

Stormwater and Sediment Field Day

Auckland Botanic Gardens 2008

Stormwater Inlet Protection Demonstration

Stormwater inlet or cesspit protection is a commonly used practice for many construction activities around the Auckland region; however it is often installed incorrectly and inappropriately. Cesspit protection is not a primary treatment for sediment laden water, and should only ever be used as back-up to good on-site erosion and sediment control practices.

TP90 includes a number of options for cesspit protection for use in different situations. The various designs also have distinct functions and ideal locations, including operating as a barrier to stormwater, or more like a filter. A number of proprietary products for this also exist, many of which appear to function well.

The purpose of this demonstration at the 2008 field day is to display correctly installed TP90 cesspit protection practices, while allowing proprietary companies to demonstrate their products in similar situations. At this stage, no proprietary cesspit protection products have been accepted by ARC as equivalent to or better than the advocated TP90 methods, however it is recognised that a number of available products in the market appear to operate effectively.

The section within TP90 which details stormwater inlet protection measures is also subject to the overall TP90 review process presently underway.

What is Stormwater Inlet Protection?

A barrier across or around a cesspit (stormwater inlet), designed to intercept and filter sediment-laden runoff before it enters a reticulated stormwater system. The protection may take various forms depending upon the type of inlet to be protected. Stormwater protection is a secondary sediment control device. It must only be used in conjunction with other erosion and sediment control measures. If good erosion and sediment control measures are in place on the site, then stormwater inlet protection may not be required.

Where to use Stormwater Inlet Protection

- Use only in small catchments of less than 0.5 ha.
- Use only where the catchment area to an inlet is disturbed and it is not possible to temporarily divert the storm drain outfall into a sediment retention facility.

Key Design Features of Stormwater Inlet Protection

There are various designs for cesspit protection within TP90, including:

Silt Fence Design

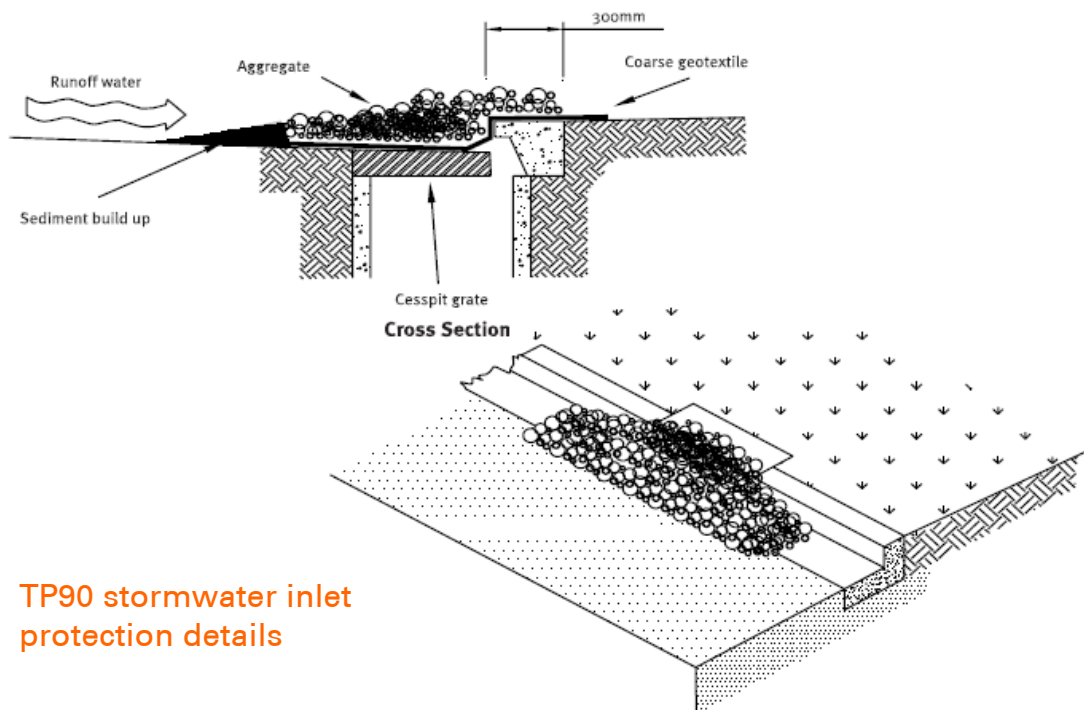
- In some circumstances, a silt fence can be erected around the inlet. This method is appropriate where cesspits have been connected to a stormwater system and are collecting runoff from disturbed soil surfaces.

Filter Media Design

- Two common methods use geotextile and scoria or gravel to treat sediment laden flows. All points where runoff can enter the cesspit must be protected with suitable geotextile fabric.
- Wrap geotextile fabric around the cesspit grate as a barrier to flow directly from the roadside gutter. Pay special attention to the inlet above the grate back of the cesspit where a geotextile fabric sock filled with gravel must be placed to intercept runoff.
- Lay coarse geotextile fabric over the cesspit and up onto the kerb with a layer of aggregate material to act as a primary filter and to hold the fabric in place.

Maintenance Requirements for Stormwater Inlet Protection

Maintenance requirements for cesspit protection measures are high because they clog easily. When clogging occurs, remove accumulated sediment and clean or replace the geotextile fabric and aggregate. Inspect all Stormwater Inlet Protection measures following any rainfall event and maintain as necessary to ensure they operate effectively.



TP90 stormwater inlet protection details