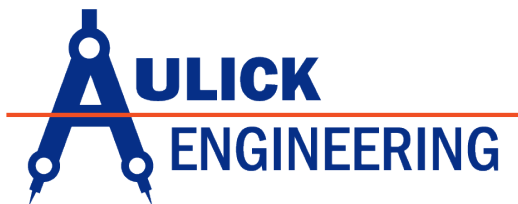


# Environmental Permitting and Stormwater Requirements

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HOW THESE REQUIREMENTS AFFECT YOUR AIRPORT



# Permitting for Airports

## ENVIRONMENTAL AND STORMWATER PERMIT TYPES

### Georgia Department of Natural Resources (DNR) – Environmental Protection Division (EPD)

- ✈ National Pollutant Discharge Elimination System (NPDES) Permitting:
  - NPDES MS4 Stormwater General Permit (for jurisdictions)
  - NPDES Industrial Stormwater General Permit
  - NPDES Construction Stormwater General Permit
  
- ✈ Georgia Stream Buffer Variance

### United States Army Corps of Engineers (USACE) – Clean Water Act Section 404 Permits

- ✈ Regional General Permit
  
- ✈ Nationwide Permit
  
- ✈ Individual Permit



# USACE General Permit

## REGIONAL PERMIT

**A REGIONAL GENERAL PERMIT IS ISSUED FOR PUBLIC TRANSPORTATION PROJECTS REQUIRING STREAM OR WETLAND IMPACTS:**

- Within 100 LF of existing crossing (For Maintenance, Rehabilitation, Replacement or Temporary Impacts)
- $\leq 1,500$  LF if North GA;  $\leq 1,000$  LF if South GA (Construction on existing or new alignment)
- $\leq 2,000$  LF if North GA;  $\leq 1,500$  LF if South GA (Construction on new alignment)

**Typically takes 45-60 days to approve.**



# USACE General Permit

## NATIONWIDE PERMIT

**A NATIONWIDE GENERAL PERMIT IS REQUIRED FOR MINOR STREAM AND WETLAND IMPACTS DURING CONSTRUCTION OF:**

- Less than 300 LF of Stream Impact OR
- Less than 0.5 acres of Wetland Impact

**Typically takes 45-60 days to approve.**



# USACE Individual Permit

## INDIVIDUAL PERMIT

**AN INDIVIDUAL PERMIT IS REQUIRED FOR MAJOR STREAM AND WETLAND IMPACTS DURING CONSTRUCTION OF:**

- Greater than 300 LF of Stream Impact OR
- Greater than 0.5 acres of Wetland Impact

**Typically takes 6 months to a year to approve.**



# Stream Buffer Variance

GEORGIA EPD

## A STREAM BUFFER VARIANCE IS REQUIRED FOR IMPACTS TO:

- 25-ft Buffer for all State Waters
- 50-ft Buffer for Trout Streams

## EXEMPTIONS INCLUDE:

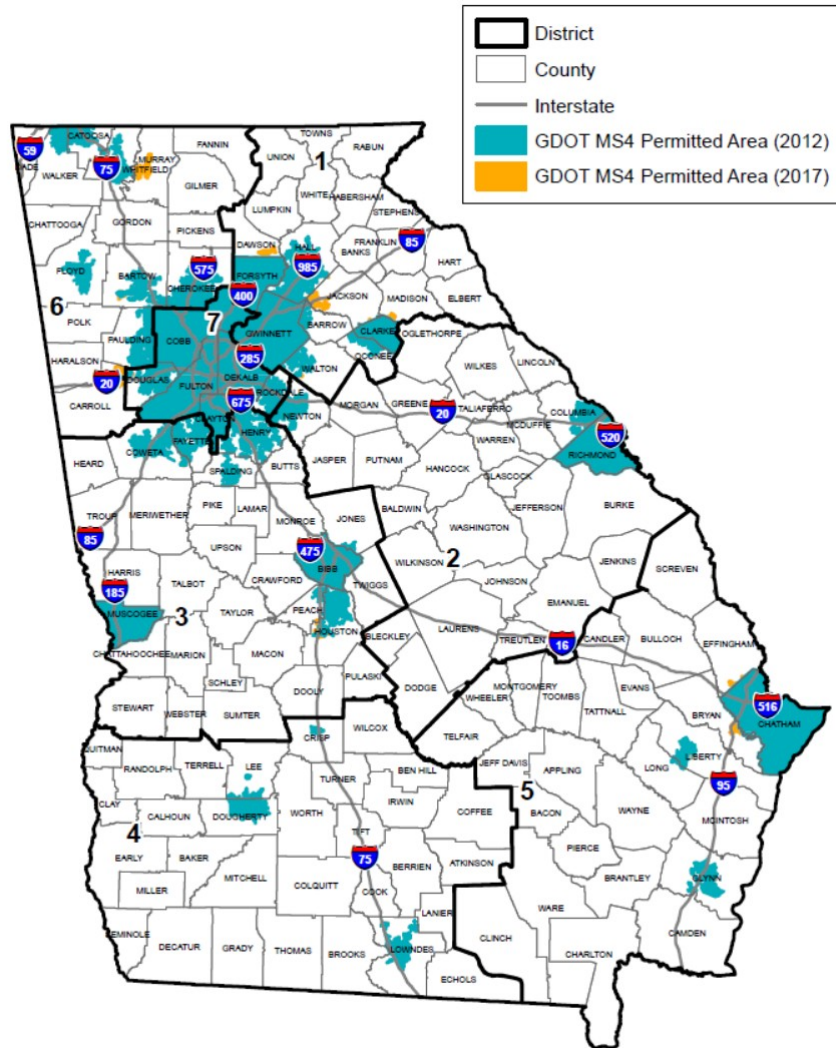
- Drainage structures in buffer area
- Perpendicular stream crossings for water or sewer lines

Typically takes 2-3 months to approve.



# NPDES Stormwater General Permit

## Municipal Separate Storm Sewer Systems (MS4)



The National Pollutant Discharge Elimination System (NPDES) was established by the Clean Water Act in 1972 to reduce pollutants.

Municipal Separate Storm Sewer System (MS4) permitting requirements were established in 1987. These require certain municipalities to minimize pollutants in stormwater runoff to the maximum extent practicable (MEP).

This is one reason for increased stormwater regulations on projects. Is your Airport in one of these areas?

Requires overall program from many municipalities and major outfall monitoring.



# NPDES Stormwater General Permit

## Municipal Separate Storm Sewer Systems (MS4)

### Phase 1 (>100,000 population)

- most strict; full stormwater rules, mapping, training, water quality control

### Phase 2 (<100,000 population) – still

requires stormwater runoff control and quantity control

### Unregulated Communities–

small or rural. Should still analyze for downstream impacts and water quality

Acworth	Jonesboro
Alpharetta	Kennesaw
Atlanta	Lake City
Austell	Lawrenceville
Avondale Estates	Lilburn
Berkley Lake	Lithonia
Bloomingtondale	Lovejoy
Buford	Macon-Bibb County
Chamblee	Marietta
Chatham County	Morrow
Clarkston	Norcross
Clayton County	Palmetto
Cobb County	Pine Lake
College Park	Pooler
Columbus	Port Wentworth
Dacula	Powder Springs
Decatur	Richmond County
DeKalb County	Riverdale
Doraville	Roswell
Duluth	Savannah
East Point	Smyrna
Fairburn	Snellville
Forest Park	Stone Mountain
Forsyth County	Sugar Hill
Fulton County	Suwanee
Garden City	Thunderbolt
Grayson	Tybee
Gwinnett County	Union City
Hapeville	

Albany (Dougherty County)	Flowery Branch (Hall County)	Newnan (Coweta County)
Allenhurst (Liberty County)	Floyd County	Newton County
Athens-Clarke County	Fort Benning	Oakwood (Hall County)
Auburn (Barrow County)	Fort Gordon	Oconee County
Barrow County	Fort Oglethorpe (Catoosa County)	Oxford (Newton County)
Bartow County	Fort Stewart	Paulding County
Bogart (Oconee County)	Gainesville (Hall County)	Peach County
Braselton (Jackson County)	GDOT	Peachtree City (Fayette County)
Brookhaven (DeKalb County)	Glynn County	Peachtree Corners (Gwinnett)
Brunswick (Glynn County)	Griffin (Spalding County)	Perry (Houston County)
Byron (Peach County)	Grovetown (Columbia County)	Porterdale (Newton County)
Canton (Cherokee County)	Hahira (Lowndes County)	Remerton (Lowndes County)
Carroll Co.	Hall County	Richmond Hill (Bryan County)
Cartersville (Bartow County)	Hampton (Henry County)	Ringgold (Catoosa County)
Catoosa County	Henry County	Robins AFB
Centerville (Houston County)	Hephzibah (Richmond County)	Rockdale County
Chatsworth (Murray County)	Hinesville (Liberty County)	Rome (Floyd County)
Cherokee County	Hiram (Paulding County)	Rossville (Walker County)
Chickamauga (Walker County)	Holly Springs (Cherokee County)	Sandy Springs (Fulton County)
Columbia County	Hoschton (Jackson County)	Senolia (Cowweta County)
Conyers (Rockdale County)	Houston County	Spalding County
Cordele (Crisp County)	Hunter AAF	Stockbridge (Henry County)
Covington (Newton County)	Jackson Co.	Temple (Carroll County)
Coweta County	John's Creek (Fulton County)	Tunnel Hill (Whitfield County)
Cumming (Forsyth County)	Jones County	Tyrone (Fayette County)
Dallas (Paulding County)	Lee County	Valdosta (Lowndes County)
Dalton (Whitfield County)	Leesburg (Lee County)	Varnell (Whitfield County)
Dawson Co.	Liberty County	Villa Rica (Carroll County)
Dougherty County	Locust Grove (Henry County)	Walker County
Douglasville-Douglas County WSA (Douglas County)	Loganville (Walton County)	Walnut Grove (Walton County)
Dunwoody (DeKalb)	Long County	Walthourville (Liberty County)
Effingham Co.	Lookout Mountain (Walker County)	Walton County
Emerson (Bartow County)	Lowndes County	Warner Robins (Houston County)
Eton (Murray County)	Madison Co.	Watkinsville (Oconee County)
Euharlee (Bartow County)	McDonough (Henry County)	Whitfield County
Fayette County	Milton (Fulton County)	Winterville (Clarke County)
Fayetteville (Fayette County)	Mountain Park (Fulton County)	Woodstock (Cherokee County)
Flemington (Liberty County)	Murray Co.	

### GDOT MS4

Covers GDOT facilities in MS4 areas, including road and rest areas, etc. Full stormwater, sampling, training, mapping, etc.





# NPDES Stormwater General Permit

## INDUSTRIAL – AIR TRANSPORTATION FACILITIES

General Permit coverage must be obtained by submitting a fully completed Notice of Intent (NOI) on the GEOS portal each time the Permit is updated. Copy to MS4 if applicable. **New Permit coming June 1, 2022.**

Addresses outfalls and how industrial activities affect those outfalls. Fueling, painting, maintenance, washing, etc. trigger applicability under permit.

### STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

- Identifies any actions or conditions at a site that may produce water pollution.
- Includes a detailed plan to prevent the discharge of polluted waters.



# NPDES Stormwater General Permit

## INDUSTRIAL – AIR TRANSPORTATION FACILITIES

### SAMPLING, MONITORING, INSPECTIONS

- Airport sampling typically for deicing, TSS, Ph, oil/grease, etc.
  - Affected by deicing and/or impaired streams
- Sampling performed annually, but sometimes more frequent.
- Inspections:
  - Quarterly visual outfall inspections and visual sampling
  - Annual comprehensive facility inspections
- Reporting:
  - Annual online reporting
  - Quarterly reporting kept onsite only



# NPDES Stormwater General Permit

## INDUSTRIAL – AIR TRANSPORTATION FACILITIES

### SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN

- If a fueling facility is located on-site at the airport, a SPCC Plan shall also be prepared and incorporated into the SWPPP.
- SPCC Plan addresses:
  - operating procedures that prevent oil spills
  - control measures installed that can prevent a spill from reaching navigable waters
  - countermeasures to contain, clean up, and mitigate the effects of an oil spill that impacts waterways
- Plan shall be maintained at the airport facility. Submittal to EPA only required when requested.



# NPDES Stormwater General Permit

## INDUSTRIAL – AIR TRANSPORTATION FACILITIES

### ONLINE NOI & ANNUAL REPORTING

- GEOS (Georgia EPD Online System)  
<https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx>
- NOI filed after each Permit update (approx. 5 years)
  - No Exposure Exclusion (NEE) if no industrial activities
- Tenants can file as a co-permittee and fall under Airport SWPPP
  - Tenants can have their own SWPPP and NOI as well
- Annual Reporting filed online by 1/31 of subsequent year
  - Inspection and sampling results
  - Confirmation of detailed facility inspection



# NPDES Stormwater General Permit

## CONSTRUCTION

### 1 ACRE OR GREATER OF DISTURBANCE

### EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN

- Includes best management practices (BMPs), including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation.
- Reference the “Manual for Erosion and Sediment Control in Georgia” (Manual) published by the Georgia Soil and Water Conservation Commission.
- Submit to the EPD if state funding is involved (not to the Local Issuing Authority – LIA)
  - Typically done during design review phase.



# NPDES Stormwater General Permit

## CONSTRUCTION – DISTURBANCE OF 1 ACRE OR GREATER

### NOTICE OF INTENT (NOI)

- Permit coverage must be obtained by submitting a fully completed Notice of Intent (NOI).
- The NOI will include the ESPCP as well as basic information about the construction site and the receiving waters where the discharges occur.
- The NOI shall be submitted at least 14 days prior to any land disturbance activity.

### NOTICE OF TERMINATION (NOT) may be submitted when:

- The entire project (or planned phase) has undergone final stabilization.
- All stormwater discharges associated with construction activity that are authorized by this permit have ceased.
- The site is in compliance with the permit and all temporary BMPs have been removed.



# NPDES Stormwater General Permit

## CONSTRUCTION – DISTURBANCE OF 1 ACRE OR GREATER

### 7-DAY INSPECTION

- Required by Permit to review EC BMPs within 7 Days after installation
  - Entails field walk and thorough inspection of BMPs to match plans, details and spec
- Usually, only limited BMPs installed at this stage, such as:
  - Perimeter silt fence
  - Sediment basins / traps
  - Construction Exits
- Good opportunity to find out if the GC is starting off on the right foot

5. For stand alone projects that begin construction activity after the effective date of this permit, the primary permittee must retain the design professional who prepared the Erosion, Sedimentation and Pollution Control Plan, or an alternative design professional approved by EPD in writing, to inspect the installation of the initial sediment storage requirements and perimeter control BMPs which the design professional designed within seven (7) days after installation. The design professional shall determine if these BMPs have been installed and are being maintained as designed. The design professional shall report the results of the inspection to the primary permittee within seven (7) days and the permittee must correct all deficiencies within two (2) business days of receipt of the inspection report from the design professional unless weather related site conditions are such that additional time is required.



# NPDES Stormwater General Permit

## 7-DAY INSPECTION – EXAMPLE



March 22, 2019

Astra Group  
Attn: Theresa Rivera  
Project Manager  
300 Churchill Court  
Woodstock GA 30188

Subject: Runway 10-28 Extension | Polk County Airport – Cornelius Moore Field  
7-Day Inspection Letter

Dear Ms. Rivera,

Major erosion control installation for the referenced project began in March 2019. One of the design professionals and my duly authorized representative, Allison Hartney, visited the site on the morning of March 22, 2019 for the 7-day erosion control inspection as required by State and Local Ordinances.

At this time, Astra has installed the majority of the silt fence required for the Project as shown on the project ES&PCP. The silt fence that was installed seems to be performing well. All other initial phase erosion control measures have not yet been installed.

The following items should be noted:

- Silt fence at the Runway 10 end has not yet been installed, and will likely be installed March 25<sup>th</sup> – 26<sup>th</sup>, 2019 per the contractors representative on site.
- All additional initial phase erosion control measures - rock filter dams (Rd), inlet sediment traps (Sd2), temporary sediment traps (Sd4), diversion channels (Di), and disturbed area stabilized with mulch or sod (Ds1/ Ds4) – will be installed after the completed installation of the silt fence.
- The two construction exits near Airport Loop Road need to be installed to ensure sediment does not leave the site from trucks leaving the site. The contractor indicated that these construction exits would be installed in the afternoon of March 22, 2019.
- The contractor indicated that the third construction exit (shown on Sheet CE 1.00) will likely be relocated and will be constructed at a later date and will be coordinated with the engineer.
- During installation, it was noted that a portion of proposed silt fence along the northern border of the borrow area (seen on Sheet CE1.07) interfered with Georgia Power electrical right-of-way. The engineer approved an alternative layout which was installed. The alternative layout can be seen below in Image 5.
- Silt fence along the southeastern border of the borrow area (seen on Sheets CE 1.08 and CE 1.09) could not be installed as the proposed silt fence extended beyond the property line. The contractor is in contact with the engineer to determine an alternative layout. The property line and end of installed silt fence can be seen below in Image 6.

Due to the size of the project only perimeter BMPs have been installed prior to the 7-day inspection. The silt fence currently installed meets plan specifications and layout. Please be advised that the contractor shall have a certified subcontractor on staff doing the required inspections, sampling, and reporting per

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Image 3 - Sd1-S – Silt Fence Type Sensitive- J-Hooks for Slope on CE 1.04



Image 4 - Sd1-S – Silt Fence Type Sensitive- Double Row – Borrow Pit

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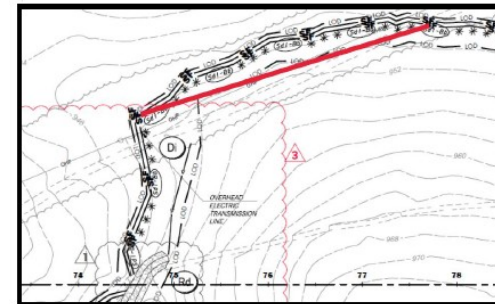


Image 5 - Alternative Layout for Silt Fence at Borrow Pit (north) due to Georgia Power ROW- CE 1.07

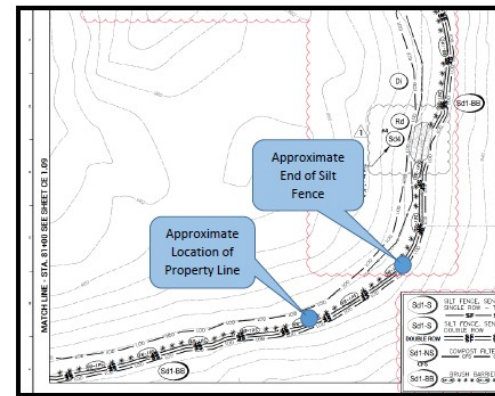


Image 6 - End of Silt Fence at Borrow Pit (south) due to Property Line – CE 1.08

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# NPDES Stormwater General Permit

CONSTRUCTION – DISTURBANCE OF 1 ACRE OR GREATER

## ON-GOING SAMPLING

- Water quality sampling after first rain event of 0.5 inch or greater within any 24-hour period
- AND >90 days after first sampling but before N.O.T.



# NPDES Stormwater General Permit

CONSTRUCTION – DISTURBANCE OF 1 ACRE OR GREATER

## ON-GOING INSPECTIONS

- Daily
  - Construction exits (for muddy roads)
- Weekly
  - After every rain event of 0.5 inch or greater and/or once every 7 days.
  - Discharge points
  - BMPs
- Monthly
  - Grass cover (once seeded/sodded)
  - Discharge points



# Erosion Control

## BMP EXAMPLES

### TYPICAL TYPES @ AIRPORTS

- Construction Exits
- Inlet Protection
- Outlet Protection
- Silt Fence
- Sediment “Storage” (basins, traps, excavated inlets)



### SAFETY CONSIDERATIONS

- Silt Fence in TSA / RSA
- Careful not to flood pavement areas
- Apron runoff onto grass area
- Ponding water
- FOD & Debris
- Large clearing areas and mass runoff



# Erosion Control

## LESSONS LEARNED

### WHAT MATTERS

- Documentation
  - Construction exits (for muddy roads)
- EPD – Get them involved
  - They will look to the Owner regardless of who files the NOI.
  - Better to call than hide, they work with you most of the time.
  - Contractors typically respond to the EPD
- Phasing of Project and EC Installation Matters
  - Field drainage patterns or phasing of project can quickly create issues even with best plans, SPEAK UP!
  - Grass is the best EC Measure



# Erosion Control

## LESSONS LEARNED

**BEFORE**



**AFTER**



# Erosion Control

## LESSONS LEARNED



**Doing it right at the right time the first time makes a big difference!**



# Stormwater Management

## NEED FOR STORMWATER

### Development and Urbanization:

Increases Runoff Volumes

Decreases Infiltration

Increases Pollutants

Increases Velocities

Changes the Timing of the Peak Flows

Increases Frequency, Duration, Severity of  
Flooding

Lowers Dry Weather Flows



**CREATES THE  
NEED FOR WATER  
QUALITY**



# Stormwater Management

## STORMWATER CRITERIA

### APPLICABILITY (STATE GSMM):

- New Development or Redevelopment > 5,000 sf Impervious Area
- New Development or Redevelopment > 1 Acre Land Disturbance

### GENERAL GOALS AND BMPs

- Quantity Control – Flooding on-site and downstream
  - Examples – ponds, underground storage, master planned systems with pipes/ponds
- Quality Control – Removing pollutants from stormwater
  - Infiltration or Retention
  - Runways/Taxiways typically have less pollutants and safety areas provide natural filtration but sometimes criteria requires more and are especially
  - Swales, proprietary devices, bioslopes, bioretention, filter strips
- Beware of airfield safety concerns





# Stormwater Management

## TYPES OF STORMWATER BMPS



**BIOSLOPE**



**DRY DETENTION POND**



**ENHANCED SWALE**



**PROPRIETARY SYSTEM**



**VEGETATED FILTER STRIP**



# Local Permitting

## STORMWATER AND EROSION CONTROL

### LOCAL

- Communities often require local permitting for airport projects
- Increases cost and timeline on projects
- Local ordinances typically don't consider airports
- Be an advocate of the airport with your local community
  - Link them up with your consultant if they are wanting to begin regulating development at the airport more directly



# Erosion Control Quiz

WHAT IS RIGHT... WHAT IS WRONG (CONSTRUCTION EXIT)



# Erosion Control Quiz

WHAT IS RIGHT... WHAT IS WRONG (SILT FENCE)



# Erosion Control Quiz

WHAT IS RIGHT... WHAT IS WRONG (INLET PROTECTION)



# Erosion Control Quiz

WHAT IS WRONG



# Erosion Control Quiz

WHAT IS RIGHT (MATTING, BASINS, DOWNDRAINS, BENCHES, STONE)



