Practicalities of rockwork construction

Toe and Edge Rocks

TOE/EDGE ROCKS - Dos and Don't's

✔ Edge rocks well entrenched into earthen bank. Top soil filled to top of edge rocks.

✘ Edge rocks not well defined, poorly entrenched.

✔ Edge rocks blended into surrounding ground.

✘ Edge rocks protruding above surrounding ground. Note scouring of ground next to edge rocks.

✔ Well defined edge rocks, well integrated with lining rocks.

✔ Edge rocks well integrated into topography.

✔ Edge rocks well entrenched into bank.

✘ Edge rocks not well defined, poorly entrenched.

✔ Edge rocks well defined and entrenched into top of bank.

✘ Edge rocks protruding above surrounding ground.

✔ Well defined edge rocks, well integrated with planting edges.

✔ Good use of 0-150mm graded material to seal voids between larger lining rocks.

✘ One size ballast material used to fill voids between larger rocks - will dislodge in high flows.

✔ Angled rocks well interlocked, voids well sealed.

✘ Rocks not interlocked, voids not sealed.

✔ Good use of large lining rocks, neatly interfacing with concrete apron.

✘ Rockwork too fragmented i.e. too loose, too small in general.

FILTER/EMBEDMENT LAYER - Dos and Dont's

✔ Example of well graded material for filter/embedment layer.

✘ Rocks placed straight on clay without filter/embedment layer.

✔ Coarse grade filter/embedment material under lining rocks.

✘ 20mm crushed rock not generally preferred for filter/embedment layer in active waterway.

OUTLET PIPES - Dos and Don'ts

✔ Well interlocked and well sealed rock beaching Refer rockwork in front of pipe.

✘ Poor sealing of rockwork.

✔ Well embedded rockwork.

✔ Well interlocked and well sealed, plate rock set on mortar pad. Note use of energy dissipating rock in front of outlet pipe.

✘ Rocks have simply been dumped in front of outlet pipe - apart from obvious problems with grading, interlocking and sealing of rocks, other problems include rocks projecting above pipe invert, rocks not extended up banks, toe rocks not entrenched into creek bed.