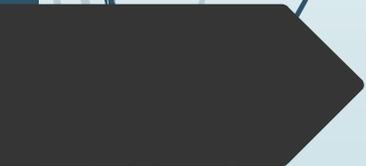


Protecting Stormwater, Surface Waters and Wetlands



Duval County Regulations and
the City's Environmental
Quality Division's Erosion and
Sediment Control Program

Erosion and Sediment Control (ESC) - not just environmental concern:

- Yes, environmental concerns exist for turbidity and sedimentation causing die-off of wetland vegetation and subaquatic vegetation and carrying additional nutrients to our waterbodies (algae blooms)
- But also, from infrastructure and resiliency perspective, killing vegetation results in increased flows and velocities through wetlands and stormwater
- And sedimentation of stormwater and wetlands impacts flood capacity and control
- EQD has primary jurisdiction for environmental regulations and impacts in Duval County
 - Other City agencies may take action to ensure corrections to City infrastructure
 - DEP or the Water Management District may also take enforcement for permitting or remediation of state area impacts.

Jacksonville Environmental Protection Board (JEPB):

- Duval County and Jacksonville have a local pollution control program established in State statute
- Began in 1965 - Duval County Air Improvement Authority - existed continuously since – now named the JEPB
- 9 Member board appointed by City Council and Mayor
- JEPB has rulemaking authority to promulgate environmental rules closely aligned with state and federal due to National Pollution Discharge Elimination System (NPDES) and Clean Water Act regulations

JEPB Rule 3 – Water Pollution Control:

JEPB began water regulations in the 1980s with Rule 3
found on the web at coj.net/epb

JEPB Rule 3.103 Requirements and Prohibitions

* * *

B. It shall be unlawful ...unpermitted discharges of... other untreated waste or wastewater or other material [turbid discharge and sediment] to surface or groundwaters within Duval County...



After reviewing lessons learned beginning in 2009, in 2011 Rule 3.103 requirements were expanded to address current issues and concerns:

* * *

B. It shall be unlawful ...unpermitted discharges of... other untreated waste or wastewater or other material (turbid discharge and sediment) to surface or groundwaters within Duval County, by direct or indirect flow, or to the ground or surrounding environment ...

1. Activities ...that cause or contribute to a violation of the City of Jacksonville Municipal Separate Storm Sewer System National Pollution Discharge Elimination System (NPDES) permit... discharge of ... materials other than stormwater ... into the MS4 whether directly or indirectly, are prohibited, unless authorized under a NPDES permit.

2. In addition to the notification requirements of Chapter 754, Ordinance Code ... it shall be a violation ...to fail to notify the Division (EQD) within 72 hours after discovering an illicit discharge.

C. In addition to the notification requirements of Chapter 754, Ordinance Code . . . it shall be a violation .. . to fail to notify . . . the Division (EQD) before . . . construction sites discharge stormwater to an MS4. . . .

D. It shall be a violation of this Rule for any person to violate any condition of the City of Jacksonville Municipal Separate Storm Sewer System NPDES Permit Number FLS000012 as amended or revised, or any other valid general or individual NPDES stormwater discharge permit.



City's NPDES Permit - (when you file NOI)

Very limited exceptions of what may be discharged to stormwater per Part II.A.7.a.:

(allowed as they may relate to construction activities)

- Water line flushing
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers
- Uncontaminated pumped ground water
- Springs
- Flows from riparian habitats and wetlands
- Street wash waters (but not containing sediment and no turbid discharge)



Florida Administrative Code water quality standards adopted in JEPB Rule 3.201

Florida water quality standard for turbidity for all classes and types of water pursuant to Florida Administrative Code 62-302.530(70):

not more than 29 Nephelometric Turbidity Units (NTU) over **background** conditions

background will be taken upstream in the same watershed flow

JEPB Rule 3.604 – Erosion and Sediment Control

Adopts as the more stringent requirements, the Florida Department of Environmental Protection *Erosion and Sediment Control Inspector's Manual, specifically DEP Tier I Manual* [Google Florida DEP Erosion and Sediment Control]

- Performance measures are just that, performance – if it works to ensure no off-site discharge, it is acceptable
- DEP Manual provides recommendations for what may work for varied site conditions

Note: The DEP Manual is best used as a whole as many elements are built upon throughout the manual to cover project planning considerations.

JEPB Rule 3.604 – DEP website for adopted manual:

The screenshot shows the Florida Department of Environmental Protection website. The main heading is "Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program". Below the heading is a breadcrumb trail: "Home > Divisions > Division of Environmental Assessment and Restoration > Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program". A "Quick Links" section contains a search bar and three links: "Florida Stormwater, Erosion, and Sedimentation Control Inspector Training Certification Program", "FSFSCI Manual (External Link)", and "FSFSCI Classes (External Link)". At the bottom of the quick links is a link for "All Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program Content".

The screenshot shows the detailed page for the "Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program". The page features a large header with the program title and a breadcrumb trail: "Home > Divisions > Division of Environmental Assessment and Restoration > Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program". On the left side, there is a sidebar with the following sections: "Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program Quick Links" (with links to the manual and classes), "FSFSCI Manual (Tier I)", "FSFSCI Manual (Tier II)", "FSFSCI Classes", and "All Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program Content". The main content area includes a circular logo for the program, a section titled "The Florida Stormwater, Erosion, and Sedimentation Control Inspector Training & Certification Program" with a paragraph describing the program's goals, and a section titled "The Inspector's Training Program" with a paragraph describing the two-day class and examination process. Below these sections is a list of "The objectives of this training and qualification program are:" followed by two bullet points: "To ensure that the desired benefits of stormwater management systems are being achieved." and "To ensure that both the public and private sectors have enough inspectors trained in the proper installation and maintenance of BMPs during and after construction."

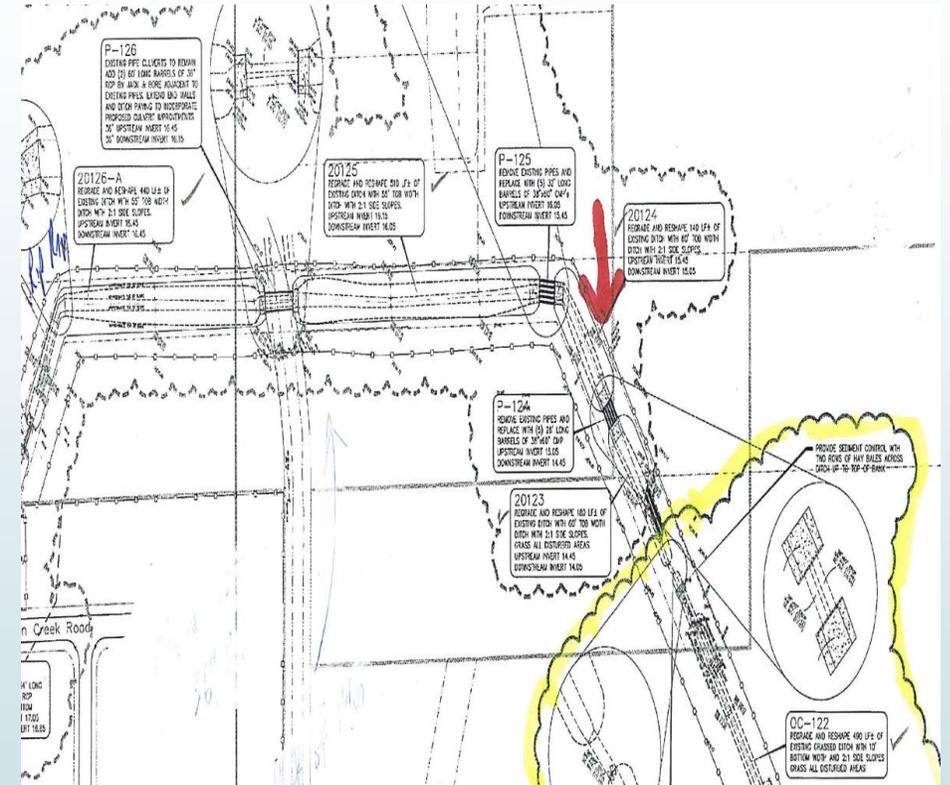
Areas of Impact:

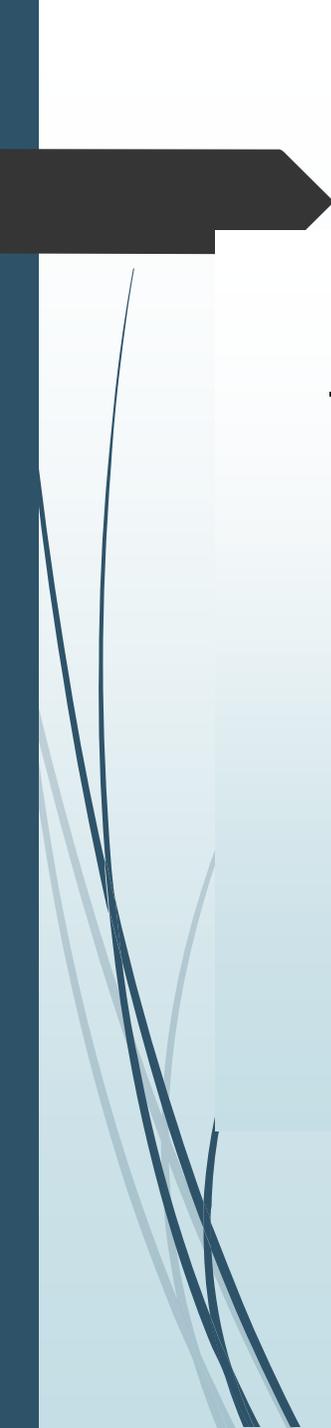
To recap – no sediment or turbid water may discharge to wetlands, surface waters or public stormwater systems

If your project involves construction of infrastructure (roads, improvements or connections to City stormwater, etc.)

Then Approved plans (DEP, the District or the City) should show the areas of impact and the measures you are to take

In that case, you will likely have sediment and turbidity in the immediate area you are working in.





No enforcement if the impacts ***remain in the designated area of work***

- Must have BMPs to prevent sediment and turbid water from discharging beyond the immediate area
- Must remove all sediment from that area when complete
- Must provide complete soil stabilization to that area before beginning next segment of the project





Private versus Public Stormwater impacts

You may utilize private stormwater system for water control during construction, but

Must treat for turbidity to be below 29 NTU of the background
(background is upstream of location of discharge point)

Before private pond discharges to wetlands, surface waters or public stormwater



CAUTION!

Sedimentation to private stormwater pond may impact design, function and flood capacity of the private pond

All sediment discharge should be removed from private conveyances and pond to prevent future flooding

Recommend having engineer review pond after all construction is complete



A Stormwater Pollution Prevention Plan (approved plan) is NOT a static document:

- Developed months or years before project start
- Each step/phase in construction changes site conditions and plan should be review and revised for the current site conditions
- Frequent review of BMPs is necessary to prevent discharges
- BMPs should be changed/improved as needed to prevent off-site discharge
- Sensitive areas may require more frequent monitoring than just weekly and after rain events and more frequent revision to BMPs
- Daily maintenance may be needed in sensitive areas

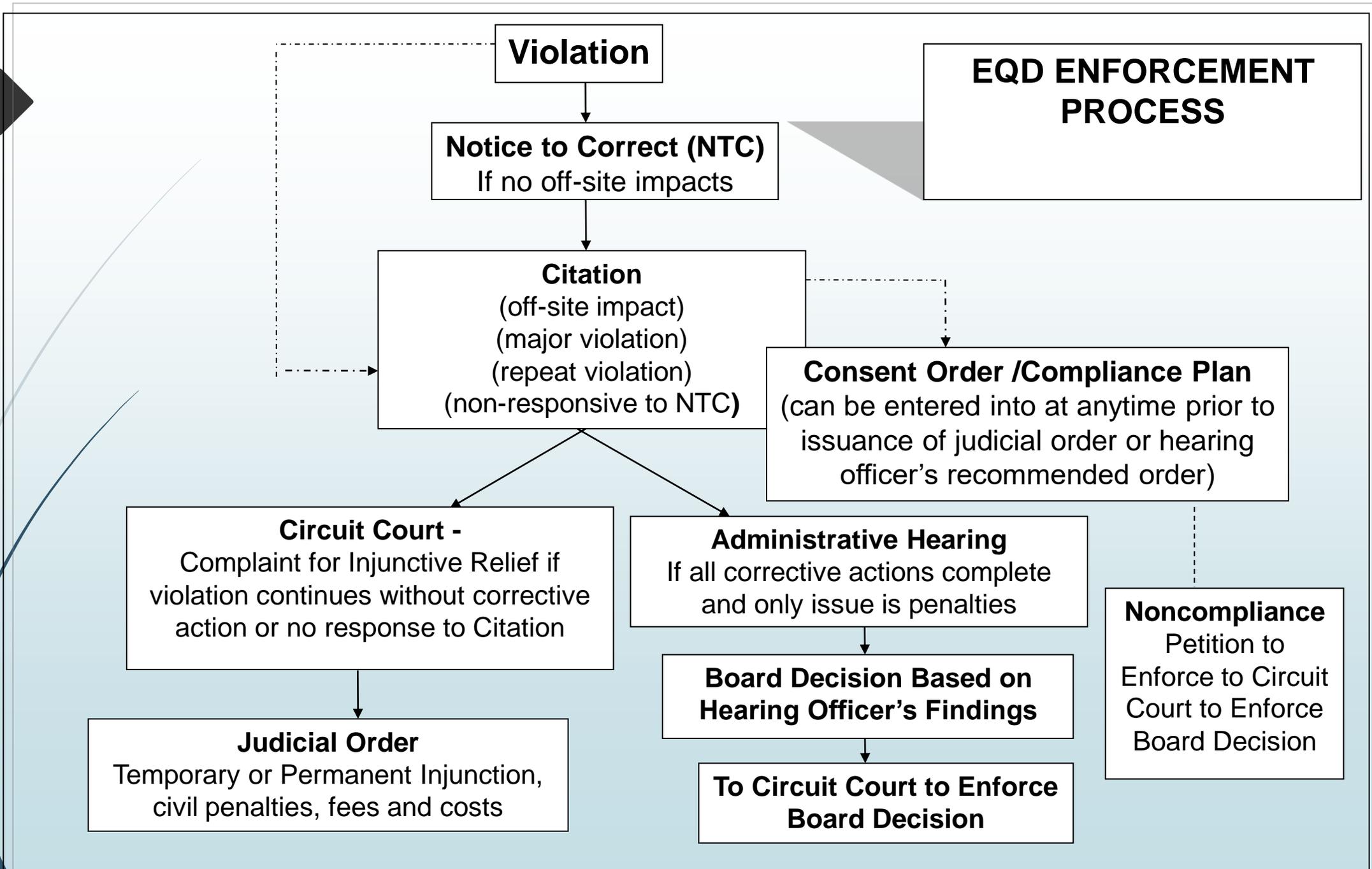


Environmental Quality Division Process for Review and Enforcement

If an inspection *documents a violation* for:

- 1. Repeat failure** to comply with erosion and sediment control standards after notice, or
- 2. Any discharge with off-site impacts,**

The enforcement process will be initiated.



EQD ENFORCEMENT PROCESS

Violation

Notice to Correct (NTC)
If no off-site impacts

Citation
(off-site impact)
(major violation)
(repeat violation)
(non-responsive to NTC)

Consent Order / Compliance Plan
(can be entered into at anytime prior to issuance of judicial order or hearing officer's recommended order)

Circuit Court -
Complaint for Injunctive Relief if violation continues without corrective action or no response to Citation

Administrative Hearing
If all corrective actions complete and only issue is penalties

Noncompliance
Petition to Enforce to Circuit Court to Enforce Board Decision

Judicial Order
Temporary or Permanent Injunction, civil penalties, fees and costs

Board Decision Based on Hearing Officer's Findings

To Circuit Court to Enforce Board Decision

Notices to Correct (NTC)

**Notice to Correct
(NTC)**

If no off-site impacts

NTCs are issued for failure to comply with the DEP Manual recommendations [BMPs not sufficient for site conditions to protect against off-site impacts]

An NTC may be issued for insufficient BMPs, **but**

Off-site impacts are still referred to Enforcement for evaluation

Documents submitted for corrective actions or inspection may be scheduled to document corrective actions after issuing an NTC (reasonable assurance of future compliance)

If site returned to compliance, NTC is closed

If site is not in compliance but corrective actions in progress and discharge has not yet occurred, another inspection may be scheduled

If no action has been taken at the site, or off-site impacts have since occurred, a Cease and Desist Citation will be issued

Cease and Desist Citations

All Citations are issued to the Property Owner and to all indispensable parties readily identified.

Citation

(off-site impact)

(major violation)

(repeat violation)

(non-responsive to
NTC)

- **Cease *the violations* – not cease working**
Injunction required to stop project
- 14 days to respond in writing to Citation after receipt
- Work together to timely complete a Consent Order formalizing regulatory requirements for monitoring, with notification and reporting requirements

This is to provide reasonable assurance of future compliance until Final Stabilization of the project

Consent Orders or Court Actions

Consent Order /Compliance Plan
(can be entered into at anytime prior to issuance of judicial order or hearing officer's recommended order)

Judicial Order
Temporary or Permanent Injunction, civil penalties, fees and costs

Resolution of Citation agreed upon-

- Consent Order is returned signed by the parties
- Then considered and approved by JEPB
- Payment is due 30 days after approval
- Other requirements are outlined by the Consent Order

If court action is required for injunction or hearing is requested-

- maximum penalty of \$10,000 to \$15,000 per day, per violation is requested by the City
- Plus attorneys' fees and costs if City prevails

Note: Nonpayment of Consent Order also results in court action to enforce the JEPB Order



Beginning in January 2021, after comments/suggestions from developers, contractors, engineers and JEPB Board members, the Consent Order resolution process has been revised

- Owner and contractors must sign Consent Order early on in enforcement case
- Consent Order provides clear summary of environmental regulation requirements for environmental protection and erosion and sediment control planning, monitoring and reporting
- These are not new regulation or requirements, but rather being formalized in a Consent Order
- Signing the Consent Order provides the reasonable assurance that appropriate BMPs for the site are installed, maintained and modified as needed to prevent off-site impacts

- 
- A dark grey arrow points to the right from the top left corner. Below it, several thin, curved lines in shades of blue and grey sweep across the left side of the slide.
- With the new Consent Order process, if off-site impacts documented at MS4, EQD may have to conduct reinspections pursuant to the City's NPDES permit requirements
 - Also, for off-site impacts to surface water or wetlands, state agencies may conduct inspections and may request or require EQD to conduct additional inspections
 - EQD is hopeful that as the new Consent Order process with assessment, monitoring and reporting takes root, the requirements for reinspections will be minimized and reinspections will be based upon the accurate monitoring and reporting data provided by the project owner/contractors to EQD

- 
- Penalty calculation will be completed and provided to all parties for the Consent Order
 - EQD cannot assign responsibility or liability to any one party
The parties must work through their contractual issues on their own
 - Owner of project and contractors must sign on to Consent Order or the matter proceeds to the City's attorneys for further action
Consent Order remains in effect until Final Stabilization so owner signs to ensure compliance of their rotating contractors



Penalties

Florida statute provides for civil penalties of up to \$15,000, and City Ordinance Code provides for up to \$10,000, per day/ per violation:

Consent Orders to the JEPB utilizes settlement penalty guidelines established through the JEPB

- Penalties range from \$300 to \$8,000
- Impacts to stormwaters, surface waters or wetlands assessed highest penalties


EXTENT OF DEVIATION FROM REQUIREMENT

P O T E N T I A L F O R H A R M	EXTENT OF DEVIATION FROM REQUIREMENT			
	MAJOR	MODERATE	MINOR	
	MAJOR	\$10,000 TO \$8,000	\$7,999 TO \$6,000	\$5,999 TO \$4,900
	MODERATE	\$4,899 TO \$3,500	\$3,499 TO \$2,300	\$2,299 TO \$1,500
MINOR	\$1,499 TO \$900	\$899 TO \$500	\$499 TO \$300	

A dark grey arrow points to the right from the left edge of the slide. Below it, several thin, curved lines in shades of blue and grey sweep across the left side of the slide.

Multiple days of violations may receive 5% of assessed penalty or full assessment, if substantial efforts to comply are taken and in progress

Factors such as whether there were BMPs, but insufficient, where the discharge went and how it got there are considered in the calculation

Jacksonville Environmental Protection

Rule 2 – Air Pollution Control

Rule 2.1303

Prohibits nuisance from emission of particulate matter creating a nuisance.

In addition, adopted regulations through EPA and DEP prohibit fugitive emission of particulate matter

Control the dust from your projects during dry periods and if using water to do so, use BMPs to protect against turbid off-site discharge

Jacksonville Environmental Protection

Rule 4 – Noise Pollution Control

Rule 4.209

Prohibits construction equipment use between *10:00 p.m. and 7 a.m.*

Exceptions - Generators, mudhogs, and well point pumps may be used during nighttime hours but shall not exceed 60 dBA.

Prohibits construction noise in excess of 65dBA in residential and 75 dBA in commercial/industrial areas between 7:00 a.m. and 10:00p.m.

May be able to apply for a *noise variance for construction activities* if you believe you will be in noncompliance with these regulations.

Erosion and Sedimentation Control Process



Plan Approval:

RCV: 8/28/2019 10:47

JACKSONVILLE DUVAL COUNTY, FL.



LOCATION MAP
113

PREPARED FOR



England-Thing & Teller, Inc.
14778 Old St. Augustine Road
Jacksonville, FL 32258
TEL: (904) 642-8888
FAX: (904) 646-8445
CA - 8000254 LC - 80063 W

CITY OF JACKSONVILLE NOTES

GENERAL
All applications shall be prepared in accordance with the applicable codes and standards of the City of Jacksonville. All applications shall be prepared in accordance with the applicable codes and standards of the City of Jacksonville. All applications shall be prepared in accordance with the applicable codes and standards of the City of Jacksonville.

UTILITY WORK
All utility work shall be performed in accordance with the applicable codes and standards of the City of Jacksonville. All utility work shall be performed in accordance with the applicable codes and standards of the City of Jacksonville.

WORK WITHIN THE RIGHT OF WAY
All work within the right of way shall be performed in accordance with the applicable codes and standards of the City of Jacksonville. All work within the right of way shall be performed in accordance with the applicable codes and standards of the City of Jacksonville.

DEVELOPMENT SERVICES CUSTOMER SERVICE CENTER
City of Jacksonville, 2nd Floor
114 N. Hogan St.
Jacksonville, FL 32202
(904) 255-5272

STATE
All work performed within a state right of way requires a permit from the Florida Department of Transportation (FDOT). It is the developer's responsibility to obtain required FDOT permits or authorizations of work within the state right of way. The FDOT's subject office shall be contacted at (787) 386-4889. Any changes to the required forms needed for FDOT approval must be submitted to Development Services as a revision.

ADJACENT STATE RIGHTS
Adjacent State Rights: Right of way within a state right of way requires a permit from the Florida Department of Transportation (FDOT). It is the developer's responsibility to obtain required FDOT permits or authorizations of work within the state right of way. The FDOT's subject office shall be contacted at (787) 386-4889. Any changes to the required forms needed for FDOT approval must be submitted to Development Services as a revision.

REQUIREMENTS
All plans submitted to the City of Jacksonville shall be prepared in accordance with the applicable codes and standards of the City of Jacksonville. All plans submitted to the City of Jacksonville shall be prepared in accordance with the applicable codes and standards of the City of Jacksonville.

THE CENTER OF ANY STREET (C/S) LINE OR CENTER LINE SHALL BE A MINIMUM OF 10 FEET FROM THE ADJACENT PROPERTY LINE. THE CENTER OF ANY STREET (C/S) LINE OR CENTER LINE SHALL BE A MINIMUM OF 10 FEET FROM THE ADJACENT PROPERTY LINE.

THE DEVELOPER SHALL MAINTAIN THE EXISTING CURBS, SIDEWALKS AND LANDSCAPING. THE DEVELOPER SHALL MAINTAIN THE EXISTING CURBS, SIDEWALKS AND LANDSCAPING.

IF THE DEVELOPER IS REQUIRED TO REMOVE THE EXISTING CURBS, SIDEWALKS AND LANDSCAPING, THE DEVELOPER SHALL MAINTAIN THE EXISTING CURBS, SIDEWALKS AND LANDSCAPING.

UNDERGROUND CONTRACTOR SHALL MAINTAIN THE EXISTING CURBS, SIDEWALKS AND LANDSCAPING. UNDERGROUND CONTRACTOR SHALL MAINTAIN THE EXISTING CURBS, SIDEWALKS AND LANDSCAPING.

LANDSCAPE
A site plan showing a landscape plan is required for this project.
 Tree Planting: 10% of the site area.
 10% of the site area.

TRAFFIC ENGINEERING
TRAFFIC SIGNALS
Main Street Signal: []
Signal Timing: []
Signal Control: []

NOTES
1. This plan was prepared in accordance with the applicable codes and standards of the City of Jacksonville. This plan was prepared in accordance with the applicable codes and standards of the City of Jacksonville.



PLAN APPROVAL
Approved By: []
Stamp By: []
Date Approved On: September 25, 2019

REVISIONS
Revision 1: []
Revision 2: []
Revision 3: []

REVISIONS
1. []
2. []
3. []
4. []
5. []
6. []
7. []
8. []
9. []
10. []

GENERAL PROJECT INFO
Project Name: []
Project Number: []
Zoning Designation: []
Zoning Application Number: []
City Development Number: []
Competition Approval Number: []
Project Approval Number (PAC #): []
Zoning Approval Number: []
Zoning Application Number (if any): []
PUD Ordinance Number: []
PUD Community - Phase: []
Phase Zoning (Show in Plans): []
Base Flood Elev. (Show in Plans): []
Vertical Datum Used for Project: []
SEA Accessibility Number: []
PUD Number: []
City or Private Inspection: []
Public or Private Road: []
Subdivision (if any) Date Proposed: []

JEA FLOW TEST

DATE RELEASE: 08/19/2019 @ 11:30 AM
CONTRACTOR: []
TEST RESULTS: []
TESTER: []
DATE OF TEST: []
NAME OF PUMP: []
TEST PRESSURE (PSI): []
TEST PRESSURE (PSI): []
TEST PRESSURE (PSI): []
FLOW AT 100 GPM: []
FLOW AT 200 GPM: []

PLANS OBSOBEDED UNDER
JEA 2016 STANDARDS

NOTE: IF YOU ARE IN FLORIDA, YOU ARE REQUIRED TO OBTAIN A PROFESSIONAL ENGINEERING LICENSE TO SEAL THESE PLANS.

DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE	REVISION
1	COVER SHEET	
2	GENERAL NOTES	
3	POST DEVELOPMENT GRADING PLAN	
4	EXISTING SITE PLAN	
5	PROPOSED AND EXISTING UTILITIES	
6	PROPOSED AND EXISTING UTILITIES	
7	PROPOSED AND EXISTING UTILITIES	
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99	PROPOSED AND EXISTING UTILITIES	
100	PROPOSED AND EXISTING UTILITIES	

VERTICAL DATUM USED FOR THIS PROJECT: NAVD 1988

ETM
VISION • EXPERIENCE • RESULTS

England-Thing & Teller, Inc.
14778 Old St. Augustine Road
Jacksonville, FL 32258
TEL: (904) 642-8888
FAX: (904) 646-8445
CA - 8000254 LC - 80063 W

COVER SHEET

Stormwater Box

Box on front of plans regarding stormwater requirements, including the requirement to contact EQD for an pre-construction inspection.

STORMWATER

Annual reports in compliance with the SJRWMD stormwater permits are required from the maintenance entity of all stormwater management facilities. Send copies of the reports to:

Engineering and Construction Management
Edward Ball Building, 10th Floor
214 N. Hogan St.
Jacksonville, FL 32202
<http://www.coj.net/Departments/Public+Works/Engineering+and+Construction+Management/>

The owner of any project one (1) acre or larger is required to provide a Notice of Intent (NOI) in accordance with criteria set forth in the city's NPDES permit within 48 hours of beginning construction. Send NOI and NOI fee to:

Florida Department of Environmental Protection
NPDES Stormwater Notices Center, Mail Station #2510
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(866) 336-6312
<http://www.dep.state.fl.us/water/stormwater/rpdes/>

The contractor shall contact Environmental Quality Division, Erosion and Sedimentation Control Section (ESC) to provide verification that applicable stormwater permits have been obtained and to schedule a pre-construction ESC site inspection:

Environmental Quality Division
407 North Laura Street, Third Floor
Jacksonville, FL, 32202
(904) 255-7222

Best contact for plan review meetings and pre-construction inspections is **ESC@coj.net**.

The owner or contractor shall contact EQD, Erosion and Sedimentation Control Section (ESC) by email esc@coj.net to:

- provide verification that all applicable stormwater permits have been obtained prior to commencement of any clearing, grading, or excavation
- schedule a pre-construction ESC site inspection
- submit the NOI 48 hours prior to beginning construction
- seek ESC compliance assistance

EQD Inspections:

Plan Review Meeting

Conducted when you email
esc@coj.net

For example, many plans only call for single row of silt fence around perimeter – but this may not be sufficient depending on surrounding areas.

EQD will look for additional protections outlined in the DEP Manual at stormwater, surface water and wetland adjacent areas to protect against sediment or turbid discharge.

The DEP manual does recommend multiple BMPs in order to protect these sensitive areas.

You should consider scheduling a plan review meeting with EQD staff to review the plans and the site, identifying potential deficiencies. *Projects adjacent to MS4, surface waters, and wetlands are given highest priority.*

- Plan review meetings are not required, but may provide great insight for potential issues.

EQD Inspections:

NPDES - requires **a minimum of 3** inspections:

1. Pre-construction (BMPs installed)
 - Conducted when you email esc@coj.net
2. One mid-construction
3. One final stabilization

Note – projects adjacent to MS4, surface waters, and wetlands are given highest priority and may have additional inspections.



Other EQD Inspections:

Inspections may occur at multiple phases of construction

- Preconstruction
- Clearing and grubbing
- Rough Grading
- Finish grading
- Final Stabilization
- Closeout

Other EQD Inspections may be conducted when:

EQD receives a complaint of construction activity causing off-site impacts, including MS4 illicit discharge investigations

Projects are adjacent to surface waters that EQD is monitoring for various reasons (BMAP, ambient water quality, etc.)

Inspections are necessary after deficiencies are noted in any given inspection, especially if a violation is documented

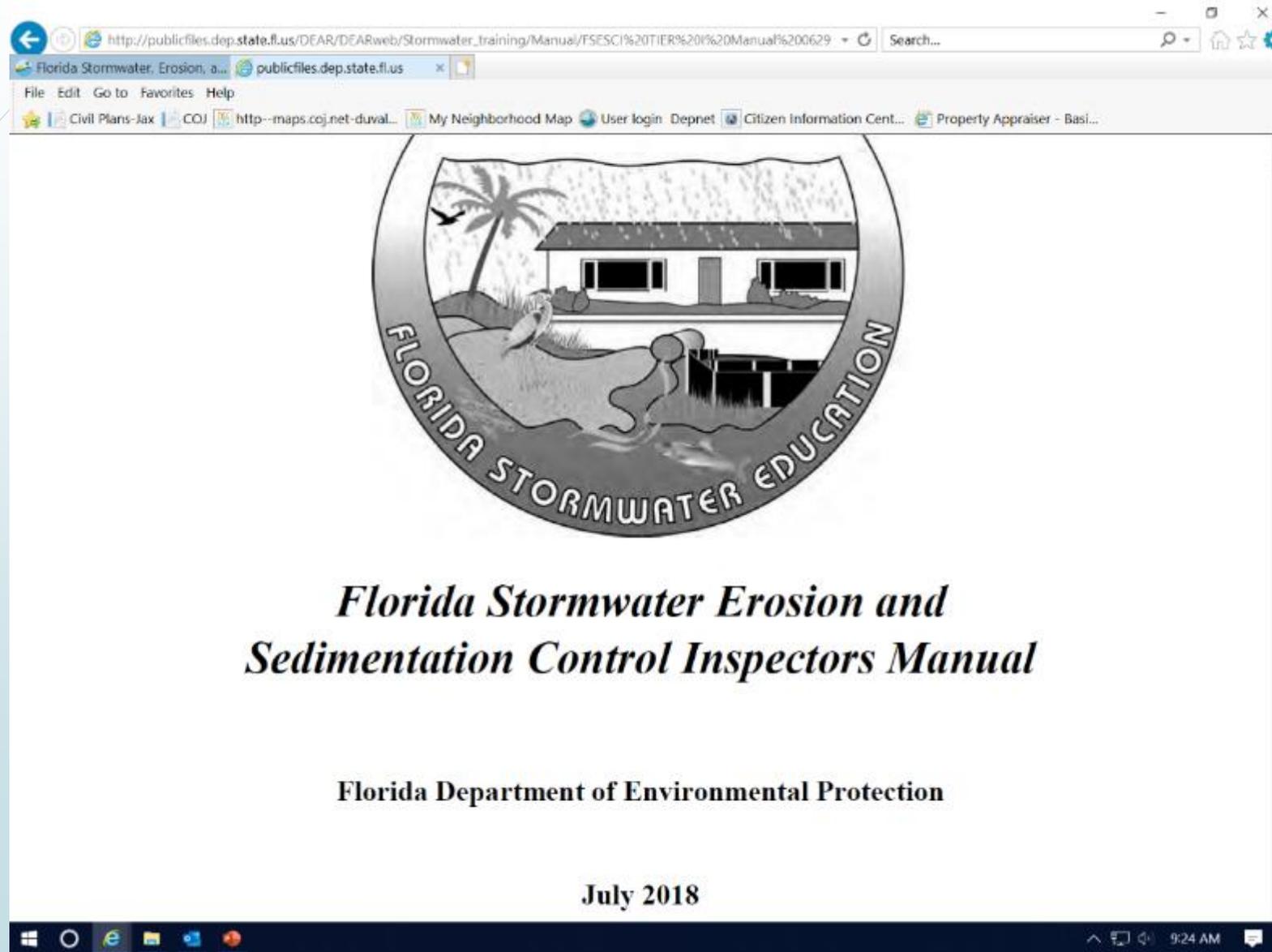
Requested by other agencies, especially the Water Management District or the Department of Environmental Protection for areas adjacent to surface waters or wetlands

Importance of Site Self-Inspections:

- EQD's plan review is only a compliance assistance measure
- **The site owner and operator are responsible for conducting their own inspections throughout all phases of construction**
- Effectiveness of ESC measures is performance based – determined at time of inspection
- Deficiencies noted during self-inspection should be promptly reported to the site engineer



JEPB Rule 3.604 – DEP website for adopted manual:



Silt Fence Poorly Maintained



**Most Commonly Used BMP for
Perimeter Control**

**BLACK WOVEN –
NO GOOD FOR TURBIDITY CONTROL**

Silt fence not appropriate for site



DEP Manual points out that black fabric does not protect against turbidity – recommends *double row* of silt fence and other turbidity controls

3.4.2 Silt Fence

Purpose

The purpose of a silt fence is to slow the velocity of water and retain sediment onsite. It is important to understand that regular black woven silt fencing will not stop turbid water or fine silty particles from going through the fencing and into an adjacent waterway, causing turbidity and other surface water quality compliance issues. ***

Planning Considerations

Silt fences can trap a much higher percentage of suspended sediments than straw bales and are preferable to straw barriers in many cases. The most effective application is to install two parallel silt fences spaced a minimum of three feet apart.

Silt Fence

When silt fence is properly maintained & appropriate for site.





Silt fencing – Has improved!

Black Woven Silt Fence
(FDOT Type III)

Nonwoven – Belted Silt
Retention Fence
(BSRF) Priority I and II

Woven Belted Silt
Fence (WBSF)

Other Perimeter Controls



Staked Turbidity Fencing

- Great for wetland/ surface water adjacent
 - Diversion
- Perimeter control for temporary sediment basin
- **Water will find a way and is typically the path of least resistance.**

Construction Exit Stabilization



Stabilization to prevent track out is outlined with specificity in the manual. Track out is one of the largest contributors to unlawful discharges to stormwater. There are also reusable technologies available such as fods, rumble strips, etc.



3.3 Stabilized Construction Entrances and Exits



Definition

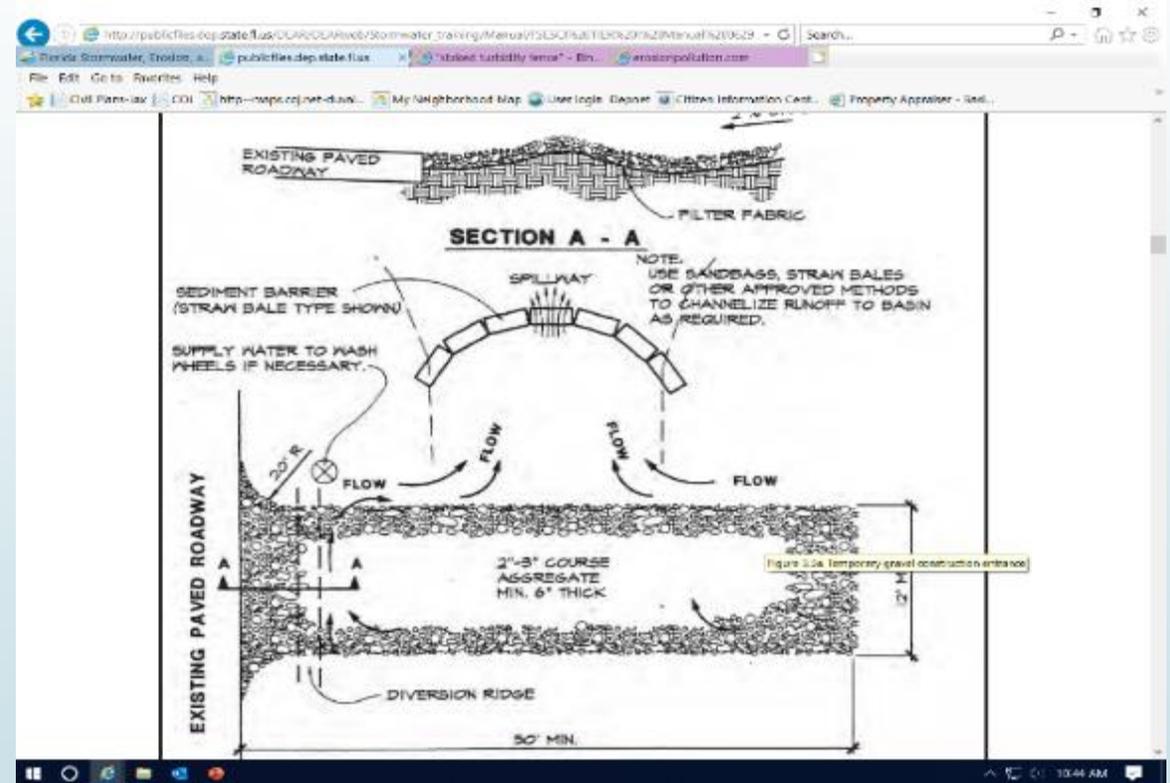
A stabilized pad located at points where vehicles enter and leave a construction site.

Purpose

To reduce the amount of sediment transported onto public roads by motor vehicles or runoff.

Applications

Whenever traffic will be leaving a construction site and moving directly onto a public road or





← F.O.D.S.

MUD MATS →

RUMBLE RACKS

↔



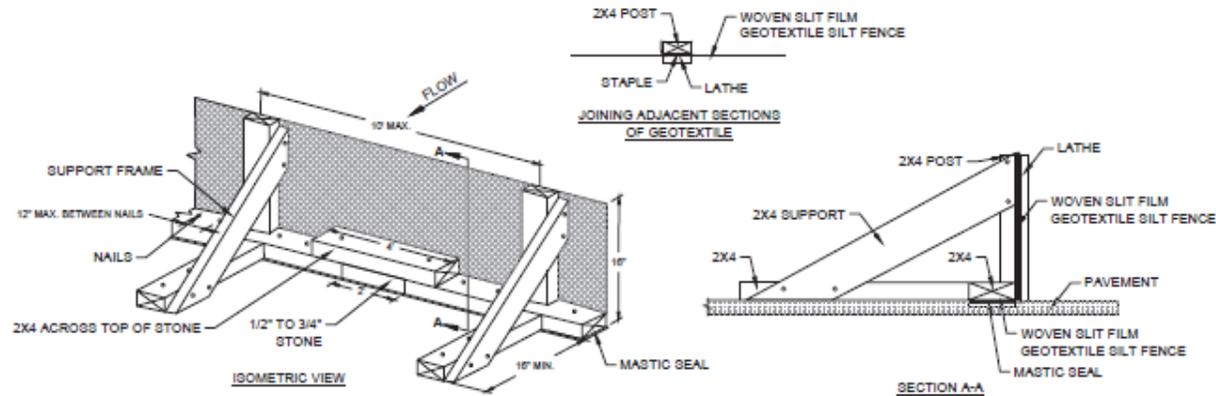
Drain and Inlet Protection

Black fabric and 'gutter buddies' not proving effective in most inspections unless maintained very frequently and there is no risk of turbid discharge.

MS4
Municipal Separate
Storm Sewer System



Simple solutions



TYPICAL SILT FENCE ON PAVEMENT DETAIL

SILT FENCE ON PAVEMENT CONSTRUCTION SPECIFICATION

1. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
2. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
3. KEEP SILT FENCE TIGHT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2X4.
4. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE TO SECURE OVERLAP.
5. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2X4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
6. SECURE BOARDS TO PAVEMENT WITH 40D 5" MINIMUM LENGTH NAILS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.



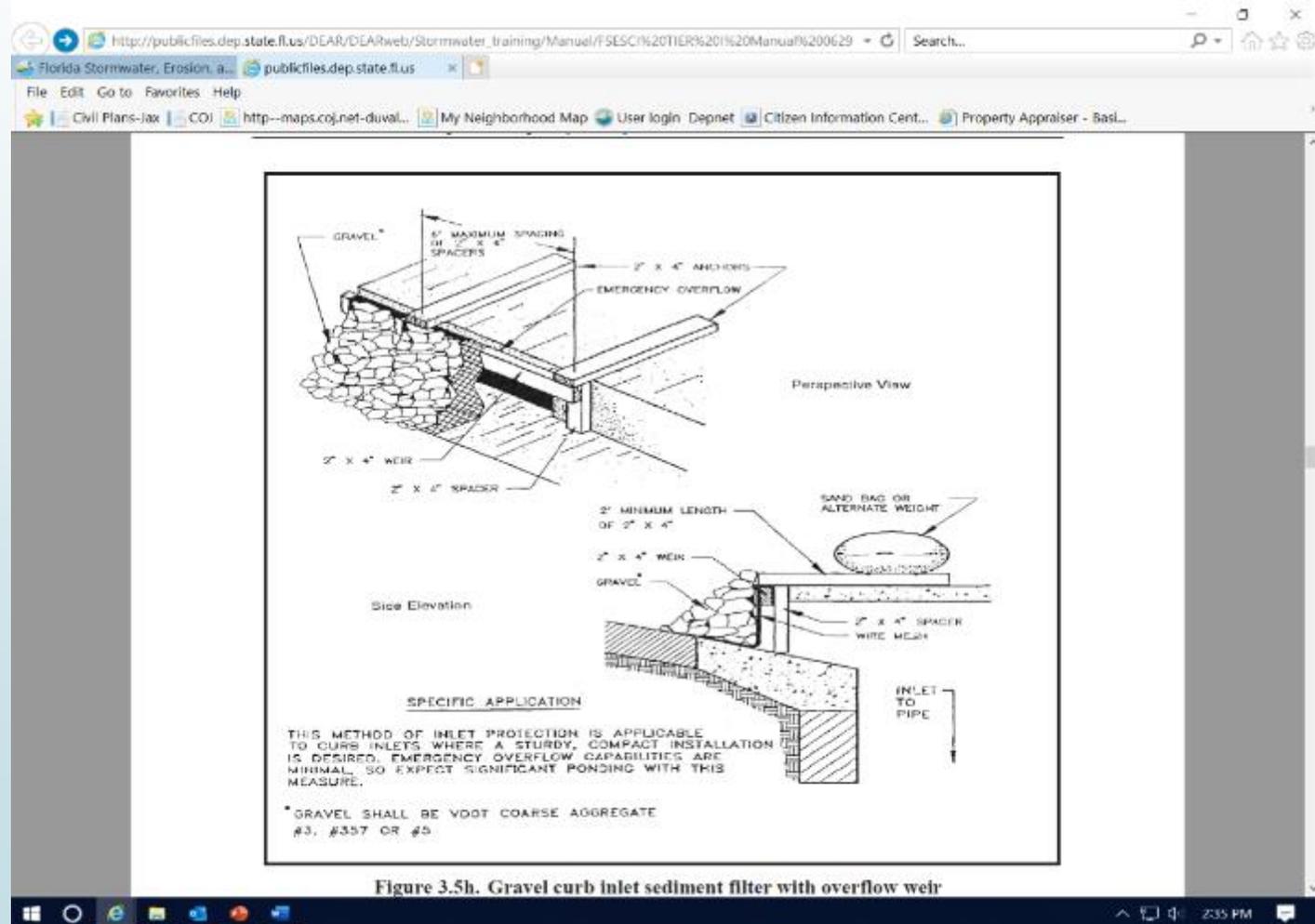
Diversion, wrap, sandbag, etc.
Appropriateness and
installation may differ at each
project.



Diversion, wrap, sandbag, etc. The DEP Manual gives details on appropriateness and installation of different BMPs.

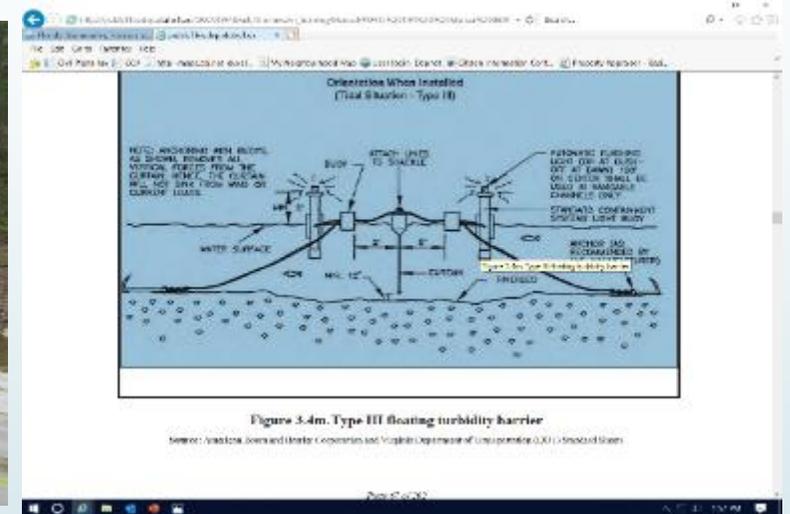


Alternative inlet protection



Turbidity and Dewatering Measures in DEP Manual:

The manual discusses multiple turbidity protection methods including proper design, construction and installation, using diversion, and sheeting of earthen measures such as ditches, basins and berms to prevent that material becoming a source of turbid discharge.





< Type 1

Type II or III >

Poorly
maintained
turbidity
curtains





Measures need to be as advanced and as protective as necessary to prevent off-site impacts, up to and include filter tanks and trucks.



Know your discharge location!



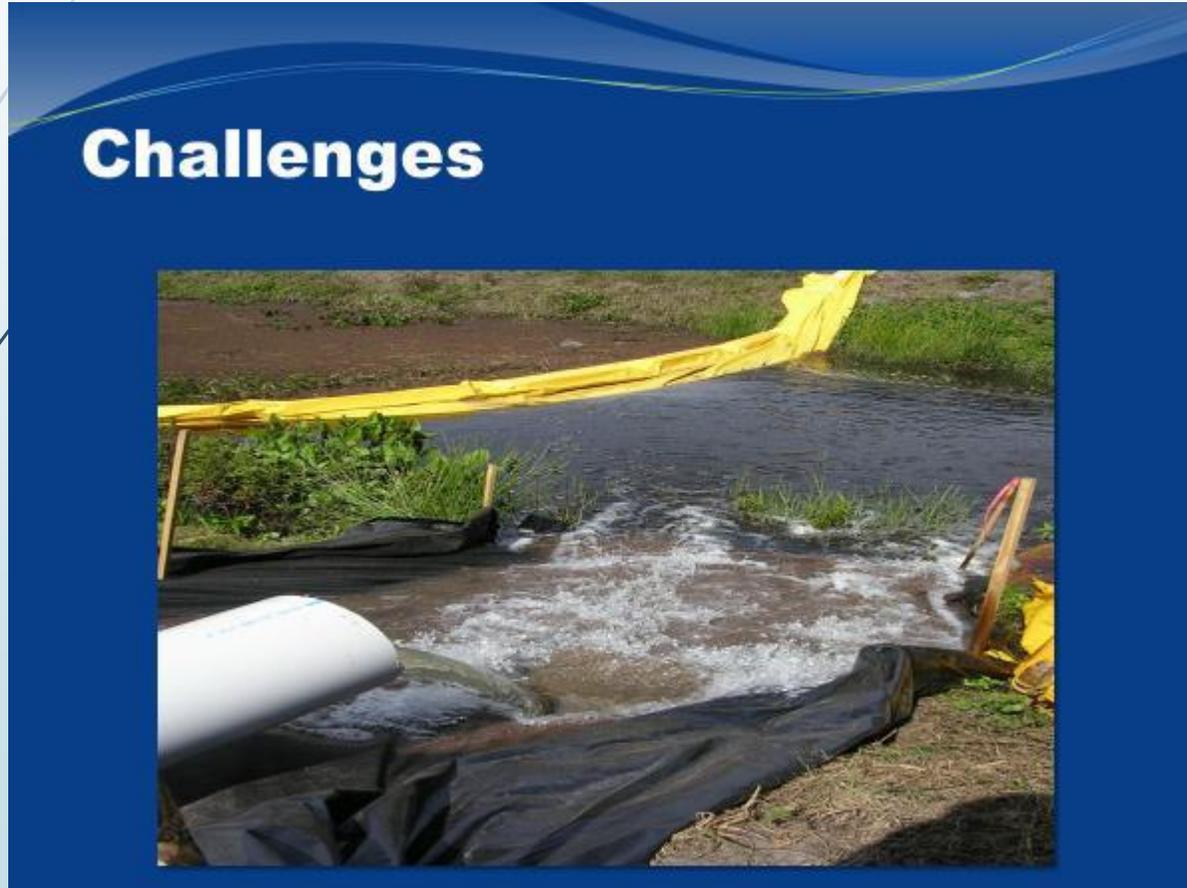
Turbidity!!



Sandbar scouring



Velocity control with sheeting/matting and check dams, etc. EQD has also seen diversion, sheeting, land applied polyacrylamide and, worst case, using a weir truck for confined sites.



Most Cost-Effective
Form of Erosion
Control is Through the
Use of ***Vegetation***





Bad



Better





Land applied polyacrylamide



Turbidity Filtration & Treatments



The link manifold is designed to eliminate the need for open dewatering ditches and allow for water treatment in-line with anionic polyacrylamide(PAM).

Turbidity Filtration & Treatments

PAM Link Logs –
Designed for In-Line Manifolds



Mother Nature will find a way...



QUESTIONS???

Questions on BMP's or the inspection process, please contact:

Patrick Mando
Environmental Quality Division
enforcement@coj.net
(904) 255-7100

Questions on regulations or enforcement process, please contact:

Patricia Gee-Jones
Environmental Quality Division
enforcement@coj.net
(904) 255-7100

Stabilization



Stabilization



Stabilization



Stabilization



Perimeter Control

