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The TCEQ's Construction Storm Water General Permit Update

Presentation to:

City of Killeen Drainage Stakeholder Meeting

April 24, 2013

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Jacobs Engineering

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Agenda

- Overview of Stormwater Permits
- Review of City of Killeen Erosion and Sediment Control Ordinance
- Requirements of 2013 Construction General Permit (CGP) – issued March 5, 2013
- Changes from previous CGP

Acronyms

- BMP – Best Management Practice
- CGP – Construction General Permit
- CWA – Clean Water Act
- EPA – Environmental Protection Agency
- MEP – Maximum Extent Practicable
- MS4s – Municipal Separate Storm Sewer Systems
- NOI - Notice of Intent
- NPDES – National Pollutant Discharge Elimination System
- SWMP – Storm Water Management Plan
- SWPPP - Storm Water Pollution Prevention Plan
- TAC – Texas Administrative Code
- TCEQ – Texas Commission on Environmental Quality
- TMDL – Total Maximum Daily Load
- TPDES – Texas Pollutant Discharge Elimination System

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TPDES Storm Water Permitting

- Multi-Sector General Permits
  - Runoff from Industrial Activities
- Construction General Permits (TXR150000)
  - Must comply with Permit Conditions
- Municipal Separate Storm Sewer (MS4) Permits

Construction Activity

What is Construction?

- Clearing / Grubbing
- Grading
- Excavation
- Similar Activities that Disturb or Expose Soils

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Phase I : Large Construction Sites

- Initial Permitting Effort to Regulate Largest Sources of Pollutants from Construction Site Runoff
- Greater than or Equal to 5 Acres Disturbed
- Includes Small Construction if Part of a Larger Common Plan of Development or Sale
- Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plans required
- Notice of Intent Required
- MS4 Notification Required

Contractors/Operators need to insure storm water management is adequately budgeted!

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Phase II: Small Construction Sites

- EPA Indicated Smaller Sites Substantially Contribute to Pollution
- Greater than or Equal to 1 Acre but Less than 5 Acres Disturbed
- Common Plan of Development Test Applies
- Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plans required
- MS4 Notification required

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Typical Engineer / Designer Role

- Prepare for Design Package:
  - Site Drainage Plan
  - Erosion & Sediment Control Plans
  - Erosion & Sediment Control Specs
  - SWPPP Document (TXR150000, Part III)
  - Design data for NOI

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Permit Applicability

Who applies for permit coverage?

- Operators of Construction Activity May Include:

- Landowner / Developer
- Individual Homeowner
- Contractor
- City/County (owner)
- Individual with Control Over Plans / Specifications
- Subcontractor

City of Killeen Requirements

City of Killeen
Stormwater Management for Construction Activities

- **City of Killeen - Code of Ordinances**
  - Chapter 32 - Municipal Drainage Utility System
    - **Article III – Erosion and Sediment Control (ESC) Ordinance**
      - Ordinance is required by MS4 Phase II permit for TPDES compliance
      - Requires a site disturbance permit
      - Requires that operator submit Erosion and Sediment Control Plan to City
      - Phasing plan required for sites > 20 Ac
      - Includes inspection and enforcement measures

City of Killeen Requirements

Chapter 32

MUNICIPAL DRAINAGE UTILITY SYSTEM

Art. I. Municipal Drainage Utility System, §§ 32-1--32-19
Art. II. Illicit Discharge Prevention and Storm Water Protection, §§ 32-20--32-34
Div. 1. In General, §§ 32-20--32-24
Div. 2. Specific Prohibitions and Requirements, § 32-25
Div. 3. Compliance and Enforcement, §§ 32-26--32-34
Art. III. Erosion and Sediment Control Ordinance, §§ 32-35--32-42

ARTICLE I. MUNICIPAL DRAINAGE UTILITY SYSTEM

Sec. 32-1. Creation of municipal drainage utility.

In the interest of public health and safety and a more efficient and economic operation of drainage facilities of the city, a municipality drainage utility system is created, which shall be a public utility. The rules and provisions of chapter 552, subchapter C of the Texas Local Government Code, as amended which is adopted and incorporated into this chapter by reference, and any other provisions of this code relating to drainage shall govern the operation of the utility. Nothing in this section shall be construed to restrict the city council's ability to make other rules or policies governing the operation of the utility. The city shall have full authority to operate such municipal drainage utility system. Drainage service will be offered on nondiscriminatory, reasonable and equitable terms within the service area. (Ord. No. 01-50, § II, 10-9-01; Ord. No. 09-014, § I, 2-24-09)

Sec. 32-2. Dedication of assets to drainage utility system.

Existing drainage facilities, municipal real, personal, or mixed property, materials and supplies are incorporated in the drainage utility as permitted by section 552.046 of the Texas Local Government Code, as amended. (Ord. No. 01-51, § I, 10-9-01; Ord. No. 09-014, § I, 2-24-09)

Sec. 32-3. Drainage service area.

The service area for the drainage utility fund shall include the corporate limits of the city of Killeen, as those corporate limits are altered from time to time in accordance with state law and the charter and ordinances of the city. (Ord. No. 01-51, § I, 10-9-01)

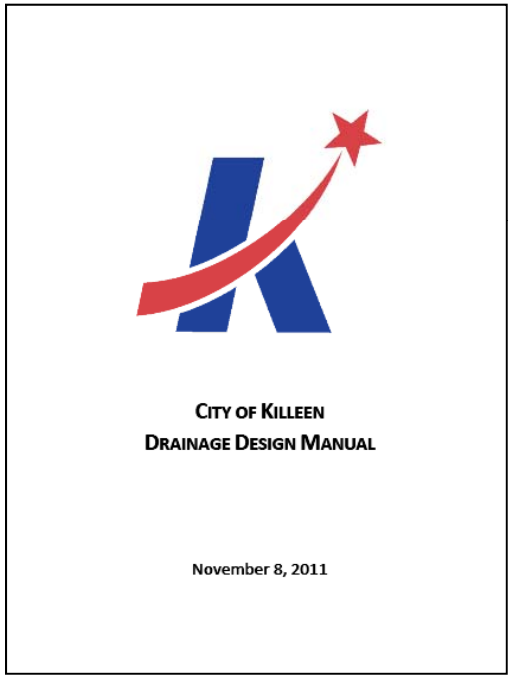
Sec. 32-4. Creation of drainage utility fund.

A separate fund, within the city's fund structure, shall be created as of the effective date of the ordinance, known as the drainage utility fund, for the purpose of identifying and controlling all revenues and expenses attributable to municipal drainage services. All drainage fees collected by the city after the effective date of this ordinance and such other monies as may be available by or to the city for the purpose of drainage shall be deposited in the drainage utility fund. Such

- Effective July 2011
  - One acre of disturbance or larger; includes common plan of development
  - Requires a Site Disturbance Permit and SWP3 (SWPPP or Storm Water Pollution Prevention Plan) –AKA- Erosion and Sediment Control Plan

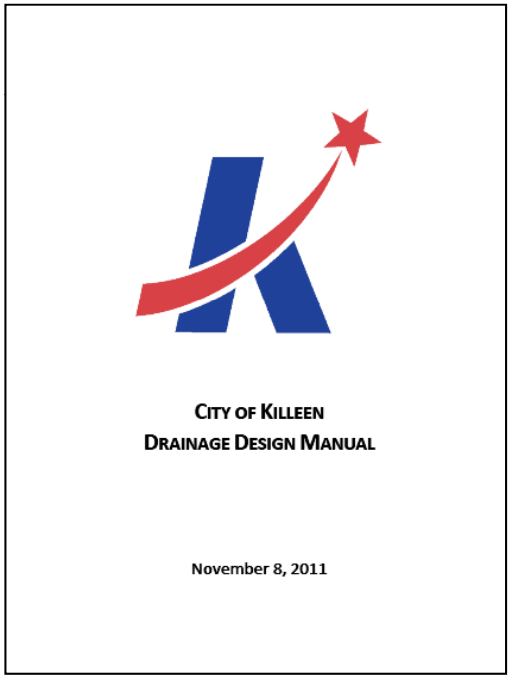
City of Killeen
Drainage Design Manual

- **Appendix B**
  - Establishes a list of approved and industry standard BMPs
  - Guidelines for selection of temporary ESC BMPs
  - Outlines design, installation, inspection and maintenance guidelines



City of Killeen
Drainage Design Manual

- **DDM Appendix B**
  - Erosion and Sediment Control Best Management Practices
    - Construction phasing
    - Temporary water crossings
    - Construction entrance
    - Riprap/Check dams
    - Perimeter controls
      - Silt fencing
      - Erosion Control Socks
    - ESC Matting
    - Final Stabilization



- **Infrastructure Design and Development Standards Manual**
  - also contains details/specs for erosion control practices

Temporary Erosion Control BMPs

- Erosion Control BMPs
  - Interceptor swales
  - Diversion dikes
  - Erosion matting
  - Mulch
  - Vegetation
- Sediment Control BMPs
  - Stabilized construction exit
  - Silt fence/erosion logs
  - Rock berms
  - Sediment trap
  - Vegetative buffers

BMP - Construction Entrance / Exit

BMP - Inlet Protection

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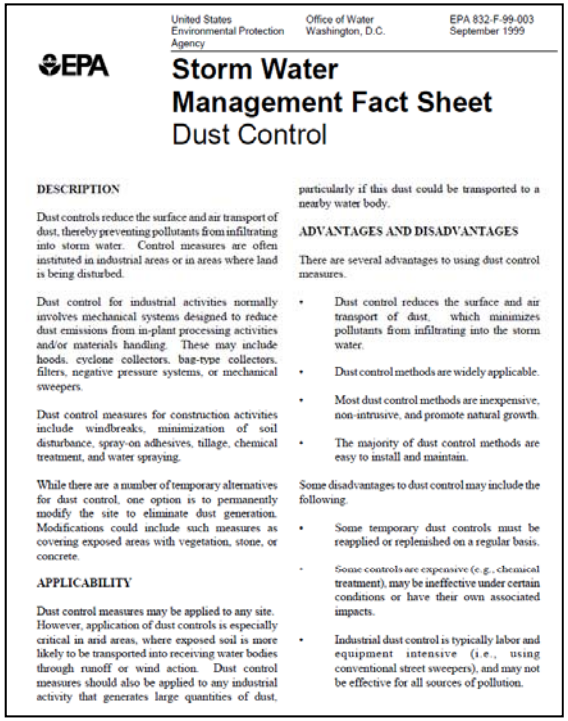
Section 32-36

- **Final Stabilization**… If the homebuilder complies with these requirements, it shall be the duty of the homeowner to ensure final stabilization is achieved within **one year** after the transfer of ownership of the home to the buyer.

Dust Control

- **Section 32-40(e)(5)**
- Best management practices shall be employed to minimize the blowing of dust or sediment from the site



United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA 832-F-99-003 September 1999

EPA

Storm Water Management Fact Sheet
Dust Control

DESCRIPTION

Dust controls reduce the surface and air transport of dust, thereby preventing pollutants from infiltrating into storm water. Control measures are often instituted in industrial areas or in areas where land is being disturbed.

Dust control for industrial activities normally involves mechanical systems designed to reduce dust emissions from in-plant processing activities and/or materials handling. These may include hoods, cyclone collectors, bag-type collectors, filters, negative pressure systems, or mechanical sweepers.

Dust control measures for construction activities include windbreaks, minimization of soil disturbance, spray-on adhesives, tillage, chemical treatment, and water spraying.

While there are a number of temporary alternatives for dust control, one option is to permanently modify the site to eliminate dust generation. Modifications could include such measures as covering exposed areas with vegetation, stone, or concrete.

APPLICABILITY

Dust control measures may be applied to any site. However, application of dust controls is especially critical in arid areas, where exposed soil is more likely to be transported into receiving water bodies through runoff or wind action. Dust control measures should also be applied to any industrial activity that generates large quantities of dust, particularly if this dust could be transported to a nearby water body.

ADVANTAGES AND DISADVANTAGES

There are several advantages to using dust control measures.

- Dust control reduces the surface and air transport of dust, which minimizes pollutants from infiltrating into the storm water.
- Dust control methods are widely applicable.
- Most dust control methods are inexpensive, non-intrusive, and promote natural growth.
- The majority of dust control methods are easy to install and maintain.

Some disadvantages to dust control may include the following.

- Some temporary dust controls must be reapplied or replenished on a regular basis.
- Some controls are expensive (e.g., chemical treatment), may be ineffective under certain conditions or have their own associated impacts.
- Industrial dust control is typically labor and equipment intensive (i.e., using conventional street sweepers), and may not be effective for all sources of pollution.

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Section 32-40(f)

- Sediment control requirements shall include the following best management practices:
  - (1) Perimeter controls;
  - (2) Settling basins, sediment traps or tanks that are designed in a manner that shall allow adaptation to provide long-term storm water management, if required by this code or state or federal regulations; and/or
  - (3) Protection for adjacent properties through the use of a vegetated buffer strip in combination with other perimeter controls or best management practices to include, without limitation, practices that ensure compliance with title 30, Texas Administrative Code, section 305.541 (*Effluent guidelines and standards*), as amended.

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Erosion & Sediment Control Ordinance

- **Section 32-42 (a) Administrative Enforcement Remedies**

(1) General
(2) Warning Notice
(3) Notification of Violation
(4) Consent Orders
(5) Compliance Orders
(6) Stop Work Orders
(7) Revocation of Construction Registration, Appeals per 8-69 and 8-72

Erosion & Sediment Ordinance

Section 32-42 (b). Judicial Enforcement Remedies

(a) Civil Remedies

- $5,000 per day

(b) Injunction

Section 32-42 (c). Criminal penalties

(a) Class C Misdemeanor

(b) $2,000 fine

(c) Remedies nonexclusive

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City of Killeen
Erosion Control Compliance for Construction

- **Permit Compliance Tracking for all Construction Sites**
  - Project (plat)
  - Location
  - Owner/Developer
  - Contractor/Builder
  - Site Disturbance Permit
  - SWPPP
  - Erosion & Sediment Control Plans
  - NOI, NOC, NOT
  - Inspector/Inspection Dates
  - Acceptance/Maintenance
  - Investigations

2013 Changes to the Texas CGP

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TPDES Construction General Permit Renewal Timeline

- EPA finalized their new NPDES permit on February 16, 2012
- TCEQ began their renewal process in September 2010 (18 months in advance of deadline)
- First stakeholders meeting was held on February 21, 2012
- Comment period on new permit began on October 12, 2012 and ended on November 11, 2012
- Public Meeting held on November 11, 2012
- The current TPDES CGP permit became effective on March 5, 2013

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Principal Changes to TPDES CGP

Added effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT).

Revised the section entitled “Impaired Receiving Waters and Total maximum Daily Load (TMDL) Requirements” to address discharges to impaired water bodies listed in accordance with Section 303(d) of the Clean Water Act.

Clarified that on-site disposal of wash out water from concrete trucks may be authorized under this permit, provided that certain requirements are met and the wastewater is properly contained on site and there is no discharge to surface waters. Rinsing only, no detergents.

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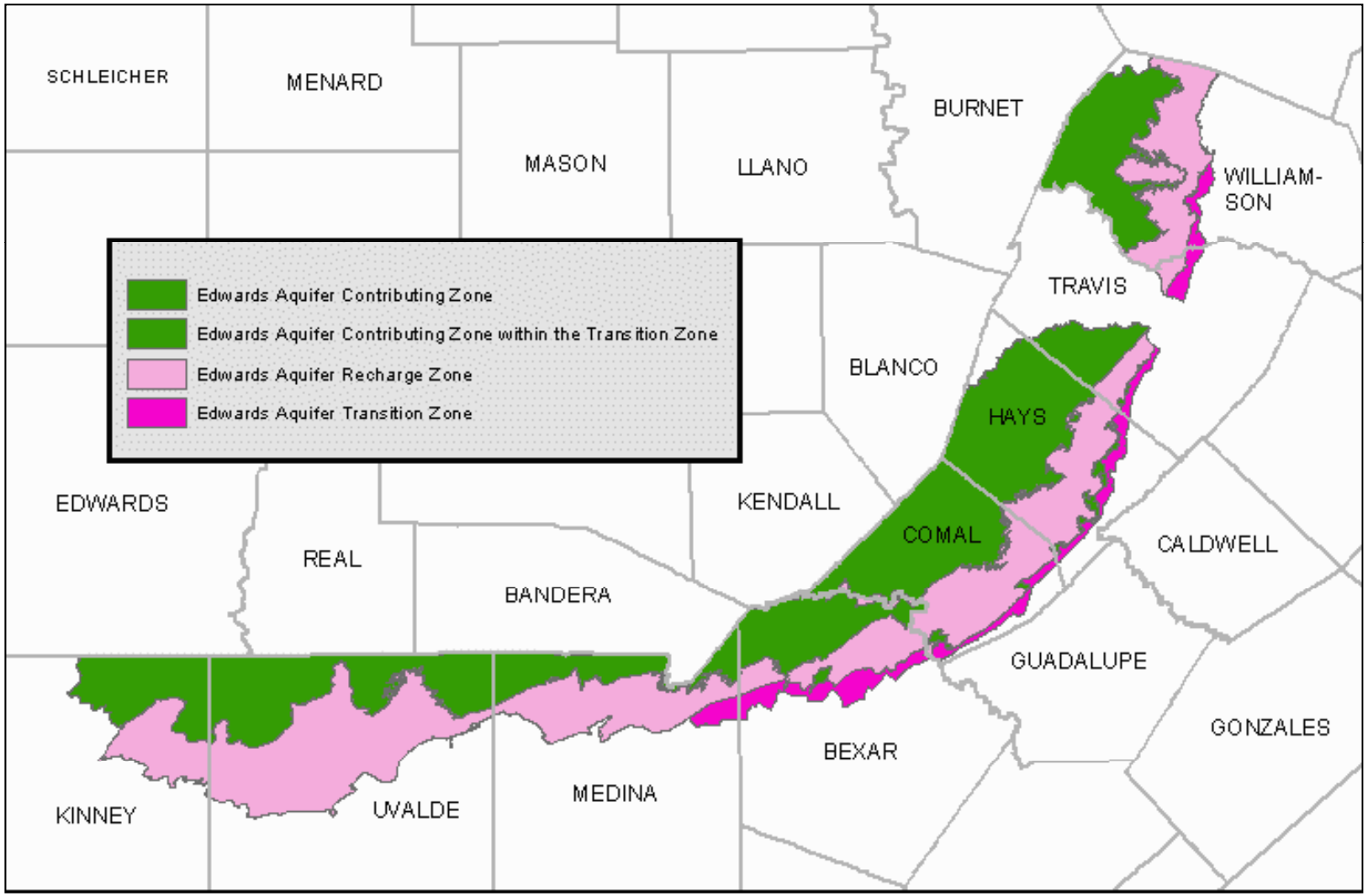
Principal Changes to TPDES CGP

Revised the definition of secondary operator to clarify the conditions under which an individual would be considered a secondary operator.

Removed requirements for construction operators located in the Edwards Aquifer recharge and contributing zones to submit copy of NOI or site notice to the TCEQ regional office.

Updated the erosivity indices for EI zones in Texas (Appendix D)

Regulatory Boundary of Edwards Aquifer Contributing Zone



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Impaired Receiving Water & TMDL Requirements

- Expanding Language in this section of the permit

- Construction Sites discharging to a water quality impaired water body, where the impairment is caused by storm water, will be required to
  - Comply with control requirements in the TMDL or Implementation Plan
  - If no TMDL (listed only as impaired), required to address pollutants of concern

- http://www.tceq.texas.gov/assets/public/compliance/monops/water/10twqi/2010_303d.pdf

Changes in 2013 TPDES CGP

- Allows construction sites in drought stricken areas to inspect erosion control devices once a month. Permit already has this language for arid and semi-arid regions.

- Revised definition of final stabilization to include the requirement for the home builder to retain documentation of site stabilization in the SWPPP

- Extended allowance for the land disposal of concrete truck washout water to concrete batch plants located at the construction site. Rinsing only, no detergents.

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Changes in 2013 TPDES CGP

Concrete Truck Wash Out

- Direct discharge of wash out water to surface water is prohibited
- Wash out water shall be discharged to areas where structural controls have been established. These controls include temporary berms, shallow pits, storage tanks with slow release, or other reasonable measures.
- Minimize wash out during rain events
- Discharge of washout water must not cause or contribute to groundwater contamination

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Changes in 2013 TPDES CGP

- Removed the requirement for the primary operator to post a copy of the NOI at the construction site entrance. Previous permit required the NOI and the site notice be posted.

- Small construction site waiver effective date.
  - Revised so that coverage begins seven (7) days from the postmarked date to TCEQ. Previously this was 48 hours.
  - Electronic submittal through STEERS will provide immediate coverage.

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Changes in 2013 TPDES CGP

Added the limitation that discharges that would adversely affect a listed endangered or threatened species or its critical habitat are not authorized by the general permit, and site specific controls may be required to ensure that protection of endangered or threatened species is achieved.

Added definitions of Construction Activity, Drought-Stricken Area, Effluent Limitations Guideline, Impaired Water, TMDL, Linear Project, and Turbidity.

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Changes in 2013 TPDES CGP

- The construction site notice template was be removed from the permit and will be stand alone. This will allow for the form to be updated without having to update the CGP.

- BMPs required for all sites. Added narrative BMPs in Section G. Includes erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and surface outlets.
  - Best Practicable Technology (BPT) standard

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Best Practicable Technology (BPT) standards

Erosion and Sediment Controls

- Control storm water volume and velocity
- Control storm water discharges (peak and total volume) to minimize erosion at outlets, down stream channel, and stream bank erosion
- Minimize soil exposure during construction
- Minimize disturbance of steep slopes
- Minimize sediment discharges from site
- Provide and maintain natural buffers around surface waters, direct flow to vegetated areas, unless infeasible
- Minimize soil compaction and preserve top soil

Best Practicable Technology (BPT) standards

Soil Stabilization

- Must be implemented immediately when activities have ceased on any portion of the site, or temporarily ceased and will not resume within 14 calendar days.
  - Previously had 21 days to implement (i.e. 14/21 day rule)
- Alternate stabilization must be implemented in arid, semi-arid, and drought stricken areas as specified by the permitting authority.

Dewatering

- Dewatering activities are prohibited unless managed by appropriate measures.

Best Practicable Technology (BPT) standards

Pollution Prevention Measures

- Minimize discharges of wash waters without treatment
- Minimize exposure to building materials, waste, fertilizers, pesticides, sanitary waste, etc. to precipitation and storm water
- Minimize discharges from spills and leaks and implement chemical spill and leak prevention and response procedures
- Prohibited discharges include concrete washout water, form oils, curing compounds, fuels, oils, soaps, and solvent

Surface Outlets

- When discharging from basins, use outlet structure that discharges from the surface, unless infeasible

Additional Requirements in EPA CGP

- There is a misunderstanding that TCEQ must follow all items in the new EPA CGP. TCEQ is only required to meet or exceed language of the actual rules/laws/regulations.
  - Presenting some of the additional requirements in EPA CGP as reference
  - Not currently in Texas CGP but may be added during next permit reissuance in March 2018

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The Controversy over EPA Effluent Limit Guidelines (ELGs)

Effluent guidelines are national standards that apply to:

- storm water discharges to surface waters
- wastewater discharges to POTWs

EPA issues effluent guidelines for categories of existing sources and new source under Title III of the Clean Water Act to control pollution from these sources.

- The standards are based on the performance of treatment and control technologies

Numeric Effluent Limit Originally Proposed

- December 2009 EPA proposed the daily average Turbidity of 280 NTU (Nephelometric Turbidity Units)

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ELG Timeline

August 2010 – Due to court case protesting the limit, EPA decided to vacate the numeric limit and proposed to revise it at a later date

November 2010 – TCEQ adopted this rule by reference in 30 TAC 305.541

January 2011 – EPA officially stayed the effluent ELGs

January 2012 – EPA published in the Federal Register a notice requesting additional data on the performance of technologies in controlling turbidity in storm water discharges from construction sites

February 16, 2012 – EPA renewed the NPDES Construction General Permit without the ELGs

April 2013 – EPA issues official withdraw of ELGs in Federal Register

Additional Requirement in EPA CGP

- Construction operators are required to follow the procedures for determining eligibility related to the protection of listed endangered or threatened species and their critical habitat and to the consideration of impacts to historic properties.

- Buffer requirements in the EPA CGP were not added to the TCEQ CGP. EPA has a 50 foot buffer between construction and water body. Must have natural vegetation and/or additional control devices.

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Additional Requirement in EPA CGP

- Site inspection frequency changes. Storm size has been decreased from 0.5 inch storm event to a 0.25 inch storm event for those choosing to use a storm-based inspection schedule.
  - TCEQ chose to retain the 0.5 inch storm for inspection trigger

- Construction exits. Requiring more than just track out pads if those alone do not limit sediment from leaving the site. Must remove any sediment on the streets the same day.

- Maintenance requirements - work to fix problems must begin on the day they are discovered and completed by the next day.

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Questions?

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