Planning Ref No. if Applicable: N/A

Client : KCC Rural Dwellings, Site 6.

Site Location : Cullenagh Upper, Beaufort, Killarney, Co. Kerry.

Description of Effluent Treatment System :

Propose to install:

A management and maintenance agreement with the system supplier shall be agreed prior to installation of the proposed system (Killarney Plastics).

A Tricel P6 pumped system - secondary treatment unit followed by a Sanscel1200 (20.sq.m) Tertiary treatment sand polishing filter overlying a layer of distribution gravel 300 mm thickness as per EPA guidelines 2009. Therefore Nominal PE = 5, or 750 litres per day. Sandcel 1200 = 4 m * 5 m or 20 Sq.m. EPA guidelines for the 300 mm of distribution gravel A = 0.125 * T *PE is (0.125 * 26 * 5 = 16.25) - use 20 sq.m or 4 * 5 m to match the dimensions of the sand polishing filter.

The ground level over the site of the proposed sand polishing filter is relatively flat. Therefore, remove the top 200 mm of topsoil and store for re-use, then excavate approx 800mm of sub-soil. Then install a layer of 20 sq.m (4 * 5 m) of 300 mm of distribution gravel directly onto the in-situ sub-soil, install geotextile membrane, then install the sandcel 1200 sand polishing filter, giving a finished level of approx 200 mm above the original ground levels locally to the proposed sand polishing filter (see attached drawings 17-006-1000-S6, dated 14.08.2017.

The effluent shall flow from the dwelling house to the new Tricel IRL6 secondary treatment unit at a fall of 1:60. Then the effluent from the secondary treatment unit is pumped to the sand polishing filter, then via gravity through the sand polishing filter for tertiary treatment prior to discharging to groundwater as per detailed design drawings attached.

Once constructed a minimum of 1700 mm approx. of suitable sub-soil shall be available for final polishing of effluent prior to discharging to groundwater plus the 800 mm of sand polishing filter. This shall more than satisfy the requirements for the response matrix of R1.

All details are contained on the attached drawings and method statement.

Construction Method Statement for Soil Polishing Filter.

1. All works associated with the effluent treatment system shall be supervised by a suitably qualified person with professional indemnity insurance. The assessor shall upon completion of the said works or prior to the occupation of the proposed dwelling house submit a certificate stating that the effluent treatment system has been installed in accordance with the terms of the planning permission and the Environmental Protection Agency Wastewater Treatment Manual *"Treatment Systems for single Houses".*

2. The site of the proposed effluent treatment system / sand polishing filter shall be staked and roped off before any construction activities begin to make others aware of the location and to keep traffic and materials off the polishing filter site. The sand polishing filter is **(4.0 m * 5.0m) 20 Sq.m & the distribution gravel layer is (4.0 m * 5.0 m) 20 sq.m.**

3. Earth moving machinery should not circulate over the sand polishing filter area before, or more importantly, after works are completed. The area should be clearly marked and roped off for the duration of all site works.

4. Earthworks should ideally be carried out during periods of dry weather as excavation activities can cause significant reduction in soil porosity and permeability.

5. Prior to commencing works on the sand polishing filter, the proposed **Tricel IRL6 Secondary Treatment Unit** shall be installed in accordance with manufacturers instruction manual, then tested for watertightness in accordance with C.E.N. European Standard EN 12566 by a competent person (supplier/installer) and the results submitted to the Local Authority.

6. The ground level over the site of the proposed sand polishing filter is relatively flat. Therefore, remove the top 200 mm of topsoil and store for re-use, then excavate approx 800 mm of sub-soil.

7. Then install a layer of 20 sq.m (4 * 5 m) of 300 mm of distribution gravel directly onto the in-situ sub-soil, install geotextile membrane, then install the sandcel 1200 sand polishing filter, giving a finished level of approx 200 mm above the original ground levels locally to the proposed sand polishing filter (54.20m AOD) - see attached drawings 17-006-1000-S6, dated 14.08.2017. The sandcel is installed by specialist suppliers (Kilarney Plastics or there agents).

8. Then backfill around the sides of the sand polishing filter with suitable material as per detailed drawings attached.

9. Excavate, lay and backfill a trench containing a 100 mm dia duct and 3 core/2.5 SWA cable from the MCB board in the dwelling to the Tricel IRL6 secondary treatment unit for power supply to system and the pump. The electrical works shall be carried out by an electrician in accordance with the E.T.C.I. and R.E.C.I. regulations.

10. The entire effluent treatment system shall then be commissioned and certified by the specialist installer (Killarney Plastics) and provide written documentation to client supporting same.

11. Carefully Place topsoil over the entire area (taking care not to damage the effluent treatment system) as per section drawings. Rake level and seed (by hand) the topsoil area.

12. The final polishing filter shall remain unpaved.

13. No water mains, service pipes, access road, driveways or paved areas shall be located within the final soil polishing filter.

14. The growth of any type of tree or plant which develops an extensive root system should be limited to a minimum distance of 3 m from the final soil polishing filter. This restriction also applies to the cultivation of crops necessitating the use of machinery, likely to disturb the final soil polishing filter.

15. **Once constructed a minimum of 1700 mm approx. of suitable sub-soil shall be available for final polishing of effluent prior to discharging to groundwater plus the 800 mm of sand polishing filter. This shall more than satisfy the requirements for the response matrix of R1.**

16. The sand polishing filter is an extremely important part of the overall treatment system and as such should be constructed with due diligence. The client should take photos throughout the construction process and also keep receipts of all the material purchased.

17. A copy of this method statement should be given to the manufacturer and installer of any part of the treatment system, the builder and installer.

18. When the client is purchasing any part of a effluent treatment system he/she should ask the following questions of the manufacture: How often does the system have to be desludged? What are the running costs per year? Do the suppliers install the system? Is there a maintenance contract available? How rigid and robust is the system and how easy is it the source parts? Is there a product liability, warranty or guarantee?

19. **Lonergan Consultancy** also recommends that a maintenance contract between client/owners and the suppliers of the **Killarney Plastics** be agreed at the time of purchase.

20. It is the client's responsibility to ensure that all on-site excavations are adequately fenced, in the interests of maintaining public safety.

21. The information contained in this method statement and Site Assessment report is based upon best practice and imperial science. Therefore the client acts in accordance with this report at his own risk.

22. If clarification on any of the content of this report is required by the client, they should contact **Lonergan Consultancy.** (See contact details attached)

Yours Sincerely.

Colm Lonergan C.Eng(Hons) M.I.E.I.,
LONERGAN Consultancy,
51 New Street Killarney,
Co. Kerry.

064-6622874