

# SITE DESIGN FOR CANNABIS CULTIVATION

## Preventing Discharge and Enhancing In-Stream Flows

Buffers, off-season protocols, native hedgerows and rainwater harvesting and catchment systems are the keys to mitigating the potential for sediment and nitrogenous waste discharge from cultivated sites. Employing such strategies also reduces supplemental nutrient costs, eliminates the need for diversions, decreases the total volume required for irrigation and enhances in-stream flows.

### Remediation Buffers

- Installed on the down-slope side of sites.
- Berm and bunchgrass slows the flow of surface runoff and traps sediment.
- Swale and mulch processes nitrogenous waste discharge.
- Infiltration of remediated water from irrigation recharges groundwater supplies and enhances in-stream flows.

### Off-Season Protocol

- Cultivated rows are planted with nitrogen-fixing cover-crops to reduce supplemental nutrient requirements and add organic material to the soil to facilitate moisture retention thus reducing irrigation requirements.
- Cultivated rows and pathways are covered with woody mulch to protect nutrients from volatilization reducing supplemental nutrient requirements and add organic material to the soil to facilitate moisture retention thus reducing irrigation requirements.

### Hedgerows

- Plant native, evergreen hedgerows (Wax Myrtle) to reduce wind driven desiccation thus reducing irrigation requirements and reduce visual sector from neighboring properties and roads.
- Plant nitrogen-fixing varieties (Wax Myrtle) to reduce supplemental nutrient requirements.

### Rainwater Harvesting Systems

- Install up-slope, on-contour swales to slow, spread and infiltrate rainwater for groundwater recharge across the entire site thus reducing the need for supplemental irrigation early in the season. Infiltration of stormwater runoff reduces the potential for surface discharge from the cultivated site.
- Install up-slope, off-contour swales and infiltration basins to mitigate excessive runoff away from cultivated sites to strategic locations for recharging groundwater supplies for enhancing in-stream flows and reducing the potential for surface discharge from the cultivated site.
- Reducing discharge from cultivated site reduces supplemental nutrient requirements.

### Rainwater Catchment Systems

- At 600-gallons per 1-inch of rain per 1,000ft<sup>2</sup> all the irrigation needs for cannabis cultivation can be met through rainwater catchment due to an integrated approach with the elements listed above.
- Overflow from rainwater catchment systems can be directed to strategic locations to recharge groundwater supplies reducing the need for supplemental irrigation early in the season and for enhancing in-stream flows.



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