EROSION AND SEDIMENT CONTROL (ESC)

FIELD GUIDE

This project has been assisted by the New South Wales Government through its Environmental Trust
## ESC Guide Revision Table

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**Disclaimer:** This field guide uses some of the standard drawings and specifications from Landcom's *Managing Urban Stormwater - Soils and Construction Volumes 1 and 2A-E* (Blue Book). Some of the standard drawings (SD 4-1 to 7-1) may have some minor modifications to those shown in the 'Blue Book'.
EROSION AND SEDIMENT CONTROL PRINCIPLES

- Know the site - inspect the site. Know the site conditions - be aware of the weather forecast
- Prepare and implement an *Erosion and Sediment Control Plan* (ESCP) for sites less than 2,500m², or a *Soil and Water Management Plan* (SWMP) for sites greater than 2,500m²
- ESCP should include, as a minimum, the location of site boundaries, approximate grades and direction of fall, approximate location of trees and existing vegetation, indicate trees and vegetation to be removed or retained, location of site access and other impervious areas, existing and proposed drainage structures, north point and scale. Additional commentary should also include timing of works, location of land to be maintained, access protection measures, nature and extent of earthworks, location of upslope diversion measures (where applicable), location of material stockpiles and protection measures, material reuse methodology, location and type of erosion and sediment control devices, site rehabilitation proposals, frequency and nature of control device's maintenance program and other site-specific soil or water conservation structures
- Stockpile topsoil for later revegetation - place stockpiles away from waterways
- Minimise soil disturbance in terms of area exposed and length of time
- Retain vegetation where possible
- Reuse materials where possible (e.g., topsoil, mulch vegetation, aggregate bags)
- Divert upslope runoff around (or through) the site to prevent soil runoff
- Install temporary erosion and sediment controls to manage site runoff
- Ensure the controls are suitable for the potential runoff and sediment
- Regularly inspect (daily) and maintain control device's until the site is stabilised
- Stabilise and revegetate disturbed areas ASAP - within 7 days of work completion
STANDARD EROSION AND SEDIMENT CONTROL SYMBOLS

- Stockpile (SD 4-1)
- Topsoil Stockpile (SD 4-1)
- Rock Check Dam (SD 5-4)
- Earth Diversion Bank - Low Flow (SD 5-5)
- Rock Sediment Basin (SD 6-1)
- Sediment Fence (SD 6-8)
- Geotextile Inlet Filter (SD 6-12)
- Stabilised Site Access (SD 6-14)
- Pit Sediment Trap (MCC ES 02)
- Kerb Sediment Trap (MCC ES 02)
- Table Drain Sediment Trap (MCC ES 03)
- Embankment Sediment Trap (MCC ES 04)
- Temporary Channel Liner (MCC ED 05)
- In-Line Sediment Pond (MCC ES 07)
- Existing Vegetation (either symbol)
- Limit Of Works / Site Boundary
- Exclusion Zone Fencing
- Drain - Direction of Flow
- Mitre Drain
- Aggregate Bag
CONSTRUCTION NOTES

1. Stockpiles shall be placed more than 2m (preferably 5m) away from existing vegetation, concentrated water flows, roads and hazard areas.
2. Construct stockpiles on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2m in height.
4. Where stockpiles are to be in place for more than 10 days, stabilise / compact the surface or follow directions in the approved ESCP or SWMP.
5. Construct Earth Diversion Banks (SD 5-5; page 14) on the upslope side to divert water around the stockpiles.
6. Construct Sediment Fence (SD 6-8; page 22) or compacted and seeded earth bund 1-2m downslope of the stockpile. Earth bunds shall contain a protected spillway approximately 150mm lower than the top of the bund.
Stockpiles are not to be placed on footpaths, roadways, hazard areas or in waterways or table drains.

Earth bank (SD 5-5) above stockpile

Sediment fence (SD 6-8)

Stockpile access from hardstand area

Table drain
CONSTRUCTION NOTES

1. Scarify, and step on steeper batters, the ground surface along the line of the contour to a depth of 50-100mm to break up any hard setting surfaces to provide a good bond between the topsoil material and sub-grade. Increase scarified depth to 300mm if compacted sub-grade layers are present.

2. Add soil ameliorants as required by the ESCP or SWMP.

3. Where possible, replace topsoil to a minimum depth as shown following:

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*TOPSOIL DEPTH, SEE NOTE 3*
Spread topsoil evenly over the disturbed area

Ensure surface is scarified before spreading topsoil

Seed / turf / mulch the topsoil immediately after spreading
TEMPORARY WATERWAY CROSSING SD 5-1

CONSTRUCTION NOTES

1. Prohibit all traffic until the access way is constructed
2. Strip any topsoil and place a geotextile over the base of the crossing
3. Place clean, rigid Ø40-70mm aggregate over the fabric to a minimum depth of 200mm
4. Provide a 3m wide (minimum) carriageway. Culvert pipe length should be sufficient to allow a 3(H) : 1(V) slope on the side batters unless otherwise supported
5. Install a lower section (overflow) to act as an emergency spillway in greater than design storm events
6. Scour protection may be required downstream of the crossing
7. Remove and rehabilitate crossing area on completion of the project
TEMPORARY WATERWAY CROSSING SD 5-1

- Place sandbags around the pipe ends to protect the aggregate.
- Ensure pipe ends extend past edge of crossing.
- Place Ø40-70mm aggregate over geotextile to a minimum depth of 200mm.
- Inspect crossing daily.
- Ensure that crossing is at least 3m wide.

Do not install crossing like this.
CONSTRUCTION NOTES

1. Check dams can be built with various materials including rocks, aggregate bags and crushed concrete. The maintenance program should ensure their integrity is retained.

2. Trench the check dam 200mm into the ground across its whole width. Where rock is used, fill the trenches to at least 100mm above the ground surface to reduce the risk of undercutting.

3. Normally, their maximum height should not exceed 400mm above the gully floor. The centre should act as a spillway, being at least 150mm lower than the outer edges. Ensure the roadside edge of the dam is higher than the verge side edge to minimise the risk of pavement scour.

4. Space the dams so that the toe of the upstream dam is level with the spillway of the next downstream dam.
ROCK CHECK DAM SD 5-4

Edges of the check dam are to extend up both sides of the drain. Ensure roadside edge is higher than the verge side edge.

Rock size Ø70-150mm

Stabilise or revegetate bare soil as soon as practical.

Centre to be 150mm lower than edges.

Spacings as specified on the ESCP / SWMP.

Inspect dams daily.

Where table drains are steep (>7%) and the soil is erodible (especially near waterways), use continuous rock lining.

Line drain in 'U' shape to contain runoff.

Rock size Ø150-250mm.
CONSTRUCTION NOTES

1. Construct channel / bank with gradient of 1-5%
2. Avoid removing trees and shrubs to construct channel / bank
3. Ensure the channel is free of projections or other irregularities that could impede water flow
4. Build the channel with a circular or parabolic cross section, not 'V' shaped
5. Ensure banks are properly compacted to prevent failure
6. Complete permanent or temporary stabilisation within 10 days of construction
7. Install aggregate bags or rock bunds in channel as per MCC ES 03 (Earth Table Drain Sediment Trap; page 36)
EARTH DIVERSION BANK - LOW FLOW SD 5-5

- Shallow excavated channel 150mm lower than the top of the embankment
- Excavated soil is to be used to create a compacted embankment
- Use aggregate to prevent erosion at the channel outlet
- Inspect channel daily
CONSTRUCTION NOTES

1. Fabric can be either jute mesh or suitable geotextile
2. Ensure that topsoil is a minimum of 75mm deep and remove any rocks, clods, sticks or grass from the surface before laying the fabric
3. Apply complete fertiliser and seed before laying the fabric
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first
5. Lay the fabric in 'shingle fashion', with the end of each upstream roll overlapping those downstream by 300mm. Ensure each roll is anchored properly at its upslope end
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually the 10 year ARI time of concentration storm event
7. Divert water from the structure until vegetation is stabilised properly
8. Spray fabric with an application of slow setting anionic bitumen emulsion at a rate of 4.5lt/m². A heavier application is to be made on the edges and joins
Fabric to be overlapped at joins

Spread topsoil and seed on the channel prior to laying the fabric

Ensure that the fabric extends up the side of the channel and is stapled at required centres

Ensure channel is smooth before laying the fabric

Ensure the drain has adequate depth (100mm min) and capacity for design storm event

Fabric to be overlapped at joins
CONSTRUCTION NOTES

1. Compact the sub-grade fill to the density of the surrounding undisturbed material

2. Prepare a smooth, even foundation for the structure that will ensure that the geotextile does not sustain serious damage when covered with rock. Should any minor damage to the geotextile occur, repair it, before spreading aggregate, with patches of fabric over the damage, with a 300mm (minimum) overlap surrounding the damaged area

3. Lay rock following the drawing and according to table 5.2 of Landcom (2004; pg 5-24) and with a minimum size of Ø70mm

4. Ensure that any concrete or riprap used for the energy dissipater of the outlet protection conforms to the grading limits specified in the ESCP / SWMP

5. Width \((W_d)\) of the structure is calculated using \(L_a\) and \(D_o\) based on the formula shown in figures 5.9 and 5.10 (Landcom 2004; pg 5-35) for maximum and minimum tailwater conditions respectively
Ensure the sub-grade soil is compacted before installation of the dissipater

Stabilise the soil behind the culvert headwall

Length and width of the dissipater and rock size are to be designed

Ensure that the edges of the dissipater are higher than the centre

Inspect dissipater and batters daily

Compact, stabilise and seed all disturbed soil around the dissipater
CONSTRUCTION NOTES

1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Excavate to 300mm depth for the base of the dam wall.
3. Line the excavation with geotextile allowing sufficient to line below the wall and over the upstream rock and spillway to 500mm below the spillway exit on the downstream face.
4. Make up the wall profile and protection with Ø100mm (minimum) graded rock. For more even surface add 100mm of Ø20-70mm aggregate over the upstream batter.
5. Lay geotextile over the upstream batter and through the spillway, fixing in place with Ø100mm rock.
6. Place a 'Full of Sediment' marker to show when less than design capacity occurs and sediment removal is required.
7. Replace the upstream geotextile layer each time the sediment is removed.
8. This style of sediment basin is only suitable for course, rapid settling sediments (type C). For materials containing a higher percentage of finer sediments (type F) or highly dispersible sediments (type D), alternative sediment basins designs are required.
Line basin with geotextile

Ensure there is adequate vehicle access to the basin for maintenance

Ensure site runoff is diverted into the rock sediment basin

Place geotextile upstream of the rock sediment basin

Ø100mm (min) rock

Dewater and desilt after each rainfall event to maintain capacity

Centre of spillway

Inspect basin daily
CONSTRUCTION NOTES

1. Construct sediment fences as parallel as possible to the contours on the site. Provide small returns, as shown in the drawing, to limit the catchment area of any one section

2. Cut a 150mm deep trench along the upslope side of the fence for entrenchment of the bottom of the fabric

3. Drive 1.5m long star pickets or timber stakes into the ground at 2.5m centres (maximum) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps

4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Use of minimum grade A24 or A34 geotextile is permitted. The use of shade cloth for this purpose is not satisfactory

5. Join sections of the fabric at the support post with a 150mm overlap

6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile
SEDIMENT FENCE SD 6-8

The fence is to be trenched 150mm into the soil with support posts at 2.5m (max) apart.

Install fence immediately below disturbed areas or stockpiles.

Install fence along the contour to intercept sheet runoff.

Inspect fence daily.
CONSTRUCTION NOTES

1. Only use turbidity barriers where high flows are unlikely to dislodge accumulated sediment and / or move the curtain significantly
2. Ensure the flotation cover is UV resistant, durable material
3. Use only closed cell foam or foam filled PVC pipes as flotation elements. Do not use unfilled pipes
4. Use woven or heat-set non-woven geotextiles. Non-woven geotextiles can become fouled with debris that fray and delaminate them as they move with the waves
5. Remove captured sediment before the barrier is decommissioned and dispose of appropriately
6. In tidal areas, ensure the barrier can rise and fall without being moved from its position
TURBIDITY BARRIER SD 6-10

Install the barrier close to the disturbed area

The flotation boom is to be made of closed cell foam or foam filled PVC pipes

Inspect barrier daily

Sediment fence / curtain hangs below the boom
CONSTRUCTION NOTES

1. Fabricate a sediment barrier made from geotextile or aggregate bags
2. Follow SD 6-8 (Sediment Fence; page 22) for installation procedures for the geotextile. Reduce picket spacing to 1m centres
3. In waterways, artificial sag points can be created with aggregate bags or Earth Banks (SD 5-5; page 14) as shown in the drawing
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it
5. The potential for flooding shall be assessed prior to installing any controls around inlet pits
GEOTEXTILE INLET FILTER SD 6-12

- Geotextile is to be buried 150mm into the soil or covered with compacted soil.
- Reduce post spacing to 1m apart.
- Stabilise or revegetate bare soil as quickly as possible.
- Inspect filter daily.
CONSTRUCTION NOTES

1. Spread 75mm thick layer of topsoil over footpath area and finish approximately 20-25mm lower than top of kerb.

2. Install one strip (400mm min) of turf on the footpath next to the kerb and at the same level as the top of kerb and lightly compact into the topsoil.

3. Lay 1.4m long turf strips perpendicular (90º) to the kerb every 10m.

4. Spread 20-25mm thick layer of topsoil and broadcast seed mix at rate of 0.3kg/10m², unless specified otherwise, to disturbed areas where turf has not been installed. Seeds should be scratched into the surface to reduce the incidence of ingestion by birds. If seed mix does not include starter fertiliser, apply fertiliser at a rate as specified.
KERBSIDE TURF STRIP SD 6-13

Spread topsoil (20-25mm thick) and seed between turf strips

Lightly compact soil prior to laying turf

Ensure turf surface level matches top of kerb level

Lightly compact turf after laying to achieve root to soil contact. Water regularly for 7 days

Water regularly for 7 days
CONSTRUCTION NOTES

1. Strip the topsoil, level the site and compact the sub-grade
2. Cover the area with geotextile
3. Construct a 200mm thick pad over the geotextile with Ø40-70mm aggregate
4. Ensure the structure is at least 15m long or to the building alignment and at least 3m wide
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence
6. If required, inclusion of a shaker grid may be included at the construction site end of the stabilised site access
STABILISED SITE ACCESS SD 6-14

Inspect access daily

Ensure runoff is directed to a sediment pond or fence

Place geotextile under 200mm thick layer of Ø40-70mm aggregate

Ensure access is 3m wide and 15m long

Shaker gird may be included at the construction site end of the stabilised site access
CONSTRUCTION NOTES

1. Loosen compacted soil before sowing any seed. If necessary, rip the soil to a depth of 300mm.

2. Work the ground only as much as necessary to achieve the desired tilth and prepare a good seedbed.

3. Avoid cultivation in very wet or dry conditions.

4. Cultivate on or close to the contour where possible, not up or down the slope.

5. Where possible, replace topsoil to a minimum depth as shown following:

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   - Surface mulching can improve germination and establishment while protecting the soil surface.
   - SEEDBED SURFACE LEFT IN ROUGHENED UNCOMPACTED CONDITION.
   - SEED AND FERTILISER SOWN AT SPECIFIED RATE DIRECTLY INTO TOPSOIL OR BROADCAST ON SURFACE AND SCRATCHED INTO SURFACE.
   - RIP TO A DEPTH OF 300mm WHERE A COMPACTED LAYER IS ENCOUNTERED.
   - TOPSOIL DEPTH, SEE NOTE 5.
SEEDBED PREPARATION SD 7-1

Direct seeding into a batter

Ripping along the contour prior to spreading topsoil and seeding
CONSTRUCTION NOTES

1. Aggregate bag shall be placed against the kerb in a manner to form a seal to prevent sediment bypassing the control
2. Aggregate bag to be placed at an angle of 45-60° from the kerb towards the direction of flow
3. Maximum spacing between controls shall be 25m. On steeper grades, this spacing shall be reduced accordingly. As a general guide, spacing’s should be as follows:

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4. During gravel works, secure sediment fence or geotextile material cover over the pit grate and inlet opening with aggregate bags. Covers shall be removed at the end of each work day, or during rain events, to prevent flooding
5. Aggregate bags around sag pits should be placed so that they firmly abut each other and do not permit sediment laden water passing between them
KERB AND PIT SEDIMENT TRAP ES 02

Cover pit with sediment fence or geotextile material and secure with aggregate bags

Inspect traps daily

Remove geotextile at end of work day or during rain

Place aggregate bag firmly against kerb at an angle of 45-60°

Inspect traps daily

Inspect traps daily
CONSTRUCTION NOTES

1. Rock bund to be formed with Ø70mm aggregate

2. Centre of spillway to be 75-100mm lower than outer edge of bund so that water flows over the control rather than around, during high flows. Ensure the roadside edge of the bund is higher than the verge side edge to minimise the risk of pavement scour

3. Aggregate bag or rock bund to be placed perpendicular (90°) to the direction of flow

4. Ensure additional controls are implemented at outlet of table drain into private property or waterways

5. Maximum spacing between controls shall be 25m. On steeper grades, this spacing shall be reduced accordingly. As a general guide, spacing’s should be as follows:

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Inspect traps daily

Stabilise or revegetate bare soil as soon as possible

Spacing between traps is dependent on slope

Ensure that the trap centre is lower than the edges. Also ensure that the roadside edge is lower than the verge side edge

Ensure that the drain surface is compacted and free of loose soil

Inspect traps daily
CONSTRUCTION NOTES

1. Rock bund to be formed with Ø70mm aggregate
2. Aggregate bag or rock bund shall be abutted firmly against the embankment to prevent sediment bypassing the control
3. Aggregate bag or rock bund to be placed at an angle of 45-60° to the embankment towards the direction of flow to direct runoff into the embankment
4. Ensure additional controls are implemented at outlet of table drain into private property or waterways
5. Maximum spacing between controls shall be 25m. On steeper grades, this spacing shall be reduced accordingly. As a general guide, spacing’s should be as follows:

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Inspect traps daily

Ensure that the trap abuts against the embankment

Spacing between traps is dependent on slope

Ensure that the drain surface is compacted and free of loose soil

Inspect traps daily
CONSTRUCTION NOTES

1. Channel liners can consist of either plastic sheeting, geotextile, old conveyor belts, etc.
2. Channel liners shall be used as temporary structures only.
3. Secure outer edges of liner with gabion rock or aggregate bags. Secure upper edge by burying 300mm into the ground. Overlap sheets by 300mm along channel.
4. Provide gabion rock at toe of channel to prevent erosion / scour.
5. Ensure channel has adequate capacity for anticipated flows.
TEMPORARY CHANNEL LINER ES 05

Ensure channel edges are secured

Overlap lining joins by 300mm (min)

Inspect channel daily

Stabilise or revegetate bare soil as soon as possible
BATTER / SOIL STABILISATION ES 06

CONSTRUCTION NOTES - MULCHING

1. Mulching is not to be used in areas that are subject to concentrated flows
2. Mulch layer shall be 50-70mm thick over the disturbed soil
3. Fibrous mulch or gravel is more resistant to movement than wood chip mulch
4. Mulch stabilisation not to be used on batters steeper than 4(H) : 1(V)

CONSTRUCTION NOTES - BITUMEN EMULSION

5. Apply complete fertiliser and seed before spraying emulsion
6. Ensure soil is moist prior to spraying emulsion
7. Spray soil with bitumen emulsion at a rate of 1.5lt/m²
8. At least 90% of bare soil shall be covered by emulsion
BATTER / SOIL STABILISATION ES 06

Fibrous mulch is more resistant to movement than wood chip

Ensure soil is moist and spread seed and fertiliser prior to applying bitumen and cover 90% of bare soil

Mulch to be 50-70mm thick
CONSTRUCTION NOTES

1. Excavate ponds 0.3-0.4m deep and 2m long. Width of pond to match table drain width

2. Construct 1m long rock check dam with Ø70mm aggregate immediately downstream of pond. Extend check dam 0.3m up sides of table drain

3. Provide exclusion fencing / hazard netting around ponds in urban areas to restrict access

4. After heavy rainfall, or as required, remove turbid water and silt from in-line ponds and dispose of appropriately

5. At completion of work, remove silt from temporary in-line ponds and backfill with compacted soil
TEMPORARY IN-LINE SEDIMENT POND ES 07

Loose gabion rock (150mm thick) extending up sides of table drain by 300mm

Shallow pond (300-400mm deep) full width of table drain base and 2m long

1 unit = a sediment pond and rock check dam. The more units installed the better

Direction of flow

Inspect ponds daily

De-silt and de-water ponds after each rain event
CONSTRUCTION NOTES

1. Minimise disturbance to existing vegetation by installing exclusion fencing
2. Provide aggregate bags or sediment fencing to top of headwalls
3. Provide sediment fence to base of disturbed batters. Seed / mulch / turf batter as soon as practical after shaping. Minimise disturbance to revegetation areas by installing exclusion fencing
4. Provide sediment traps in table drains. For drains with firm / solid structure, install Earth Table Drain Sediment Traps (MCC ES 03; page 36). In drains that are highly erodible, install Temporary In-line Sediment Ponds (MCC ES 07; page 44)
5. Where base of downstream waterway is disturbed, provide Rock Check Dam (SD 5-4; page 12)
6. After heavy rainfall, or as required, remove turbid water and silt and dispose of appropriately
7. Once established, remove all temporary sediment controls
PIPE CULVERT PROTECTION ES 08

Where possible, install in-line sediment ponds in the table drain

Remove turbid water and dispose of appropriately

Minimise disturbance to surrounding areas

Install a sediment fence at the boundary

Inspect protection daily

Install cement stabilised sandbags or rocks to reinforce backfill around the top and sides of the headwall

Thoroughly compact the fill around the culvert headwall

Stabilise disturbed soil with mulch, emulsion or a layer of gravel

Install rock energy dissipater below the culvert outlet

Stabilise disturbed soil with mulch, emulsion or a layer of gravel
CONSTRUCTION NOTES

1. All works to be undertaken in accordance with MCC Erosion and Sediment Control Policy
2. Earth "V" table and mitre drains to be compacted at completion of works each day to minimise erosion
3. For details of locations of aggregate bags or rock bunds refer MCC ES 03 (Earth Table Drain Sediment Trap; page 36)
4. Where possible, maintain existing vegetation along drainage lines
5. Where a drainage line is within close proximity to a permanent water body or a sensitive environmental area, additional documentation or a separate site specific ESCP may be required
6. Any temporary windrows or loose soil shall be compacted at completion of each day's work. Special attention should be given to compacting areas along culvert headwalls
7. Mitre drains to be placed at appropriate spacing to manage sediment and as grade of land allows
Crown and compact the surface

Remove or compact any windrows or loose soil

Inspect mitre drains following rainfall events and clean as required

Construct mitre drains at regular intervals

Ensure that table drains are compacted and have adequate capacity
CONSTRUCTION NOTES

1. Minimise disturbance to existing grass / vegetation beside the road
2. When working next to water (dam / creek / river), install a Sediment Fence (SD6-8; page 22) adjacent to the edge of the road prior to construction
3. Install a Sediment Fence (SD6-8; page 22) on the boundary fence below and culvert outlets
4. Ensure that the road runoff is diverted into stabilised mitre drains located 5-10m either side of any culvert / bridge. Place a Sediment Fence (SD 6-8; page 22) at the end of each mitre drain
5. If boxing out, install shovel drains at 10m intervals into undisturbed roadside grass / vegetation
6. Ensure that all loose soil and soil windrows on road shoulders, within table and mitre drains and adjacent to culverts, waterways, crossings and bridges are either removed or thoroughly compacted and stabilised at the end of each day's work
7. Ideally, protect any culvert inlet's and outlet's from scouring by installing an Energy Dissipater (SD5-8; page 18)
ROAD RE-SHEETING ES 10

- Inspect site daily
- Retain existing roadside grass / vegetation where possible
- Cut shovel drains through windrows at 10m intervals and compact
- Thoroughly compact the road surface at the end of each day
- Ensure all windrows and loose soil over culvert headwalls is removed or compacted
- Remove or compact loose soil at the end of each day
DIRTY WATER FLOCCULATION ES 11

CONSTRUCTION NOTES

1. Only use flocculation for small quantities of dirty pond water
2. Empty required number of bags of gypsum into a 200L drum (30kg is enough to treat a pond of 50m³)
3. Fill the drum with dirty water (not gravel or grit)
4. Thoroughly mix gypsum and dirty water in drum using the discharge hose
5. Once well mixed, spray the gypsum mix across the entire surface of the pond
6. Repeat procedure as required