



Environmental Training to FTE

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8/28/2020



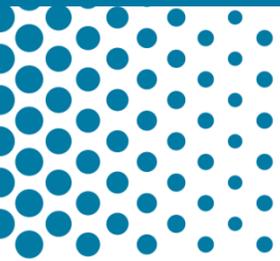
The environmental review, consultation, and other actions required by applicable federal environmental laws described in this training are carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 executed by FHWA and FDOT.



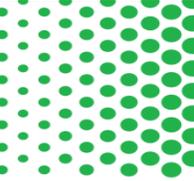
Outline

- Topic 1: Water Resources
- Topic 2: Floodplains
- Topic 3: Aesthetics
- Topic 4: Air
- Topic 5: Contamination
- Topic 6: Utilities

Water Resources



Overview of Water Resources



Water resources are protected by:

- National Environmental Policy Act (NEPA)
- Clean Water Act (CWA)
- Section 373.4596 Florida Statutes (F.S.)

FDOT PD&E Manual Part 2, Chapter 11 provides procedures for compliance with applicable federal, and state laws and regulation regarding water resources.

Overview of Water Resources (Stormwater Related)

- **Surface Water**

Rivers, lakes, streams, oceans, special designations (such as Outstanding Florida Waters, aquatic preserves)



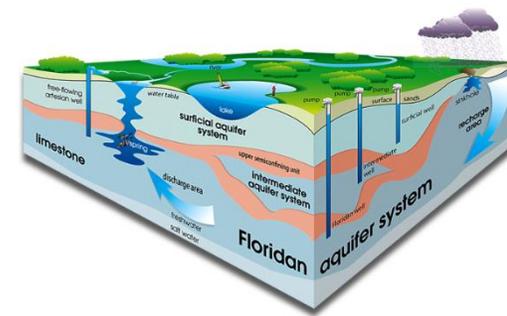
Example: surface water

- **Groundwater**

Aquifers, sole source aquifers, springsheds

- **Wetlands and Other Surface Waters**

The chapter does not cover impacts to wetlands and other surface water impacts not related to stormwater.



Example: Floridan aquifer

Procedure Overview

Project impacts to water resources must be evaluated regardless of whether the project is required to meet federal or state environmental review requirements.

Water quality impact evaluation is done through completing a *Water Quality Impact Evaluation Checklist*. The evaluation is required only for projects which qualify for screening through the FDOT Efficient Transportation Decision Making (ETDM) process.

Level of water quality impact evaluation depends on:

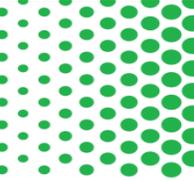
- involvement with water resources,
- quality of the water resources,
- potential impacts,
- the potential for implementing non-traditional water quality improvements,
or
- impacts to Sole Source Aquifers (SSAs).

Regulatory Agencies and Stakeholder Coordination

- State and Federal agencies and local and regional stakeholders
- If applicable, coordinate with Basin Management Action Plan (BMAP) and Reasonable Assurance Plan (RAP) stakeholders such as FDEP.
- Early coordination through the Planning Phase and Efficient Transportation Decision Making (ETDM) process
 - ◆ The goal is to identify potential water resources issues and to explore opportunities for joint stormwater projects that can address those issues with stakeholders.
 - ◆ Environmental Technical Advisory Team (ETAT)



Environmental Look Around (ELA)



- The Environmental Look Around (ELA) is a process to obtain current water resource information by proactively looking for opportunities for joint stormwater management projects with agencies and stakeholders.
- Anticipated actions of the ELA process include:
 - Explore watershed-wide stormwater needs, and
 - Explore innovative approaches to meeting permit requirements.
- Project Manager should convene ELA meetings after the stormwater management requirements are estimated and before stormwater design decisions are established.
- For additional information: FDOT Drainage Manual, Topic No. 625-040-002.

Projects Not Qualifying for ETDM

Documentation must demonstrate the proposed project has no significant effect on water quality.

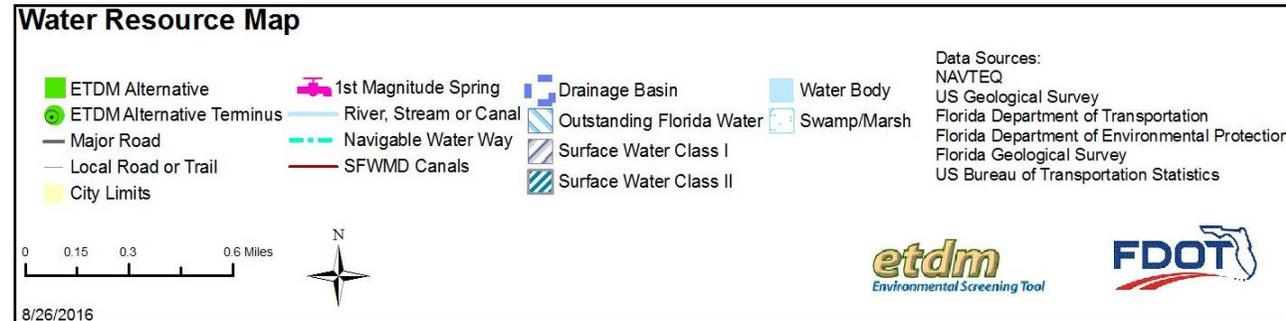
- **Non-Major State Action**

- Verify that there are no water quality resources affected by the project. See Part 1, Chapter 10, State, Local, or Privately Funded Project Delivery for more guidance.

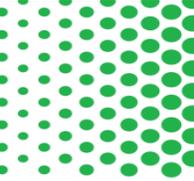
Projects Qualifying for ETDM Screening

Qualifying projects must complete the ETDM screening.

- **Planning Screen** – Preliminary Environmental Discussion identifies potential resources.
- **Programming Screen** – Include District Drainage Engineer and permit coordinator to explore opportunities for stormwater treatment, and use ETDM screening results to scope the water quality evaluation effort in the PD&E Study.



Information Identified During ETDM



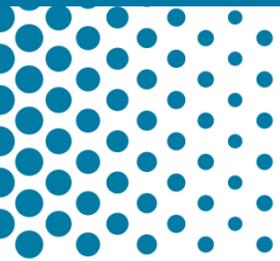
Surface Water

- Identification of surface waterbody to which the stormwater ultimately discharges.
- Any special designations of receiving water bodies (OFW, Aquatic Preserve).
- Whether the project is within a permitted MS4.
- WBIDs in which the project is located, and associated DEP Group Number and Name.
- WMD in which the project is located.
- Water Control District.
- Waterbody Classification.
- Listing status - whether the WBID is identified as impaired, has a TMDL and/or BMAP or RAP.
- The appropriate numeric nutrient standard for the waterbody, if applicable.
- If project discharges to a waterbody identified as impaired, identify the pollutant(s) of concern, numeric criteria or TMDL (whichever applies).

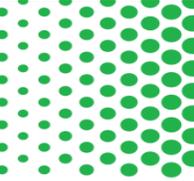
Ground Water

- Groundwater recharge mechanism.
- Identification of the aquifer where the project is located.
- Identification of sole source aquifers (SSA).
- Potentially affected springsheds.
- Whether the potentially affected spring has a BMAP or RAP plan.

Water Quality Impact Evaluation



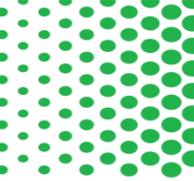
Water Quality Impact Evaluation Checklist



Purpose

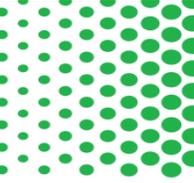
- Identify and characterize existing water resources in project area,
- Assess project's potential impacts to water resources,
- Identify and evaluate mitigation measures,
- Document coordination.

Water Quality Impact Evaluation Checklist



- Process
 - Convene Environmental Look Around (ELA) meeting prior to completing Checklist.
 - Complete Checklist based on outcome of ELA meeting.
 - Use Checklist to guide drainage design
 - Complete Checklist prior to finalizing pond siting analysis.
- Checklist is required for each Alternative (if more than one Alternative is analyzed in detail), unless the Alternatives are in the same drainage basin.
- Summarize results in environmental document and Preliminary Engineering Report.

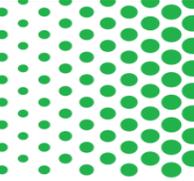
Water Quality Impact Evaluation Checklist



The Checklist has five parts:

- 1: Project Information
- 2: Scope
- 3: Basin / Receiving Water Characteristics
- 4: Water Quality Criteria
- 5: Documentation

Part 1 – Project Information



- Provide general project identification
 - Name
 - County
 - Project Numbers
 - Description

PART 1: PROJECT INFORMATION	
Project Name:	
County:	
FM Number:	
Federal Aid Project No:	
Brief Project Description:	

Part 2 - Scope

- Determine if the project...
 - Discharges to surface or ground water
 - Alters the drainage system
 - Is located in a Municipal Separate Storm Sewer System (MS4)

PART 2: DETERMINATION OF WQIE SCOPE

Does project discharge to surface or ground water? Yes No

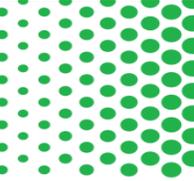
Does project alter the drainage system? Yes No

Is the project located within a permitted MS4? Yes No

Name:

If the answers to the questions above are no, complete the applicable sections of Part 3 and 4, and then complete the WQIE by checking Box A in Part 5.

Part 3 – Basin and Receiving Water Characteristics



- Receiving waters
- Water Management District
- ELA meeting and notes
- Water Control District
- Springshed / recharge area
- Sole Source Aquifer (SSA)
- Other aquifers
- Spring vents
- Wellhead Protection Area
- Groundwater recharge areas
- Karst conditions / District Drainage Engineer coordination

PART 3: PROJECT BASIN AND RECEIVING WATER CHARACTERISTICS

Surface Water
Receiving water(s) names: _____
Water Management District: _____
Environmental Look Around meeting date: ____/____/____
Attach meeting minutes/notes to the checklist.

Water Control District Name (list all that apply): _____

Is the project located within a springshed or recharge area? Yes No

Ground Water
Sole Source Aquifer (SSA)? Yes No Name _____
If yes, complete Part 5, D and complete SSA Checklist from EPA website (**Figure 11-2**)

Other Aquifer? Yes No Name _____

Springs vents? Yes No Name _____

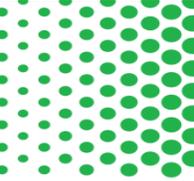
Well head protection area? Yes No Name _____

Groundwater recharge? Yes No Name _____

Notify District Drainage Engineer if karst conditions are expected or if a higher level of treatment may be needed due to a project being located within a WBID verified as Impaired in accordance with Chapter 62-303, F.A.C.

Date of notification: ____/____/____

Part 4 – Water Quality Criteria



- List all Water Body IDs
- Complete Tables 1 and 2 (further explained on next slide)
- Identify ETDM recommendations and Environmental Screening Tool (EST) analysis
- Identify if stakeholders contacted
- Attach documentation from Environmental Look Around (ELA) process
- Describe effects (turbidity, sedimentation, runoff increase, water quality change)
- Identify if more stringent criteria exist for Outstanding Florida Water (OFW) designation.

PART 4: WATER QUALITY CRITERIA

List all WBIDs and all parameters for which a WBID has been verified impaired, or has a TMDL in [Table 1](#). This information must be updated during each Reevaluation.

Note: If BMAP or RAP has been identified in [Table 1](#), [Table 2](#) must also be completed.

EST recommendations confirmed with agencies? Yes No

BMAP Stakeholders contacted: Yes No

TMDL program contacted: Yes No

RAP Stakeholders contacted: Yes No

Regional water quality projects identified in the ELA Yes No

If yes, describe:

Potential effects associated with project construction and/or operation identified? Yes No

If yes, describe:

Discuss any other relevant information related to water quality.

Attach notes or minutes from all coordination meetings identified in [Table 2](#).

Part 4 – Table 1

- Water Body names, numbers
- Classification, and Special Designations
- Numeric Nutrient Criteria (NNC)
- Impaired status
- Total Maximum Daily Load (TMDL) status
- Pollutants of concern
- Basin Management Action Plan (BMAP) / Reasonable Assurance Plan (RAP) / Site Specific Alternative Criteria (SSAC)

TABLE 1: WATER QUALITY CRITERIA

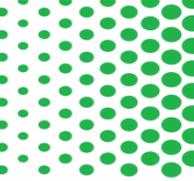
Receiving Waterbody Name (list all that apply)	FDEP Group Number / Name	WBID(s) Numbers	Classification (I,II,III,IIIL,IV,V)	Special Designations*	NNC limits**	Verified Impaired (Y/N)	TMDL (Y/N)	Pollutants of concern	BMAP, RA Plan or SSAC

* ONRW, OFW, Aquatic Preserve, Wild and Scenic River, Special Water, SWIM Area, Local Comp Plan, MS4 Area, Other

** Lakes, Spring vents, Streams, Estuaries

Note: If BMAP or RAP has been identified in [Table 1](#), [Table 2](#) must also be completed.

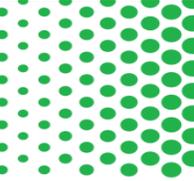
Part 4 – Table 2



- Summarize coordination efforts with stakeholders
- Indicate if FDOT is a stakeholder
- Identify if additional coordination is needed after PD&E phase

Receiving Water Name (list all that apply)	Contact and Title	Date Contacted	Follow-up Required (Y/N)	Comments

Part 5 - Documentation



- Identify water quality involvement (check box).
- Document EPA coordination
- Attach supporting documentation.
- Sign and date form.

PART 5: WQIE DOCUMENTATION

- A. No involvement with water quality
- B. No water quality regulatory requirements apply.
- C. Water quality regulatory requirements apply to this project (provide Evaluator's information below). Water quality and quantity issues will be mitigated through compliance with the design requirements of authorized regulatory agencies.
- D. EPA Ground/Drinking Water Branch review required. Yes No
Concurrence received? Yes No
If Yes, Date of EPA Concurrence: ___/___/___ (Attach the concurrence letter)

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

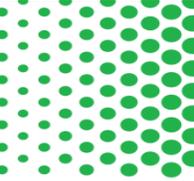
Evaluator Name (print):

Title:

Signature:

Date:

Environmental Document

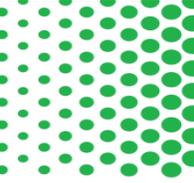


- In the environmental document, summarize
 - water resources involvement,
 - water resources impacts
- Summarize stormwater features, such as ponds, needed to address water resource impacts
- State whether project will meet criteria and requirements for:
 - stormwater quantity
 - Stormwater quality
- Maintain Water Quality Impact Evaluation Checklist in project file

Commitments

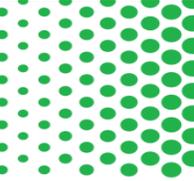
- Refer to Part 2, Chapter 22, 11.2.3.3.3 for guidance
- Permit conditions
- Basin Management Action Plan (BMAP) / Reasonable Assurance Plan (RAP) commitments
- Environmental Look Around (ELA) commitments
- Other actions required to advance the project
 - Contractor actions
 - Retrofitting structures to increase water quality treatment
 - Building water quality improvement features
 - Actions to increase or improve water quality treatment
 - Hydrologic enhancement
 - Recharge or reuse projects
- Continued coordination with water resource agencies
- Commitments must be coordinated with other FDOT offices

Permits

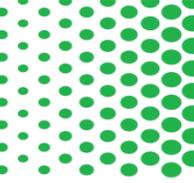


- Refer to PD&E Manual, Part 1, Chapter 12 procedures for obtaining permits.
- National Pollutant Discharge Elimination System (NPDES)
 - Statewide Stormwater Management Plan (SSWMP)
- Total Maximum Daily Load (TMDL)
 - Basin Management Action Plan (BMAP)
 - Reasonable Assurance Plan (RAP)
- Environmental Resource Permit (ERP)

National Pollutant Discharge Elimination System (NPDES)



- Established by the federal Clean Water Act (CWA).
- Regulates water pollution caused by Municipal Separate Storm Sewer Systems (MS4s) and small construction activity disturbing between 1 and 5 acres.
- NPDES permit program is administered by Florida Department of Environmental Protection (FDEP).
 - Different from Environmental Resource Permit (ERP) program
- FDOT is a regulated MS4 operator and has a **Statewide Stormwater Management Plan (SSWMP)** which defines actions / methods / procedures to reduce pollutant discharge.



Statewide Stormwater Management Plan (SSWMP)

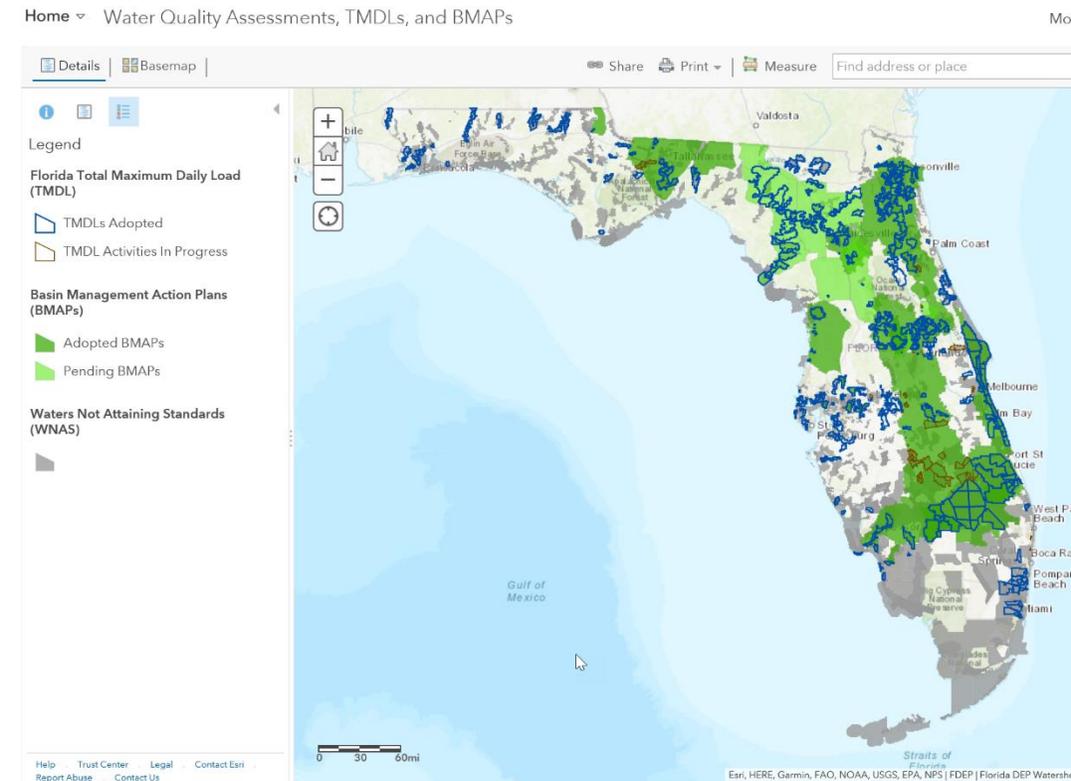
- FDOT is a regulated MS4 operator under Chapter 62-624 F.A.C.
- Regulated MS4 operators must obtain an NPDES stormwater permit and implement a Statewide Stormwater Management Plan (SSWMP) that describes the activities to be conducted, methods to be used, and procedures to be followed to reduce the discharge of pollutants from its MS4s to the maximum extent practicable.
- Techniques include management practices, control techniques, system design, engineering methods [40 CFR 122.26(d)(2)(vi)].



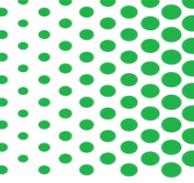
Total Maximum Daily Load (TMDL) requirements

- Established by FL Watershed Restoration Act as required by federal Clean Water Act.
- Promotes improvements in water quality by controlling both point and non-point sources.
- Adopted for waters identified as *impaired* by FDEP.
- May be implemented through
 - Basin Management Action Plans (BMAPs),
 - NPDES permits,
 - Other pollution reduction strategies such as Reasonable Assurance Plans (RAPs).

<https://fdep.maps.arcgis.com/home/webmap/viewer.html?webmap=1b4f1bf4c9c3481fb2864a415fbeca77>



Environmental Resource Permit (ERP)



- Administered by Water Management District
- ERP regulates alteration of surface water flows and protects functions of wetlands and other surface waters.
- ERP prescribes stormwater pond sizes and types.
- ERP regulates stormwater discharge restrictions leaving FDOT right-of-way.
- ERP typically requires post-development discharge not to exceed pre-development discharge.
- May require post-development discharge to be less than pre-development discharge in areas of flooding or with limited stormwater conveyance infrastructure.
- ERP obtain prior to construction (after Phase II design plans).

Drainage and Pond Siting

- Water quantity impacts associated with transportation projects are usually addressed through permitting of stormwater management systems.
- General permit requirements prohibit FDOT stormwater projects from
 - causing adverse water quantity impacts to receiving waters and adjacent lands;
 - causing adverse flooding to on-site or off-site property;
 - adversely impacting existing surface water storage and conveyance capabilities;
 - adversely affecting the quality of receiving waters such that state water quality standards will be violated;
 - causing adverse secondary impacts to water resources;
 - adversely impacting the maintenance of surface or ground water levels or surface water flows;
 - adversely impacting a Work of the District; and
- General permit requires stormwater systems to be capable of performing and functioning as proposed and to comply with any applicable special basin or geographic area criteria.

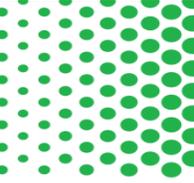
Drainage and Pond Analysis

Drainage concepts and stormwater pond locations are established during PD&E to evaluate potential impacts to environmental resources.

- For each Alternative, the PD&E Study should identify:
 - drainage issues
 - overall stormwater management approach
 - possible stormwater design concepts to mitigate runoff
 - general size and potential locations of stormwater management facilities
- Documentation:
 - Concept Drainage Design Report, or Pond Siting Report
 - Summarize in Preliminary Engineering Report, and Environmental document

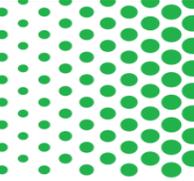


Concept Drainage Design Report



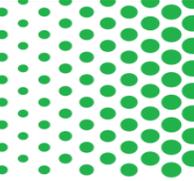
- Projects in urban core areas where adjacent land is fully built out may not need a Pond Siting Analysis.
- For these areas, a conceptual drainage design and analysis is prepared to analyze the water quality requirements.
- The details of conceptual drainage design analysis are typically expanded in the project's design phase.
- *Refer to PD&E Manual Part 2, Ch. 11 for documentation requirements.*

Pond Siting Analysis



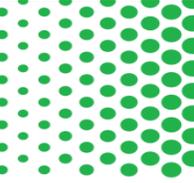
- For all stormwater ponds requiring right of way acquisition, a pond siting evaluation is required during PD&E Study.
- Location of ponds for the preferred alternative must be evaluated for potential impacts to the human, natural, cultural and/or physical environment.
- Exploration of innovative opportunities such as regional facilities, joint-use facilities, and stormwater re-use systems, through the ELA process should be exercised.

Pond Siting Analysis



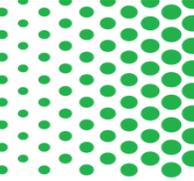
- Identify drainage issues and requirements
- Present overall stormwater management approach
- Size ponds to mitigate stormwater issues and satisfy design requirements
- Evaluate alternative stormwater management options
- Identify stormwater pond locations for the preferred alternative (include ELA meeting)
- Analyze impacts to other resources at each pond site
- Recommend preferred pond sites
- Consider aesthetic qualities on ponds on all projects.

Opportunities for Joint Stormwater Projects



- When developing stormwater treatment and storage needs, identify
 - Regulatory and regional issues
 - Opportunities for cooperative solutions
- Benefits of joint/regional projects:
 - Long-term
 - Cost-effective
 - Allows FDOT to be good stewards of water resources

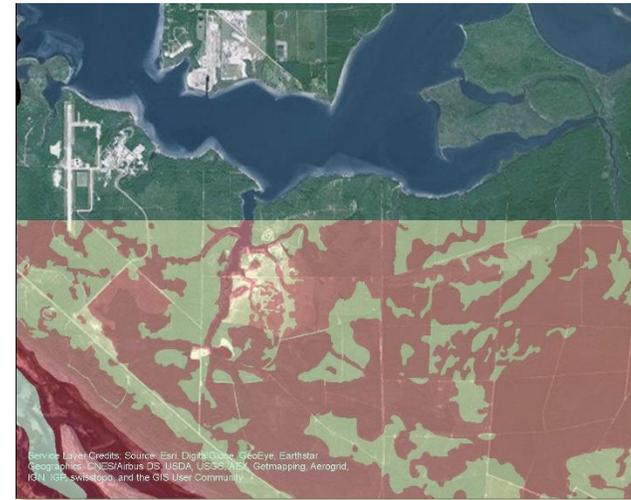
Documentation



- Drainage analysis is documented in the PER, Pond Siting Report, and summarized in the Water Quality and Quantity Section of the Environmental Document.
- The stormwater management facility type, size, location and costs are documented in the Pond Siting Report.
- Concept Drainage Design and analysis is documented in the Conceptual Design Drainage Report.



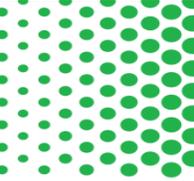
Floodplains



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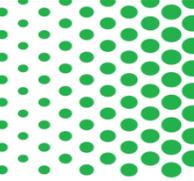


FDOT PD&E Manual, Part 2, Chapter 13 Floodplains

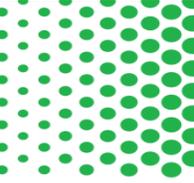


- Primary resource for guidance on FDOT projects
- Outlines the procedure for evaluating project impacts on 100-year (base) floodplains
- Provides guidance on how to document floodplain analysis in the Location Hydraulics Report and/or Environmental Document
- Instructions are based on Code of Federal Regulations, Title 23, Chapter 1, Subchapter G, Part 650, Subpart A (23 CFR 650A)

What is a Floodplain?



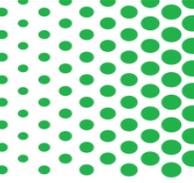
- A **floodplain** is any land area susceptible to being inundated by floodwaters from any source.
- The **base flood** (100-year flood) is the flood or tidal event having a 1% chance of being equaled or exceeded in any given year
- The **base floodplain** is the area subject to flooding by the base flood.
- A **Flood Insurance Rate Map (FIRM)** is the official map of a community on which FEMA has delineated base floodplains.
- All cross drains have an associated base floodplain.



What is an Encroachment?

- Activities or construction within the floodplain including fill, new construction, improvements, and other development.
- Encroachment examples:
 - Extending existing cross drain
 - Embankment fill
 - Proposed cross drains and bridges

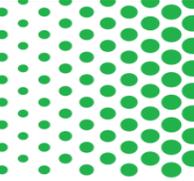
Significant Encroachments



Rare on FDOT projects due to Section 4.4 of the Drainage Manual:

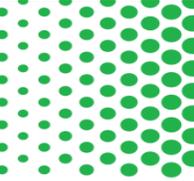
- Cross drain design shall meet local community requirements.
- Any increase in backwater shall not significantly change offsite land use values, unless flood rights are acquired.

Location Hydraulics Report...



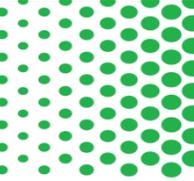
- describes the types of construction activities near floodplains and includes a description of the measures to avoid or minimize floodplain impacts associated with the project.
- must be reviewed by the District Drainage Engineer to verify that all base floodplains are identified and it is consistent with existing basin and floodplain management program.
- results are summarized (along with other technical reports) in the Preliminary Engineering Report.

Project Floodplain Impacts...



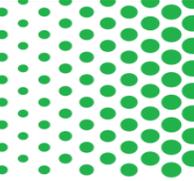
- shall be assessed for all FDOT projects which involve activities or construction near or within the floodplains. (23 CFR 650A)
 - However, not all projects near or within floodplains require a Location Hydraulics Report.
- still must be documented in the Environmental Document and/or Standard Checklist, even for projects not requiring an LHR.
 - Documentation requirements depend on:
 - Encroachment Type
 - Environmental Document Type

Encroachment Types



- An LHR is not required for the following encroachment types:
 - No Involvement
 - No
- An LHR may be required for Minimal Encroachment, depending on the type of Environmental Document.
- An LHR is always required for Significant Encroachment.

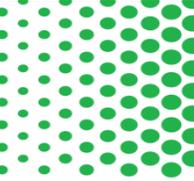
Environmental Document Type



- An LHR is not required for the following types of Environmental Documents:
 - Type 1 Categorical Exclusion (CE)
 - Non-Major State Action (NMSA)
- An LHR is required for:
 - Type 2 CE and EA with Minimal Encroachments
 - DEIS and SEIR with Minimal or Significant Encroachments

(Refer to PD&E Manual, Part 1, Chapter 2 for more information on types of Environmental Documents)

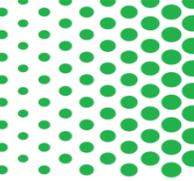
LHR Documentation



Chapter 13 provides a detailed list of items to be discussed in an LHR. A few of those items are summarized here:

- Drainage basins/cross drains
- History of flooding to the existing facilities
- Locations of floodplain encroachments
- Practicability of avoidance alternatives and/or measures to minimize impacts
- Determination of the impact on regulatory floodways
- Consistency with local floodplain development plan
- Results of any risk assessments
- Statement final drainage design will be done in accordance with FDOT Drainage Manual and Design Standards.

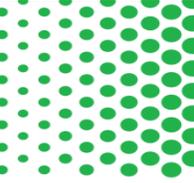
LHR Documentation



The LHR should also include discussion of the following:

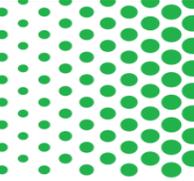
- The risks associated with implementation of the action.
- The impacts on natural and beneficial floodplain values.
- The support of incompatible floodplain development.
- The measures to minimize floodplain impacts associated with the project.
- The measures to restore and preserve the natural and beneficial floodplain values by the project.

LHR – Level of Drainage Analysis



- Detailed calculations for every cross drain associated with a project generally should be avoided.
 - Impacts to flood elevations and limits are minimized by designing cross drain facilities in accordance with the FDOT Drainage Manual.
- Examples of when calculations are warranted:
 - Long extension of existing cross drain
 - To determine preferred alternative for new alignment
- For alternatives with similar floodplain impacts, a single analysis for all alternatives may be appropriate.

LHR Documentation – Significant Encroachments



Chapter 13 also lists additional documentation required for Significant Encroachments. Some of those are summarized here:

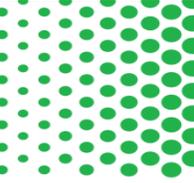
- Measures to minimize floodplain impacts associated with the project
- Practicability of avoidance alternatives to significant encroachments or support of incompatible floodplain development
- Estimate both the existing floodplain volume (capacity) and the volume of the encroachment
- Flooding impacts to private property both upstream and downstream

Projects Involving a Bridge Structure

If a separate Bridge Hydraulic Report (BHR) is not prepared during PD&E, the following items must be addressed in the LHR:

- Conceptual bridge length
- Conceptual scour considerations
- Preliminary clearances both vertically and horizontally

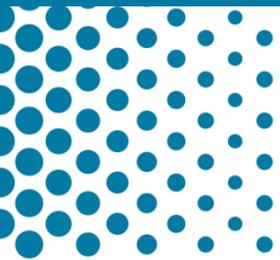
Summary Statements



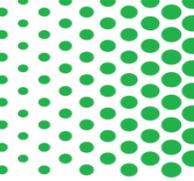
The report shall include a statement that affirms the type and impact of the encroachment and addresses consistency with local floodplain ordinances.

- There are six sample summary statements in Chapter 13.
- If appropriate for the project, use of one of the sample statements as is.
- Otherwise, modify the sample statement as necessary to adequately affirm the impact of the encroachment.

Lesson 5: Risk Evaluation: Assessment or Analysis

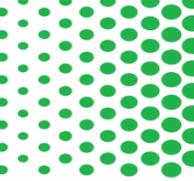


Risk Evaluation



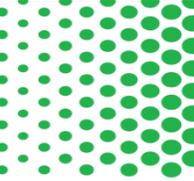
- *Risk* means “the consequences associated with the probability of flooding attributable to an encroachment. It shall include the potential for property loss and hazard to life during the service life of the highway.” *[as defined in 23 CFR 650.105 (o)]*
- A risk evaluation must be included in the LHR.
- Evaluation of risk should include the following:
 - Risks to transportation infrastructure – road closure, repair costs
 - Risks to highway users – loss of life, service disruption
 - Risks to residents – damages, property loss

Risk Evaluation



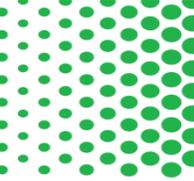
- The FDOT recognizes two types of risk evaluations:
 - A risk **assessment** is typically appropriate for:
 - Minimal encroachments
 - Small structures
 - Structures whose size is not influenced by hydraulic constraints
 - A risk **analysis** is typically appropriate for:
 - Significant encroachments anticipated to increase or substantially change floodplain elevations and/or limits
- The District Drainage Engineer, in consultation with the PD&E Project Manager, will determine if the floodplain encroachment is significant and what type of risk evaluation is warranted.

Risk Assessment



- *Risk assessment* is a subjective analysis of the risks resulting from various design alternatives, without detailed quantification of flood risks and losses.
- It may consist of developing the construction costs for each alternative, and subjectively comparing the risks associated with each alternative.
 - For example, where alternative alignments are compared, a rating scale of 1-5 (low to high potential) could be used to evaluate the following factors:
 - Risks to infrastructure
 - Risks to users
 - Risks to residents

Risk Analysis



- *Risk analysis* encompasses an economic comparison of alternatives using expected total costs (construction costs plus risk costs) to determine the alternative with the least total expected cost to the public.
- Risk analysis is rarely needed for FDOT projects because complying with FDOT and WMD design requirements results in minimal changes to flood stages.
- See Chapter 4 of the FDOT Drainage Design Guide or FHWA Hydraulic Engineering Circular 17 (HEC-17) for more guidance on this evaluation.

Points to Remember

- For most FDOT projects with floodplain encroachments, the encroachments will be minimal due to abiding by FDOT and WMD criteria.
- Documentation requirements depend on the Encroachment Type and type of Environmental Document
- Chapter 13 of Part 2 of the FDOT PD&E Manual is the primary guide for how to evaluate and document floodplain impacts.



Aesthetic Effects

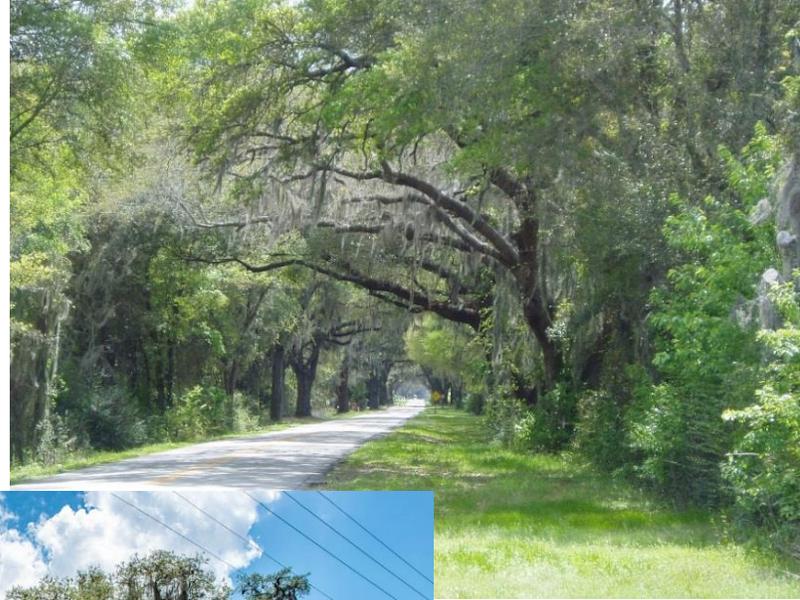


The environmental review, consultation, and other actions required by applicable federal environmental laws described in this training are carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 executed by FHWA and FDOT.



What are Aesthetics?

The aesthetic qualities of a community or area are defined by a combination of resources and other qualities that **define the character of the community and site.**



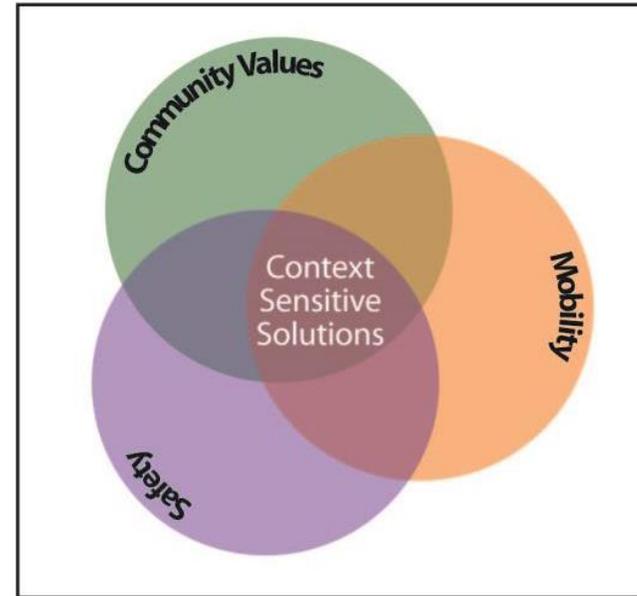
What are Aesthetic Effects?

- Based on context of the project area
- Can either be positive or negative
- Influence community cohesion and community values
- Can alter the travel experience



Community Aesthetics & Transportation

- Transportation actions can affect communities & influence aesthetic qualities
- The Florida Department of Transportation (FDOT) values the consideration of aesthetic effects (AE) in project delivery
- FDOT will consider AE while producing affordable, constructible and maintainable transportation projects



FDOT's AE Commitment

- Develop transportation facilities compatible with the surrounding natural/man-made community
- Balance transportation need with community vision
- Select appropriate design approaches that balance project engineering and community vision



Typical Aesthetic Effects Considerations

- Character
- Compatibility
- Community Values
- Sensitive Areas
- Visual Features



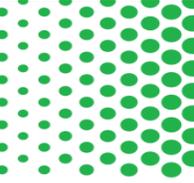
AE Evaluation Objectives

- Identify existing aesthetic resources
- Categorize/Analyze potentially affected aesthetic resources
- Assess the value of each aesthetic resources to the community
- Consider potential avoidance, minimization, mitigation and enhancement options



Aesthetic Effects Evaluation Process

Efficient Transportation Decision Making (ETDM) Phase



- **Planning Screen:** identify flaws and controversies that could prevent project advancement
- **Programming Screen:** Further understand the magnitude of potential AE impacts and possible methods of resolution



Aesthetic Effects Evaluation Process

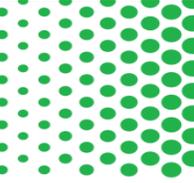
Project Development & Environment (PD&E) Phase

- The AE evaluation is tailored to the scope and context of the project
- Builds on previous analysis & findings
- Uses a Multi-Step Evaluation Process



Aesthetic Effects Evaluation Process

Project Development & Environment (PD&E) Phase

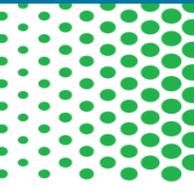


Step 1: Describe Existing Conditions

- Establish study area
- Document existing conditions
- Data collection (preexisting data/field review)

Aesthetic Effects Evaluation Process

Project Development & Environment (PD&E) Phase



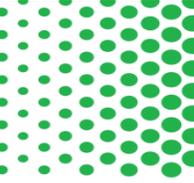
Step 1: Describe Existing Conditions (continued)

More detailed evaluation may be needed for projects that:

- Require large amounts of right of way (ROW)
- Conflict with local government comprehensive plans
- Impact aesthetic qualities of community facilities, historic resources or landmarks
- Affect aesthetic features such as specially designated roads or scenic vistas
- Disrupt or divide an established or cohesive neighborhood

Aesthetic Effects Evaluation Process

Project Development & Environment (PD&E) Phase



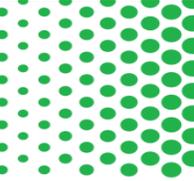
Step 2: Describe Effects

- Identify project effects on study area aesthetics
- Establish significance of impacts
- Community involvement
- Document findings



Aesthetic Effects Evaluation Process

Project Development & Environment (PD&E) Phase



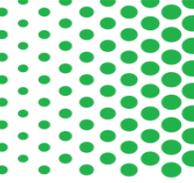
Step 3: Issue Resolution

- Make the project fit the community
- Identify solutions to address adverse effects or enhance the project's aesthetic experience
- Resolution may include avoidance, minimization, mitigation & enhancement
- Consider FDOT Policy for Context Sensitive Solution & Complete Streets
- Document commitments



Aesthetic Effects Evaluation Process

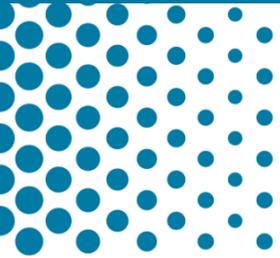
Project Development & Environment (PD&E) Phase



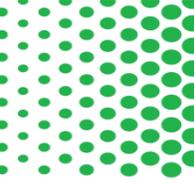
All AE commitments should be coordinated with pertinent FDOT offices for concurrence before being finalized.



Special AE Considerations



Specials AE Considerations



AE Evaluation process should pay special attention to the following programs:

- Outdoor Advertising
- Specially Designated Highways

Specials Considerations

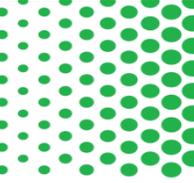
Outdoor Advertising Program

- Outdoor advertising signs should be considered during each project phase
- Coordinate closely during all project phases with FDOT/Outdoor Advertising Office (OAO)



Specials Considerations

Outdoor Advertising Program

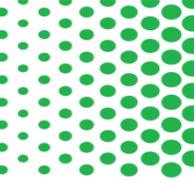


ETDM Screening Phase

- Work with OAO to identify current permitted signs locations
- Consider project related impacts (direct/indirect)
- Note community sign preferences (i.e. zoning, comp plans, local ordinances)

Specials Considerations

Outdoor Advertising Program

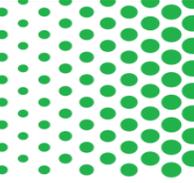


PD&E Phase

- Verify/confirm presence of existing signs
- Continued coordination with OAO and Right of Way Office
- Assess project related effects to each sign
- Consider mitigation measures/document commitments
- Approved commitments transmitted to Final Design

Specials Considerations

Outdoor Advertising Program



Final Design Phase

- Confirm existing/proposed signs and permit status
- Update related commitments
- Transmit commitment changes to PD&E
- Ensure project plans reflect approved commitments

Construction Phase

- Verify compliance consistent with bid documents and as part of Final Acceptance

Specials Considerations

Specially Designated Highways

Types of Possible Highway Designations

- Local
- Legislative
- **State & National (Florida Scenic Highways Program)**

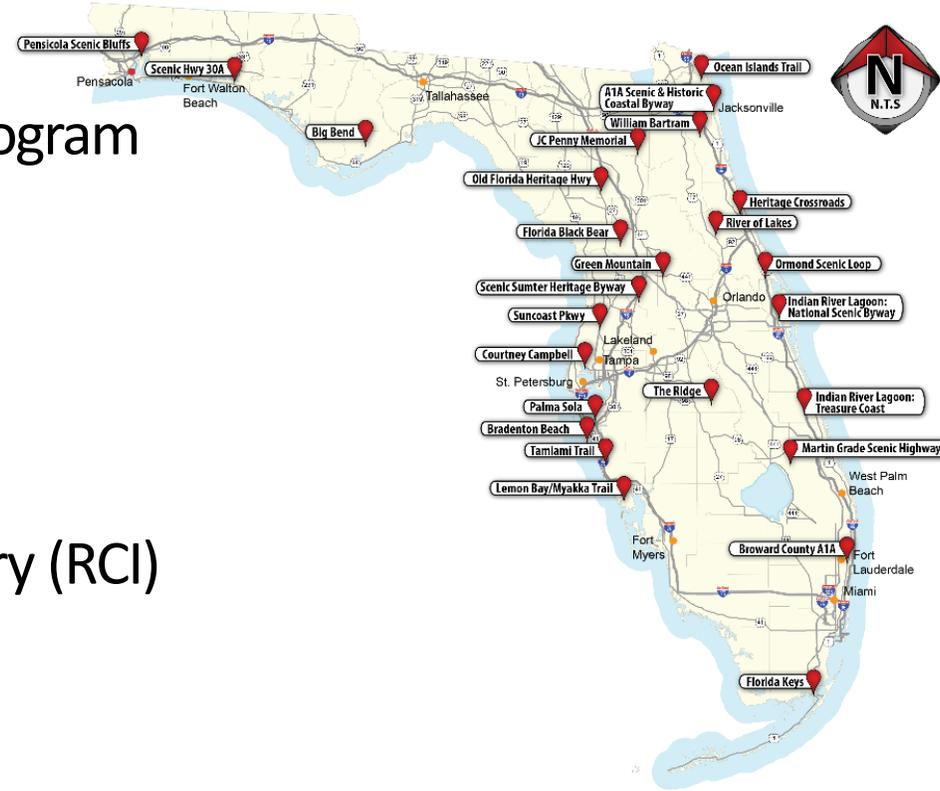


Specials Considerations

Specially Designated Highways

Focus on Florida Scenic Highways Program (FSHP)/ Byway Locating Tools

- FSHP Contact Points
- FSHP web site:
www.FloridaScenichighways.com/
- Roadway Characteristics Inventory (RCI)
- FSHP byway locating signs



Specials Considerations

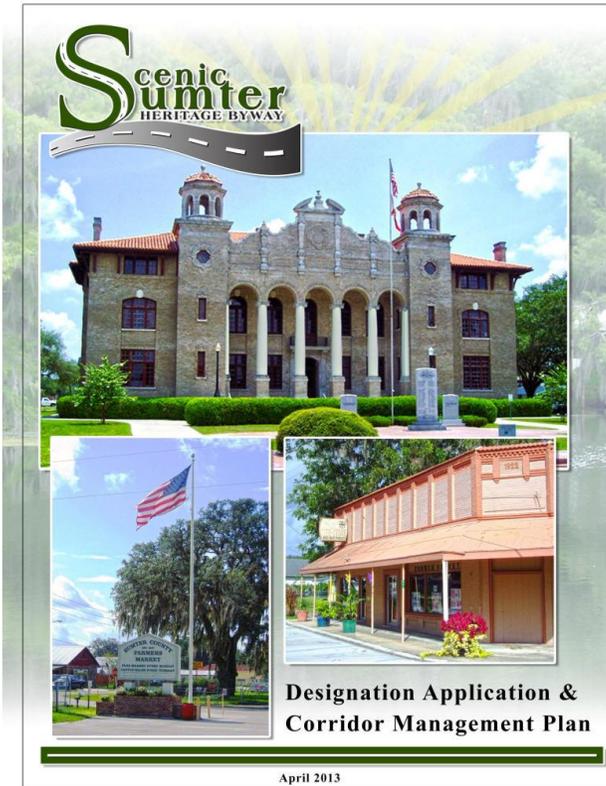
Specially Designated Highways

Focus on FSHP

Available Background Resources

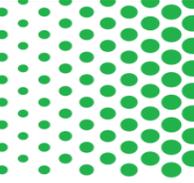
- Designation Documentation
- Byway Master Plan
- Byway Organization Contacts

* The District Scenic Highways Coordinator (DSHC) can help identify available resources and byway contacts



Specials Considerations

Specially Designated Highways

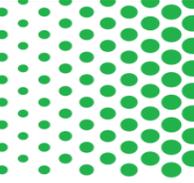


ETDM Screening Phase

- Identify designated scenic highways within study area
- Understand community values
- Consider project related impacts (direct/indirect)
- Note community preferences

Specials Considerations

Specially Designated Highways

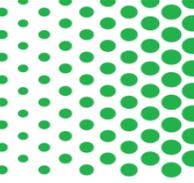


PD&E Phase

- Verify/confirm presence of designated scenic highways
- Assess project related effects
- Assess options to avoid, minimize, mitigate
- Ongoing coordination with byway organization thru DSHC
- Identify/document impacts
- Commitments transmitted to Final Design

Specials Considerations

Specially Designated Highways



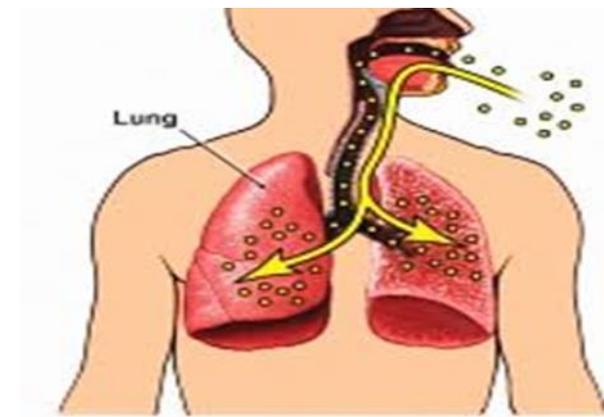
Final Design

- Confirm existing/proposed byways
- Update related commitments
- Transmit commitment changes to PD&E
- Coordination with byways thru DSHC
- Ensure plans reflect approved commitments

Construction

- Verify compliance consistent with bid documents & resolution during Final Acceptance

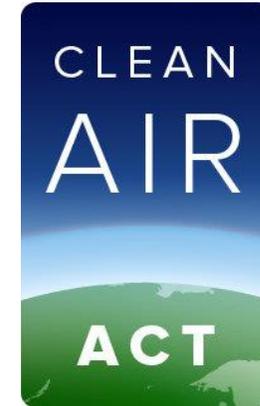
Air Quality



The environmental review, consultation, and other actions required by applicable federal environmental laws described in this training are carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 executed by FHWA and FDOT.

History of U.S. Clean Air Legislation

- Clean Air Act of 1967 focused on technical information associated with air pollution, including research, grants, and interstate air pollution
- Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). Also required states to prepare and implement state implementation plans (SIPs) to show how they could achieve the NAAQS.
- Clean Air Act Amendments of 1990 included:
 - Strategies to achieve and maintain the NAAQS,
 - Approaches to reduce air pollutants from mobile sources,
 - Enforcement sanctions for not achieving and maintaining the NAAQS



Environmental Protection Agency (EPA)

- Key Role – Establishing new or revising existing NAAQS
- EPA in 1970 established NAAQS for six criteria pollutants:
 - ozone,
 - nitrogen dioxide,
 - particulate matter,
 - sulfur oxides,
 - carbon monoxide, and
 - lead.
- NAAQS have been reviewed and updated by EPA since 1970 with the most recent changes to the 8-hour ozone standard.

National Ambient Air Quality Standards (NAAQS)

- EPA must designate areas as meeting (attainment) or not meeting (nonattainment) the NAAQS.
- Clean Air Act requires states to develop a general plan to meet the NAAQS. This plan is also known as a state implementation plan or SIP.
- Each NAAQS is concentration based and has one or more averaging times.
- Primary standards protect public health. Secondary standards protect public welfare by protecting against decreased visibility, crop damage, and affects on the built environment.

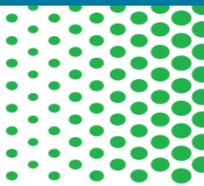
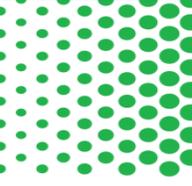


Table of National Ambient Air Quality Standards

Pollutant [links to historical tables of NAAQS reviews]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3 month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide (NO₂)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb ⁽²⁾	Annual Mean
Ozone (O₃)		primary and secondary	8 hours	0.070 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	PM _{2.5}	primary	1 year	12.0 µg/m ³	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ³	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO₂)		primary	1 hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

NAAQS Designations

- All areas of U.S. are designated with respect to each NAAQS as:
 - ✓ Attainment – air quality better than the NAAQS,
 - ✓ Non-attainment – air quality worse than the NAAQS,
 - ✓ Maintenance – non-attainment areas redesignated as attainment (all areas of Florida have been redesignated as attainment)
 - ✓ Unclassifiable – no data to make a designation, but typically treated as attainment areas for conformity purposes.
- EPA Green Book lists the attainment/nonattainment status of all areas of the U.S. and is available at: <https://www.epa.gov/green-book>



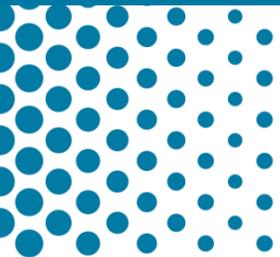
State Implementation Plans (SIPs)

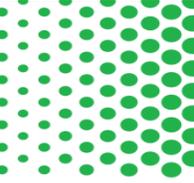
- SIPs are prepared for all areas designated non-attainment or maintenance.
- SIPs not prepared for attainment or unclassified areas.
- Two main purposes of SIPs:
 - 1) Demonstrate that the state has the basic air quality management program in place to implement the new or revised NAAQS
 - 2) Identify the emission control requirements the state will rely on to attain or maintain the NAAQS





Project Specific Air Quality Analysis





Air Pollutants in FDOT Documents

- Nitrogen Dioxide – not analyzed
- Sulfur Dioxide – not analyzed
- Lead – not analyzed
- Ozone – not analyzed on an individual project basis; since ozone is an area-wide pollutant, its only analyzed regionally and then only within a designated ozone non-attainment or maintenance area
- Carbon Monoxide – analyzed for most projects
- Particulate Matter – not required because Florida conforms to the PM NAAQS
- Greenhouse Gases – discussion includes standard FDOT text

Carbon Monoxide Modeling

- Goal – Determine whether the project would cause or contribute to violations of the national 1-hour (35 ppm) or 8-hour (9 ppm) ambient air quality standards.
- Levels of CO tend to be highest immediately adjacent to roadways and intersections. Therefore FDOT evaluates levels of this pollutant for all projects.

Particulate Matter

- Construction activities generate dust from earthwork and mobile sources traveling on unpaved roads. Minimized by adherence to all applicable state and local regulations and to FDOT standard Specifications for Road and Bridge Construction.
- All areas of Florida are currently attainment for the national $PM_{2.5}$ and PM_{10} ambient air quality standards. Consequently, quantitative analysis of $PM_{2.5}$ and PM_{10} concentrations resulting from transportation projects is not required in Florida.
- Quantitative modeling only needed if EPA were to declare Florida (or a portion thereof) as nonattainment for PM_{10} or $PM_{2.5}$.

State Environmental Impact Reports (SEIR)

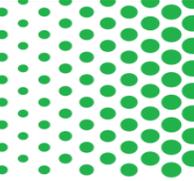
- If an air quality analysis is performed, the results are included in the Environmental Analysis Section of the SEIR.



Contamination

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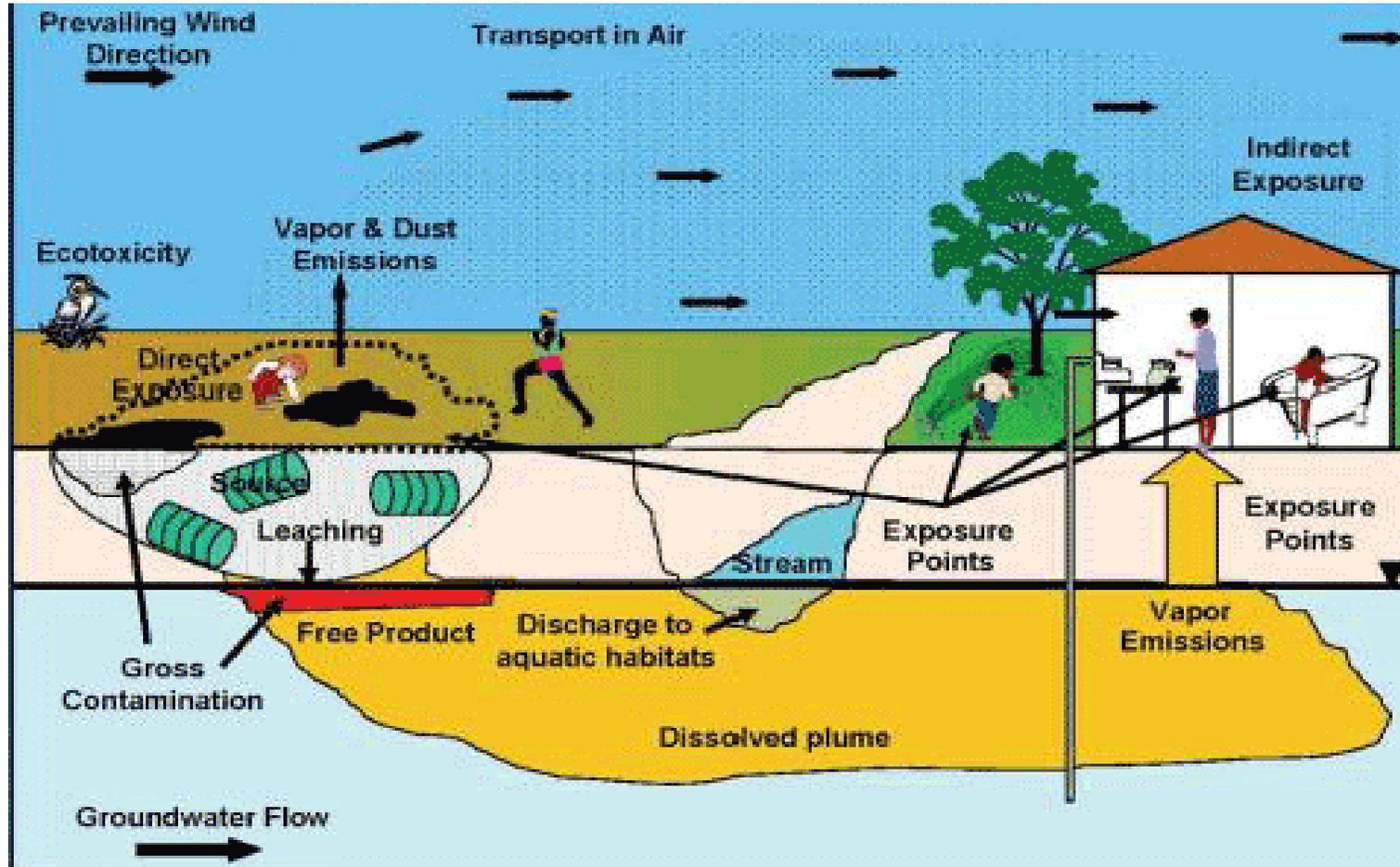




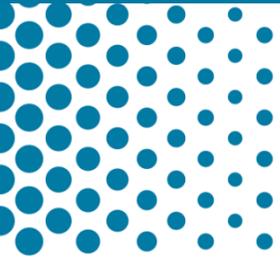
Chapter 337.27 Florida Statutes (F.S.)

- (4) *When the department acquires property for a transportation facility or in a transportation corridor through the exercise of eminent domain authority, or by purchase or donation, **it is not subject to any liability imposed by chapter 376 or chapter 403 for preexisting soil or groundwater contamination due solely to its ownership.** This section does not affect the rights or liabilities of any past or future owners of the acquired property nor does it affect the liability of any governmental entity **for the results of its actions which create or exacerbate a pollution source.***

Exposure Pathways



II. Level I Assessment



II. Level I Assessment

Basic Components of a Level I Assessment:

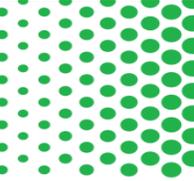
II-A Records review/ Desktop Review

II-B Field Review / Site reconnaissance

II-C Photographic documentation of findings

II-D Rate potential contamination risk for each site

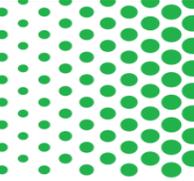
- Impacts are per site and per alignment
- Rating is in terms of “No”, “Low”, “Medium” or “High”
- Scoping for projects.



II-A. Records Review/ Desktop Review

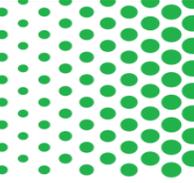
- Review of available regulatory records
 - Includes online and in-person file reviews
- Documentation of current & historic uses
 - Electronic environmental data reports
 - Permit information
 - Regulatory database files
 - Historical address information
 - Historical aerial photos
 - Sanborn Maps

II-B. Field Review/ Site Reconnaissance



- Look at FDEP and EPA comments
- Changes in topography such as depressions or mounds indicative of subsurface concerns
- Visual indications of surface spills, surface staining, areas of suspect liquids
- Tanks
- Suspicious odors
- Apparent sink holes
- Distressed vegetation
- Ventilation pipes
- Drums, or chemical storage containers

II-C. Photographic Documentation



Review of historic photos:

- Aerial (Evidence of landfilling, etc.)
- Ground-level photos
- Recent photos

II-D. Risk Ratings

- Should be established for each suspected site within or adjacent to all proposed ROW limits
- Should be completed for each design alternative.
- Reflect the relative degree of concern that contamination may have on the project's design, construction, or schedule
- Results of the Level I should be included in the Environmental Documents for the project, including a summary of the CSER

II-D. Risk Ratings

“No” Rating:

- No potential for contamination to impact the project
- No regulatory agency records of violations, spills or releases
- No interview comments indicate concern
- No historical information about past uses indicating contamination (Sanborn maps, historical photos, other records)

II-D. Risk Ratings

“Low” Rating:

- Former or current activities on the property have an ongoing contamination concern
 - Hazardous waste generator identification (ID) number
 - Handles hazardous materials in some capacity
- Based on all available information and current design, contamination is not likely to impact the project.
- Rating should be based on the current design or the alternative design being studied
 - Sites may be ranked low based on scope of work in the construction area

II-D. Risk Ratings

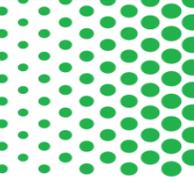


Photo Credit: CB&I

II-D. Risk Ratings

“Medium” Rating:

- Site has known or suspected soil or groundwater contamination, is currently being remediated or is currently in monitoring only phase.
- Always designated for:
 - Current petroleum operating facilities
 - Non-evaluated former petroleum operating facilities
 - Abandoned UST sites
- Medium sites should be recommended for further assessment in the Level II

II-D. Risk Ratings



Photo Credit: CB&I

II-D. Risk Ratings

“High” Rating:

- There is a reasonable potential for contamination impacts during construction, based on all available information and current design plans
- Site should be recommended for further assessment in the Level II

II-D. Risk Ratings

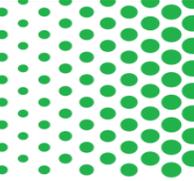


Photo Credit: CB&I

II-D. Risk Ratings

Information Sources for Desk Top Review:

Main FDEP website – www.dep.state.fl.us

FDEP Institutional Controls Registry -
<http://www.dep.state.fl.us/waste/categories/brownfields/pages/ICR.htm>

FDEP Contamination Locator Map - <https://ca.dep.state.fl.us/mapdirect/?focus=contamlocator>

FDEP Map Direct – <https://ca.dep.state.fl.us/mapdirect/>

FDEP OCULUS Database - <http://depedms.dep.state.fl.us/Oculus/servlet/login>

Database companies

ERS - <http://www.reccheck.com/>

EDR - <http://edrnet.com/>

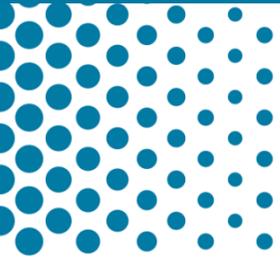
II-D. Risk Ratings

Historical aerial photos:

- Historical Aerials - <http://edrnet.com/prods/historical-aerial-photos/>
 - USGS - <https://www2.usgs.gov/pubprod/aerial.html>
 - FDOT- <http://www.fdot.gov/geospatial/aerialmain.shtm>
-
- County Specific Property Appraiser Website

 - Sanborn maps - <http://edrnet.com/prods/sanborn-maps/>

IV. CSER/Level I Report

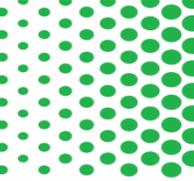


IV. CSER/Level I Report

Purpose of the report, Purpose & Need Statement from ETDM Screening Summary report

- Project Description
 - Proposed improvements
 - Project termini
- Land Uses
- Hydrologic Features
- Methods used to perform Level I Assessment
- Brief description of each alternative
- Identification of contaminated sites on a figure or table
- Ensure contaminated site information is presented in the appropriate NEPA documents

IV. CSER/Level I Report



Describe the potential contamination issues

- Include table that summarizes findings:
 - Contamination concerns
 - Contamination rating
 - Distance from right-of-Way
 - Other contamination-related information on each property in or adjacent to the project area

IV. CSER/Level I Report

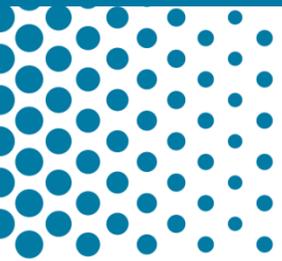
- Discussion of potential contamination impacts on the project
- Provide recommendation as to which alternative would have the least potential for contamination impacts

IV. CSER/Level I Report

- Figures in the Level I include:
 - Project Location map
 - Land Use map
 - Detailed map showing all potential contamination sites with Low, Medium or High ratings

A revised CSER may need to be done if enough time has elapsed or there has been plan changes.

V. Field Review



V. Field Review

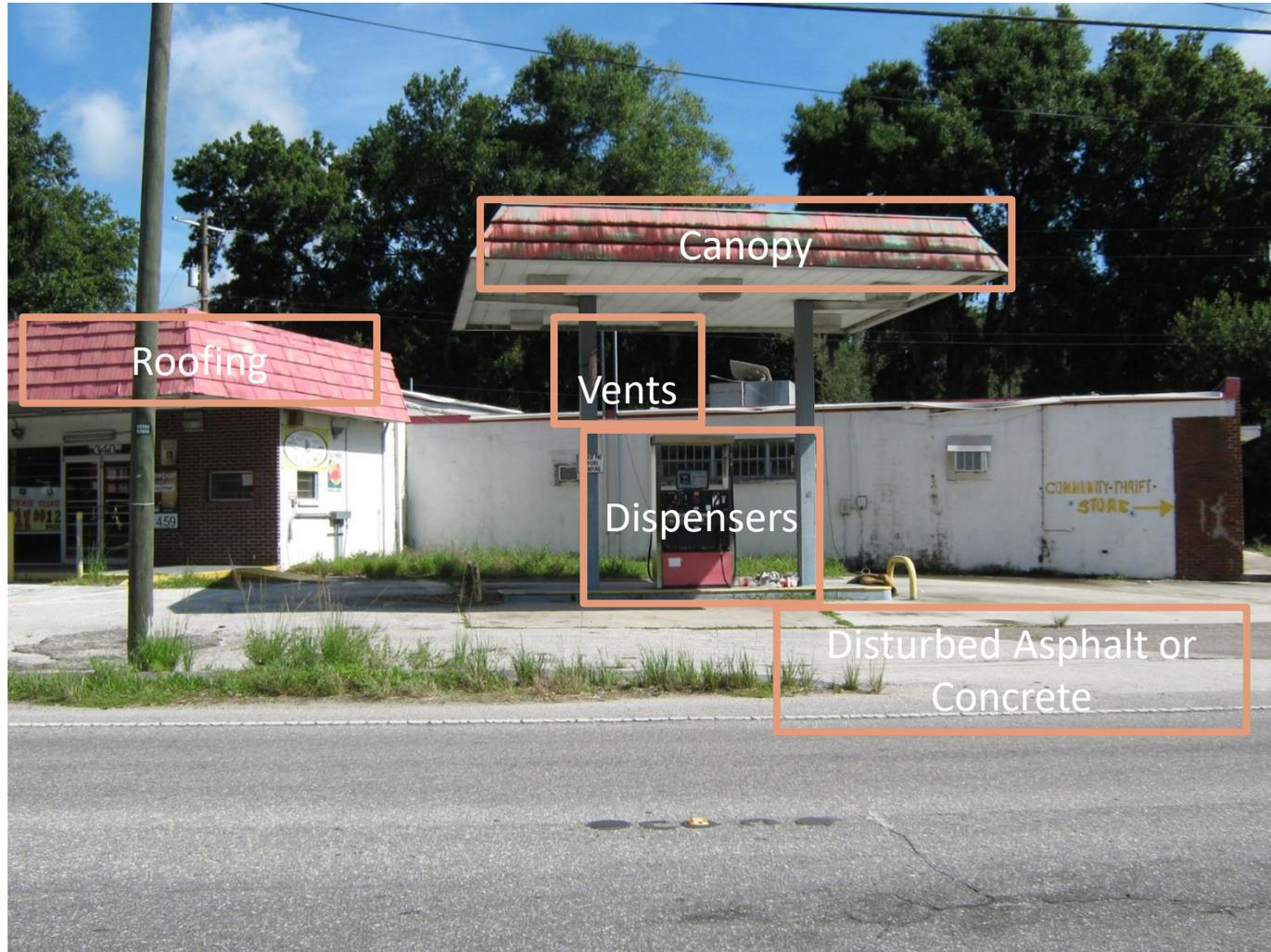
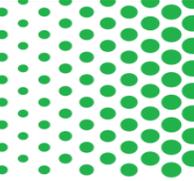


Photo Credit: CB&I

V. Field Review

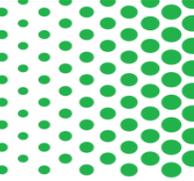


Photo Credit: CB&I

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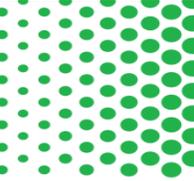


Photo Credit: CB&I

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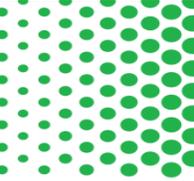
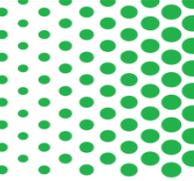


Photo Credit: CB&I

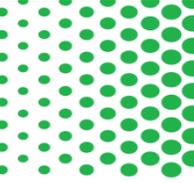
V. Field Review



Underground Storage Tanks

Photo Credit: CB&I

State Environmental Impact Reports



- SEIRs should summarize the results of the contamination screening evaluation
- the summary should answer the following questions:
 - 1. Are there known or potentially contaminated sites within or near the project area.
 - 2. How did the project avoid or minimize impact to any known or potentially contaminated sites?
 - 3. Are there sites that require additional investigation (i.e. Level II assessment)?
- Upload the *CSE*R or Technical Memorandum, as appropriate, in SWEPT.



Utilities and Railroads

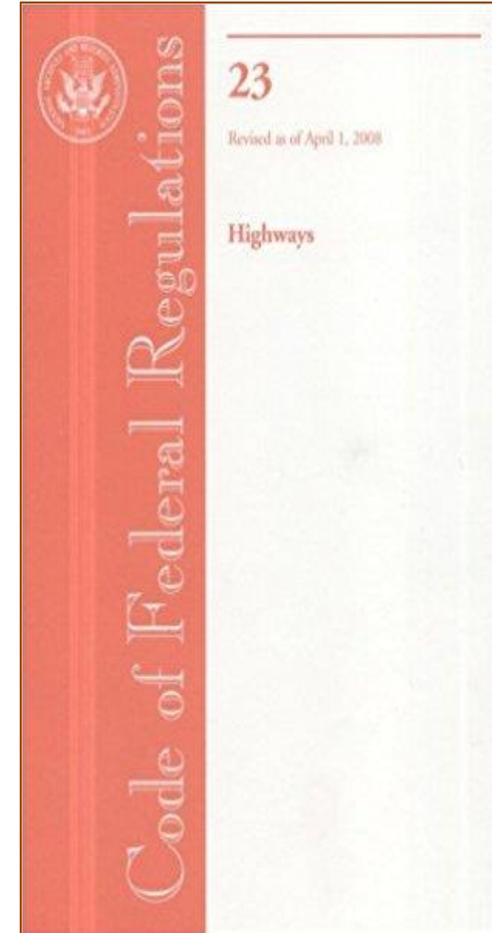


The environmental review, consultation, and other actions required by applicable federal laws described in this training are carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016, executed by FHWA and FDOT.

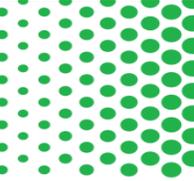


Federal Legislative Authority

- Utilities
 - 23 CFR 645(a) – Utilities Relocations Adjustments and Reimbursement
 - 23 CFR 645(b) – Accommodation of Utilities
- Railroads
 - 23 CFR 646(b) – Railroad-Highway Projects



State Legislative Authority



Utilities

- Section 337.401 Florida Statutes – Use of Right Of Way (ROW) for Utilities
- Section 337.403 Florida Statutes – Relocation of Utilities
- Chapter 14-46, Florida Administrative Code – Utility Installation or Adjustments

Railroads

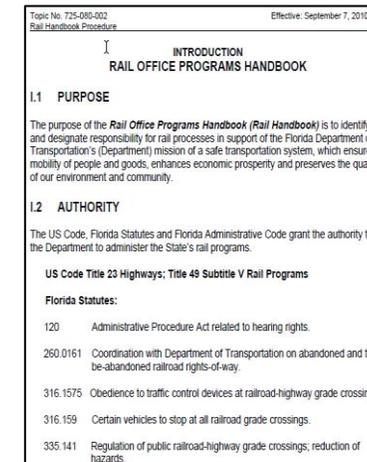
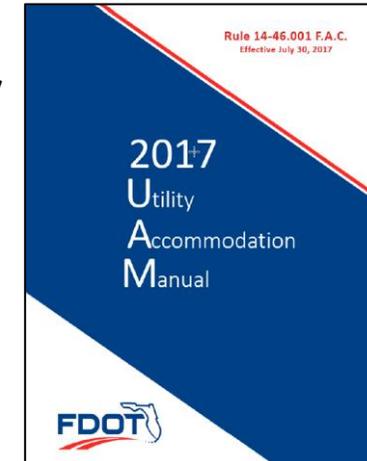
- Section 335.141 Florida Statutes – Regulation of Public Railroad-Highway Grade Crossings
- Chapter 14-57, Florida Administrative Code – Railroad Safety and Clearance Standards, and Public Railroad-Highway Grade Crossings Rule



FDOT Procedures and other Resources

Utilities

- FDOT Procedure No. 710-010-050, Utility Work Agreements and Certification Process
- FDOT Procedure No. 710-020-001 Utilities Accommodations Manual (UAM)
- FDOT Utility Agreements, Resolutions and Certificates of Incumbency



Railroads

- Rail Office Programs Handbook

Early Identification of Utilities and Railroads

- Information needed to prepare the scope is:
 - (a) the anticipated number of Utility Agent/Owners (UAO)s within the PD&E Study limits; and,
 - (b) the anticipated complexity of coordination with each UAO

The Project Manager may use tools such as;

- Environmental Screening Tool
- Sunshine 811
- Coordination with District Rail Coordinator (DRC) and District Utility Office (DUO)



Note – Utility and Railroad impacts on minor projects are handled directly by the District Utility Office or Railroad Office

Type of Anticipated Impact

Focus analysis efforts on utilities that could

- (a) impact development of the preferred alternative,
- (b) entail lengthy or drawn out coordination efforts,
- (c) may be cost prohibitive to relocate, or
- (d) rise beyond the level of ordinary utility coordination.

- Railroad Crossings
 - At grade
 - Bridge



Level of Evaluation in the Scope

- Utility Assessment Package
 - Consultant or Department Responsibilities
 - Coordinate with the District Utilities Office
- Utility Survey
 - Additional Survey Required for Utilities
- Utility Coordination
- Rail Coordination
 - Anticipated Issues such as a new crossings



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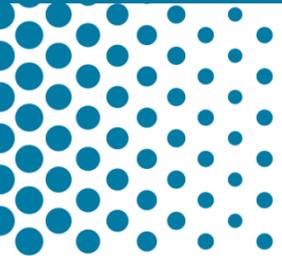


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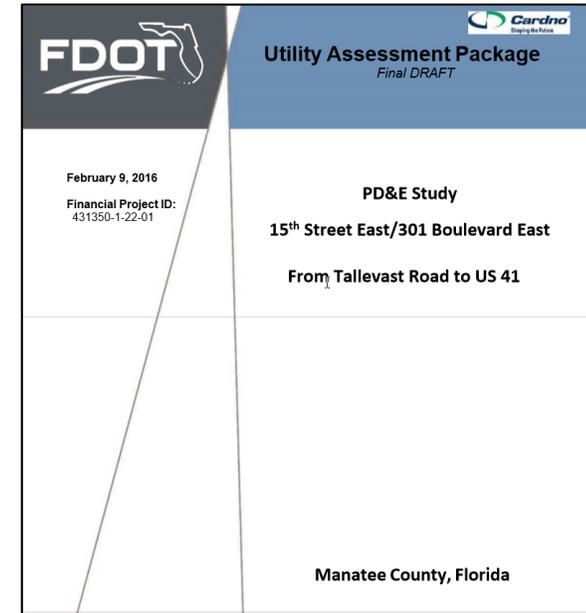


Utility Procedure



PD&E Request Package

- PD&E PM/Consultant to District Utilities Office
- For Each Alternative the Request Package will include:
 - Project Typical Sections
 - ◆ Roadway and shoulder width
 - ◆ Median and border widths
 - ◆ Sidewalks and Right of way limits
 - Project Concept Plans
 - ◆ All paved areas
 - ◆ Bridges
 - ◆ Drainage structures
 - ◆ Right of way limits and widths
 - ◆ Access control lines
 - ◆ Horizontal alignment/stationing
 - ◆ Any special landscaping or mitigation areas



Coordination with Utility/Agencies Owners

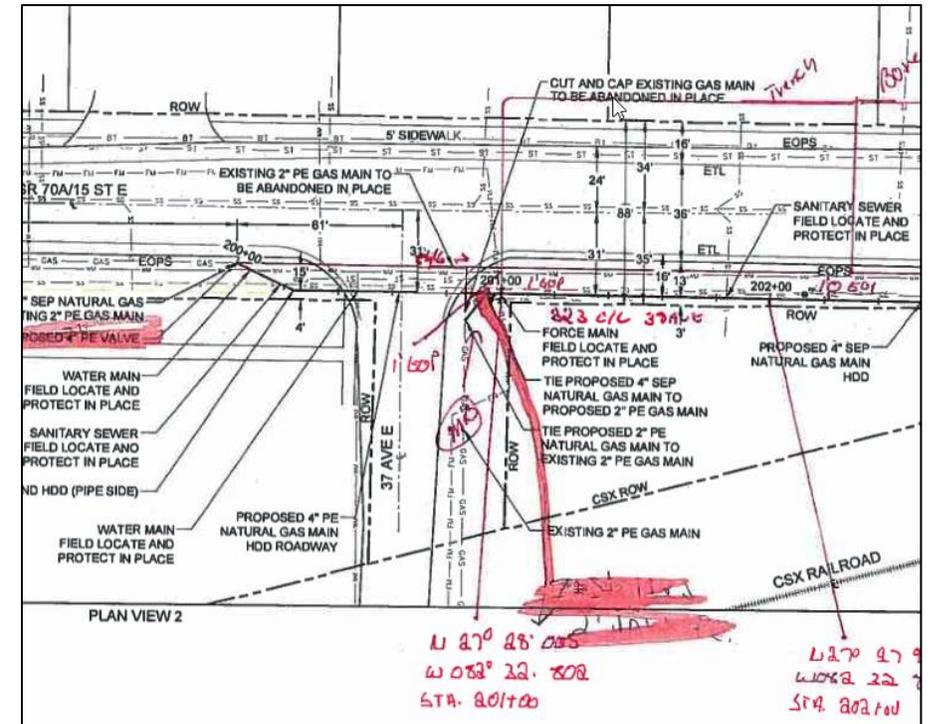
- PD&E Request Package submitted to UAOs
- Request from UAOs information that may affect the project such as:
 - Existing and proposed above and below ground utilities
 - Major facilities
 - Buildings
 - Existing or proposed easements
 - Other property interest



Coordination with Utility/Agencies Owners

30 days after submittal hold a coordination meeting with each affected UAO to discuss

- Existing planned or proposed utilities within project alternatives
- Alternatives that may avoid or minimize conflicts
- Utility conflict minimization strategies
- Relocation costs
- Schedule
- Property interests
- Possibility of entering into an agreement



Coordination with Utility/Agencies Owners

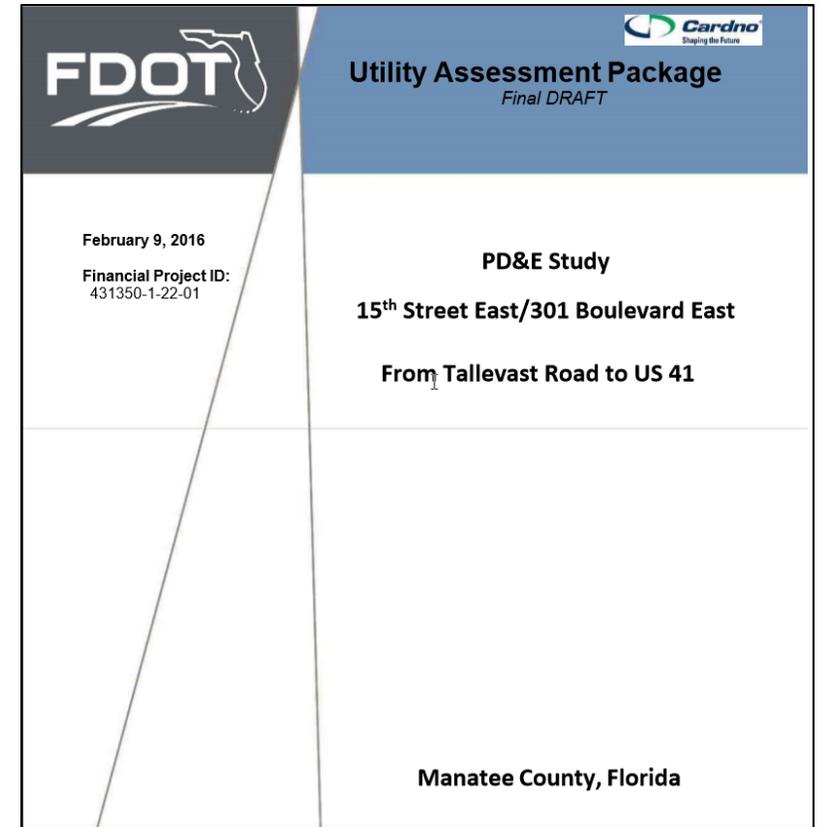
Discuss with the Office of General Counsel (OGC)

- ◆ Inquiries or request for compensation
- ◆ Utility Work Agreement
- ◆ Feasibility of joint right of way acquisition
- ◆ August 21, 2013 Florida Gas Transmission Agreement and Global Settlement



Utility Assessment Package

- Utility Assessment Package is used in the comparative alternative analysis. The Package includes:
 - Names of all identified UAOs
 - One set of aerials denoting existing and planned utilities
 - Description of all existing and planned utilities
 - Discussion of mitigation and avoidance recommendations to reduce utility costs
 - Cost estimate and timeframe for any relocations



Commitments and Formal Agreements

Formal Agreement with UAO during PD&E

- DUO and Project Manager coordinate with the Office of General Council to negotiate and execute an agreement with the UAO
- Agreements will be documented with the Office of General Council and included in the Utility Assessment Package maintained by the DUO
- Agreements could include ROW acquisition, utility easement or preliminary engineering

Commitments

- Documented in the Commitment Section of the Environmental Document
- Documented in the Project Commitment Record, Form No. 700-011-35

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
UTILITY WORK BY HIGHWAY CONTRACTOR AGREEMENT
(AT UTILITY EXPENSE)

Financial Project ID: _____ Federal Project ID: _____
County: _____ State Road No.: _____
District Document No: _____
Utility Agency/Owner (UAO): _____

THIS AGREEMENT, entered into this _____ day of _____, year of _____, by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the "FDOT", and _____, hereinafter referred to as the "UAO";

WITNESSETH:

WHEREAS, the FDOT, is constructing, reconstructing, or otherwise changing a portion of a public road or publicly owned rail corridor, said project being identified as _____ State Road No.: _____, hereinafter referred to as the "Project"; and

WHEREAS, the UAO owns or desires to install certain utility facilities which are located within the limits of the Project hereinafter referred to as the "Facilities" (said term shall be deemed to include utility facilities as the same may be relocated, adjusted, installed, or placed out of service pursuant to this Agreement); and

WHEREAS, the Project requires the location (vertically and/or horizontally), protection, relocation, installation, adjustment or removal of the Facilities, or some combination thereof, hereinafter referred to as "Utility Work"; and

WHEREAS, the FDOT and the UAO desire to enter into a joint agreement pursuant to Section 337.403(1)(b), Florida Statutes for the Utility Work to be accomplished by the FDOT's contractor as part of the construction of the Project; and

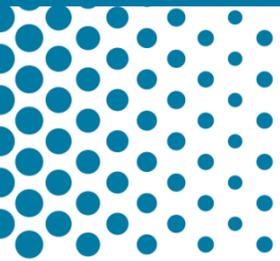
WHEREAS, the UAO, pursuant to the terms and conditions hereof, will bear certain costs associated with the Utility Work;

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein, the FDOT and the UAO hereby agree as follows:

1. Design of Utility Work
 - a. UAO shall prepare, at UAO's sole cost and expense, a final engineering design, plans, technical special provisions, a cost estimate, and a contingency Utility Work Schedule (said contingency schedule to be used in the case of a bid rejection) for the Utility Work (hereinafter referred to as the "Plans Package") on or before _____ year of _____.
 - b. The Plans Package shall be in the same format as the FDOT's contract documents for the Project and shall be suitable for reproduction.
 - c. Unless otherwise specifically directed in writing, the Plans Package shall include any and all activities and work effort required to perform the Utility Work, including but not limited to, all clearing and grubbing, survey work and shall include a traffic control plan.
 - d. The Plans Package shall be prepared in compliance with the FDOT's Utility Accommodation Manual and the FDOT's Plans Preparation Manual in effect at the time the Plans Package is prepared, and the FDOT's contract documents for the Project. If the FDOT's Plans Preparation Manual has been updated and conflicts with the Utility Accommodation Manual, the Utility Accommodation Manual shall apply where such conflicts exist.
 - e. The technical special provisions which are a part of the Plans Package shall be prepared in accordance with the FDOT's guidelines on preparation of technical special provisions and shall not

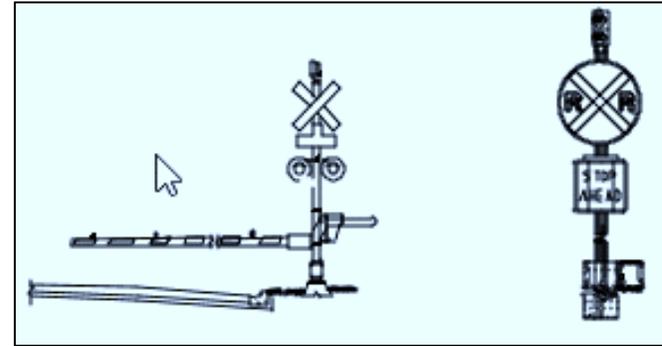
Page 1 of 9

Railroad Procedure



Coordination

- Coordinate with District Rail Coordinator (DRC) for information on existing railroad lines such as:
 - Rail Owner
 - Number of Tracks
 - Present and future use of the railroad line
 - Condition of crossing
 - Existing and proposed protection devices
- Coordination with Railroads and Local Governments
 - Required for any project that includes construction, reconstruction or closing of a highway-rail grade crossing in accordance with Section 337.11, F.S. and Chapter 14-57, F.A.C.
 - PD&E PM must work closely with the DRC who is responsible for this coordination



Railroad Grade Crossing Application Form

Projects that require a closing or construction of a new grade crossing must complete the Railroad Grade Crossing Application, Form No. 725-090-66 :

- Safety Analysis of the grade crossing
- Discussion of land use and traffic generators served by the crossing
- Existing and projected traffic
- Effect on rail operations
- Effect on emergency vehicles access

Rule 14-07.010, F.A.C. STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION RAILROAD GRADE CROSSING APPLICATION 725-090-66 (Rev. 09/13)

ROAD NAME OR NUMBER	COUNTY/CITY NAME

A. IDENTIFICATION

Submitted By: _____

Applicant: _____

Office: _____

Telephone: _____

Address: _____

Application For:

Closing a public highway-rail grade crossing by:

- roadway removal
- rail removal

Opening a public highway-rail grade crossing by:

- new rail line construction
- new roadway construction
- conversion of private to public highway-rail grade crossing

B. CROSSING LOCATION

FDOT/AAR Crossing Number: _____

Jurisdiction for Street or Roadway by Authority of: City County State

Local Popular Name of Street or Roadway: _____

Railroad Company: _____

Railroad Mile Post: _____

Submitted for the Applicant by: _____ Name and Title DATE: _____

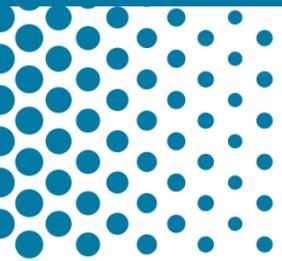
Application FDOT Review by: _____ Central Rail Office DATE: _____

REFERENCES:
(Specific Legal Authority) 334.044 F.S.
(Law Implemented) 335.141 F.S.
(Administrative Rule) 14-07.012 F.A.C.

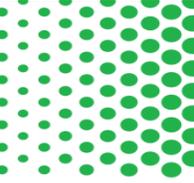
Design Requirements and Other Coordination

- Viable project alternatives evaluated in detail must meet the Department's Railroad Design Criteria –Refer to the FDOT Design Manual.
- The Project Manager and the District Rail Coordinator should work closely together and remain cognizant of the project schedule.
- The Project Manager, District Rail Coordinator, and railroad company should also work together to establish and anticipate any coordination efforts.
- Documentation of the coordination with the railroads must be included in the project file and summarized in the Environmental Document and the Preliminary Engineering Report.

Documentation



Resources



- PD&E Manual - <http://www.fdot.gov/environment/pubs/pdeman/pdeman1.shtm>
- ETDM Manual – <http://www.fdot.gov/environment/pubs/etdm/etdmmanual.shtm>
- Utility Accommodation Manual –
<http://www.fdot.gov/programmanagement/utilities/Docs/UAM/UAM2017.pdf>
- Rail Handbook- <http://www.fdot.gov/rail/publications.shtm>
- OEM Training - <http://www.fdot.gov/environment/sched/train1.shtm>