Transportation *integrated* Stormwater Management (TriSWM) Guide

TriSWM Background

- Originally released as an appendix of the 2006 iSWM™ Design Manual for Site Development
- Updated and added as Appendix A of the iSWM Criteria Manual for Site Development and Construction
- Replaces certain sections of the iSWM™ Criteria Manual for planning and design of stormwater controls for streets and roadways
- Developed in partnership with NCTCOG's Transportation Department

TriSWM Purpose

- Apply iSWM principles to the planning and design of stormwater management facilities for streets and roadways in DFW
- Provide guidance to local governments and transportation agencies
- Includes planning tools and criteria to manage the quality and quantity of runoff

Why TriSWM?

- Runoff from streets and roadways contain pollutants including oil, grease, metals, nutrients, and particulates
- State and federal regulations require local governments and transportation agencies to control pollution in stormwater runoff
- Development of transportation infrastructure increases runoff quantity potentially causing flooding and streambank erosion

TriSWM Benefits

- Water Quality Protection:
  - Establishes treatment requirements based on projected traffic volume and environmental factors
- Streambank Protection:
  - Determines potential impacts and establishes criteria for protection
- Flood Control:
  - Determines potential impacts and provides flood impact reduction measures

Compatibility with iSWM

- Significant part of iSWM Criteria Manual applicable to development of streets and roadways
- TriSWM replaces Chapters 1 and 2 (Overview and *integrated* Development Process)
- TriSWM modifies Water Quality Protection section in Chapter 3 (*integrated* Design Criteria)

Water Quality Treatment Levels

Traffic Volume	Receiving Water / Riparian Area Susceptibility		
	Minimal	**Moderate**	**High**
Low (<30,000 VPD)	Level I	Level I	Level II
High (>30,000 VPD)	Level I	Level II	Level III

High	• Exceptional Quality Aquatic Habitat (TCEQ) or Endangered/Protected Species Habitat (TPW) • Proximity to drinking water supply
Moderate	• Three or more designated uses on the Texas Surface Water Quality Standards, or any perennial stream not classified • Wetlands receiving more than 10% of total flow from project
Minimal	• All receiving waters not categorized above

Level I Treatment

- Program of scheduled P2 practices (street sweeping, storm drain inlet cleaning, etc.)
- Off-site practices (regional detention, Dallas CBD sumps, etc.)
- Grass channels
- Filter strips
- Gravity (oil-grit) separator
- Porous concrete / Porous paver systems

Level II Treatment

- Enhanced swales
- Bioretention areas
- Dry detention
- Extended detention dry basins
- Supplement with any Level I BMPs

Level III Treatment

- Organic filter
- Sand filter, Underground sand filter
- Infiltration trenches
- Stormwater (wet) ponds
- Stormwater wetlands
- Alum treatment systems (used as pretreatment in conjunction with wet pond)
- Supplement with any Level I and II BMPs

Outreach

- Updated iSWM website:
  - Revised iSWM Criteria page
  - TriSWM Guide page
  - TriSWM brochure
  - Water Quality for Street Design Workshop training archive (to be posted when available)

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