

Local BMP Issues Through ADEM's Eyes

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Background

- Field Operations Division
 - Office of Field Services
 - Facilities Unit
- Facilities Unit Responsibilities
 - NPDES construction stormwater inspections and enforcement
 - NPDES industrial general permit inspections
 - NPDES small (<5 acres) and large (≥ 5 acres) mining inspections
 - Landfill inspections

Best Management Practices (BMPs)

Best Management Practices or BMPs means implementation and **continued maintenance** of appropriate structural and non-structural practices and management strategies to prevent and minimize the introduction of pollutants to stormwater and to treat stormwater to remove pollutants prior to discharge. (Permit Part V.)

An erosion and/or sediment control practice is not considered a BMP unless it is properly designed, located, implemented, and maintained in conjunction with other practices to effectively prevent/minimize sediment (settleable solids, suspended solids, and turbidity) discharges in stormwater runoff.

Erosion and sediment control BMPs have not been designed, located, and effectively implemented and/or maintained



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Silt Fence – Common Issues

- Not trenched in properly
- Undermined/compromised
- Not installed per specifications
- Placed in areas of concentrated flow
- Excessive sediment buildup/lack of maintenance
- Amount of intended flow exceeds capacity/design specifications

Silt Fence – Common Issues



Silt Fence – Common Issues



Silt Fence – Common Issues



Exit/Entrance Pads – Common Issues

- Not present onsite
- Improperly sized rock
- Pads are not large/long enough
- Failure to keep streets clean daily
- Not properly implemented/maintained
- Pad drainage directed to street instead of back onsite
- Lack of wash station within pad or geotextile underlining when needed

Exit/Entrance Pads – Common Issues



Exit/Entrance Pads – Common Issues



Inlet Protection – Common Issues

- Not present onsite
- Not properly implemented/maintained
- Destruction from vehicle/equipment wheels
- Reduced capacity due to excessive sediment accumulation

Inlet Protection – Common Issues



Inlet Protection – Common Issues



Sediment Basins/Ponds – Common Issues

- Basin functions as a stormwater detention basin and not a sediment retention basin
- Upgradient onsite erosion and sediment control not effective to prevent sediment movement overload into basin
- Riprap splashpad missing at outlets
- Baffles/skimbers not installed
- Improperly located/constructed entrance and discharge structures/pipes
- Basin has discharge outlet at the bottom
- Emergency overflow structure missing
- Interior and exterior slopes not stabilized prior to use

Sediment Basins/Ponds – Common Issues



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Sediment Basins/Ponds – Common Issues



Sediment Basins/Ponds – Common Issues



Sediment Basins/Ponds – Common Issues



Check Dams – Common Issues

- The bottom of the check dam wings should be higher than the top of the middle of the check dam
- In succession, the bottom of an upgradient check dam should be at the same elevation as the top of next downgradient check dam
- Check dam should be cleaned after each substantive rain event
- Check dam should be constructed to prevent sediment infiltration and flow thru
- Check dams should be constructed primarily to level the flow to reduce velocity in concentrated channels to reduce erosion
- Erosion/undermining; lack of geotextile or upgradient rock reinforcement when called for

Check Dams – Common Issues



Check Dams – Common Issues



Slopes – Common Issues

- Slopes left bare for extended periods of time
- Erosion rills/gullies preventing proper sheet flow
- Lack of protective measures such as temporary slope drains or rolled erosion control products when called for
- Equipment tracking on slopes improperly implemented resulting in further rill/gully formation

Slopes – Common Issues



Slopes – Common Issues



Accumulated Sediment/Maintenance – Common Issues

- Increased maintenance/labor costs without timely intervention
- Failure at critical points in sediment barrier installations
- Reduced capacity prior to next rain event; intended function of impacted BMP reduced or eliminated
- Increasing risk of offsite sediment discharge/water quality violations

Accumulated Sediment – Common Issues



Accumulated Sediment – Common Issues



13-Day Rule – Common Issues

- Exposed bare areas left to sit unprotected and frequently unmonitored
- Small problems become bigger problems increasing risk of offsite impacts
- Attempts at stabilization not properly monitored to ensure stabilization efforts were successful
- Typically seen in conjunction with a lack of proper site phasing

13-Day Rule – Common Issues



13-Day Rule – Common Issues



13-Day Rule – Common Issues



Site Phasing – Common Issues

- Amount of exposed area exceeds the design capacity of the BMP measures implemented onsite
- Continual risk of offsite impacts during rain events
- Commonly associated with a heavy reliance on sediment control rather than proper erosion control
- Loss ability to effectively control site discharges

Site Phasing – Common Issues



Site Phasing – Common Issues



Vegetative/Stream Buffers – Common Issues

- Not implemented in areas where required
- When it is not possible to maintain a 25-foot riparian buffer zone, BMPs should be implemented in conjunction with the available buffer zone to achieve the load reduction equivalent of a 25-foot buffer zone
- Risk of water quality violations when not properly implemented

Vegetative/Stream Buffers – Common Issues



Vegetative/Stream Buffers – Common Issues



Lack of Remediation Efforts – Common Issues

- Lost sediment should be removed when possible
- Failure to remediate increases the chances of further sediment movement and offsite impacts with each rain event
- Care should be taken not to cause further damage; if removal is not possible, discuss alternatives with site designer

Lack of Remediation Efforts – Common Issues



Lack of Remediation Efforts – Common Issues



Water Quality/Turbidity – Common Issues

- Discharges where the turbidity of such discharge will cause or contribute to an increase in the turbidity of the receiving water by more than 50 NTUs above background
- Discharges where the turbidity of such discharge will cause or contribute to a substantial visible contrast with the natural appearance of the receiving water
- Failure to monitor and immediately address potential violations of State water quality standards from sediment discharges incurs a risk of enforcement action being taken

Water Quality/Turbidity – Common Issues



Water Quality/Turbidity – Common Issues



Water Quality/Turbidity – Common Issues



Water Quality/Turbidity – Common Issues



Water Quality/Turbidity – Common Issues

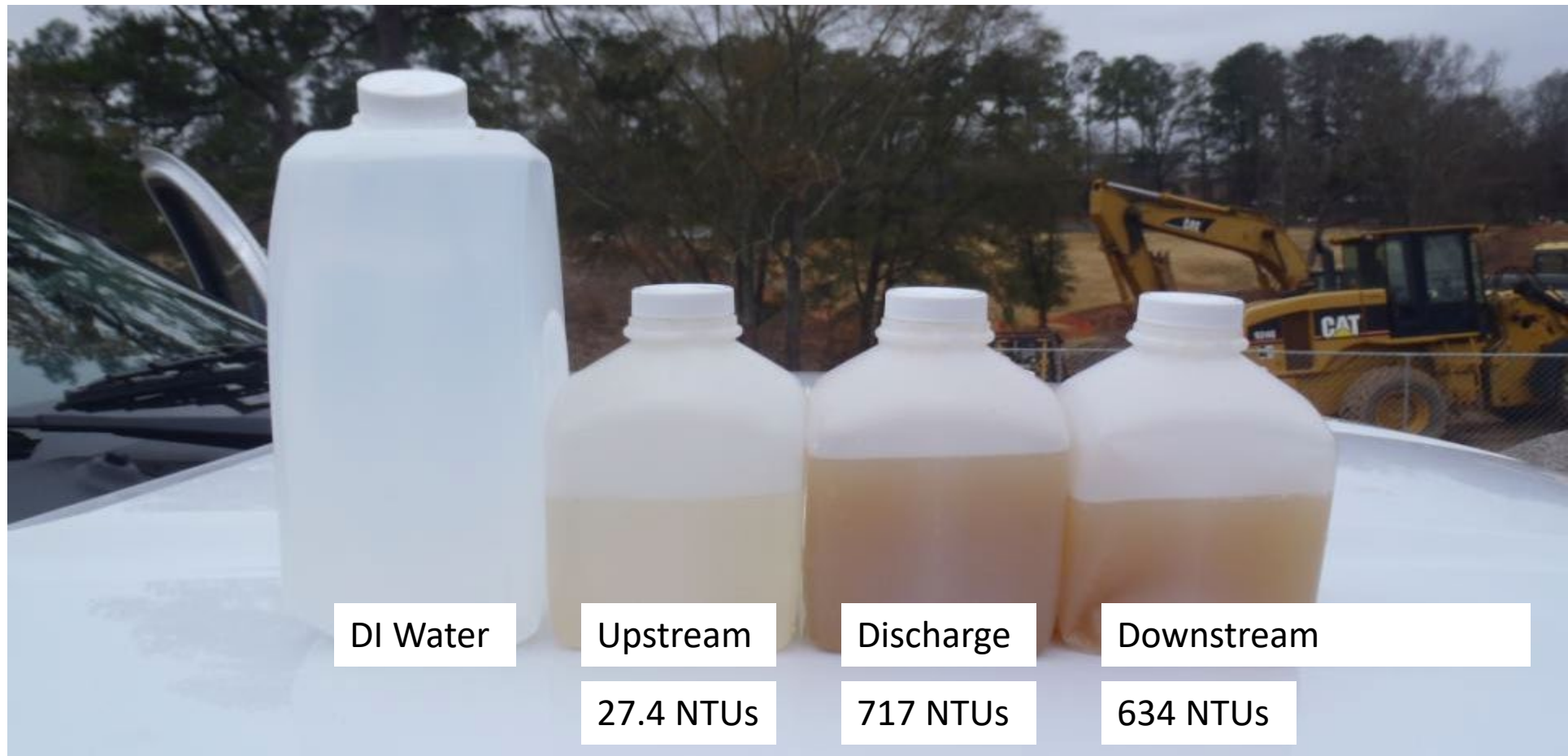


Water Quality/Turbidity – Common Issues



Upstream Background

Water Quality/Turbidity – Common Issues



Chemical/Fluid Management – Common Issues

- Lack of proper concrete washout management
- Lack of proper containment for fuels/chemicals onsite
- Washing of paint or other chemicals into storm inlets or discharge points is prohibited
- Exposure of open containers that could spill/overflow during a rain event

Chemical/Fluid Management – Common Issues



Chemical/Fluid Management – Common Issues



Chemical/Fluid Management – Common Issues



Open Burning – Common Issues

- Some counties commonly under summer/fall burn bans include Baldwin, DeKalb, Etowah, Jefferson, Lawrence, Madison, Mobile, Montgomery, Morgan, Shelby, Russell, and Talladega
- Burning of materials other than untreated wood/vegetative debris
- Failure to prevent potential ash runoff

Open Burning – Common Issues



Open Burning – Common Issues



Portable Toilets – Common Issues

- Potential for septic waste discharges when portable toilets are not on level ground away from drainage structures/features
- Portable toilets placed on top of street curb inlet manholes; relocate portable toilet

Portable Toilets – Common Issues



Erosion vs Sediment Control – Common Issues

- Relying exclusively on sediment control is a recipe for problems down the road
- Sediment control is a last resort provided to capture sediment not retained by erosion control measures
- Effective erosion control reduces the strain on downgradient sediment control BMPs and extends their functional lifespan by limiting issues related to constant maintenance
- The most effective form of sediment control is effective erosion control

Erosion vs Sediment Control – Common Issues



Erosion vs Sediment Control – Common Issues



Example of Erosion Control - Hydroseeding



Example of Erosion Control - Hydroseeding



Permitting/Paperwork Issues

- Lack of permit coverage
- Permit coverage does not match disturbed area indicated on NOI
- Permitted outfalls on NOI do not match outfalls observed onsite
- Amount of disturbed acreage exceeds amount indicated on NOI
- Records not onsite
- Facility ID not onsite
- Inspection records not onsite
- Daily BMP log not maintained onsite
- Preconstruction inspection not performed/available
- CBMPP not available onsite
- BMP installations observed on CBMPP not implemented onsite

Contact Info/Useful Resources

- Ryan Cooper, 334-394-4309, rcooper@adem.alabama.gov
- ADEM Construction Stormwater Site - <http://adem.alabama.gov/programs/water/constructionstormwater.cnt>
- Alabama Handbook (for Designers) - https://alabamasoilandwater.gov/wp-content/uploads/2022/08/20220801_HandBook_Vol_1.pdf
- Alabama Handbook (for Inspectors) - https://alabamasoilandwater.gov/wp-content/uploads/2022/07/2022_HandBook_Vol_2.pdf