CRIBARI BRIDGE
RTE 136 OVER SAUGATUCK RIVER
WESTPORT

Cribari Memorial Bridge
Project Advisory Committee (PAC)
Meeting #5

CTDOT State Project # 158-214

May 8, 2019

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CRIBARI MEMORIAL BRIDGE
Meeting Agenda

- Welcome & Introductions
- Ground Rules & PAC Role Refresher
- PAC Meeting Purpose
- NEW Binder Contents
- Summary of Key Issues Discussed
- Summary of Alternatives & Open Discussion
- Next Steps & Timeline

CRIBARI MEMORIAL BRIDGE
Ground Rules Refresher

Meetings will

- Start and end on time
- Focus on input from PAC members
- Showcase diverse perspectives

PAC members will

- Be courteous and respect all opinions. Rude behavior will not be tolerated
- Have one speaker at a time
- Provide honest input
- Respect recommendations discussed at previous meetings
- Review materials provided in advance

Purpose: Information Exchange

What Is Our Purpose Tonight?

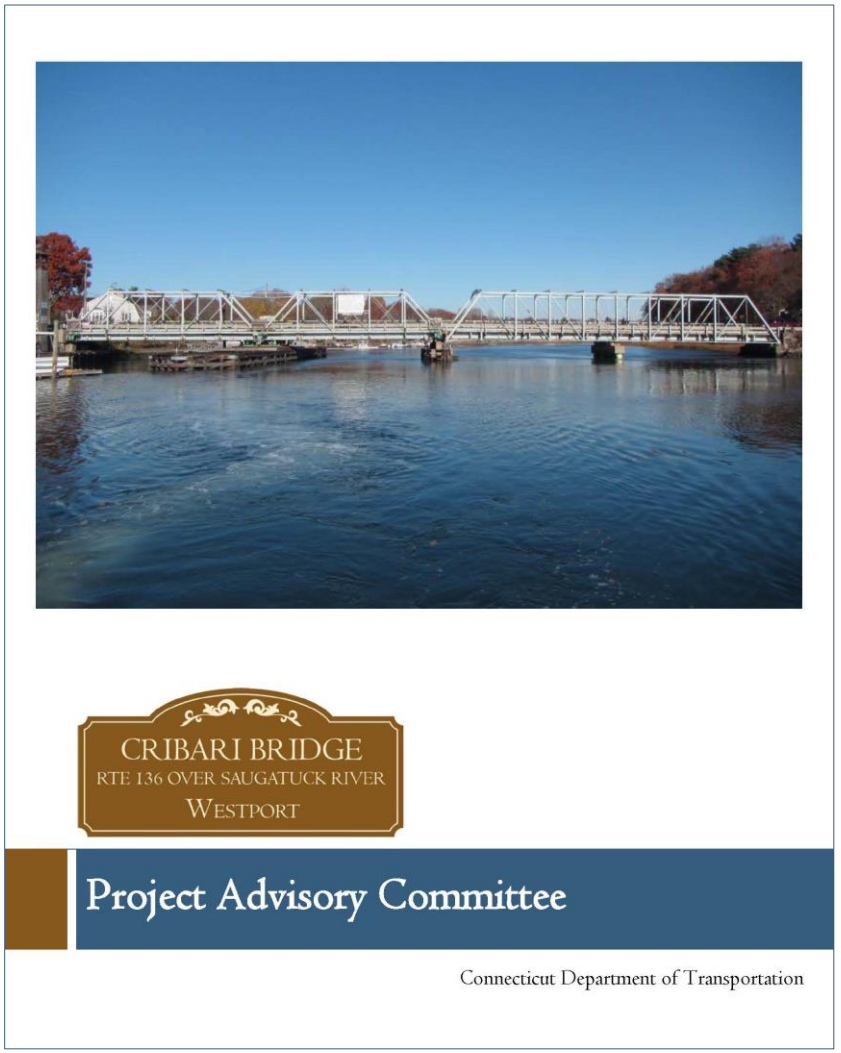
Review Issues and Solicit Comments from PAC on Alternatives

Review Next Steps

CRIBARI MEMORIAL BRIDGE
New Binder Contents

NEW Binder materials

- Updated Comparison Matrix
- Clearance Diagrams
- Bridge Opening Information
- Meeting #4 Summary
- Meeting #5 Presentation



What You Have Told Us

Key Feedback on Alternatives Received

- Provide a simple method of comparing options
- Consider a conservation alternative
- Consider the height, width, and **scale** of alternatives
- Key environments to be considered:
  - property, historic, visual, community character, bike/pedestrian, traffic & parking, public safety, navigable waters, water quality, natural environment
  - others?

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CRIBARI MEMORIAL BRIDGE
Review of Alternatives & Workshop

CONNECTICUT DEPARTMENT OF TRANSPORTATION

	No Build	Conservation	Rehabilitation	Replacement (On-Alignment)	Replacement (Off-Alignment)
Work Involved	• Minor repairs performed, as required, by DOT Maintenance forces	• Restore bridge to its 1993 condition • Repair of damaged elements • Structural repair of Piers 2 and 3	• Repair/widening of trusses • Structural repair of Piers 2 and 3 • Crash-tested guide rail • Water-resistant mechanical equipment • Roadway barrier for bridge openings	• Replacement of the existing bridge with a new structure on a similar alignment	• Replacement of the existing bridge with a new structure on an alignment located north from the existing
Purpose and Need					
Address Structural Deficiencies	• Repairs made; however, limited by capabilities of DOT Maintenance	• Load restrictions no longer required	• Load restrictions no longer required • Widened trusses reduce chance of impact damage	• New structure supporting current load standards	• New structure supporting current load standards
Address Functional Deficiencies		• Fixes height restriction caused by electric box • Fixes bent horizontal truss members	• Vertical height raised, ranging from 13'-11" to 14'-3"	• Vertical height raised to 16'-3" (min.) • Lane width increased	• Vertical height raised to 16'-3" (min.) • Lane width increased
Increased vehicular safety			• New barrier system for bridge openings • Crash-tested railing	• Wider travel lanes and shoulders • New barrier system for bridge openings • Crash-tested railing	• Wider travel lanes and shoulders • New barrier system for bridge openings • Crash-tested railing
Increased bicycle/ pedestrian safety			• Potential widening of sidewalk *	• Wider sidewalk • Wider shoulder widths	• Wider sidewalk • Wider shoulder widths
Improved marine travel				• Increased marine vertical clearance • Faster bridge openings	• Increased marine vertical clearance • Faster bridge openings
Considers historic character	• Trusses remain as they are with periodic repair	• Trusses remain as they are with periodic repair	• Trusses are maintained but widened		
Resilient to changing climate			• Water-resistant mechanical equipment	• Water-resistant mechanical equipment • Equipment raised from existing location	• Water-resistant mechanical equipment • Equipment raised from existing location
Design Considerations					
Roadway Vertical Clearance	12'-10" (electric box) 13'-10" (horizontal members)	13'-10"	13'-11" to 14'-3"	16'-3" (min.) **	16'-3" (min.) **
Marine Vertical Clearance	Less than 7'-0"	Less than 7'-0"	Less than 7'-0"	Increased from existing **	Increased from existing **
Lane Width	9'-9"	9'-9"	9'-9"	10' to 12' **	10' to 12' **
Bike Path/Shoulder Width	0'	0'	0'	4' to 5' **	4' to 5' **
Intersection Improvements	No change from existing	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.	Lengthening of right turn lane leading to Riverside Ave.
Sidewalks	• 4'-6" sidewalk located along north side	• 4'-6" sidewalk located along north side	• 4'-6" sidewalk located along north side • Potential widening of sidewalk*	• 5'-6' wide sidewalk along north side	• 5'-6' wide sidewalk along north side
Bridge Openings	No change from existing	No change from existing	No change from existing	Reduced/faster bridge openings	Reduced/faster bridge openings
Rights-of-Way	No impacts	Temporary easements for temporary bridge**	Temporary easements for temporary bridge**	Temporary easements for temporary bridge**	Permanent acquisitions and temporary easements anticipated **
Construction Disruption to Property	• Off-peak closures of bridge to perform maintenance	• Temporary impacts to north parking lot • Temporary relocation of driveway	• Temporary impacts to north parking lot • Temporary relocation of driveway	• Temporary impacts to north parking lot • Temporary relocation of driveway	• Permanent partial take of parking lot • Permanent relocation of driveway
Wetlands/Water Quality	• Repairs to piers • Impacts as needed for maintenance	• Repairs to piers • Installation/removal of temporary bridge**	• Repairs to piers • Installation/removal of temporary bridge	• Replacement of existing bridge • Installation/removal of temporary bridge	• Installation of new bridge • Removal of existing bridge
Construction Duration	As needed for maintenance	2-3 years	2-3 years	3 years	3 years
Anticipated Structure Service Life	20-25 years	25-40 years	25-40 years	75-100 years	75-100 years
Estimated Cost ***	Maintenance costs as required	$15,500,000 - $19,500,000	$17,800,000 - $20,300,000	$35,200,000 - $42,500,000	$33,800,000 – $39,200,000

*under consideration based on PAC discussion
**exact values would be vetted out at design level if chosen
***Estimated costs are derived from the Rehabilitation Study Report dated June 2016, as these are only alternates for impact analysis, and full designs for cost analysis have not yet been developed

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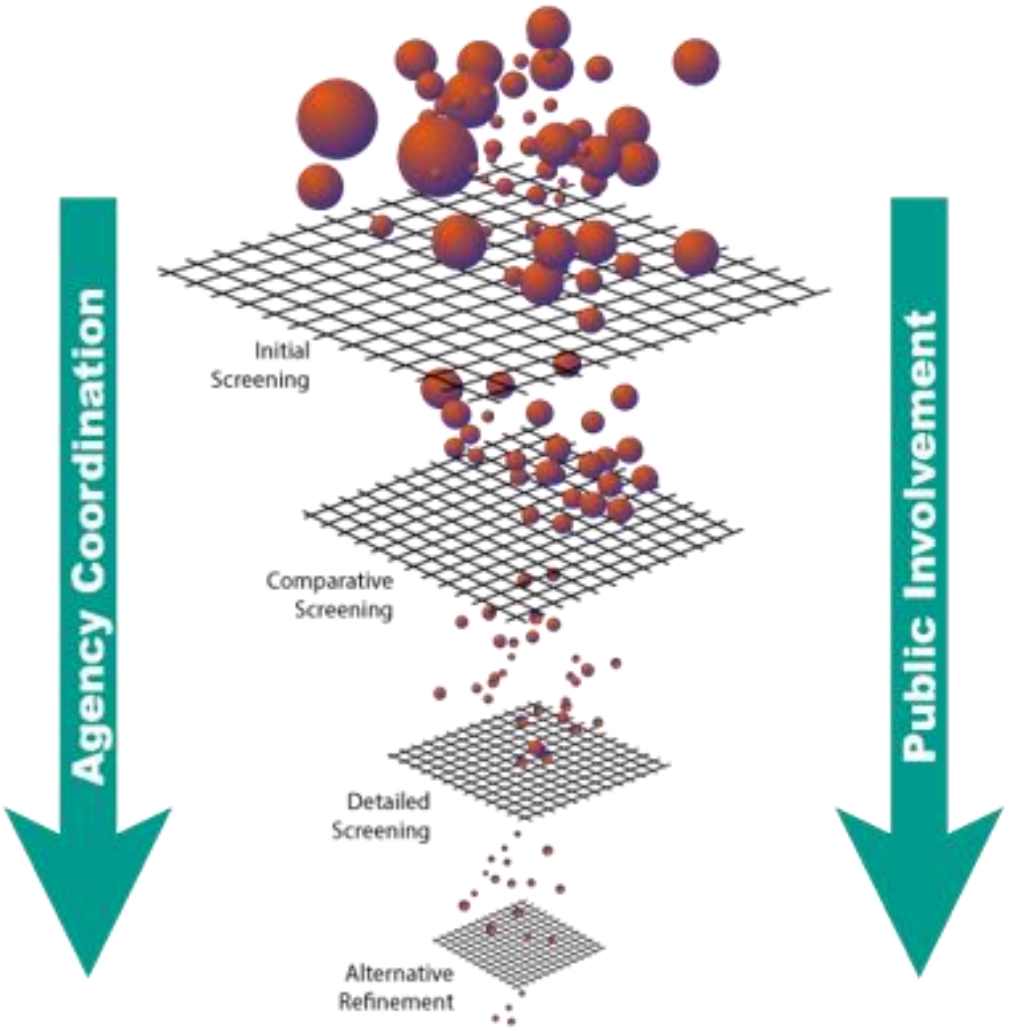
CRIBARI MEMORIAL BRIDGE
Alternatives Screening Process

CONNECTICUT DEPARTMENT OF TRANSPORTATION

FULL RANGE OF ALTERNATIVES



FINAL ALTERNATIVES FOR EVALUATION

CRIBARI MEMORIAL BRIDGE
What Do You Think?

Alternatives Comparison Chart

	No Build	Conservation	Rehabilitation	Replacement (On-Alignment)	Replacement (Off-Alignment)
PAC Member Name/ Organization:					

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Next Steps

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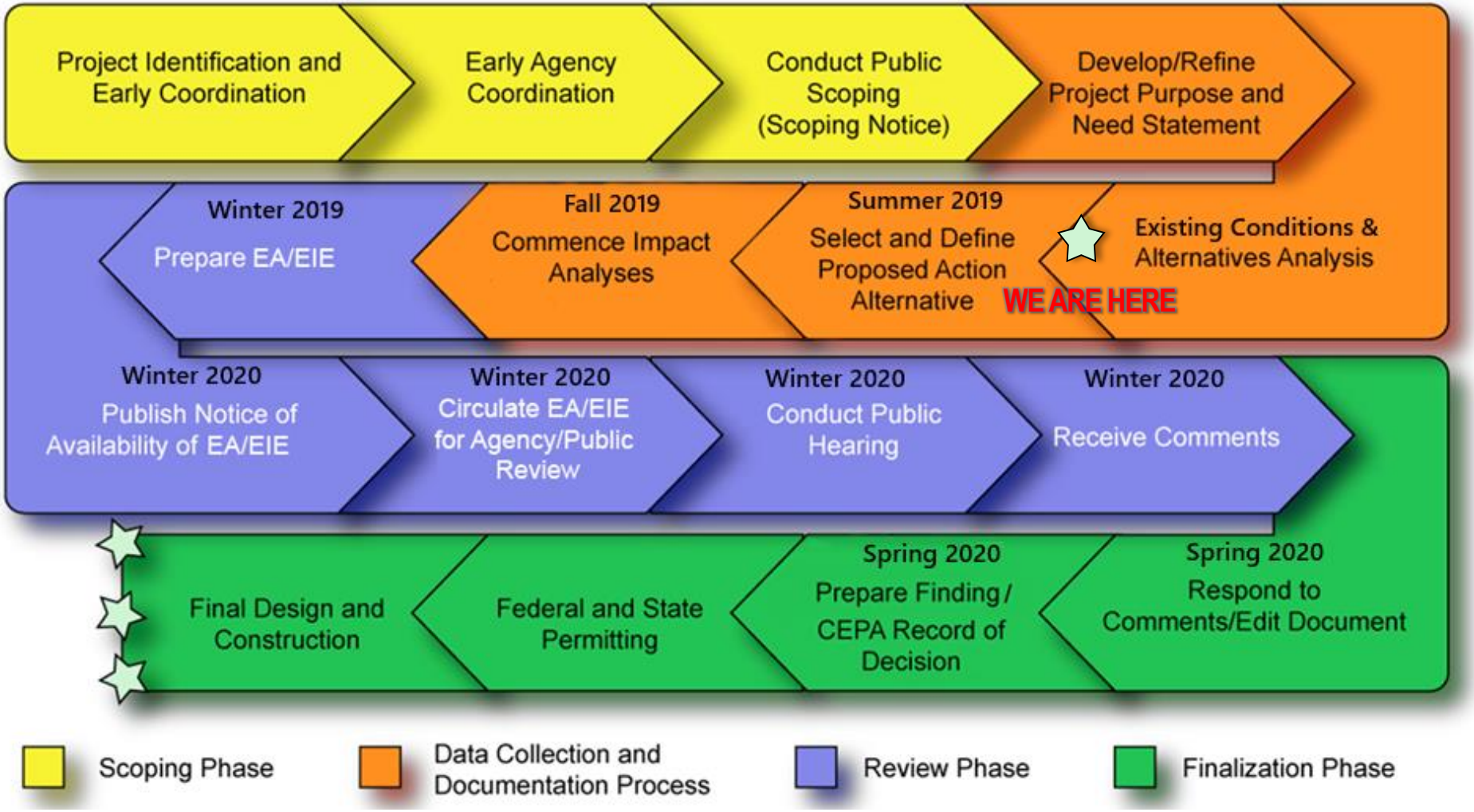
CRIBARI MEMORIAL BRIDGE
NEPA/CEPA Process



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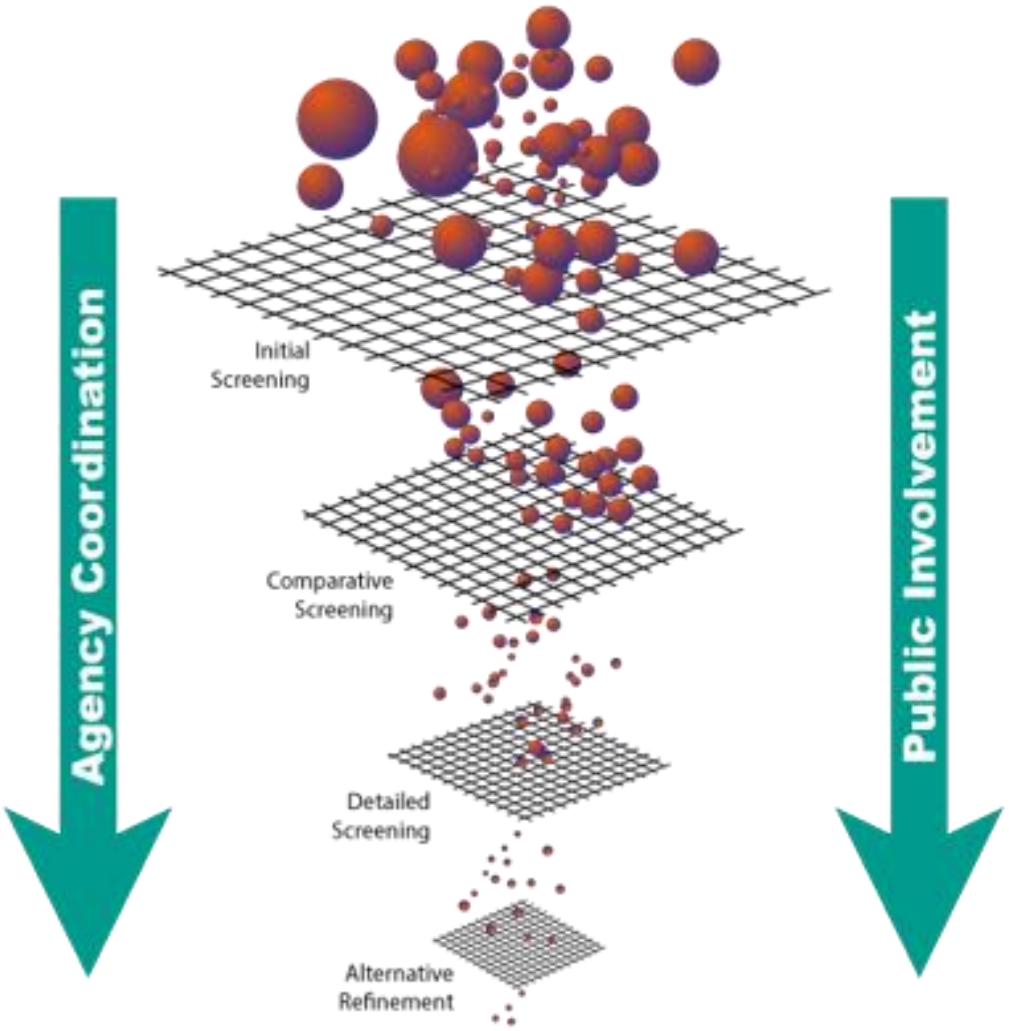
CRIBARI MEMORIAL BRIDGE
Alternatives Screening Process

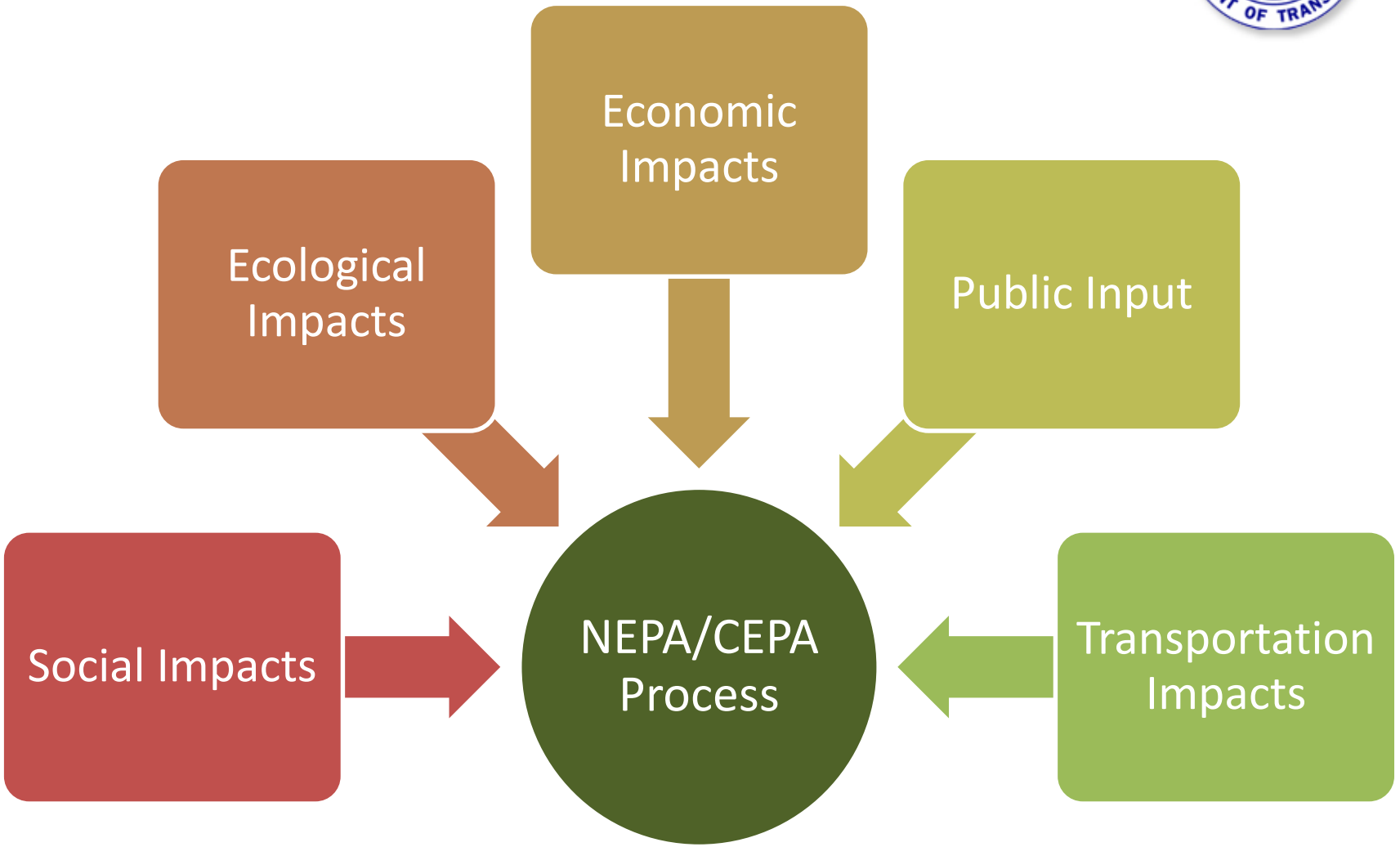
CONNECTICUT DEPARTMENT OF TRANSPORTATION

FULL RANGE OF ALTERNATIVES



FINAL ALTERNATIVES FOR EVALUATION

CRIBARI MEMORIAL BRIDGE
NEPA/CEPA Process



CRIBARI MEMORIAL BRIDGE
Environmental Resources to Be Evaluated

- Evaluate potential impacts to resources, identify measures to avoid or minimize impacts and propose mitigation for impacts that cannot be avoided.
- Resources include, but are not limited to:
  - Rights-of-way & acquisitions
  - Land use, zoning & parking
  - Consistency with local, regional & state plans
  - Traffic
  - Air quality
  - Noise
  - Historic/cultural
  - Section 4(f)/106 resources
  - Visual/aesthetics
  - Socio-economics
  - Community cohesion, bike/ped. considerations
  - Public safety & security
  - T&E Species
  - Water resources & quality
  - Navigable waters
  - Coastal resources, floodplains & wetlands
  - Public utilities
  - Energy requirements
  - Hazardous materials

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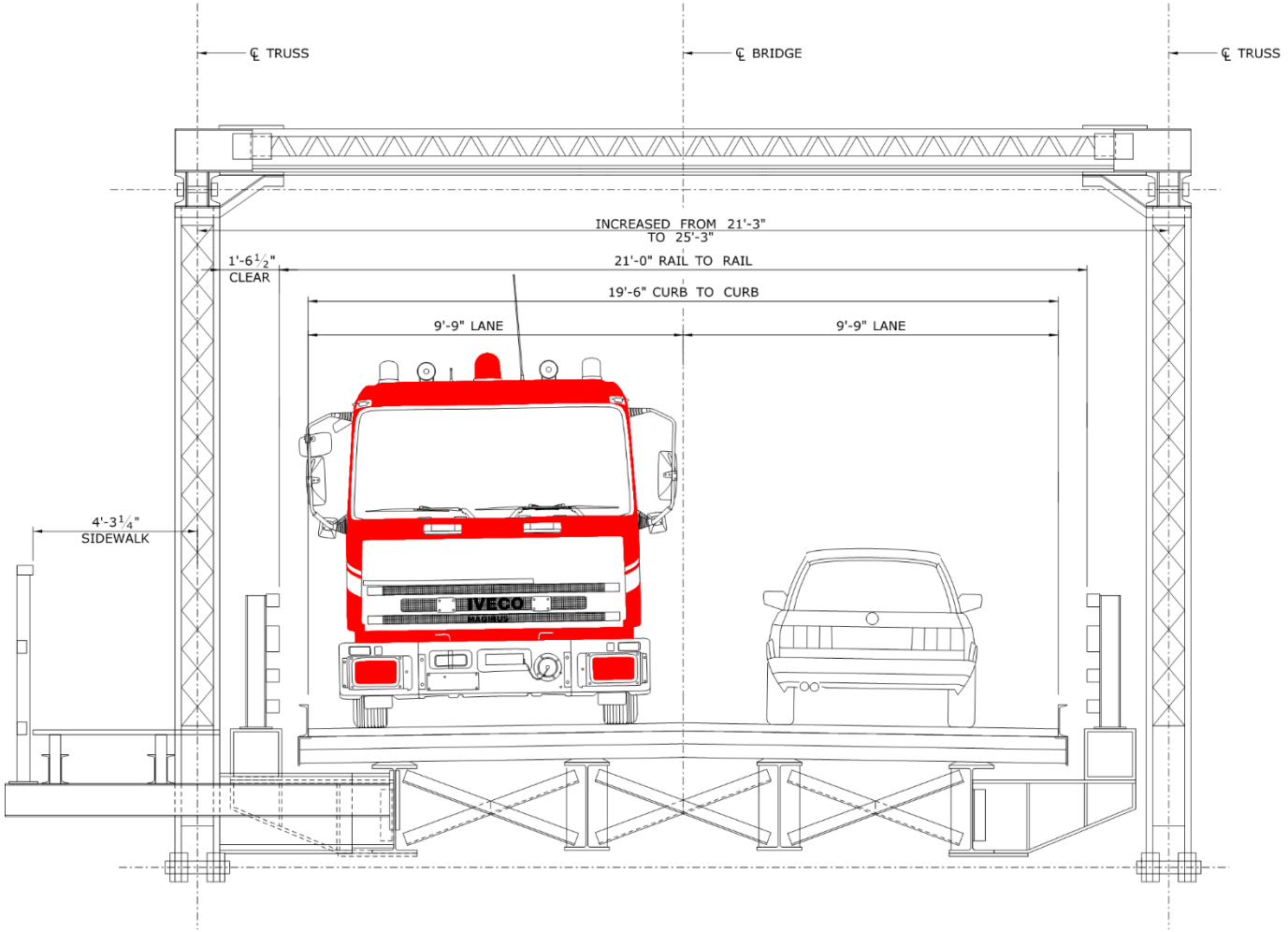
CRIBARI MEMORIAL BRIDGE

Thank you for your participation

Alternative snapshots for discussion

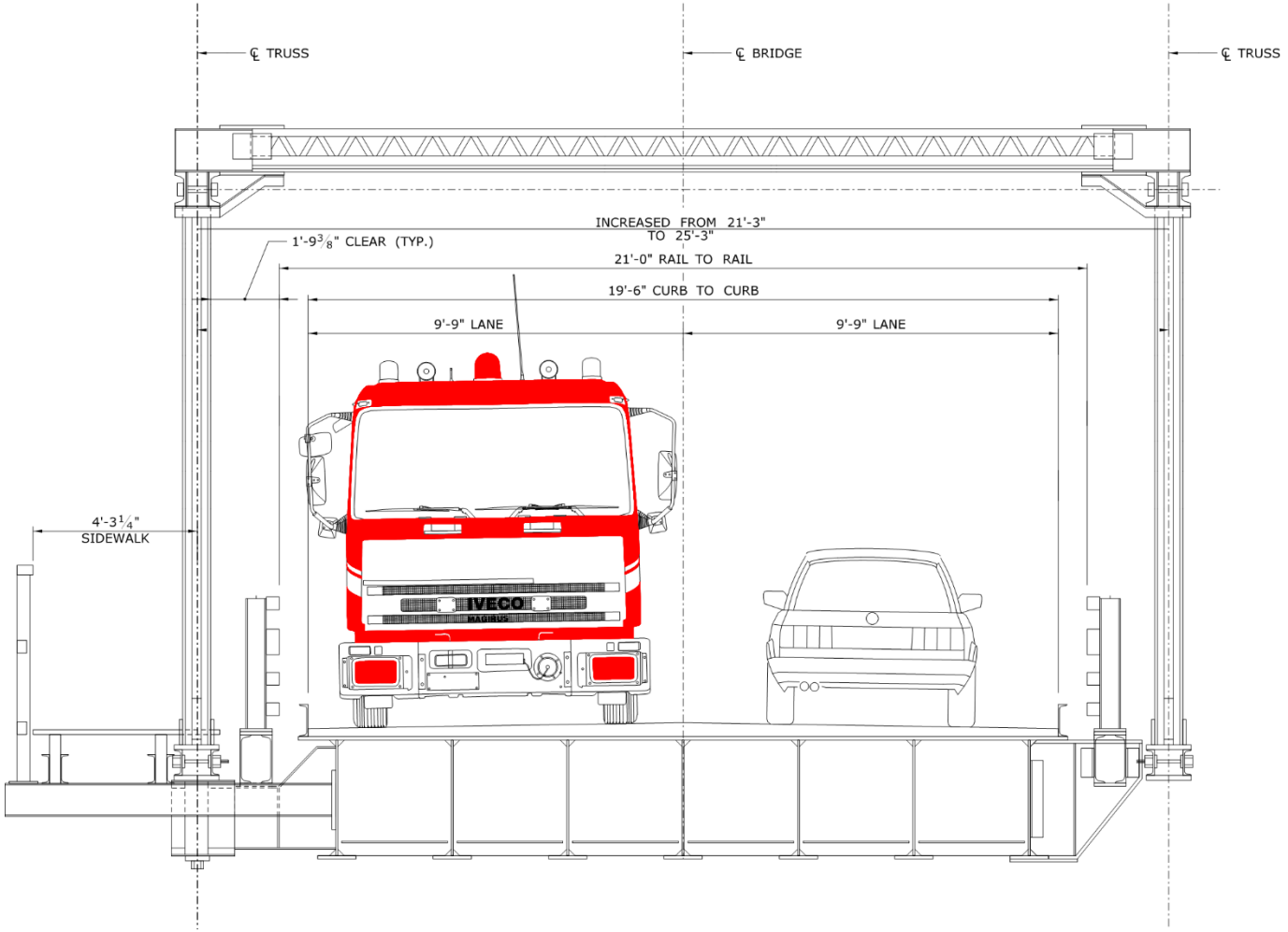

REHABILITATION
Draft Concept
For PAC Discussion
Bridge St.



APPROACH SPAN SECTION
BRIDGE REHABILITATION CONCEPT

REHABILITATION

Draft Concept for PAC Discussion



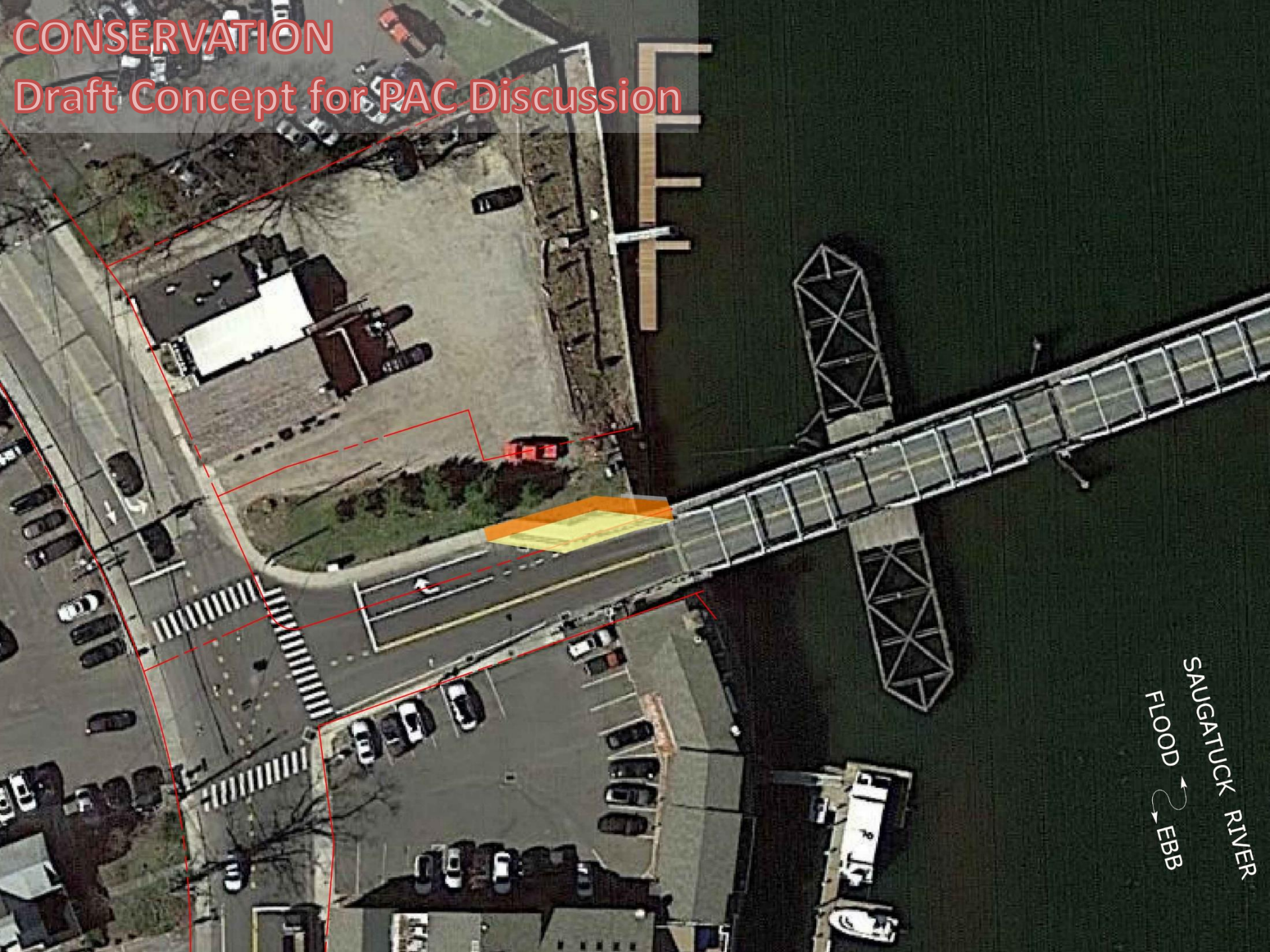
SWING SPAN SECTION
BRIDGE REHABILITATION CONCEPT

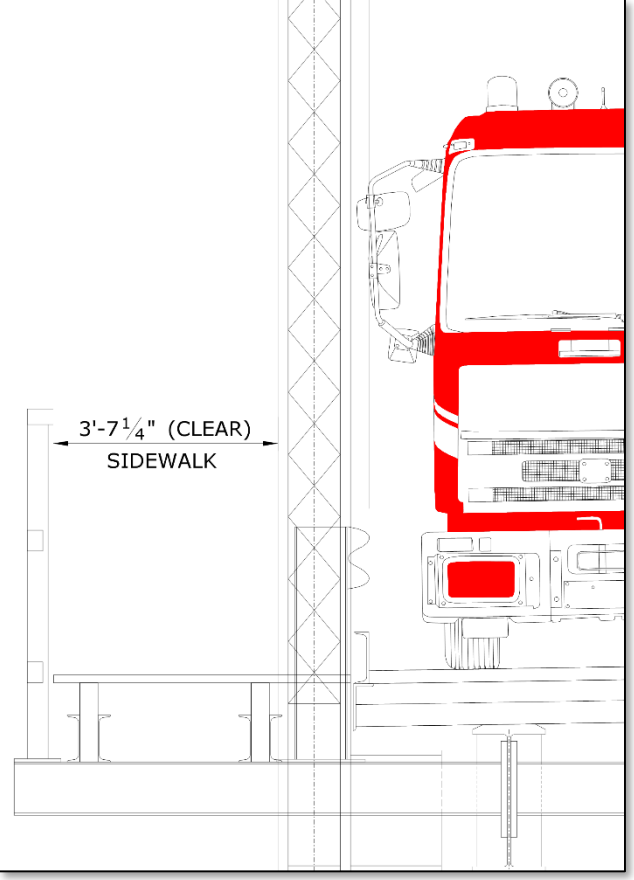
REHABILITATION

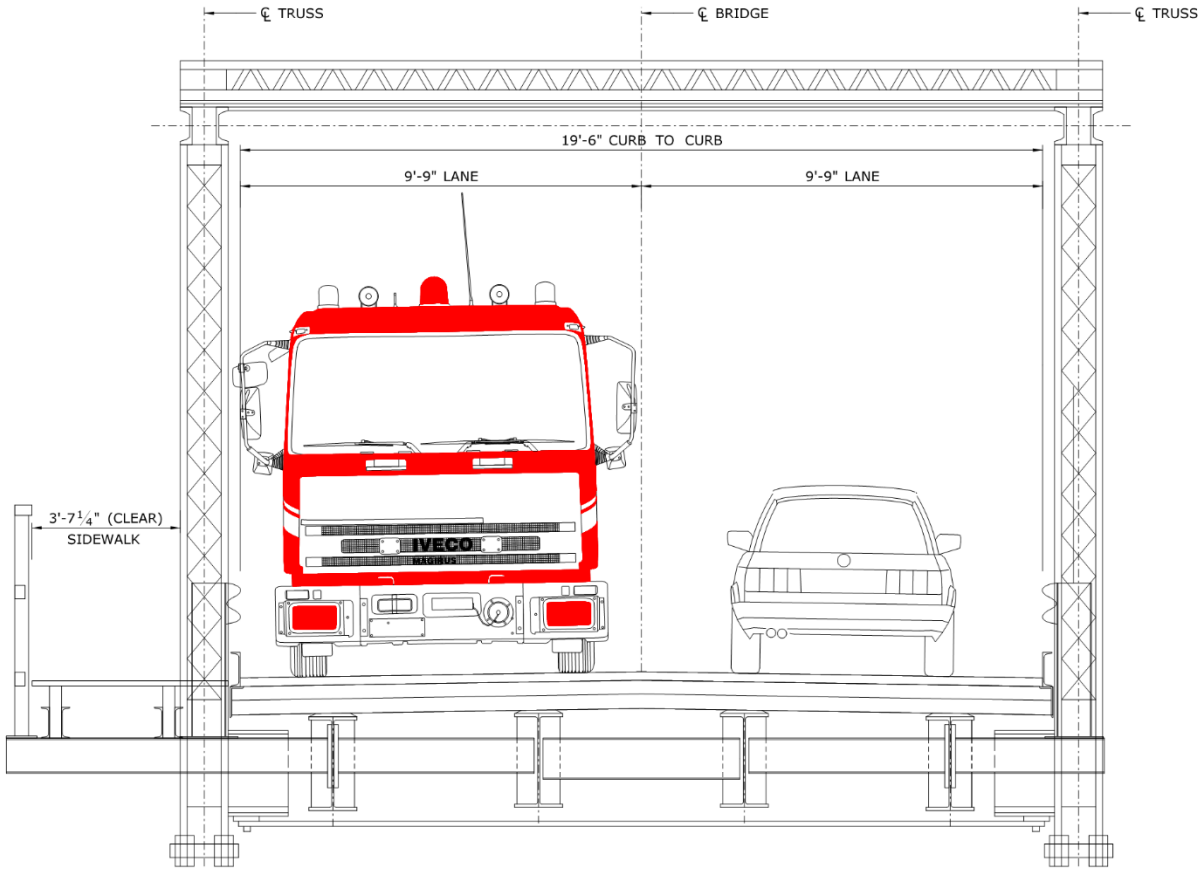
Draft Concept for PAC Discussion

REHABILITATION
Draft Concept for PAC Discussion

CONSERVATION
Draft Concept for PAC Discussion





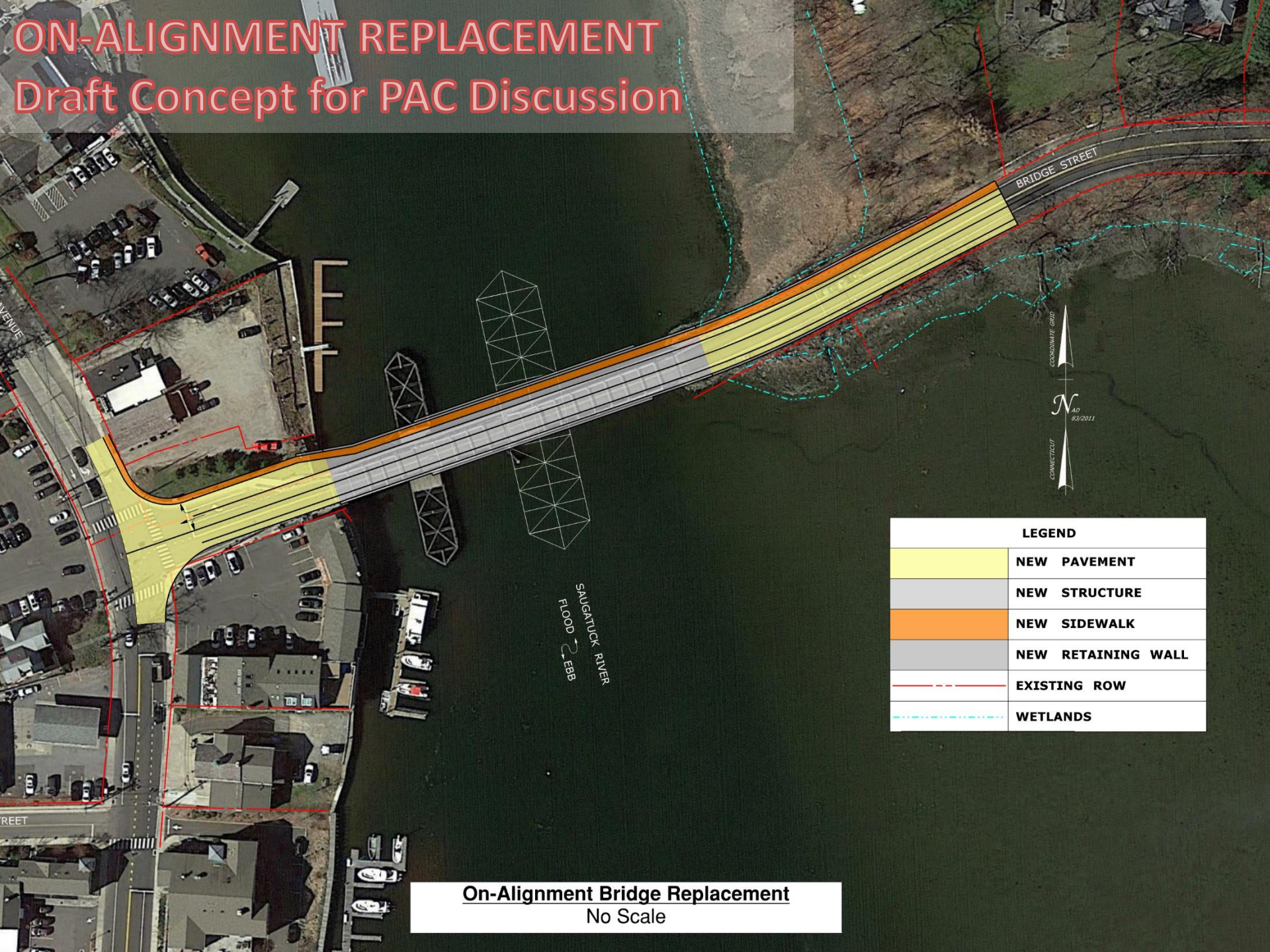


APPROACH SPAN SECTION
CONSERVATION BRIDGE REHABILITATION CONCEPT
SCALE: ½" = 1'-0"

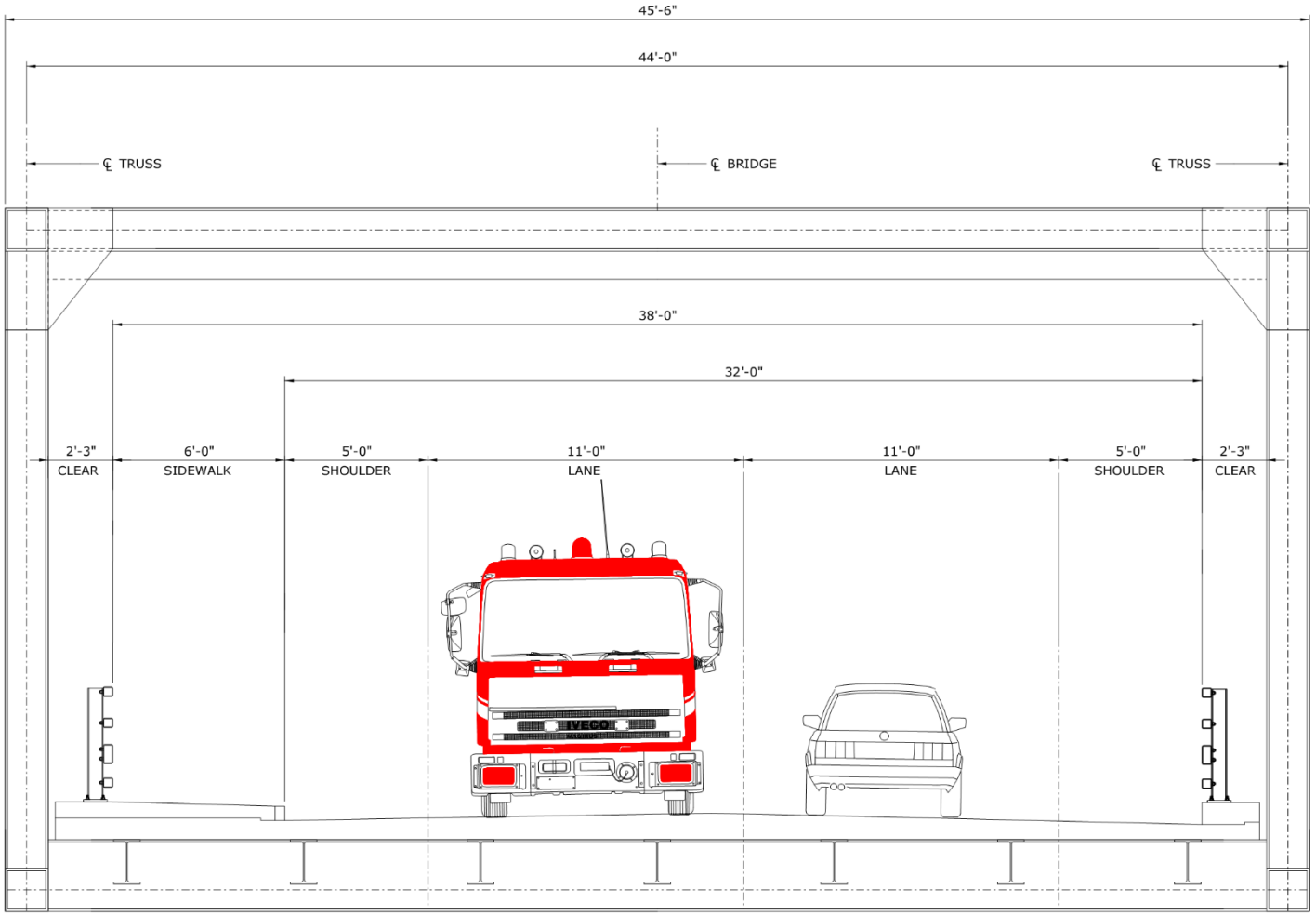
CONSERVATION

Draft Concept for PAC Discussion

ON-ALIGNMENT REPLACEMENT
Draft Concept for PAC Discussion



On-Alignment Bridge Replacement
No Scale



SWING SPAN SECTION
BRIDGE REPLACEMENT CONCEPT

ON-ALIGNMENT REPLACEMENT

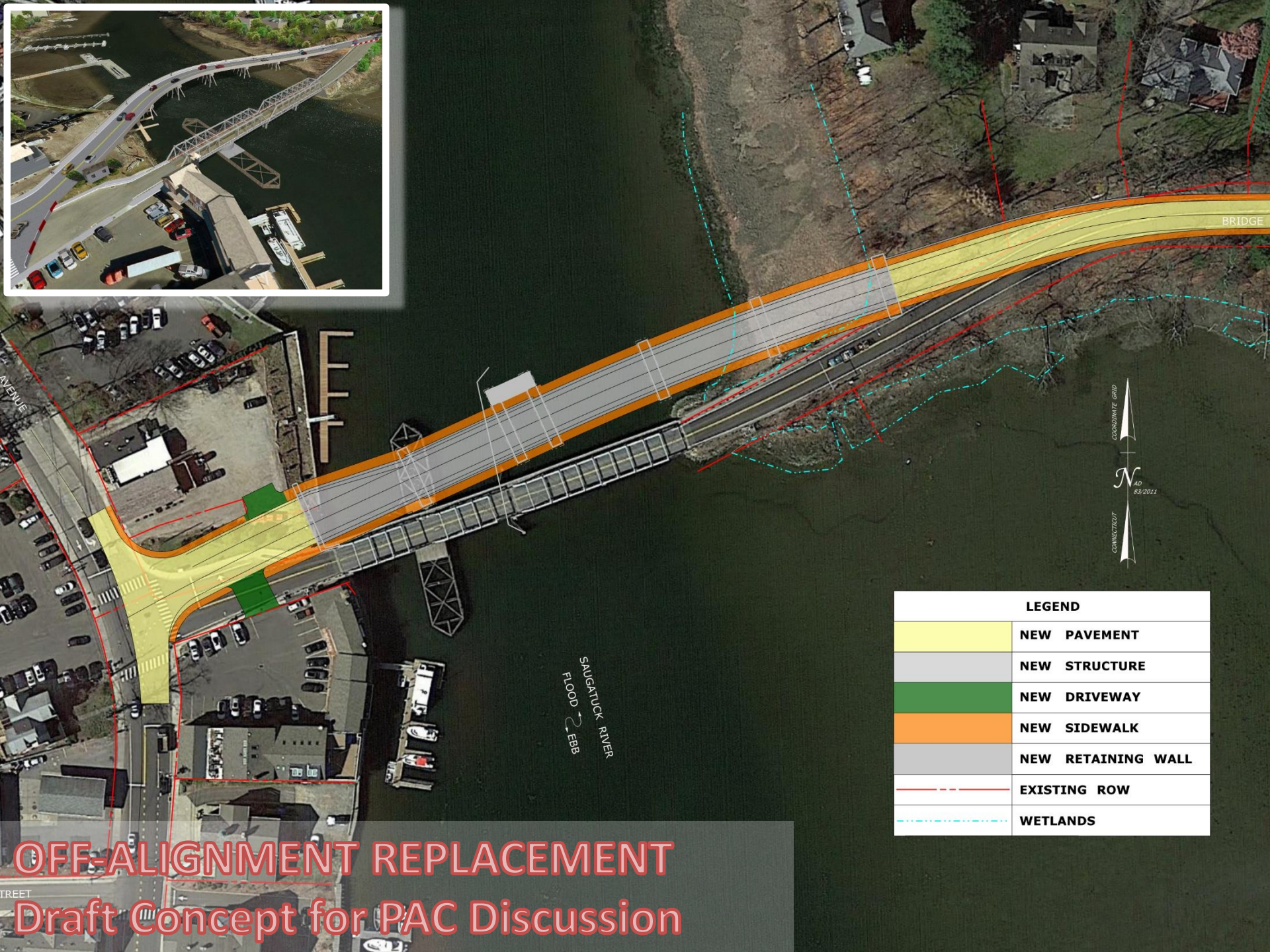
Draft Concept for PAC Discussion

ON-ALIGNMENT REPLACEMENT

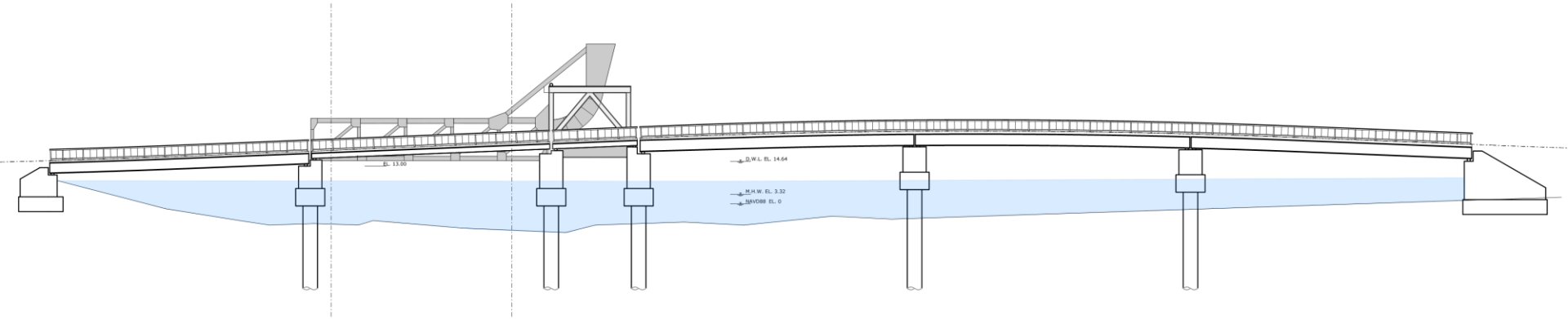
Draft Concept for PAC Discussion

ON-ALIGNMENT REPLACEMENT

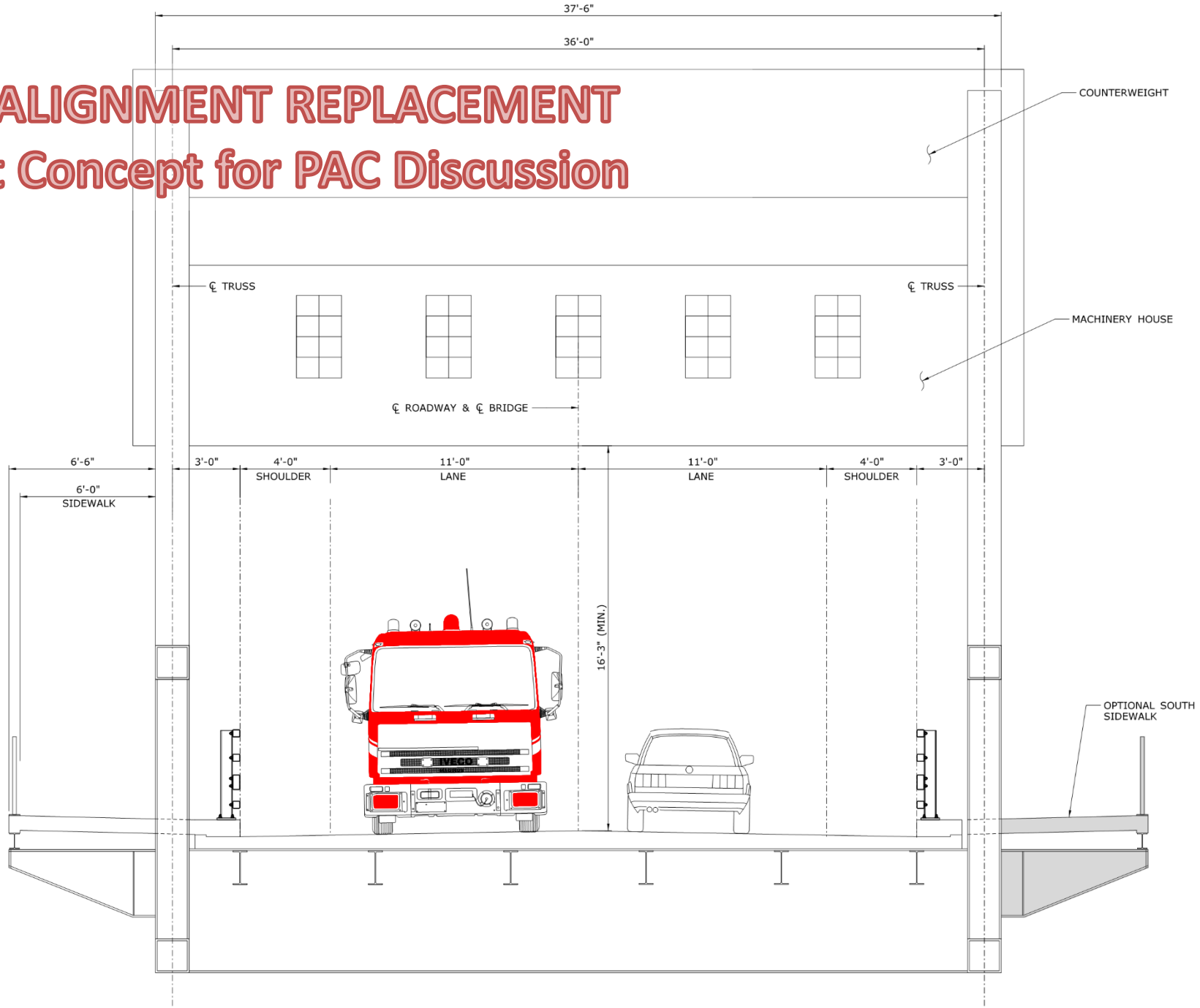
Draft Concept for PAC Discussion


BRIDGE
AVENUE
TREET
SAUGATUCK RIVER
FLOOD
EBB
COORDINATE GRID
NAD 83/2011
CONNECTICUT
LEGEND
NEW PAVEMENT
NEW STRUCTURE
NEW DRIVEWAY
NEW SIDEWALK
NEW RETAINING WALL
EXISTING ROW
WETLANDS
OFF-ALIGNMENT REPLACEMENT
Draft Concept for PAC Discussion

OFF-ALIGNMENT REPLACEMENT
Draft Concept for PAC Discussion



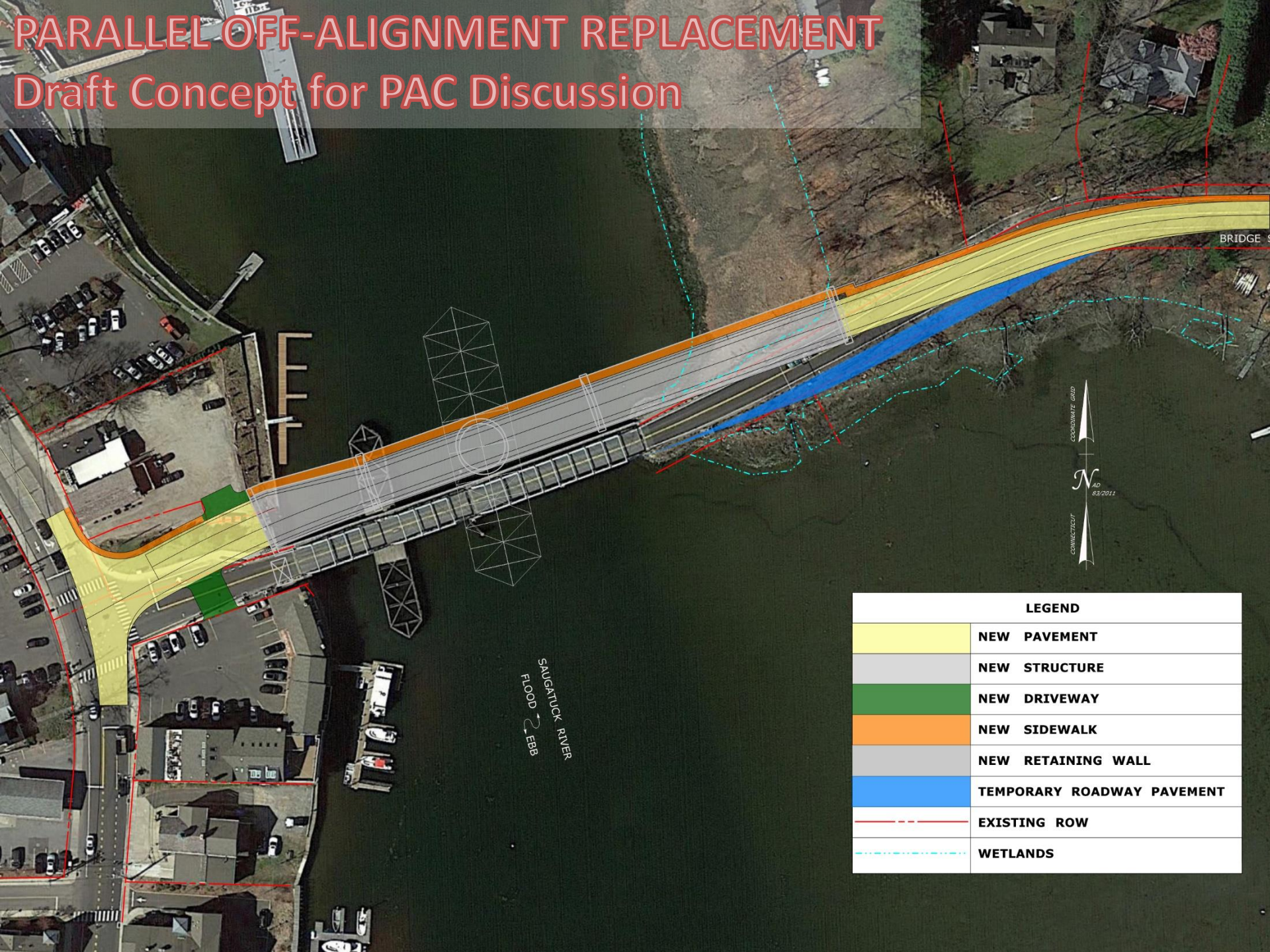
OFF-ALIGNMENT REPLACEMENT
Draft Concept for PAC Discussion



MOVEABLE SPAN SECTION
OFF-ALIGNMENT BRIDGE REPLACEMENT CONCEPT

PARALLEL OFF-ALIGNMENT REPLACEMENT

Draft Concept for PAC Discussion



PARALLEL OFF-ALIGNMENT REPLACEMENT

Draft Concept for PAC Discussion

PARALLEL OFF-ALIGNMENT REPLACEMENT

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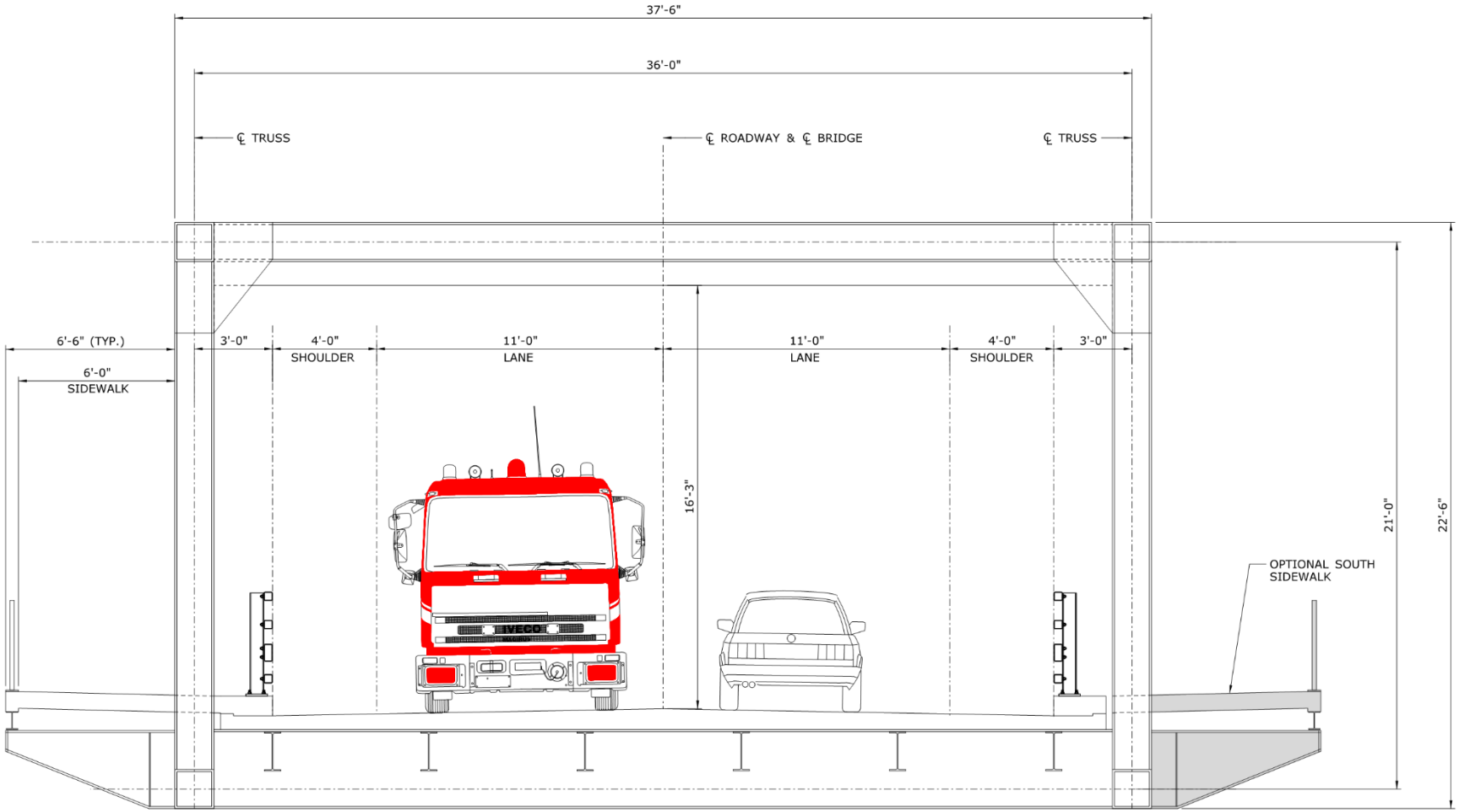
Draft Concept for PAC Discussion



SWING SPAN SECTION
PARALLEL OFF-ALIGNMENT BRIDGE REPLACEMENT CONCEPT

SCALE: $\frac{3}{8}$" = 1'-0"