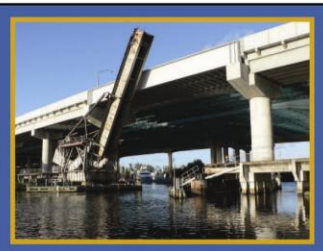

South Florida Rail Corridor Bridge over the New River

Key Project Issues

FM No. 406919-1-22-01
ETDM No. 9087

ETAT Coordination Workshop

May 26 & 27, 2009

FDOT Project Team

Project Manager
Ray Holzweiss
Fabiana Gonzalez

Senior Project Advisors
Senior Project Manager
Ray Holzweiss

Environmental Administrator
Ann Broadwell

Environmental
Richelle Ellis

Noise & Air Quality
Richard Young

Permitting/Agency Coordination
Richard Young
Manny Espinal

Socio-Cultural Effects
Jorge Padron

Engineering
Ray Holzweiss/ Fabiana Gonzalez

Alternative Development
Fabiana Gonzalez

Design Review & Support
Ron Wallace

Drainage
Manny Espinal
Georgi Celusnek

Structures
Fred Ochoa
Daniel Gonzalez

Railroad
Hector Hartmann

Construction
Carlos Bermudez

Public Involvement
Jorge Padron
Fabiana Gonzalez

Outreach
Fabiana Gonzalez

Public Involvement Process Support
Jorge Padron

Consultant Team

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HARDESTY & HANOVER, LLP
ENGINEERING

SCHEDA ECOLOGICAL ASSOCIATES INCORPORATED

Bergmann associates

TIERRA
GEOTECHNICAL • MATERIALS ENGINEERING

TBE GROUP

JANUS RESEARCH

hmmh

ACA

SEA DIVERSIFIED

Project History

SFRC Rolling Lift Bridge #869928

- Constructed for the Miami Extension of the Seaboard Air Line Railway
- Designed by the Scherzer Rolling Lift Bridge Company in Chicago, Illinois
- Original plans prepared in March 1926
- Constructed by the American Bridge Company
- Open to traffic in 1927
- Approach spans replaced in 1978
- Rail corridor purchased by FDOT in 1988

Recent Project History

- Tri-Rail Double Tracking Project
- High-Level-Fixed Bridge over the South Fork of the New River
- Existing bridge approach spans shifted
- Emergency evaluation and crutch bent design

Purpose & Need

- Existing bridge is structurally deficient
  - Structures details (H&H)
- Crutch bents have reduced horizontal clearance by 8 ft. (63.8 ft. to 56 ft.)
  - USCG will require 70 ft. clearance between fenders
- O&M Agreement between FDOT and CSXT requires bridge replacement
- Vested interest to replace bridge soon
  - Safer/more secure bridge
  - Alternate crossing of the South Fork
  - Enhanced navigation

Scope of Services

- Evaluate Environmental & Engineering Parameters
- Obtain Public Input
- Consider Historical Value
- Identify a Preferred Alternative
- Develop Preliminary Plans
- Prepare and Submit Bridge Permit Package
- Achieve an Approved EA
- Obtain Signed FONSI from USCG

Ultimate goal: Put FDOT in a position to replace the bridge.

Unique Project Issues

- USCG as Lead Federal Agency
- Railroad bridge
- CSXT Interface
- Historical Significance
- Interagency Relationships
- Maintenance of Traffic (Rail & Marine)
- Proximity of other structures will impact design and construction

Bridge Alternatives

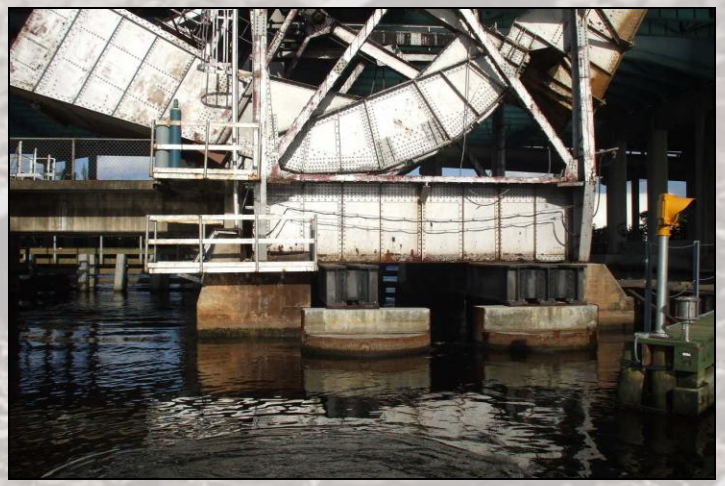
- Rehabilitation
- Fixed Span
- Swing Span
- Single Leaf Bascule
  - with Closed Counterweight Pit Bascule Pier
  - with Overhead Counterweight
- Vertical Lift

To be evaluated with Context Sensitive Design objectives in mind.

Bridge Alternatives

Rehabilitation

- Not likely feasible due to substructure damage, structural steel deterioration and fatigue
- 2005 inspection substantiates severe damage



Bridge Alternatives

Temporary Alignment

Advantages

- Final bridge on original alignment

Disadvantages

- Significantly higher costs
- For rail bridges-no cost savings
- Temporary fixed bridge will impact marine activity

Metro North over Pequonnock River

Bridge Alternatives

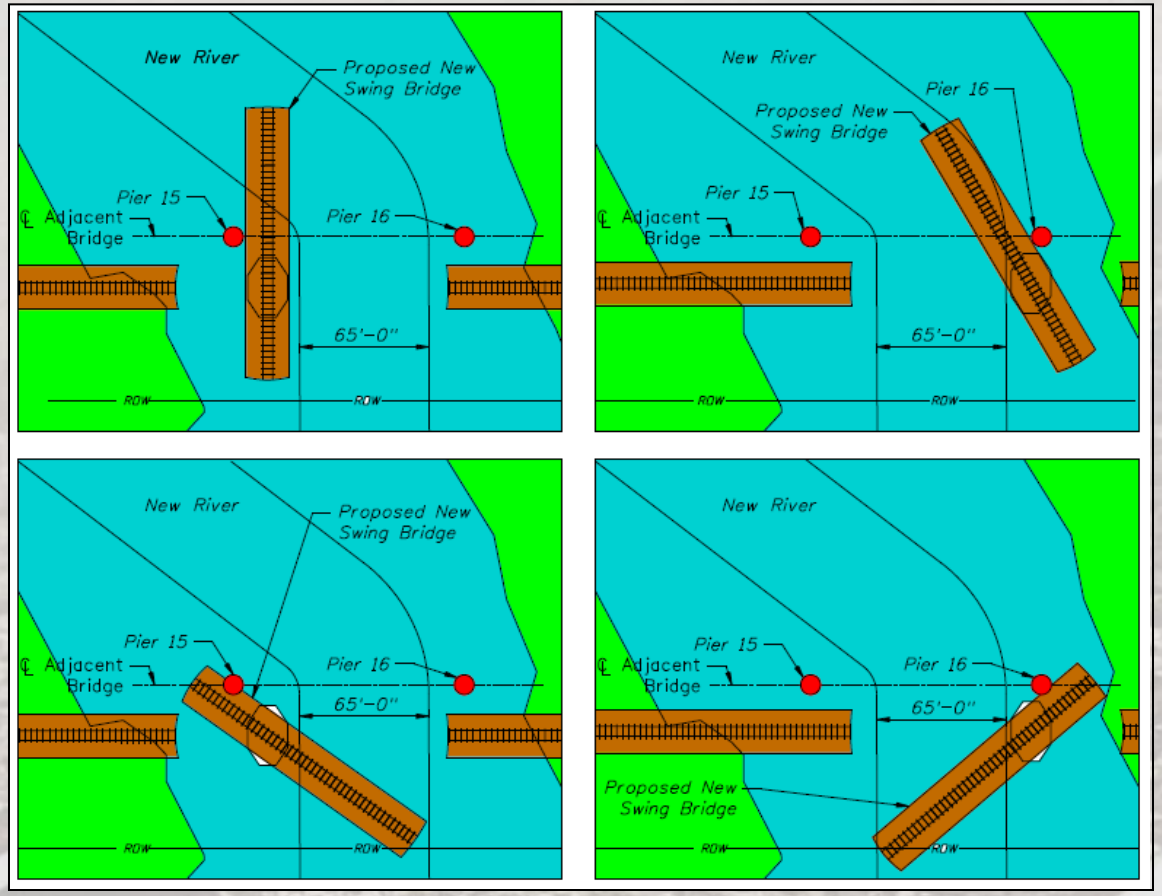
High Level Fixed

- Geometrically not viable for freight trains
- 0.25% maximum allowable grade

Bridge Alternatives

Swing Span

- Interference with adjacent structures, navigation channel and ROW.



Bridge Alternatives

Single Leaf Bascule

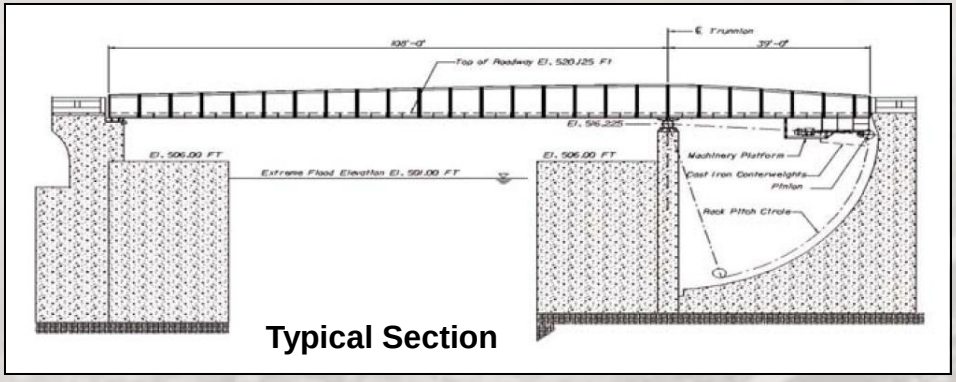
with Closed Counterweight Pit Bascule Pier

Advantages

- Does not require “Structural” lock bar connection
- Prestressed for Live Load
- One set of machinery
- Simple electrical system

Disadvantages

- **Costly**
- Counterweight pit maintenance required
- Requires compromise of counterweight pit depth vs. profile grade change
- Live Load supported by trunnions accelerates wear and fatigue
- **Machinery platform is susceptible to flooding**



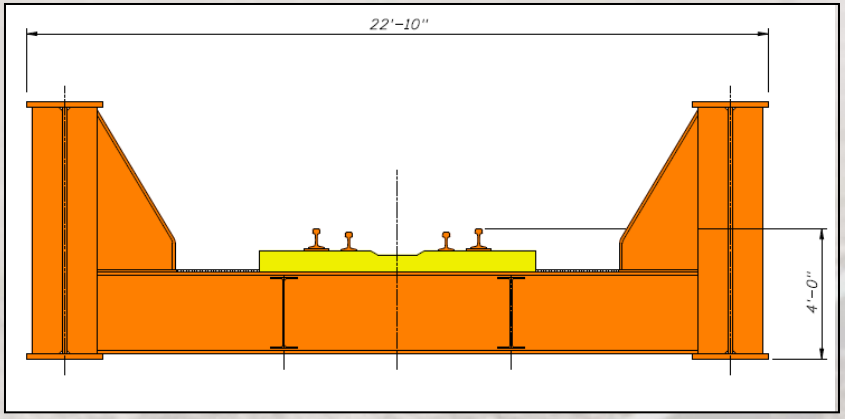
Typical Section


New CSXT over New River (Rendering)

Bridge Alternatives

Single Leaf Bascule

with Overhead Counterweight



Advantages

- **Does not require bascule pier counterweight pit**
- **Minimizes required profile grade change**
- Does not require “Structural” lock bar connection
- Prestressed for Live Load
- One set of machinery
- Simple electrical system

Disadvantages

- Live Load supported by trunnions or tread plates accelerates wear and fatigue
- Rolling Lift: Misalignment of wear & tread plates

New CSXT over New River
(Trunnion Bascule - Rendering)

New CSXT over New River
(Rolling Lift - Rendering)

Bridge Alternatives

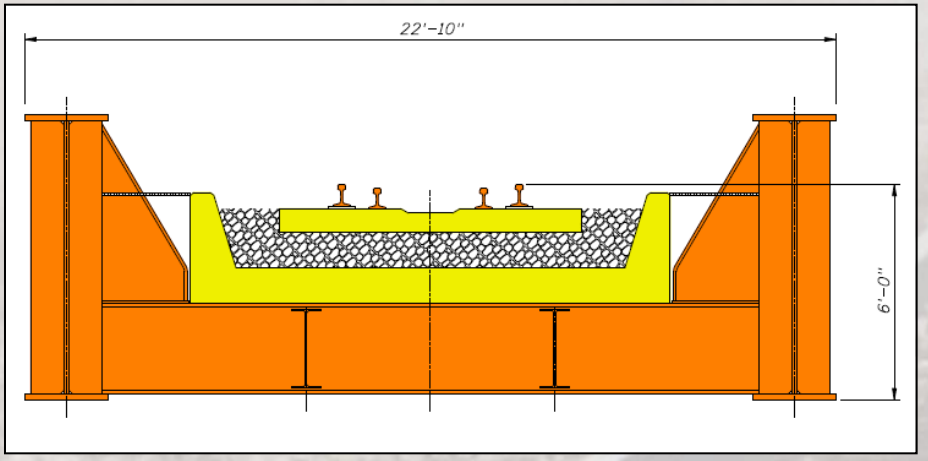
Vertical Lift

<u>Advantages</u>

- Simple span
- Allows ballasted deck
- Minimizes required profile grade change
- No live load on machinery

<u>Disadvantages</u>

- Two sets of machinery
- Rope maintenance
- Complex electrical system
- Towers create visual impact



New CSXT over New River
(Rendering)

Route 7 over the Passaic River

Alignment Alternatives

Partial On-line Alignment

- Contractor Provided Unlimited Access to Bridge Site
  - No CSXT Coordination
  - Eliminates Premium for Scheduling Uncertainty
- Minimizes Track Work
- Requires Rail Detour
  - FEC Corridor
    - May be cost prohibitive
  - High Level Fixed Bridge
    - Requires breaking trains and adding locomotives
    - CSXT acceptance is an issue

Alignment Alternatives

Off-line Alignment

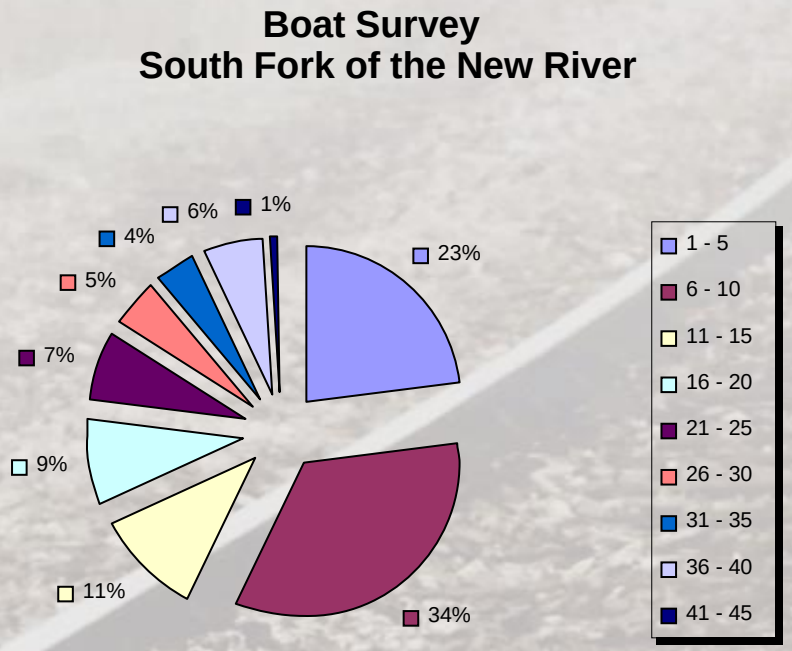
- Span can be increased to provide 79 ft.
- Navigation channel to match high level fixed bridge
- Minimizes rail interruption
- Requires CSXT coordination
- All within existing R/W

Rail Operations

- OMAPA (CSXT Control)
- SFOMA (FDOT Control)
- High Level Fixed Bridge
  - Helper Train
  - Staging–CSX Transflo Bulk Transfer Terminal (1 block N. of Davie Boulevard)
- FEC corridor options could be permanent (“No Build”)

Boat Survey

- Important to determine potential for affect during construction and future condition
- If changes in vertical clearance are considered, boat height will be critical
- Traditional bridge tender records are not be available

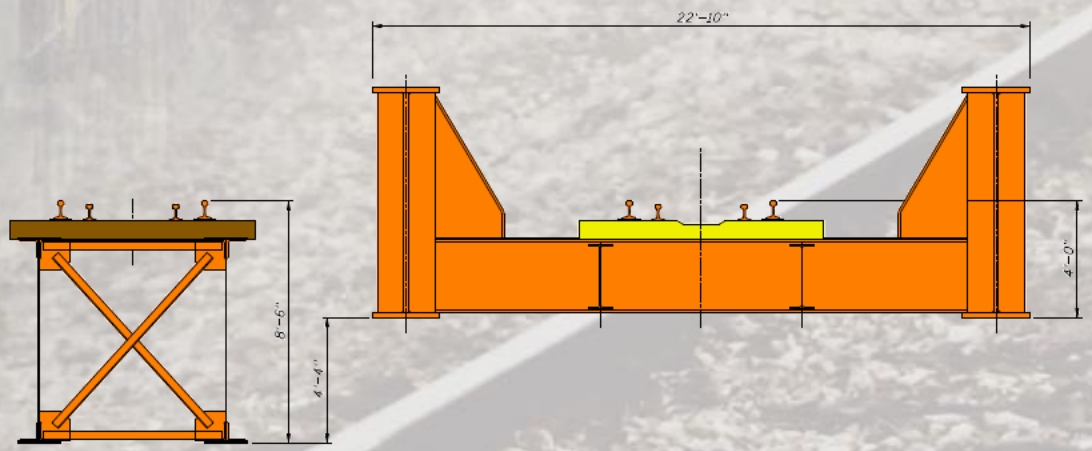


Source: Bergmann Associates, June 1999

Design Details

Through Girder Would Improve Vertical Clearance

- Span predominantly in open position (clear 55 ft.)
- Increase to 6 ft. minimum as per FDOT Drainage Manual
  - Increase grade (0.25%) between tangents
  - Change superstructure to through girder
- Little benefit achieved with greater than 6 ft. clearance



Project Environment

- Section 4(f)
- Cultural Resources (Section 106)
- Wetlands and Water Quality
- Threatened and Endangered Species
- Essential Fish Habitat
- Contamination
- Noise

Efficient Transportation Decision Making ETDM Overview

Moderate

- Coastal and Marine
- Contaminated Sites
- Floodplains
- Wildlife and Habitat

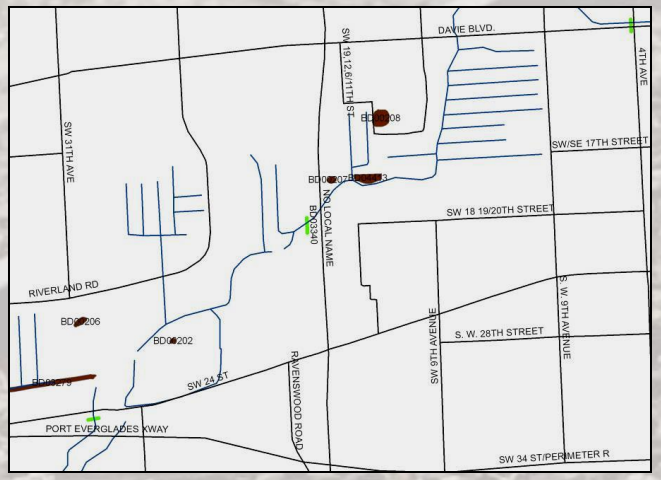
Substantial

- Navigation
- Historic and Arch. Sites
- Secondary and Cumulative Effects

- No “Dispute Resolution” designations
- Anticipated Class of Action: Environmental Assessment (EA)

Cultural & Historic Resource Issues

- Resolve known cultural resources issues early
- Prehistoric archaeological site east of I-95 (BD00207 Sayward Site)– no existing SHPO evaluation
- SFRC movable bridge is eligible for listing
- One of two similar bridges remaining along CSX corridor in S. Florida
- Coordinate with SHPO (Chapter 872, F.S.)
- Section 106 required-need for CRC and CRAS



Section 4(f) Process

- USCG as Homeland Security
- Cooperating and Participating Agencies (USDOT)
  - FRA and FTA
- Flamingo Park (7.82 Acres)
  - City-owned, with playground and picnic areas
  - No anticipated impacts to R/W or access

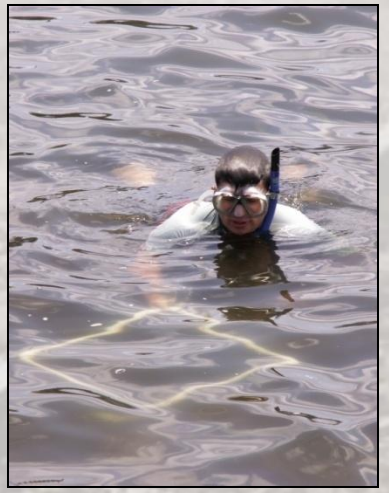
Section 106 Major Steps

- Case Study Report-improvements/potential impacts (submit to SHPO)
- Avoid impacts (No Build); Minimize harm (Rehab); Relocate or leave as a landmark
- Form CRC-3 Step Process-Intro/Alternatives/Consensus
- Potentially interested parties:
  - Broward Co. Historic Commission
  - Div. of Historical Resources
  - South Florida Railway Museum
  - Ft. Lauderdale Historical Society
  - Broward Trust for Historic Preservation
  - Florida Historical Society
  - Railway & Locomotive Historical Society
- MOA-Mitigation of adverse effects/action is desirable
- Bridge Marketing Plan-advertise
- Mitigation-video log, model, PowerPoint

Wetlands and Water Quality

Wetlands

- South Fork of New River–estuarine environment with minimal wetland vegetation
- SAV Survey (July 21, 2008)–results yielded documented absence of SAV (will repeat during this growing season)



Water Quality

- Class III Waters According to Chapter 62-302
- No Special Water Quality Designations

Threatened and Endangered Species

Manatee

- Habitat present
- Manatees are known to occur/mortalities exist
- Few mortalities within 1 mile of bridge
- USFWS Manatee Consultation Area
- FWRI Manatee Protection Zone
- Standard construction precautions should suffice

Threatened and Endangered Species

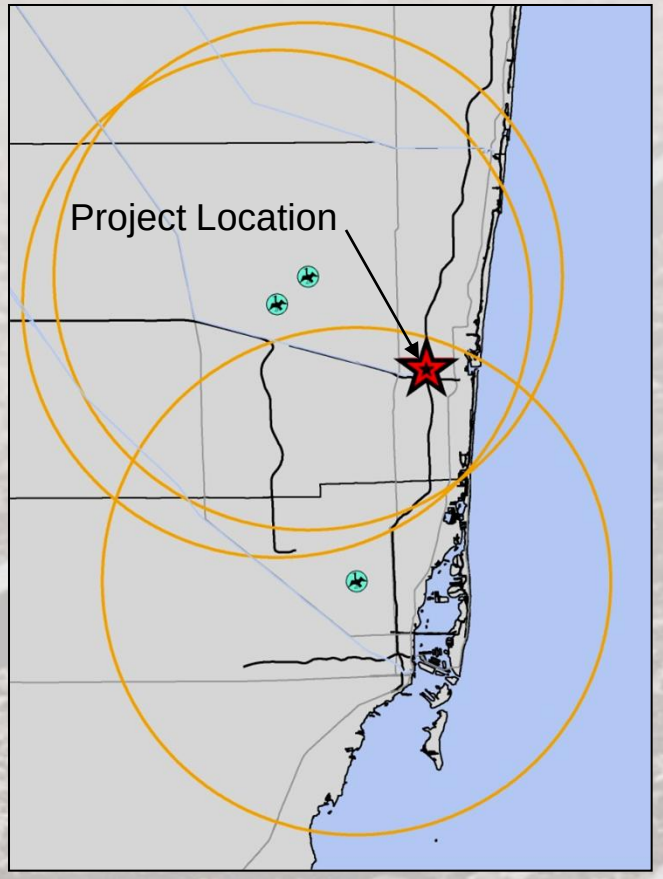
Snail Kite

- Little habitat present
- No occurrence records
- USFWS Snail Kite Consultation Area

Threatened and Endangered Species

Wood Stork

- Little foraging present
- No occurrence records
- Project lies within the Core Foraging Area of 3 known colonies



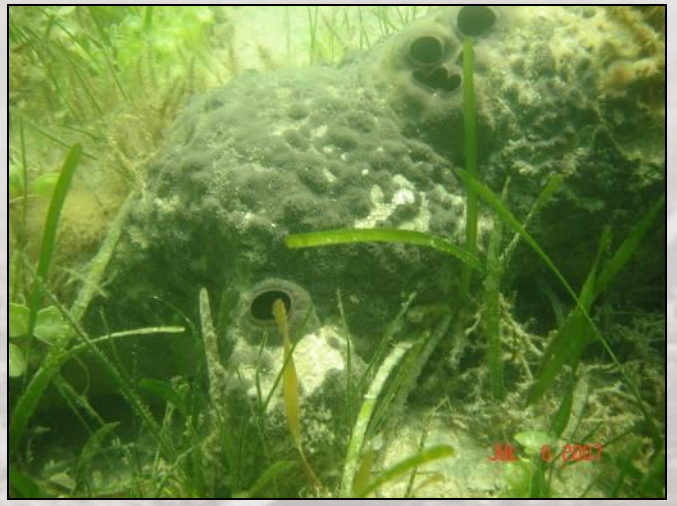
Threatened and Endangered Species

Smalltooth Sawfish

- Habitat present
- Possible occurrence
- Frequent river and coastal shallows

Essential Fish Habitat

- Coordination with NMFS (Brandon Howard)
- Will need to document the potential for impacts
- Little vegetated habitat exists
- Protected marine species could occur

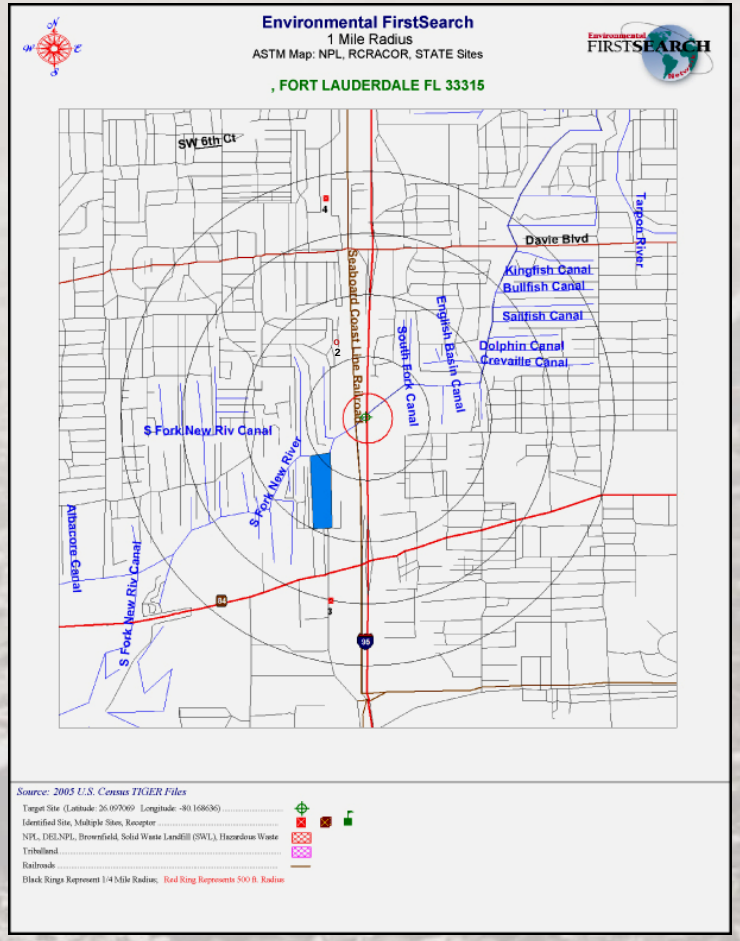


Contamination Screening

- In accordance with Chapter 22 of the FDOT PD&E Manual
- Determine risk associated with potential contamination sources from landside activities
- Provide appropriate abatement or remedial plans

Contamination Screening

- Preliminary screening (500 ft.)
  - 8 petroleum tanks
  - 1 hazardous waste site
  - 3 RCRA
  - 1 brownfield
- Contamination could exist at any location along this corridor
- Several marine facilities were identified as Small Quantity Generators (SQG)
  - Petroleum products
  - Fiberglass
  - Acetone
  - Toluene



Asbestos & Lead Based Paint Survey

- The SFRC movable bridge has several components that require asbestos and lead inspection
  - Bridge structural steel (lead)
  - Control house electrical elements & floor tile (asbestos)

Permits

- USCG–Bridge Questionnaire and Permit (for bridge and potential wetland impacts)
- USACE–Nationwide Section 404 Dredge and Fill Permit
- SFWMD–Environmental Resource Permit
- FDEP–NPDES
- Broward County Development & Environmental Regulation (DER)
  - General Permits for Bridge & Canal Crossings
  - Environmental Resource License
  - Surface Water Management License
  - ERP Application
  - Aquatic & Wetland Environmental Resource License

Floodplain & Drainage Considerations

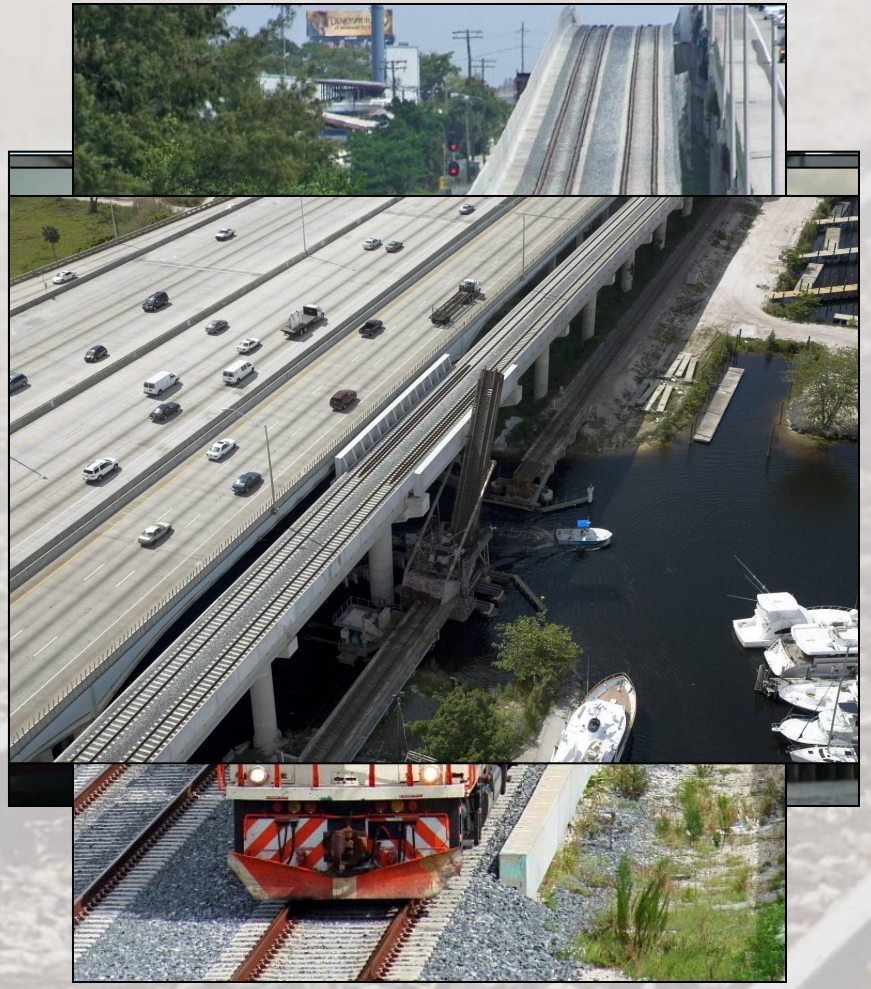
- Located within FEMA Flood Zone AE
- Coordination will be required with
  - SFWMD
  - USACOE
  - USCG
- Changes in impervious area will be
  - Minor
  - **and** Temporary

Noise Analysis Steps

- Identify sensitive land uses
- Measure existing noise levels to establish baseline
- Conduct analysis of future noise based on project alternatives
- Utilize FTA/FRA methodology (HMMH models)
- Compare future noise with criteria
- Recommend mitigation at locations with impact

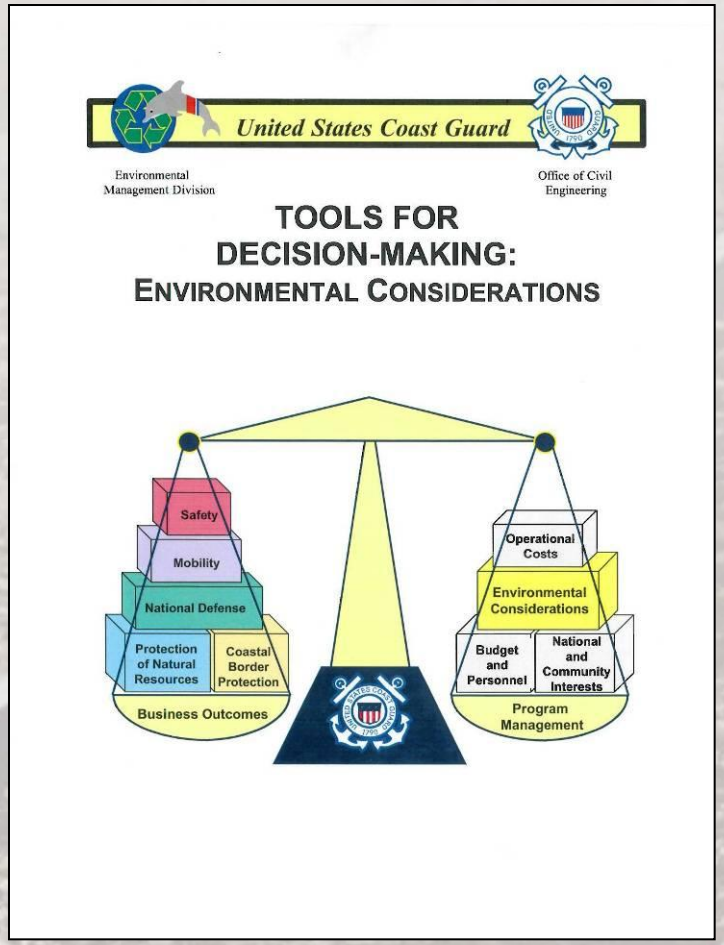
Noise Model Variables

- Distance-source to receptors, I-95 impacts
- Speed, number of cars, locomotives, pass-bys
- Type and location of track, possible benefits of CWR, Jointed Track, Ballasted Deck, and Quieter Joints
- New bridge design and construction
- Multiple modal sources–rail, roadway, marine, aviation, & industrial
- Areas of concern
  - Flamingo Park
  - Flamingo Park Residential Area
  - Holland Mobile Home Park
  - Marina Bay

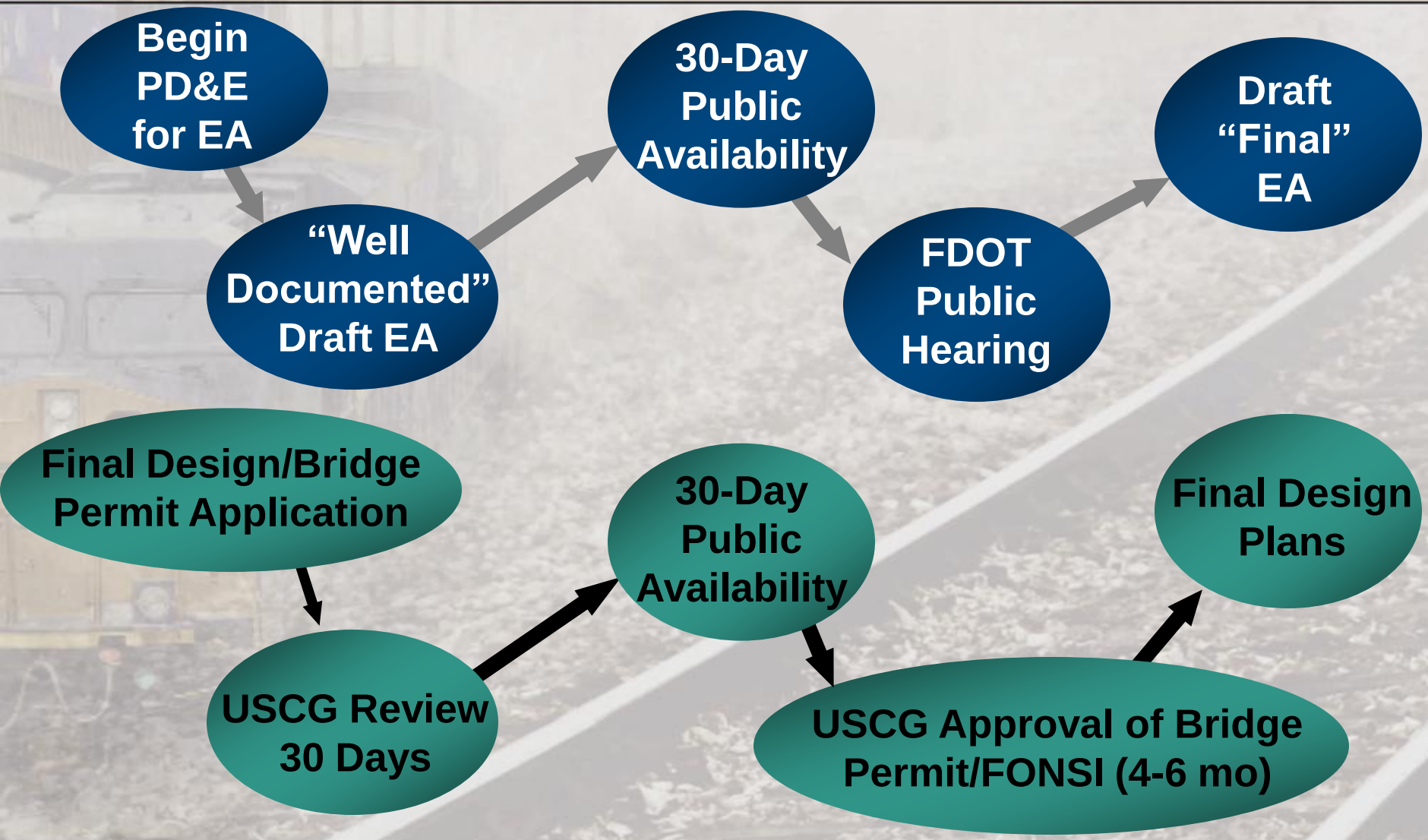


U.S. Coast Guard NEPA Process

- Environmental Assessment
- Bridge Plans
- Bridge Permit Application
- FONSI



U.S. Coast Guard EA/FONSI Process



Public Involvement

Residential Communities

- Greater Flamingo Park Civic Association
- Holland Mobile Home Park
- The Falls at Marina Bay
- Oak River Run HOA
- River Oaks Civic Association
- River Run Civic Association
- Riverland Civic Association
- Riverland Village Civic Association
- Riverland Woods HOA
- Riverlandings HOA
- Shady Banks Civic Association
- Tarpon River Association
- Lauderdale West Association

Public Involvement

Businesses/Associations

- Jackson Marina
- Marina Bay
- Lauderdale Marine Center
- Yacht Haven Park Marina
- Riverbend Marine Center
- Marina Mile 84 Association
- Marine Industries Association of S. Florida
- Jungle Queen
- MIA and FTL Boat Shows

Elected Officials

- Fort Lauderdale–District 4 Commissioner Romney Rogers
- Broward County–District 7 Commissioner John Rodstrom

Schedule Milestones

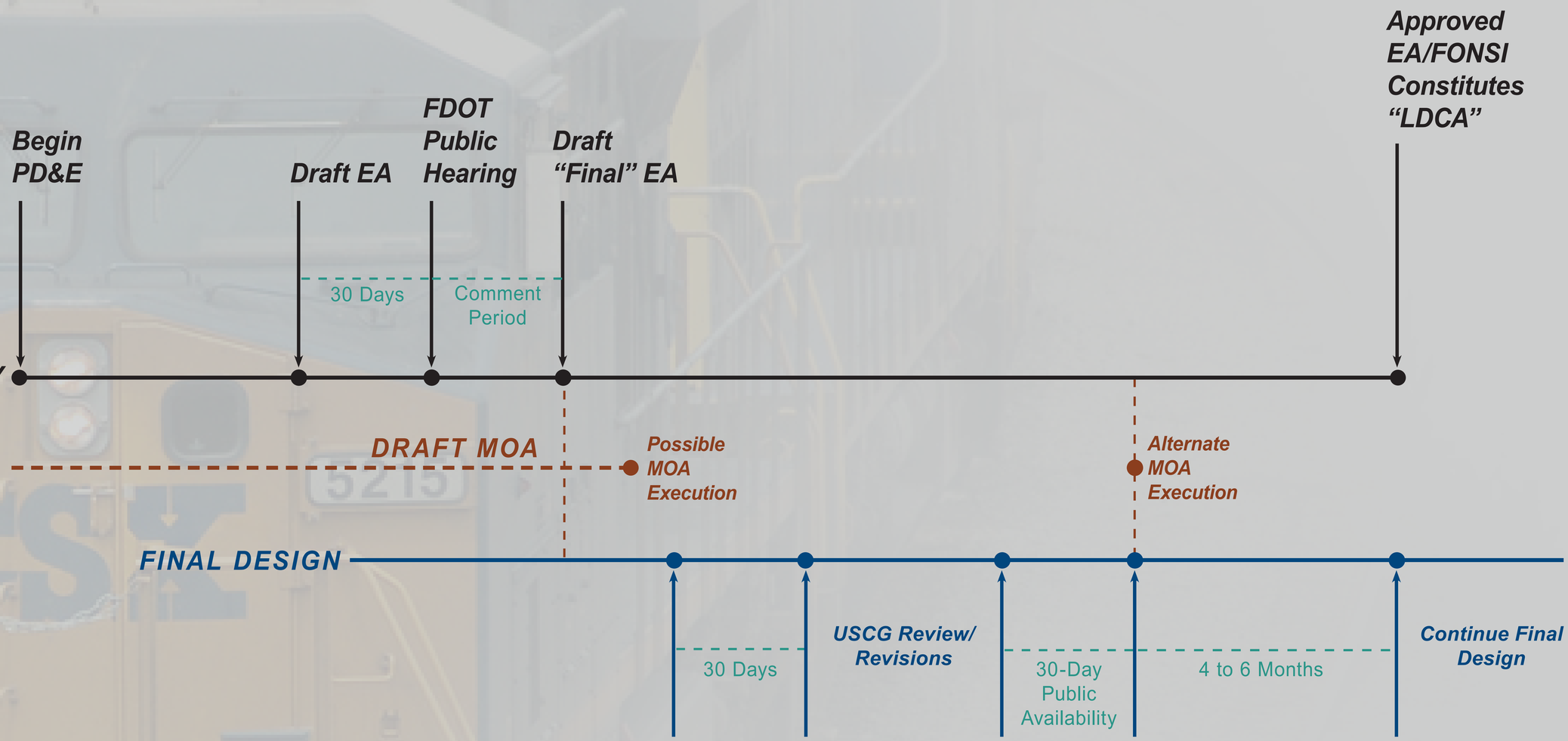
- Notice to Proceed – January 2009
- Agency / Public Kick-Off Meeting – June 2009
- Identify Preferred Alternative – October 2009
- Begin Design Phase – February 2010
- FDOT Public Hearing – June 2010
- Submit Bridge Application to USCG – March 2011
- EA / FONSI, Permits (“LDCA”) – January 2012

Thank you…

… for your time and participation.

Questions & Answers

PD&E and Final Design Process for FDOT and USCG (EA/FONSI)



Legend

EA - Environmental Assessment
MOA - Memorandum of Agreement
LDCA - Location Design Concept Acceptance
ERP - Environmental Resource Permit
FONSI - Finding of No Significant Impact