Managing Construction Sites at Stream Crossings and High Quality Waters

Stream Diversions

MANAGING THE WATERCOURSE: PIPED DIVERSION
What's wrong with this picture?
Correct installation…

• Unroll fabric in the direction of flow
• Lay smoothly but loosely on soil surface without creases
• Bury top of slope fabric edge in a trench at least five inches deep and tamp.
• 18 inch vertical overlaps with upstream fabric overlapping the downstream fabric
• Secure with 6 inch staples on 3 ft spacing

Stilling Basin For Pumped Effluent

• Basin used to settle sediment when water is being pumped from a culvert site
• Problem
  - Protect inlet
Special Stilling Basin

- Geotextile bag that settles sediment from pumped water
- Used in areas of limited space
- Must be placed on LEVEL stone pad

Concerns
- Pumping flow may be restricted due to size of bag
- Bags placed on sloped ground will "roll"
- When stone pad is not used, water flow is restricted
- Must dispose of bag once full of sediment—Use lift straps

Removal Difficulties
On-Site Stream Relocation

- Special Case but Located on Most Projects
- Requires Specialized Permitting
- Unique Details and Special Provisions
- Requires Specialized Equipment
- Case Studies to Demonstrate Construction Techniques

Stream Relocation Permitting

- Stream relocation requires specialized permitting
  - ACOE 404
- Questions should be directed to Environmental Permitting Office
On-site Stream Relocation

• Components
  - Channel
  - Floodplain
  - Structures
  - Vegetation

Channel Grading Detail

Channel Grading Detail
Channel Floodplain

• Flat area along the stream channel
• Most critical component to the relocation
• Should be evenly graded to avoid concentrating flood water and overland flow

Minimum Floodplain

Existing vs. Proposed at UT Kilhara Farm
## Typical On-site Stream Relocation Structures

- Root Wads
- Rock Cross Vane
- Constructed Riffle
- Single Rock/Log Vane
- Coir Matting (Coconut Matting)

### Cross Vane

- ![Cross Vane Diagram]
- ![Cross Vane Image]

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**Channel Bank Matting**

- Description of the technique involved in channel bank matting.
- Visual demonstration of the matting process.

**Constructed Riffle**

- Explanation of the construction process for a riffle.
- Visual representation of the constructed riffle.