**Surface Water Management Plan for Change of Use Existing Garage Conversion and Extension to Form a One Bedroom Residents Independent Living Studio Apartment at**

**Tremanse Care Home, Beacon Hill, Bodmin, Cornwall**

My client’s site lies outside of any EA NaFRA Historic Flood Zone; however, the site has been identified to lie within a Critical Drainage Area and therefore a surface water management plan has to be implemented.

Regard the management of the surface water including run off it is my client’s intentions to provide an infiltration design to include an oversized drainage blanket beneath lawned and paved areas. Wheelchair hardstanding and paved entrance ramps will also drain to a chipping area. A drainage channel will be included at the properties entrance so that there will be no run off onto the drive/highway.

The existing garage roof discharges into existing soakaways and the proposed extended roof section rainwater run-off from the proposed Studio Apartment roof has been designed so that the soakaways will act as holding tanks before slowly discharging into the land. The idea of the holding tank is so that under storm conditions when a large volume of rainwater will be delivered to the soakaway in a short period of time; as and when this occurs the volume of water will be greater than the sub-soil can disperse over the same period of time. The design provides the necessary alternative of storing this large volume quickly then dispersing as the soil allows. A preformed crate design system at a depth of 0.5 metres will be used as this provides a 95% void ratio compared with traditional soakaways of 30%.

Soakaway to comply with the BRE Digest 365 design guide and the max discharge run off rate per dwelling of 1.5 litres per sec will be adhered to, together with the Sustainable Drainage System SUBS CIRIA C697 as appropriate and in accordance with BSCN752-4

Trial pits will be dug on site by my client and natural percolation discharge flow rates recorded, all as detailed in the Building Regulations under Approved Document H, Sections H2 and H3. The percolation test results will follow the approved procedure under H2 paragraphs 1.34 to 1.38 The preformed crate design of soakaway will be sized by a Specialists and will be designed to work using a Vp of 22 and soil filtration rate f related to Vp which equals a soil discharge filtration rate of 0.00001515

Rainwater gullies will have integral rodding access and additional rodding access points at change of direction so that the storm drains and soakaway can be regularly maintained.