KEY TO SITE DIAGRAM

1. Clean water diversions
Divert all overland flow away from the site works with a stabilised bund or diversion channel. This will greatly reduce the effort needed to prevent erosion and sediment runoff.

2. Minimise exposed areas
The best way to minimise erosion and control sediment discharge is by disturbing as little soil as possible at any one time and maintaining as much vegetative cover as possible. This needs planning – stage disturbance and stabilise exposed areas as soon as possible using straw mulch, aggregate or other materials such as geotextile. Preventative measures reduce cost and effort – unexposed soil can't erode and doesn't need capture in sediment control measures.

3. Cover stockpiles
Materials from trenching and excavation should be stockpiled away from low points, runoff channels or kerbs. Ideally stockpiles when not in use should be covered with plastic, or with straw mulch. Any runoff from stockpiles needs to be treated by a sediment control measure such as a silt fence.

4. Maintenance and inspections
The most important aspect of erosion and sediment control is to maintain the control measures. Make sure the site is kept tidy and controls are regularly checked and modified to suit the different stages of development. Controls should be cleaned out regularly to prevent sediment build up resulting in failure of the system.

5. Silt fences
Silt fences are useful for small-disturbed areas. For steep slopes, use more than one silt fence and decrease the spacing between fences as slope increases, (see TP90 for detail). The base of the silt fence should extend 200mm into the ground and have a 200mm return to ensure the base of the fence does not lift up during heavy rain events. Posts should be spaced a maximum of 2 metres apart. Ensure the ends of the fences come back up the slope 2m to prevent water going round the edges. The geotextile fabric must meet the following standard, specified in TP90: Tension Strength 0.345 pa (minimum); Tensile Modulus 0.140 pa (minimum); Apparent Opening Size 100µm. (Note: On large sites or sites with high stormwater flows Decanting Earth Bunds should be used in conjunction with silt fences.)

6. Re-grass/ mulch disturbed ground
After soil is disturbed, stabilise as soon as possible with straw or hay mulch or aggregate. Where appropriate grass should be sown as soon as works are completed. Where landscaping is being re-established along the property boundary of the site, turf strips can be used to prevent sediment being discharged from the site.

7. On site works
Concrete washings, paint, water blasting, equipment washing, concrete and tile cutting – these works result in discharges of contaminants to stormwater and waterways unless care is taken. These products cause problems as they can be highly alkaline, contain oxides, heavy metals or petroleum products. A wash pit / bund should be constructed to capture the discharge from concrete washings and equipment washing.

8. Stabilised construction entranceway
The stabilised construction entranceway should be built on site before construction vehicles enter the site to prevent the tracking of dirt onto the roadway. The entrance way should be constructed to the following minimum standards, as specified in TP90: Aggregate Size 50-75 mm washed aggregate on a geotextile base; thickness 150 mm minimum; length 10 m minimum; width 4 m minimum. Keep all traffic off grass berms, and stabilise disturbed berms immediately. Please note that works in the road berm require a Road Opening Notice; any temporary vehicle crossing must conform to NSCC drawing TRS21.

9. Install private stormwater reticulation
Stormwater drains must be installed on completion of the foundations to enable the discharge of clean stormwater into the Council stormwater network at the earliest possible stage.

10. Temporary downpipes/ surface drains
All clean water from clean water diversions, roofs, retaining walls and water from decanting earth bunds and other sources of clean water on site should be discharged into the stormwater system at the time of installation. (Note: It is important that the ends of stormwater pipes are adequately raised above ground level and onsite cesspits are capped to prevent sediment laden water entering into the stormwater network during the construction phase.)

Additional Measures

Cesspit protection
Cesspit inserts can be bought which are geotextile lined cages that sit under the cesspit grate. The filters need to be replaced after each rain event.

Dewatering tanks
The use of a dewatering tank is good for storing dirty water from trenches. Once the tank is full, leave to settle for 24 hours and siphon the water out to an approved outfall, making sure the sediment that has settled on the bottom is not disturbed.

Dewatering
Do not pump sediment-laden water directly to the kerb or cesspit, instead direct this water to a silt fence, decanting earth bund or storage tank. Never pump from the bottom of the trench, as this will move any settled sediment and always use a drain sock over the pump housing when pumping. Remember – outside drains only drain rain.

EROSION AND SEDIMENT CONTROL ON SMALL DEVELOPMENT SITES

Erosion and sediment control plans will be required from 1 July 2006 *E&S01- April 2006*

Site Management for Development Activities

This guideline outlines a range of measures suitable for use on small development sites (sites less than 2500m^2) to minimise the effects of erosion. Sediment is the single most significant contaminant of our streams, lakes and coastal waters. The cumulative effects of sediment discharge from Greater Auckland's many individual building and earthworks sites has a major detrimental effect on waterways, degrading their ecology and reducing recreational and economic value.

All earthworks must be undertaken to minimise erosion and prevent sediment discharge from the site. An Erosion and Sediment Control Plan must be prepared for all sites and approved by North Shore City Council prior to commencement of site works. This is required to be submitted for all building consents and land use consents that result in land disturbance. The erosion and sediment control plan must be submitted with a completed sediment application guide and checklist (E&S02). Large earthworks sites and earthworks close to waterways may require resource consent from the Auckland Regional Council.

North Shore City Council encourages landowners, contractors and developers to use the measures outlined in this guideline. Both the Resource Management Act and the Building Act exercise control over the effects from site works. Under the Resource Management Act 1991 any person disturbing soil must use appropriate measures to minimise the impact of these works. Under the Building Act 2004, any person undertaking building work must not cause harm to the environment.

It is an offence under both Acts not to maintain appropriate erosion and sediment control measures for the life of the project. Failure to comply with these requirements may result in failure of building inspections, the issuing of abatement notices, instant fines or even prosecution.

Need more information?

This guideline provides a brief outline of appropriate measures that can be used to control erosion and sediment discharge from small development sites and for permitted activities. For more information on the requirement to implement erosion and sediment control on small development sites call North Shore City Council's Actionline on 486 8600.

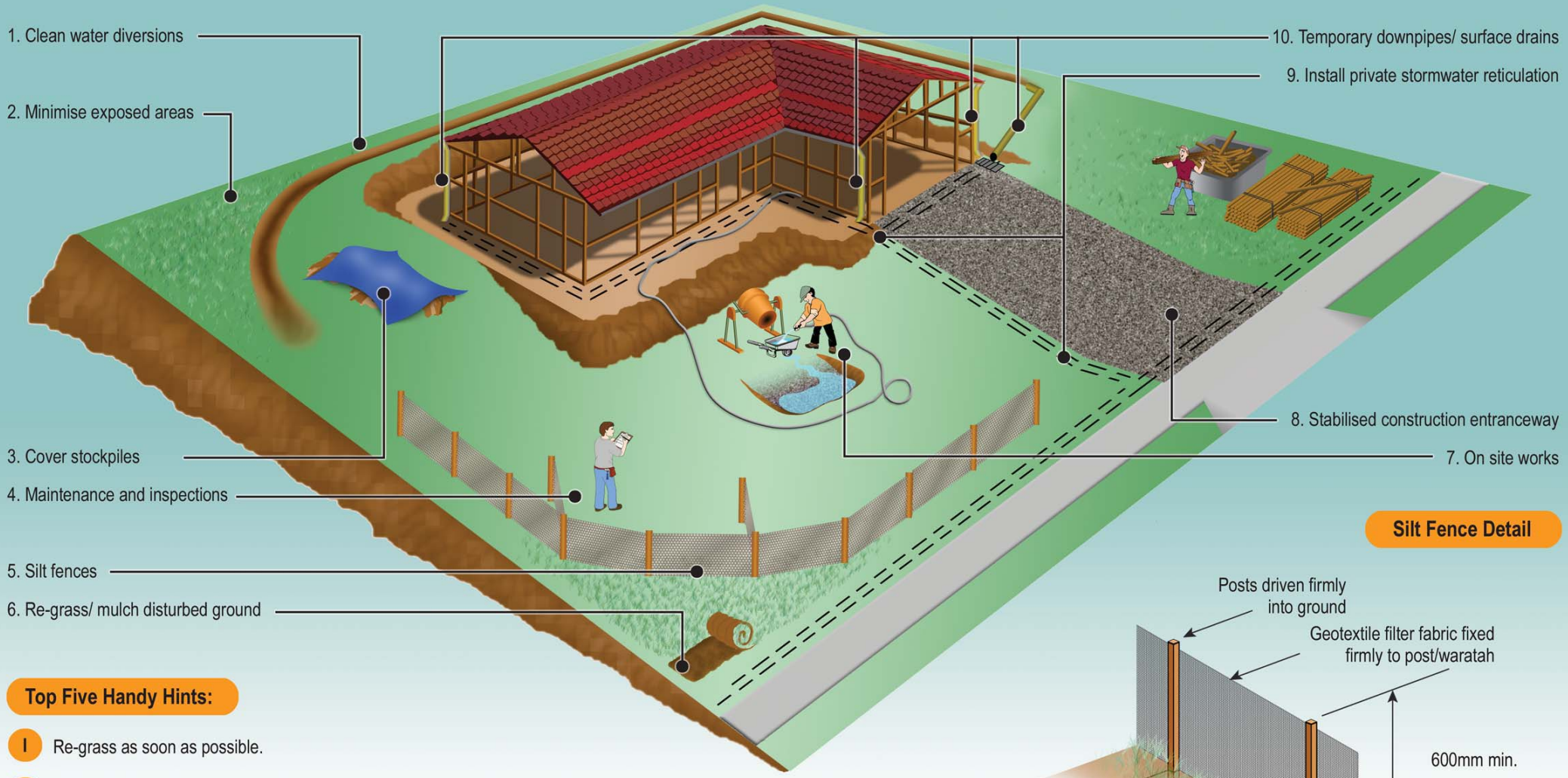
More information on appropriate measures for both large and small sites is outlined in Auckland Regional Council's Technical Publication No. 90 "Erosion and Sediment Control Guidelines for Land Disturbing Activities" (TP90). Call Auckland Regional Council's Enviroline (09 366 2000) to get this publication. Copies of TP90 are also available on the ARC website, visit www.arc.govt.nz and search under publications.



NORTH SHORE CITY

www.northshorecity.govt.nz

Here's what you can do to reduce erosion and sediment discharge from your site...



Top Five Handy Hints:

I. Re-grass as soon as possible.

II. Use proper geotextile fabric for silt fences, (do not use shade cloth).

III. Dig silt fences in 200mm and use posts at maximum 2m centres.

IV. Construct your stabilised site entrance with a geotextile base.

V. Install site stormwater drains during site preparation and discharge all clean stormwater into the stormwater pipes as soon as possible.

Silt Fence Detail