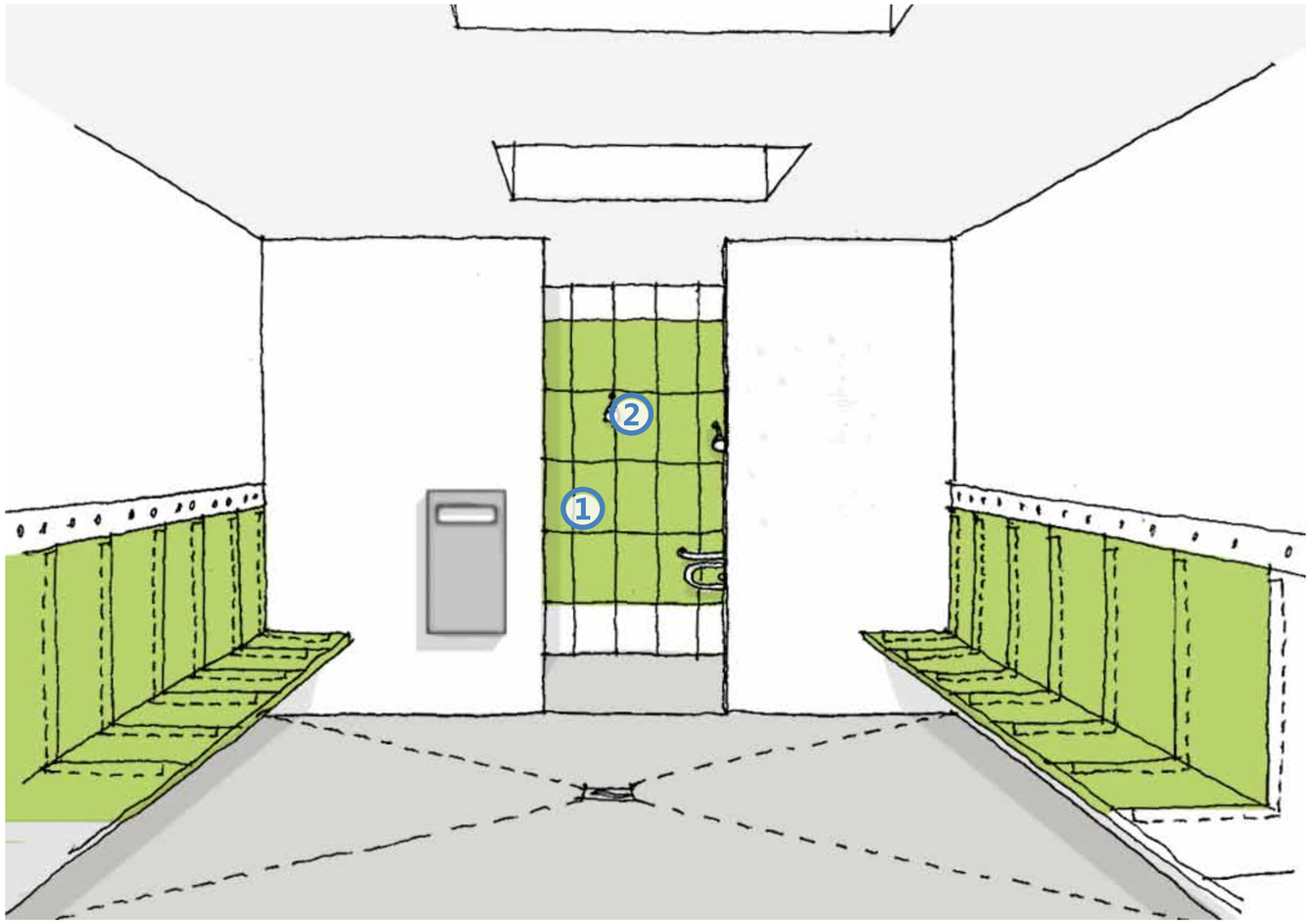
⑦ Hydro Electricity

A river can be used as an energy source. The flowing water drives a turbine and generates electricity which can be used for lighting and heating within the building.

For further information on energy saving measures, please refer to Sustainable Clubs on the Sport England website at: http://www.sustainableclubs.co.uk/

Renewable Energy: Energy produced by a source that is not depleted when used.

S3 Sustainability
WATER SAVING MEASURES



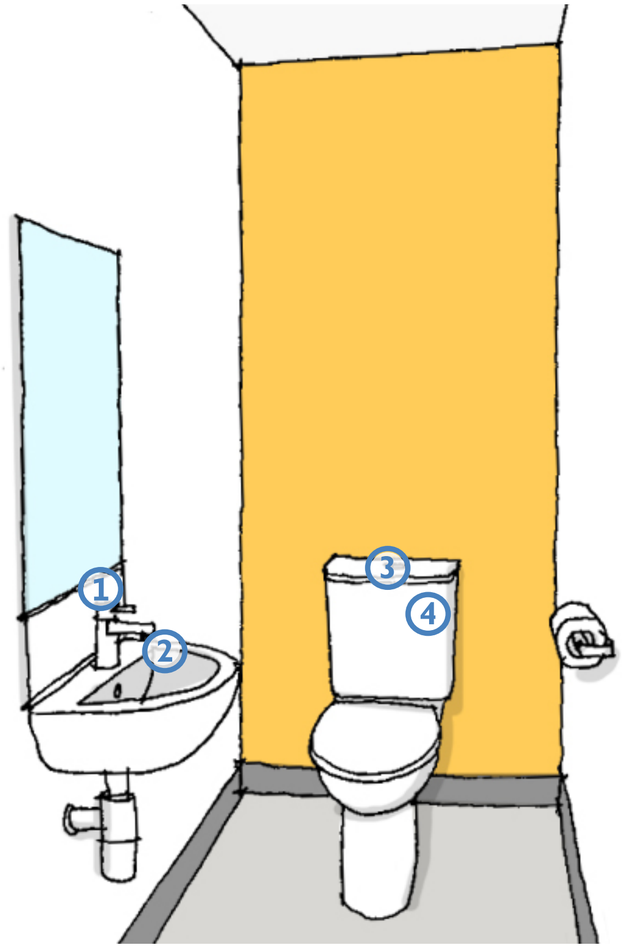
① Shower Push Buttons

Push button controls stop the flow of water after a set period. This prevents the showers being left on when not required and therefore reduces water consumption.

② Shower Head Aerators

An aerating shower head mixes air and water together under pressure increasing the apparent flow rate of the water but decreasing the actual water consumption. Aerators can save up to 6 litres of water per minute. As there is less water used, the energy required to heat the water is also reduced.

For further information on energy saving measures, please refer to Sustainable Clubs on the Sport England website at: http://www.sustainableclubs.co.uk/



① Push Buttons

Push button taps will prevent the tap from being left on when not required reducing water consumption.

② Tap Aerators

Aerators fitted to the taps will mix air and water together under pressure increasing the apparent flow rate but decreasing the actual water consumption.

③ WC - Dual Flush

A dual flush allows the flush volume to be varied and uses less water when the full flush is not required.

④ WC - Hippo Bag

If a dual flush button is not installed, a cistern displacement device - usually a plastic container which sits within the tank - will reduce the amount of water used in a flush and therefore reduce water consumption.

⑤ Urinals

Install passive infrared motion sensors which control flushing by detecting movement. Alternatively consider installing waterless urinals.

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