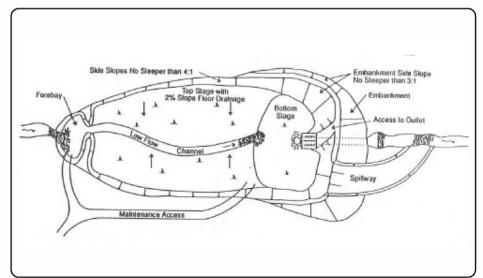
BMP: Extended Detention Basins



CONSIDERATIONS

- □ Soils
- Area Required
- ☐ Slope
- □ Water Availability
- □ Aesthetics
- Hydraulic Head
- □ Environmental Side Effects

WEDED COUNTY

WEBER COUNTY

ENGINEERING DEPARTMENT

2380 Washington Blvd., Suite 240 Ogden, UT 84401 (801) 399-8374

DESCRIPTIONS:

Extended detention basins are dry between storms. During a storm the basin fills. A bottom outlet releases the stormwater slowly to provide time for sediments to settle.

APPLICATION:

- ▶ Objective is to remove only particulate pollutants.
- Use where lack of water prevents the use of wet ponds, wetlands or biofilters.
- Use where wet ponds or wetlands would cause unacceptable mosquito conditions.

INSTALLATION/APPLICATION CRITERIA:

- Basin volume is sized to capture a particular fraction of the runoff.
- ▶ Drawdown time of 24 to 40 hours is required.
- A shallow basin with large surface area performs better than a deep basin with the same volume.
- Place energy dissipators at the entrance to minimize bottom erosion and resuspension.
- ▶ Vegetate side slopes and bottom to the maximum extent practical.
- ▶ If side erosion is particularly severe, consider paving or soil stabilization.
- ▶ If floatables are a problem, protect outlet with a trash rack or other device.
- Provide bypass or pass through capabilities for 100-year storm.

LIMITATIONS:

- ▶ May be less reliable than other treatment control BMPs. Inability to vegetate banks and bottom may result in erosion and resuspension.
- ▶ Limitation of the orifice diameter may preclude use in small watersheds.
- ▶ Requires differential elevation between inlet and outlet.

MAINTENANCE:

- ► Check outlet regularly for clogging.
- ▶ Check banks and bottom of basin for erosion and correct as necessary.
- Remove sediment when accumulation reaches 6-inches, or if resuspension is observed.

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- ▼ Toxic Materials
- Oxygen Demanding Substance
- ☑ Oil & Grease
- □ Bacteria & Viruses
- High Impact
- Medium Impact
- □ Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- ✓ O&M Costs
- Maintenance
- □ Training
- High
- Medium
- □ Low