

Solar Farming A Big Land Disturber?

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North Carolina ranks third in the nation, behind California and Arizona, in the amount of cumulative solar electric capacity installed (Solar Industries Energy Association, SEIA, March 2016). If you have traveled in the state over the last year or so, you will most likely have seen a new solar farm beside an interstate right of way fence or along a rural country road where tobacco, sweet potatoes, and soybeans were formerly grown.

Based on data from NCDEQ, E&SC plans for solar farms have grown meagerly from just a few sites from 2008 to 2012 but have mushroomed in the past three years to 139 sites in 2015.

While most sites include land disturbance of 50 acres or less, some sites have disturbed over 1000 acres. Of course, each of these sites requires an approved E&SC plan from NCDEQ.

Based on lessons learned over the past few years, consider these tips during plan review and plan implementation.

Plan Requirements

- Plans must be designed as the solar farm is a large retail facility or industrial site. Silt fence alone will not be sufficient for such a large disturbance, regardless of topography.
- Detailed construction staging and sequencing is paramount.
- Depending on the site and soil types, large diversion berms with significant drainage areas are not desirable. Skimmer basins with reduced drainage areas and smaller diversion berms are effective.
- Material laydown, staging, and parking areas can be extensive; plan accordingly.

Field Installation

- Measures must be properly installed and maintained to be effective.
- All measures must be inspected at least once a week and after every rainfall to ensure proper performance or per your state's NPDES requirement
- Ground cover is needed on all perimeter areas throughout the duration of construction, including "tree removal areas".

Tree Clearing Areas

- These are areas around the perimeter of the solar arrays usually beyond the security fencing.
- When the shade of an existing tree interferes with the solar panel, it will be removed.
- Tree clearing areas may not be identified until after clearing commences.
- Trees are removed outside of the disturbed limits as shown on the plan; therefore, no measures are in place.
- Tree clearing areas will not be shown on the initial erosion and sediment control plan.

Areas between Solar Arrays

- Plan may state that vegetated areas between solar arrays will not be disturbed. More than likely, all areas will be disturbed.
- Plan may also indicate that rubber tire traffic will install poles; highly likely additional disturbance will occur.



*Good staged seeding and mulching between grading and pole installation.
Photo courtesy of NCDEQ*

Extremely long temporary diversion berms

- Berms may be specified to be several hundred feet long. Ditch turn-outs with acceptable measures will be needed.
- Temporary diversion berms must provide do not provide positive

drainage to a sediment control measure.

- At a minimum, temporary vegetation and/or erosion control matting will be needed. NPDES stabilization timeframe requirements must be followed.