

Boston University Bridge Rehabilitation Project



June 30, 2009 6:30-8 p.m.
Boston University Photonics Center



Commonwealth of Massachusetts

Governor

Deval L. Patrick

Lieutenant Governor

Timothy Murray

Energy and Environmental Secretary

Ian A. Bowles

Department of Conservation and Recreation Commissioner

Richard K. Sullivan, Jr.

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Accelerated Bridge Program Overview

- Authorization:
 - C. 233 of the Acts of 2008
- Program Goals:
 - Improve the condition of the Commonwealth's bridges
 - Stimulate economic development and job creation
 - Save money by completing projects sooner
 - Complete projects efficiently and innovatively
 - Transparency and accountability



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Accelerated Bridge Program Overview

- Size and Scope
 - MassHighway: \$2.078 billion
 - Rehabilitation or replacement of 191 bridges
 - Preservation of 305 bridges
 - DCR: \$906 million
 - Rehabilitation or replacement of 29 bridges
 - Preservation of 50 bridges

Total Program: \$2,984,000,000



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Consultant Design Team:

STV Incorporated

Jerome MacKenzie, PE

Howard/Stein-Hudson Associates, Inc.

Nijdeh H. Havan, P.E., PTOE

Toole Design Group

William J. Schultheiss, P.E., Civil Engineer

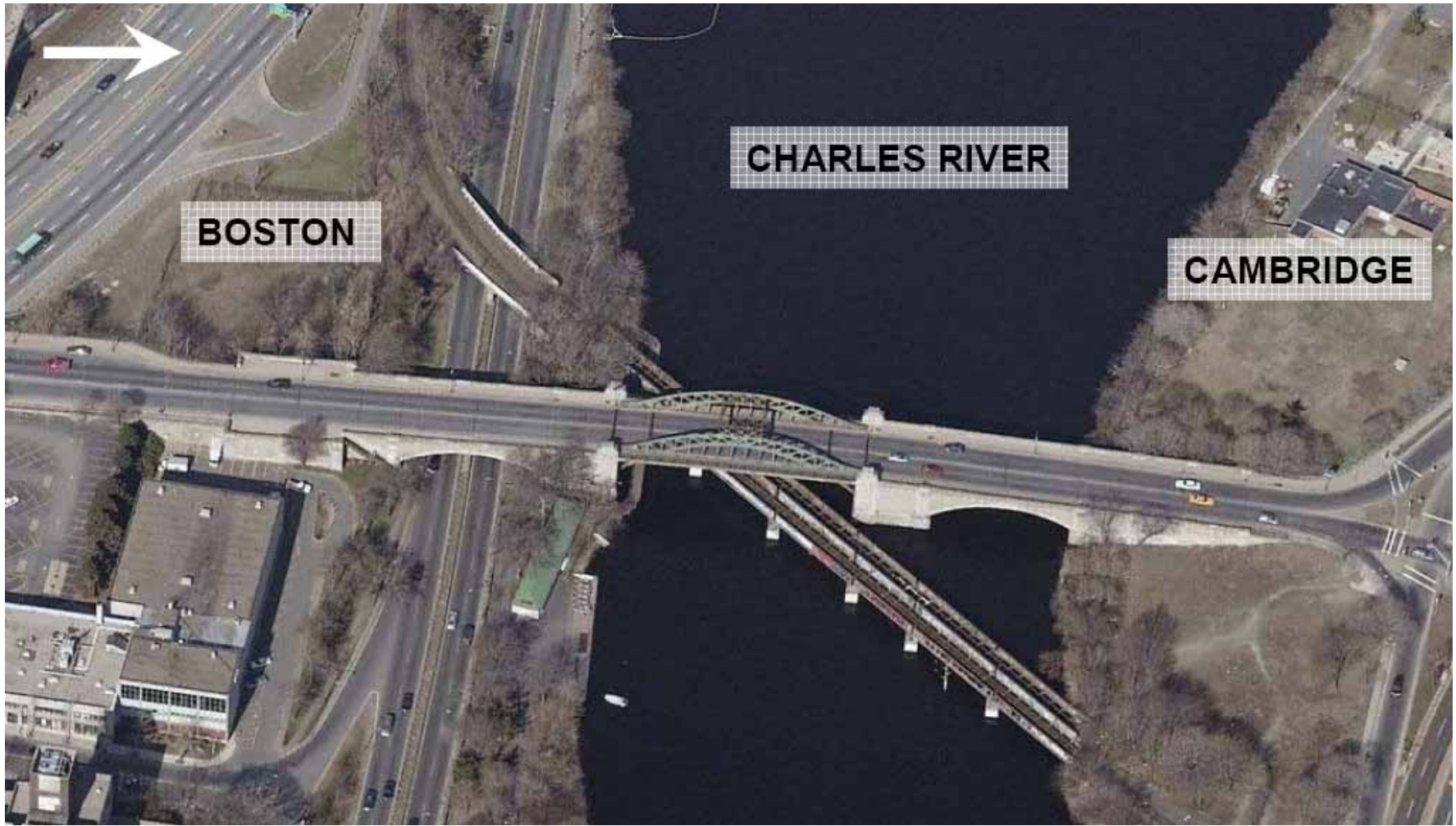
Contractor:

Pihl Inc.

Thomas Bentsen, General Manager, EVP

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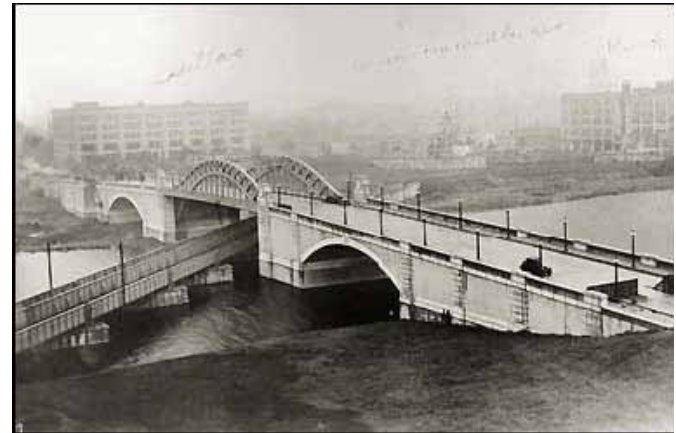
Project Location



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Bridge History

- Cottage Farm Bridge – Built 1928
- Replaced 1850's drawbridge
- Located in Charles River Basin Historic District
- Eligible for listing – National Register of Historic Places
- Renamed BU Bridge - 1949



Considerations for Design

- Restore Structural Integrity
- Restore a Historic Structure
- Protect & Enhance Environment
- Improve Pedestrian and Bicycle Access

Restore Structural Integrity



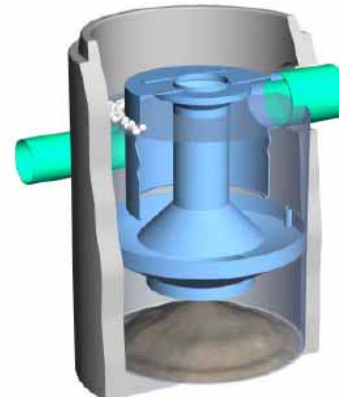
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Historic Restoration



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Environmental Enhancement



Conversion of existing antiquated drainage to modern environmentally friendly recharge system

Improved Pedestrian, Bicycle, and Vehicular Flow

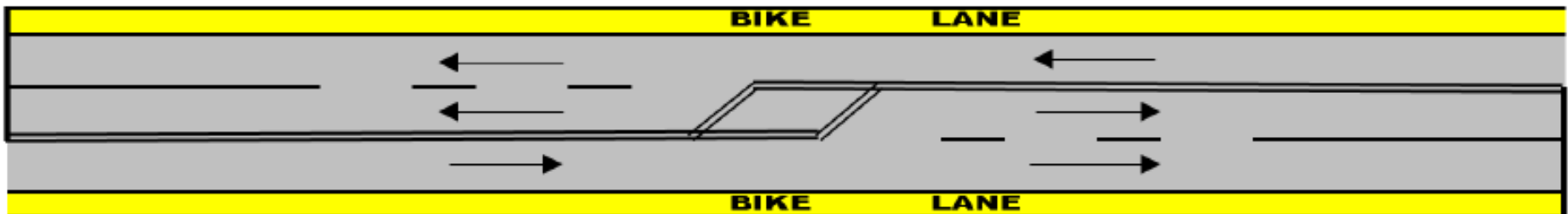
DCR brought on a project-specific consultant Toole Design Group, who made recommendations on bicycle/pedestrian accommodations for:

- All three phases of construction
- Final striping plan configuration
- Memorial Drive Rotary
- Commonwealth Avenue intersection

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Lane Configurations

3-LANE, 2-WAY MARKING FOR CHANGING DIRECTION OF CENTER LANE



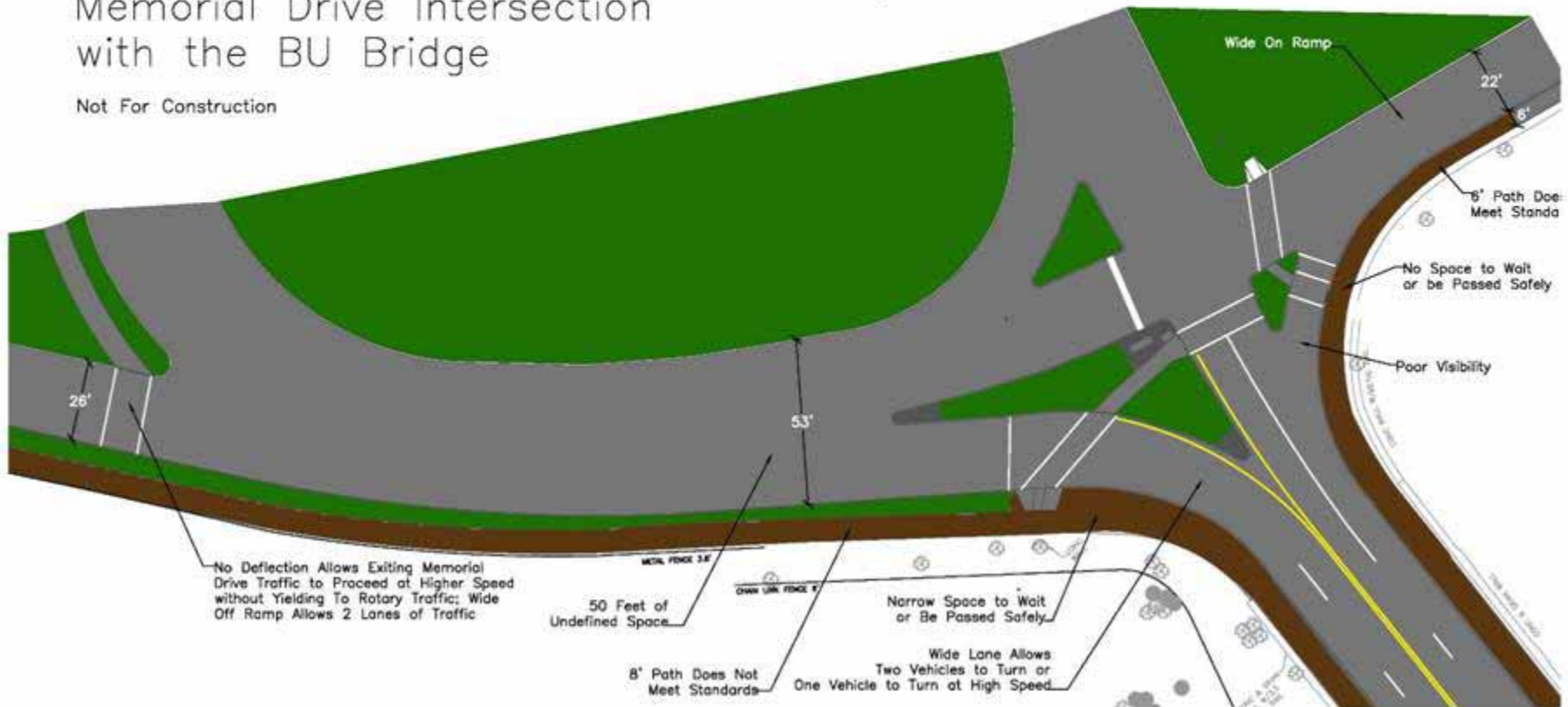
Similar to present conditions with lane closure are similar to proposed final configuration

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Existing BU Bridge at Memorial Drive

Existing Conditions at
Memorial Drive Intersection
with the BU Bridge

Not For Construction

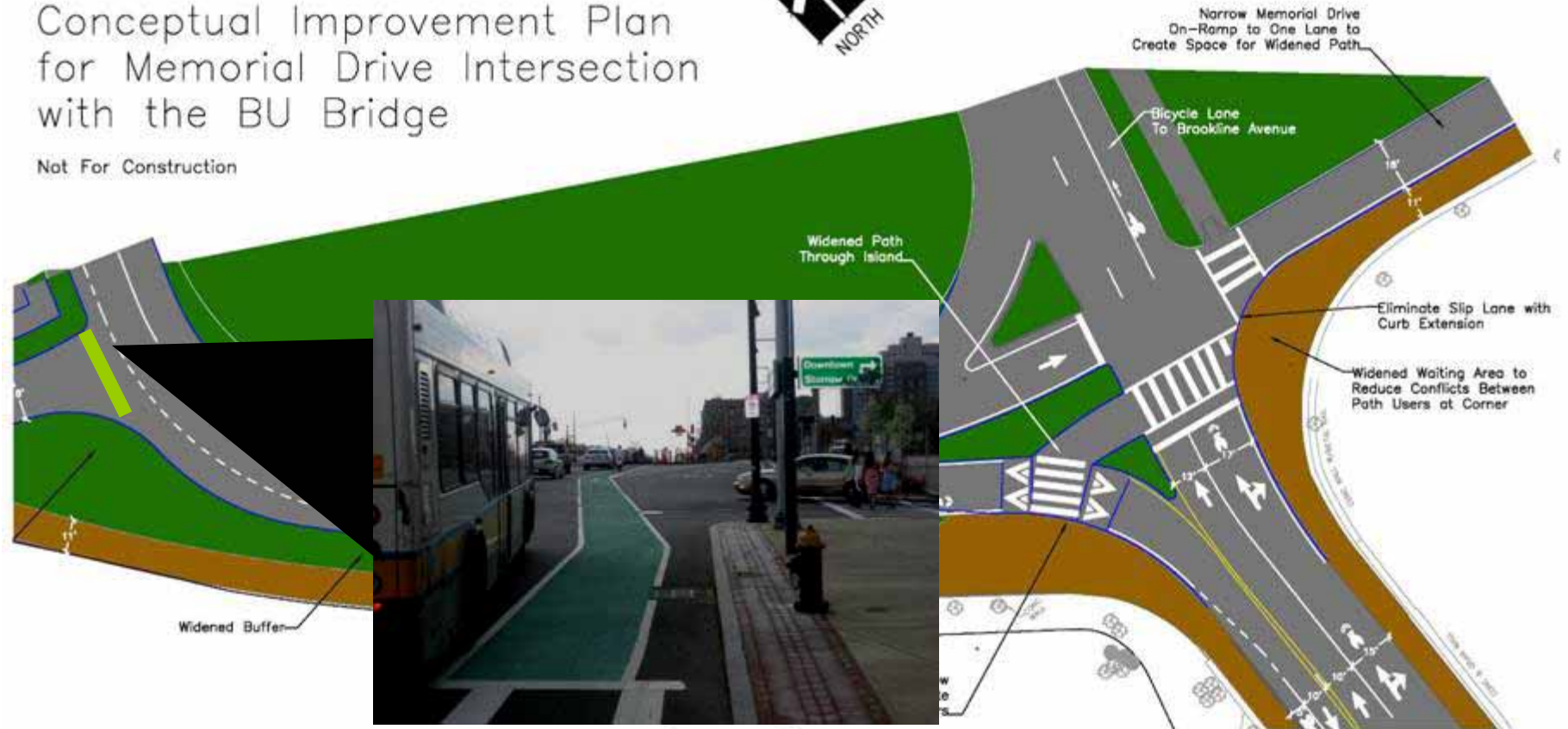


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Proposed BU Bridge at Memorial Drive

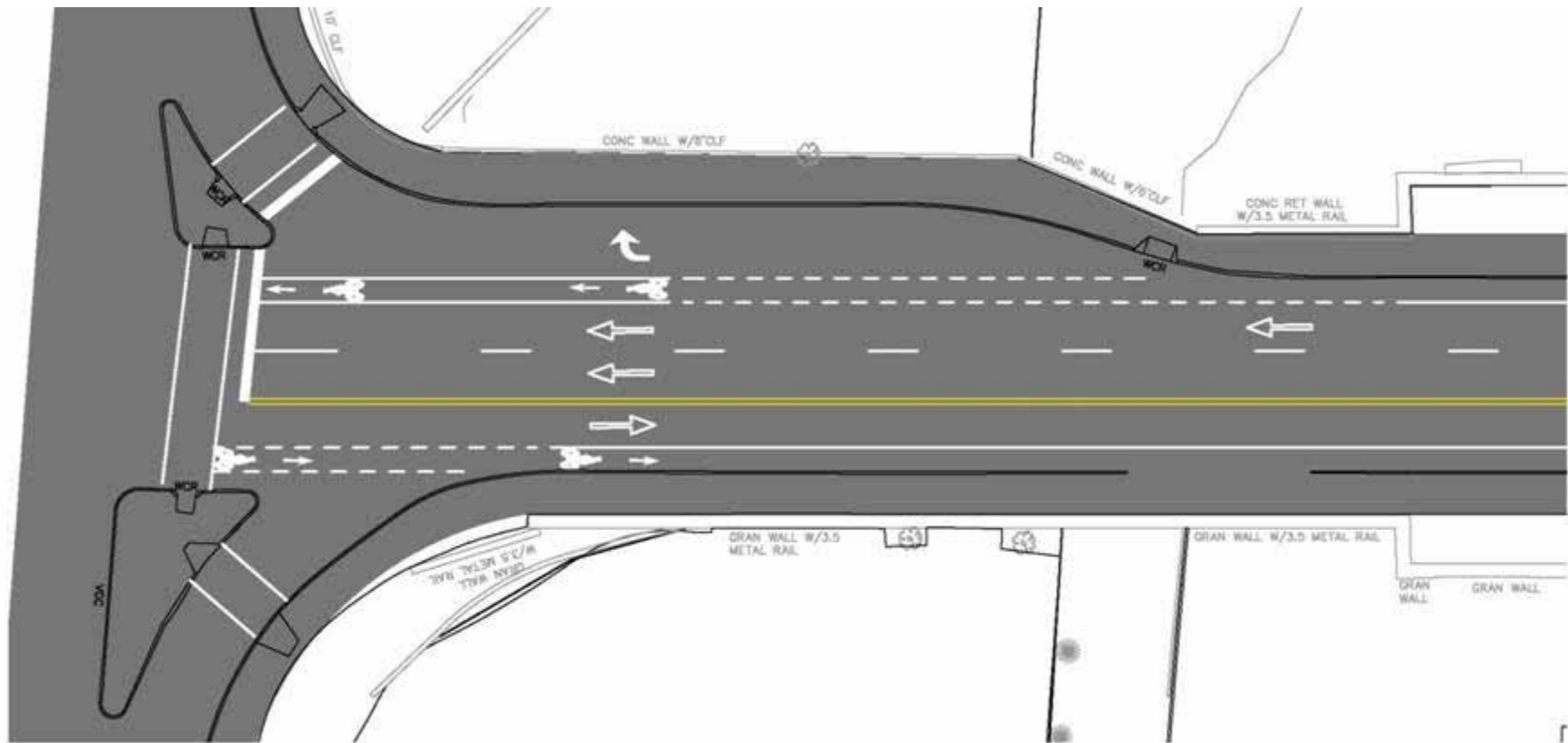
Conceptual Improvement Plan
for Memorial Drive Intersection
with the BU Bridge

Not For Construction



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Commonwealth Avenue Intersection Redesign



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Special Considerations During Construction

- Traffic Management and Construction Phasing
- Environmental Mitigation
- Noise Abatement
- Project Sequencing
- Communication – Staying Informed

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Traffic Management During Construction

- Advanced signage to direct the public around active construction
- Phased to maintain two directions of traffic
- Provide vehicular/ pedestrian access to abutting properties
- Traffic Consultant on-call during construction



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Construction Project Phasing

	2009						2010												2011											
Task	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Site Preparation	█	█																												
Phase I			█	█	█	█	█	█	█	█																				
Phase II											█	█	█	█	█															
-																														
Phase III																					█	█	█	█	█	█	█	█	█	
Landscape & Off Roadway Work																														

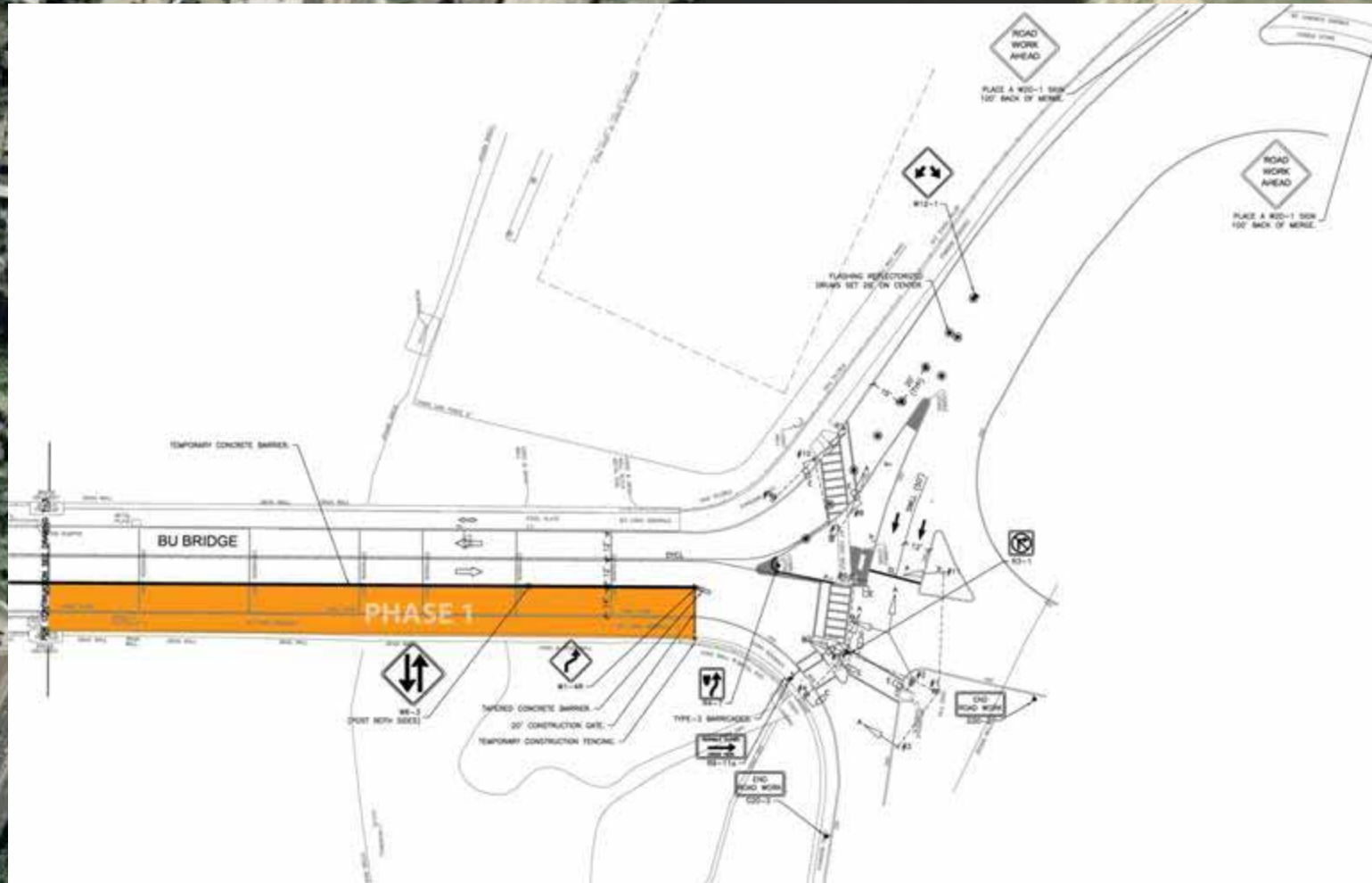
End of Roadway Work 

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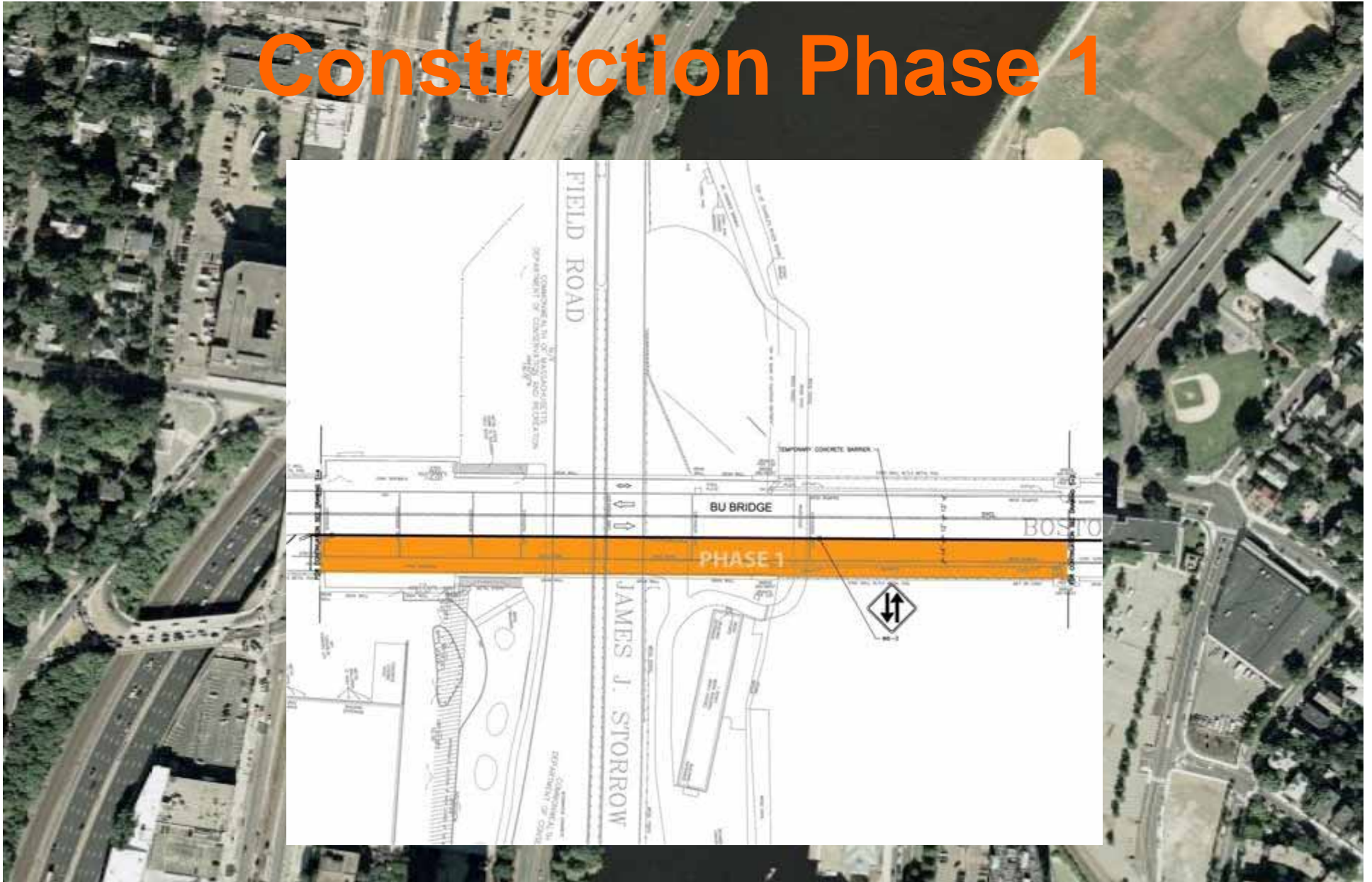
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Construction Phase 1



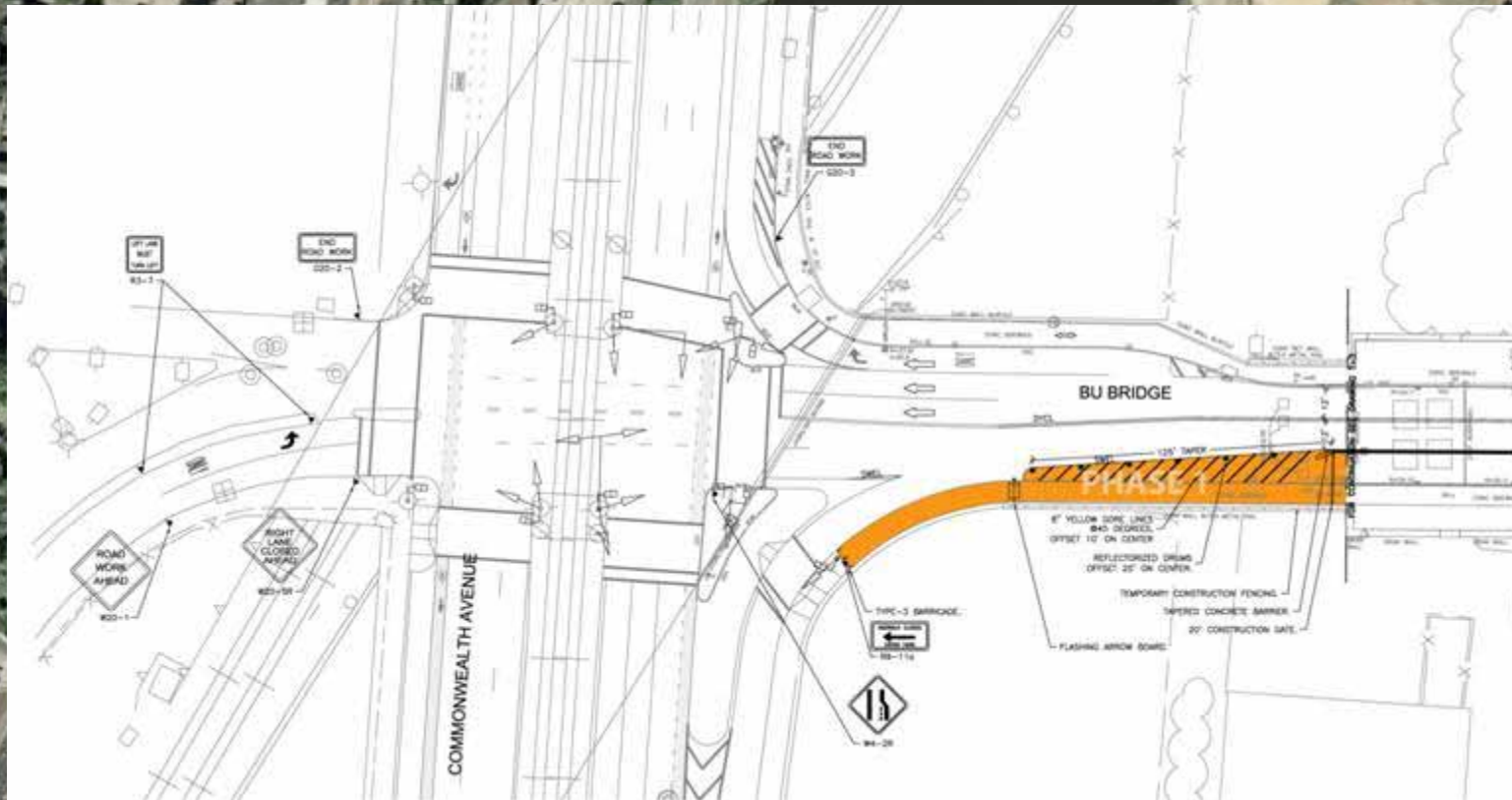
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Construction Phase 1



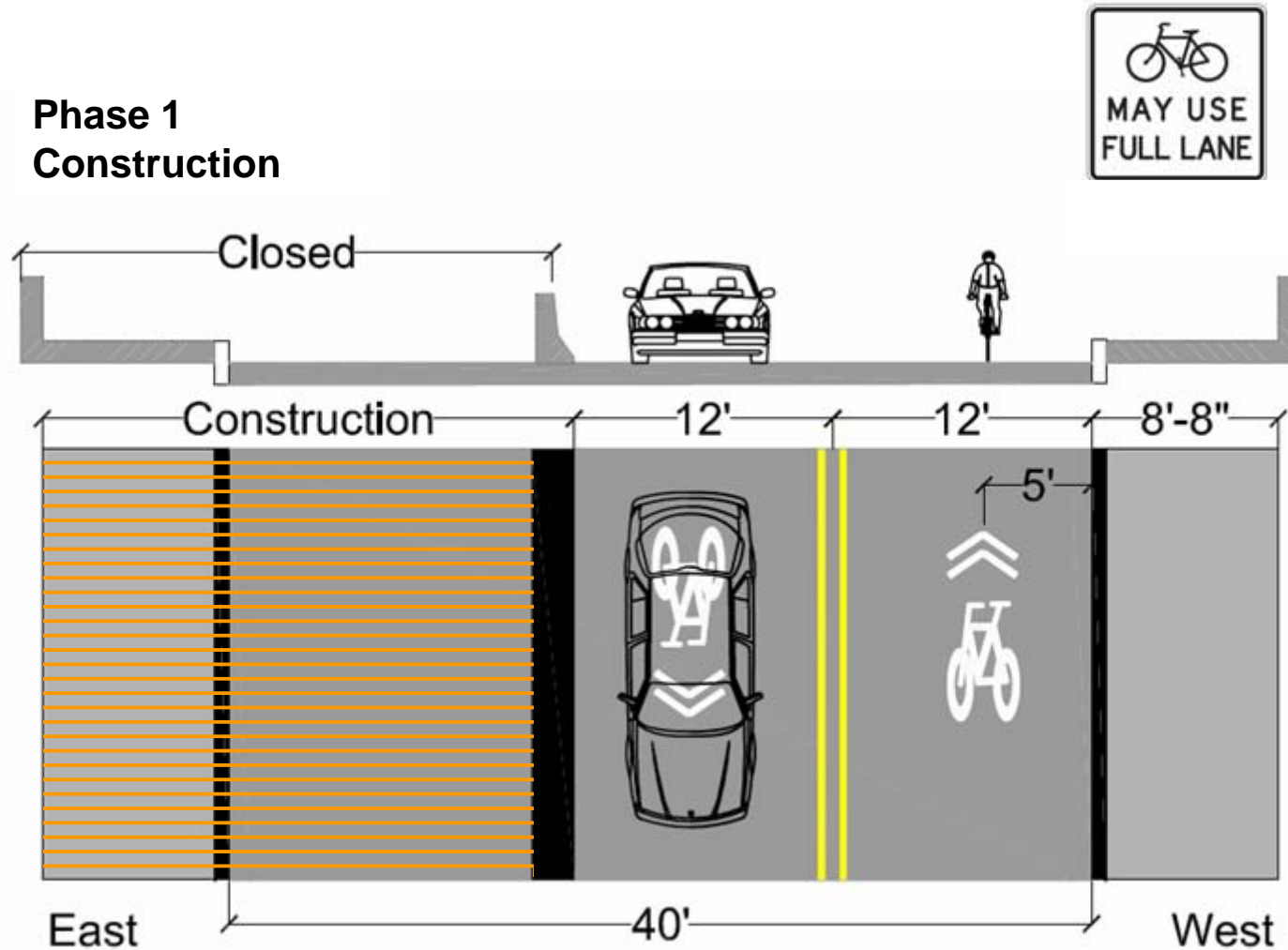
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Construction Phase 1



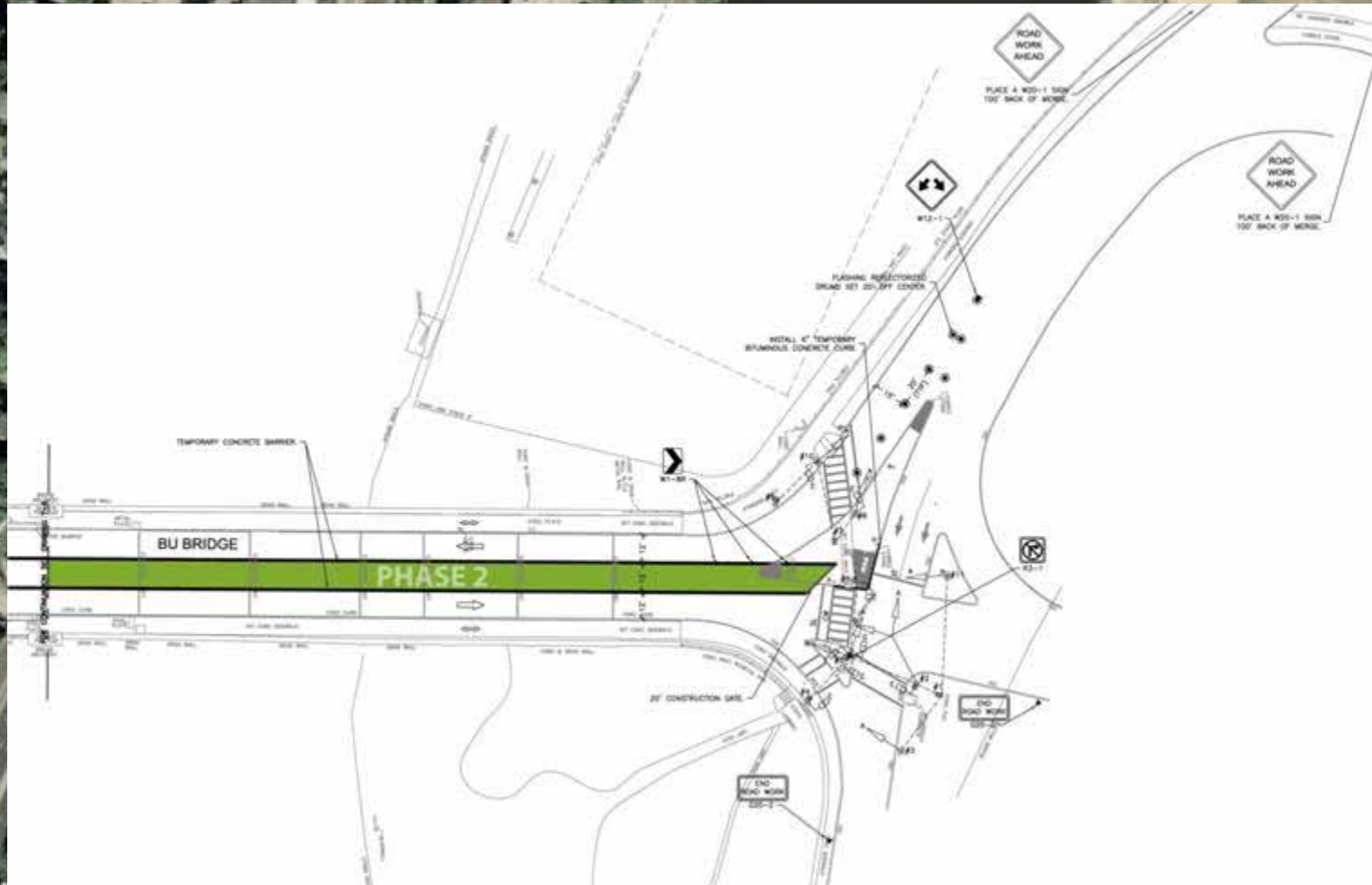
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Proposed Phase 1 Construction



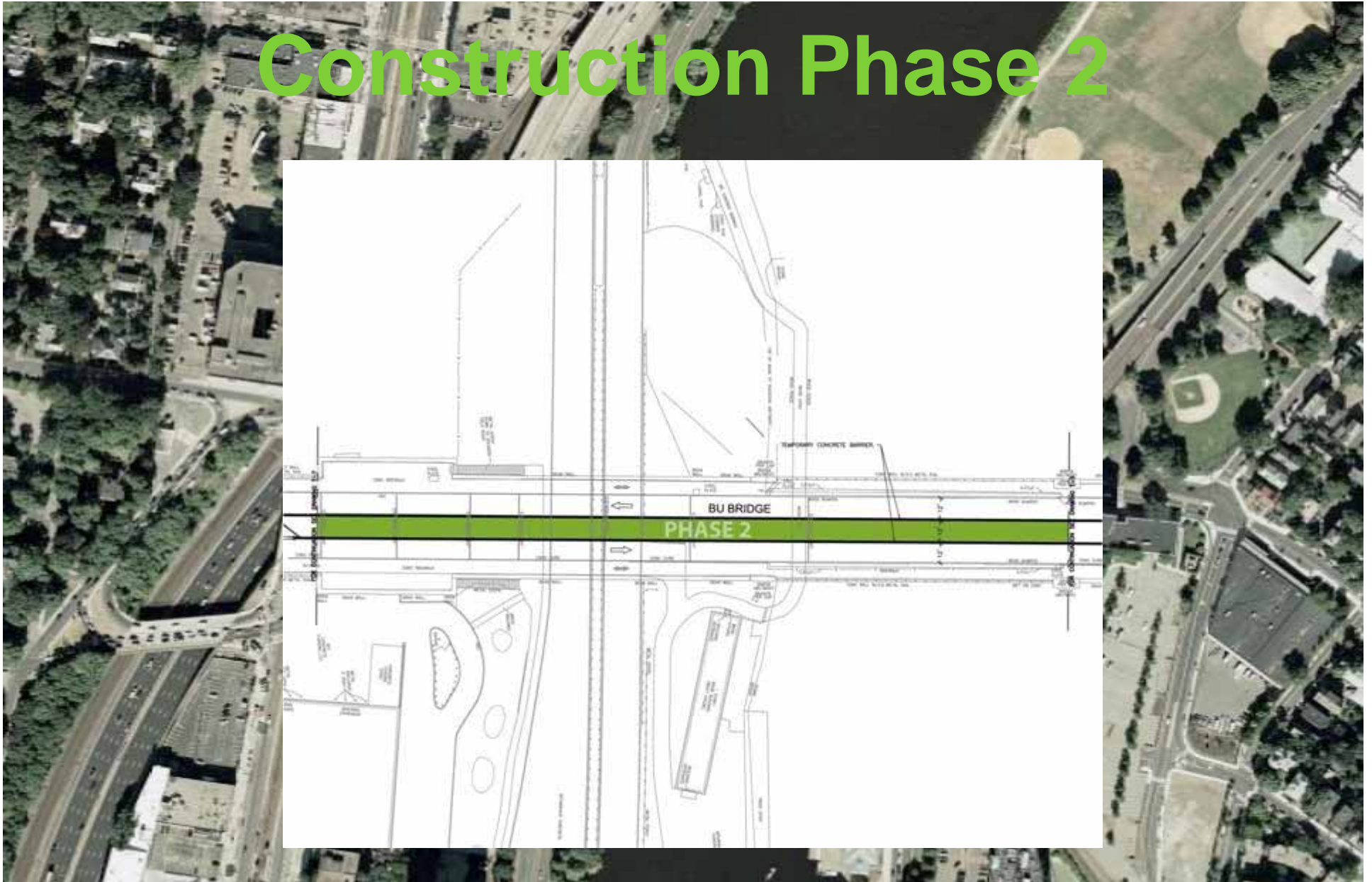
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Construction Phase 2



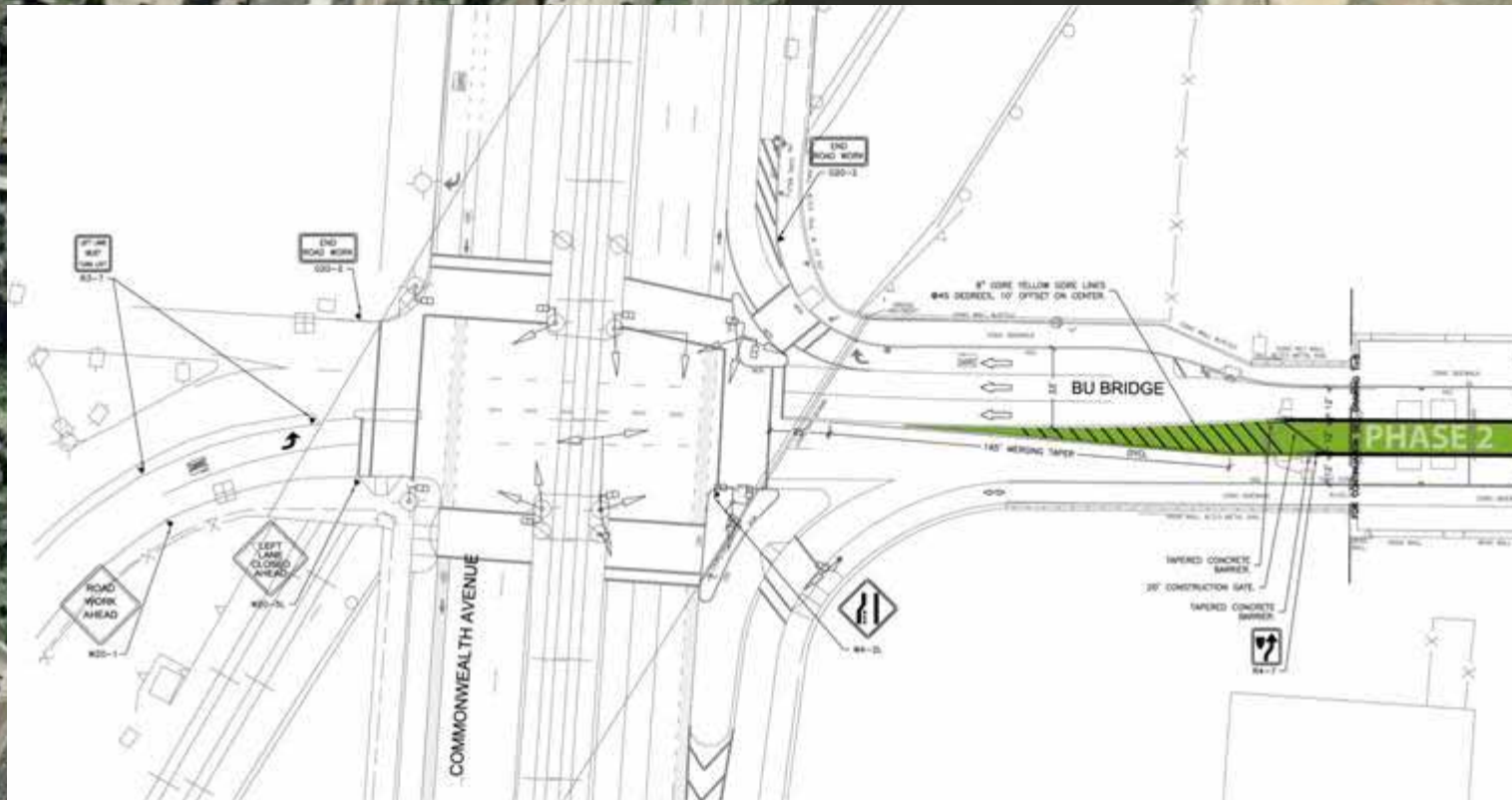
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Construction Phase 2



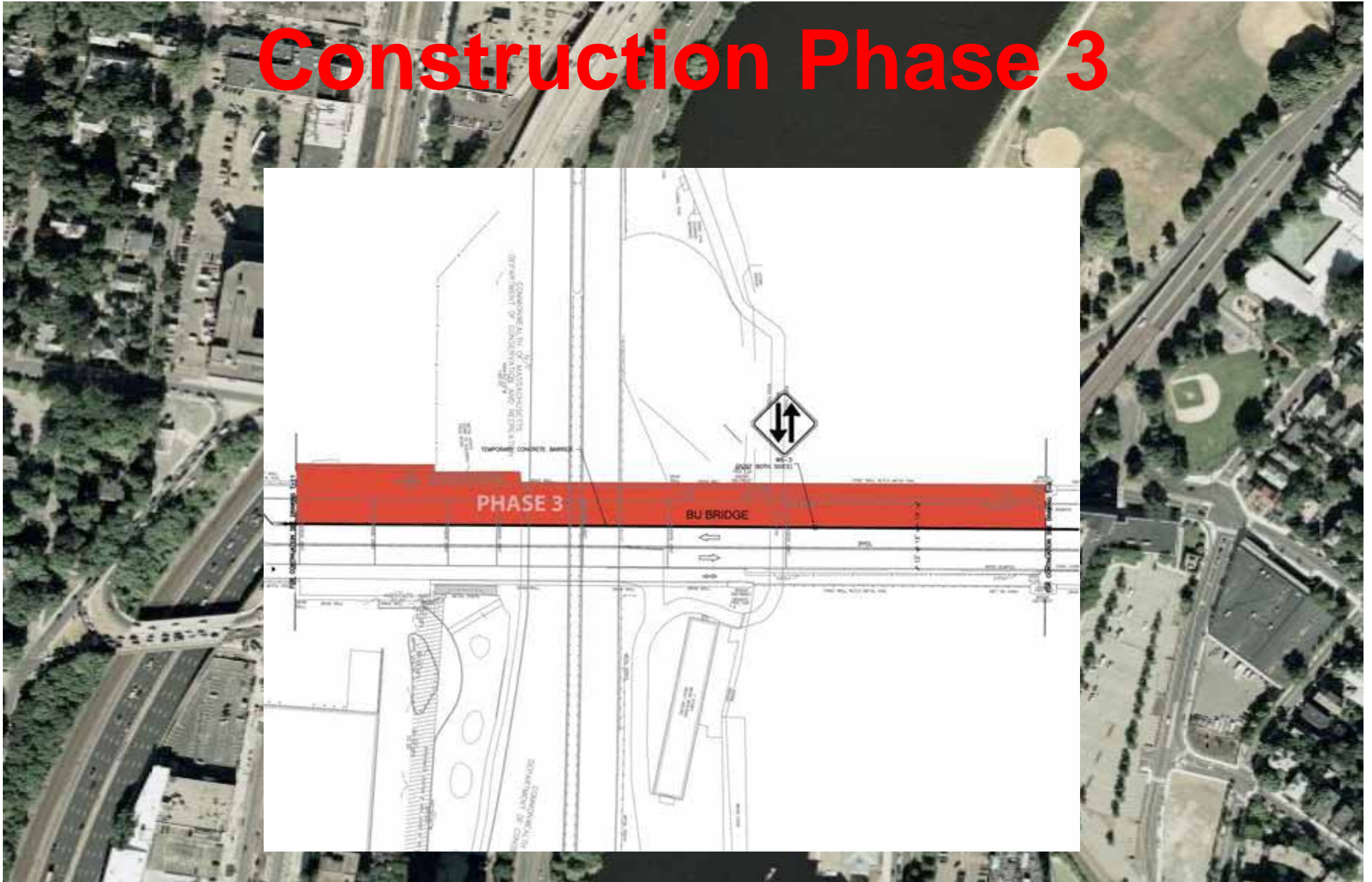
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Construction Phase 2



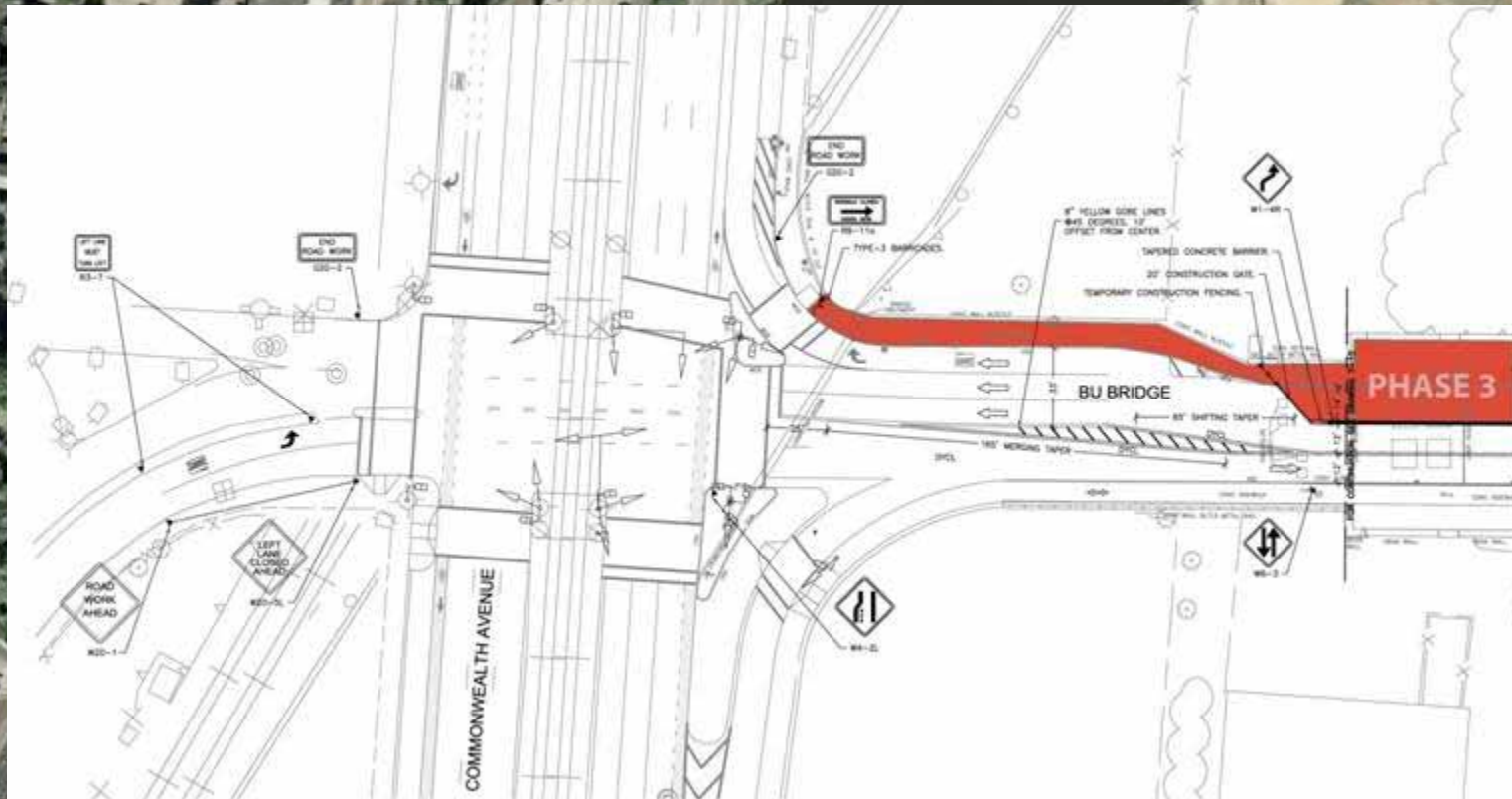
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Construction Phase 3



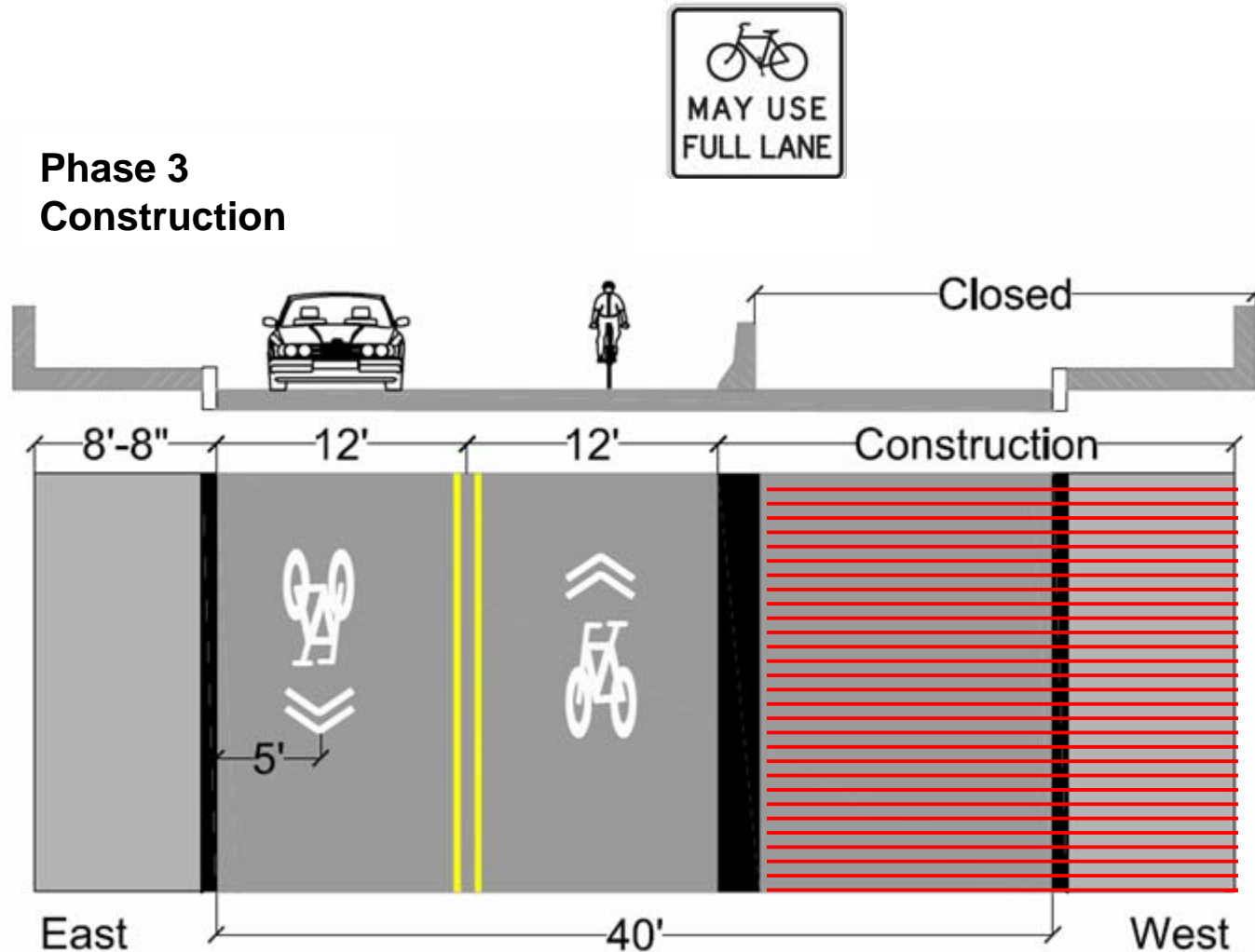
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Construction Phase 3



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Proposed Phase 3 Construction



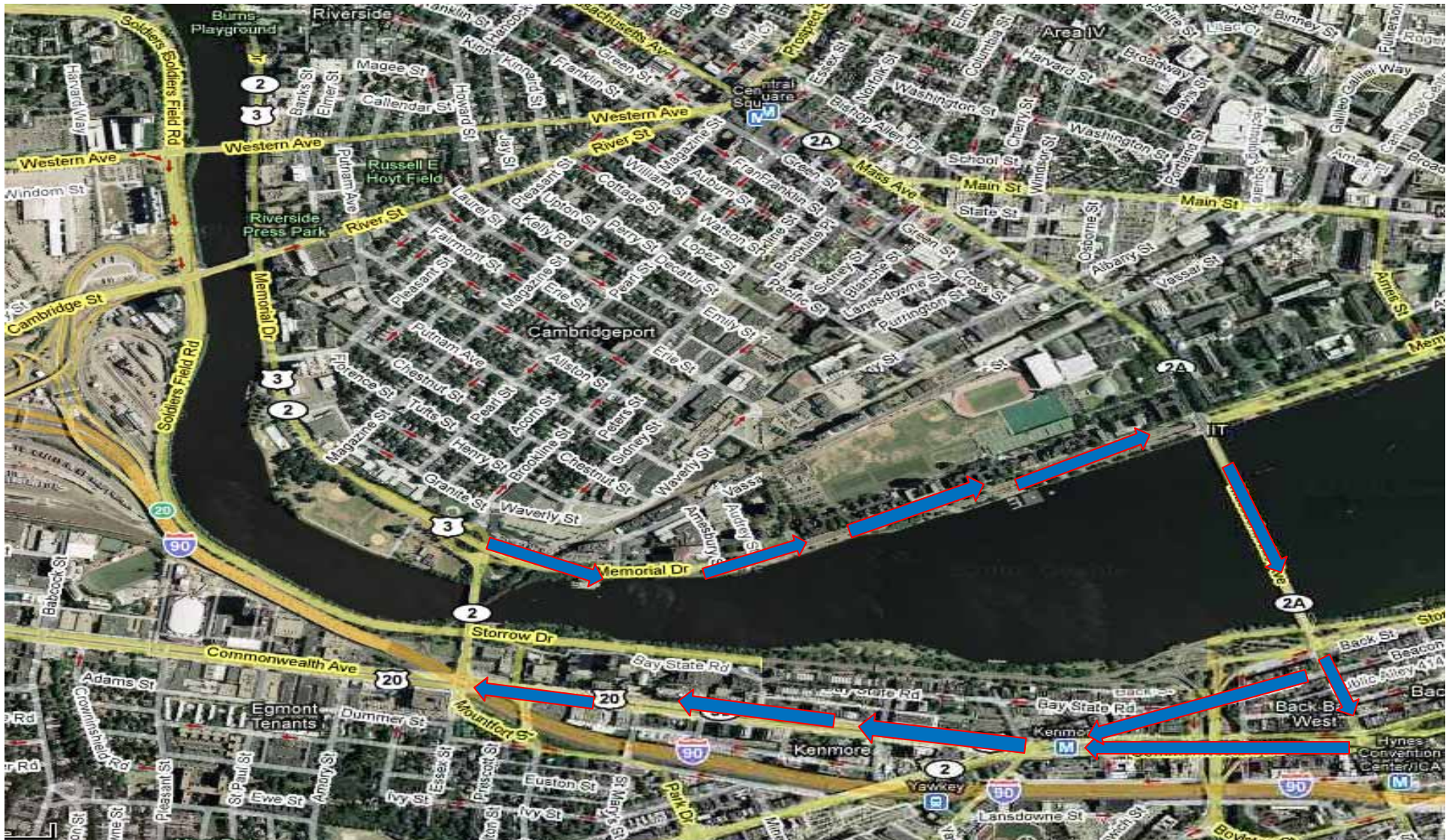
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Traffic Volumes

VEHICLES										
ADT				AM				PM		
SB	NB	TOTAL		SB	NB	TOTAL		SB	NB	TOTAL
17,300	18,100	35,400		1,060	1,630	2,690		1,800	1,240	3,040
PEDESTRIANS										
ADT				AM				PM		
SB	NB	TOTAL		SB	NB	TOTAL		SB	NB	TOTAL
264	196	460		97	31	128		2	5	7
BICYCLES										
ADT				AM				PM		
SB	NB	TOTAL		SB	NB	TOTAL		SB	NB	TOTAL
206	183	389		42	33	75		7	26	33

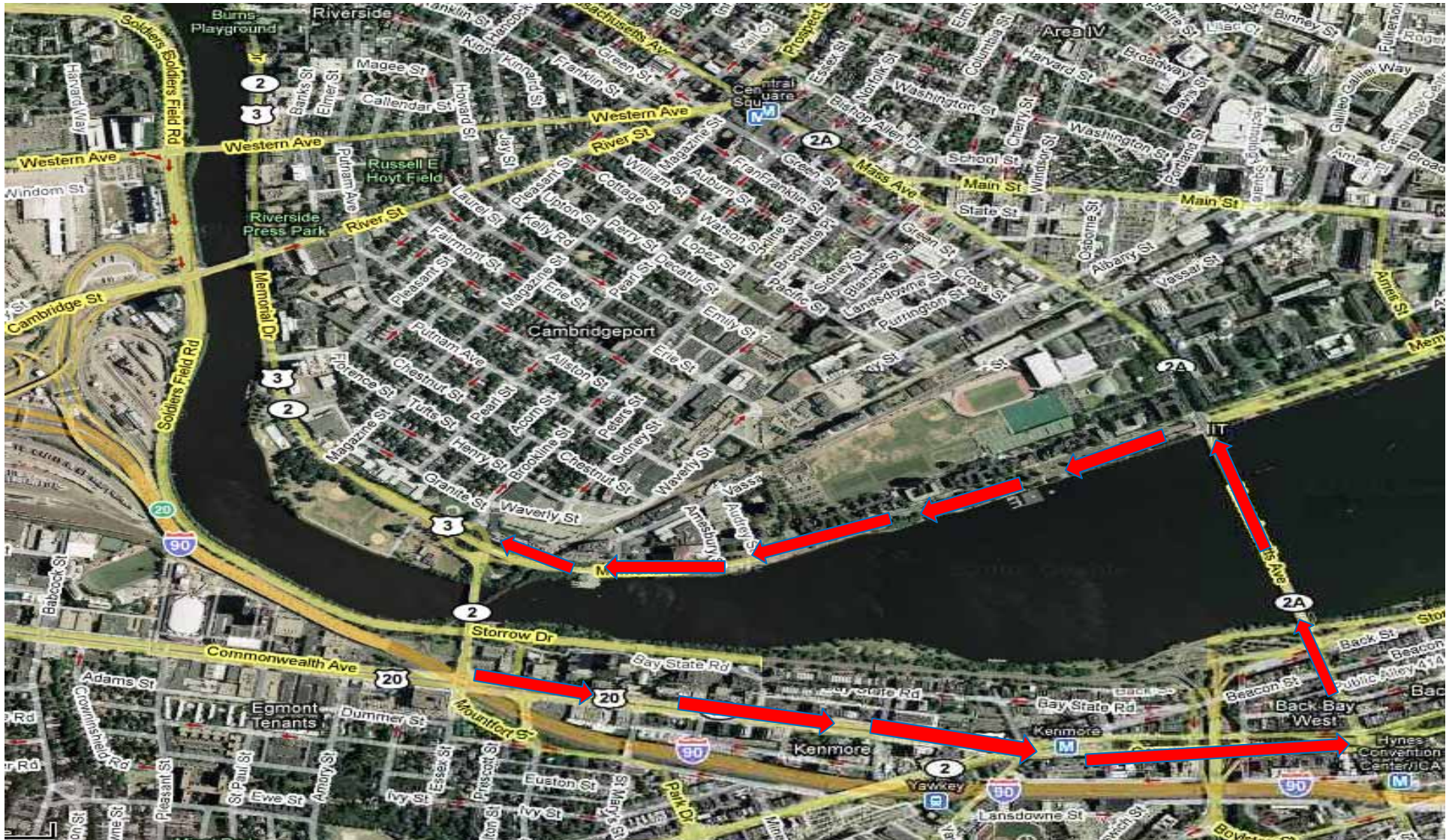
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Alternate Route: Southbound



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Alternate Route: Northbound



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Environmental Mitigation

- Resource protection
- Dust control measures
- Compliance with the Massachusetts Wetlands Protection Act
- Proper disposal of all construction materials and demolition debris



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Resource Protection

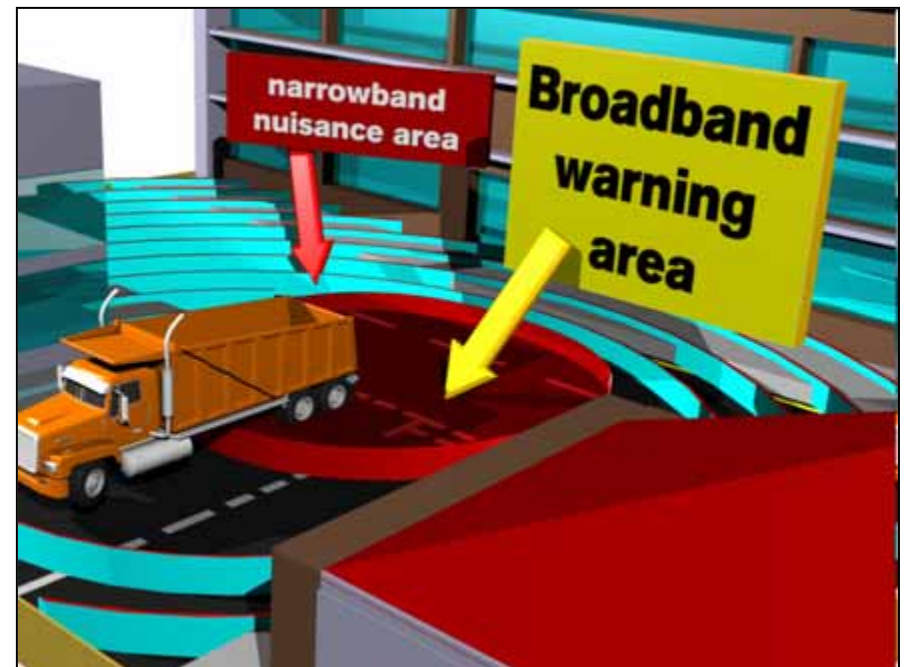


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Noise Abatement

New DCR standard specification developed to minimize construction noise.

- Successfully implemented on recent DCR projects
- Requires use of equipment with efficient noise-suppression devices
- Restricts idling
- All construction vehicles retrofitted with ambient noise-sensitive back-up warning devices

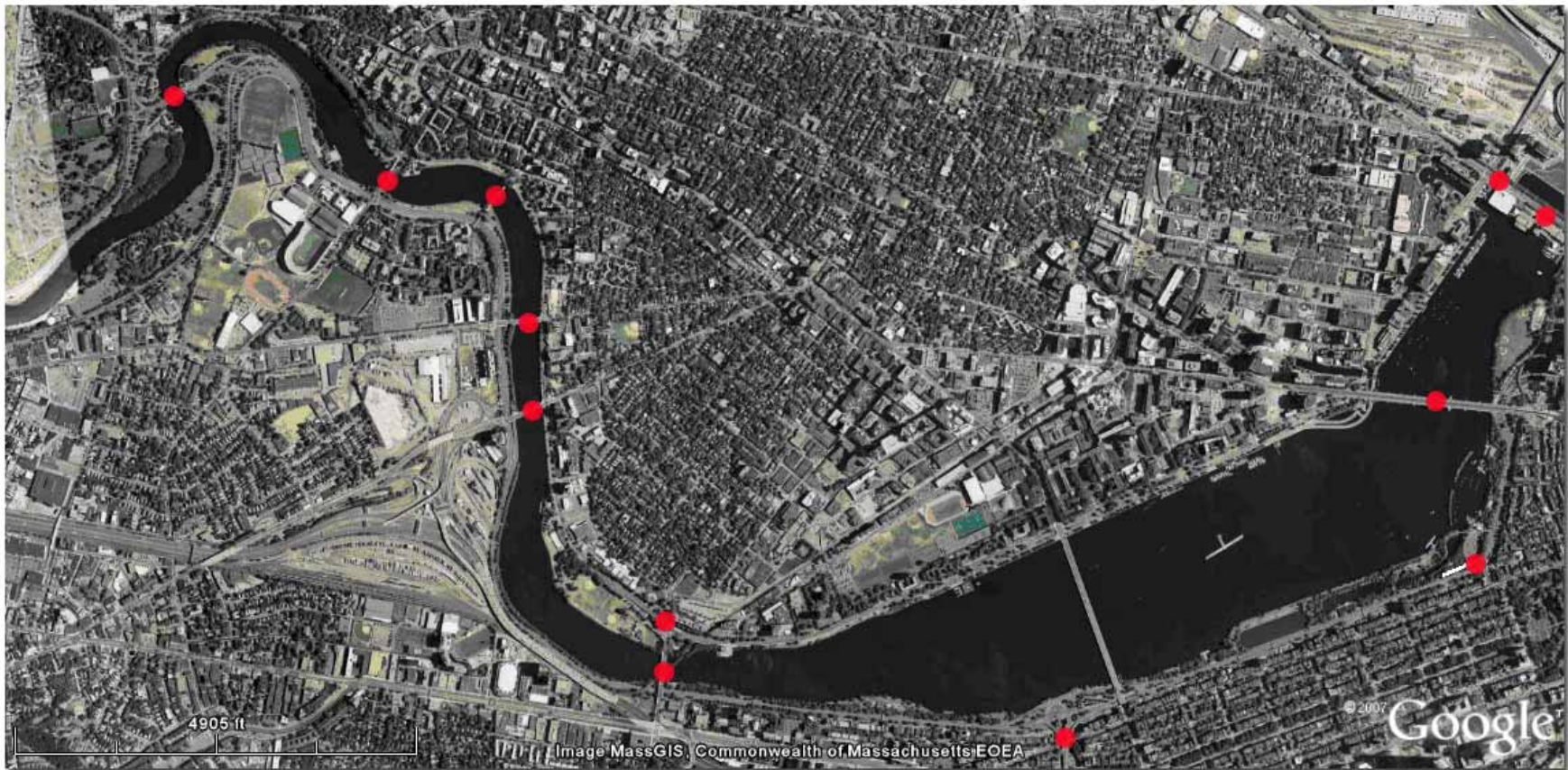


Brigade Electronics bbs-tek white sound alarm

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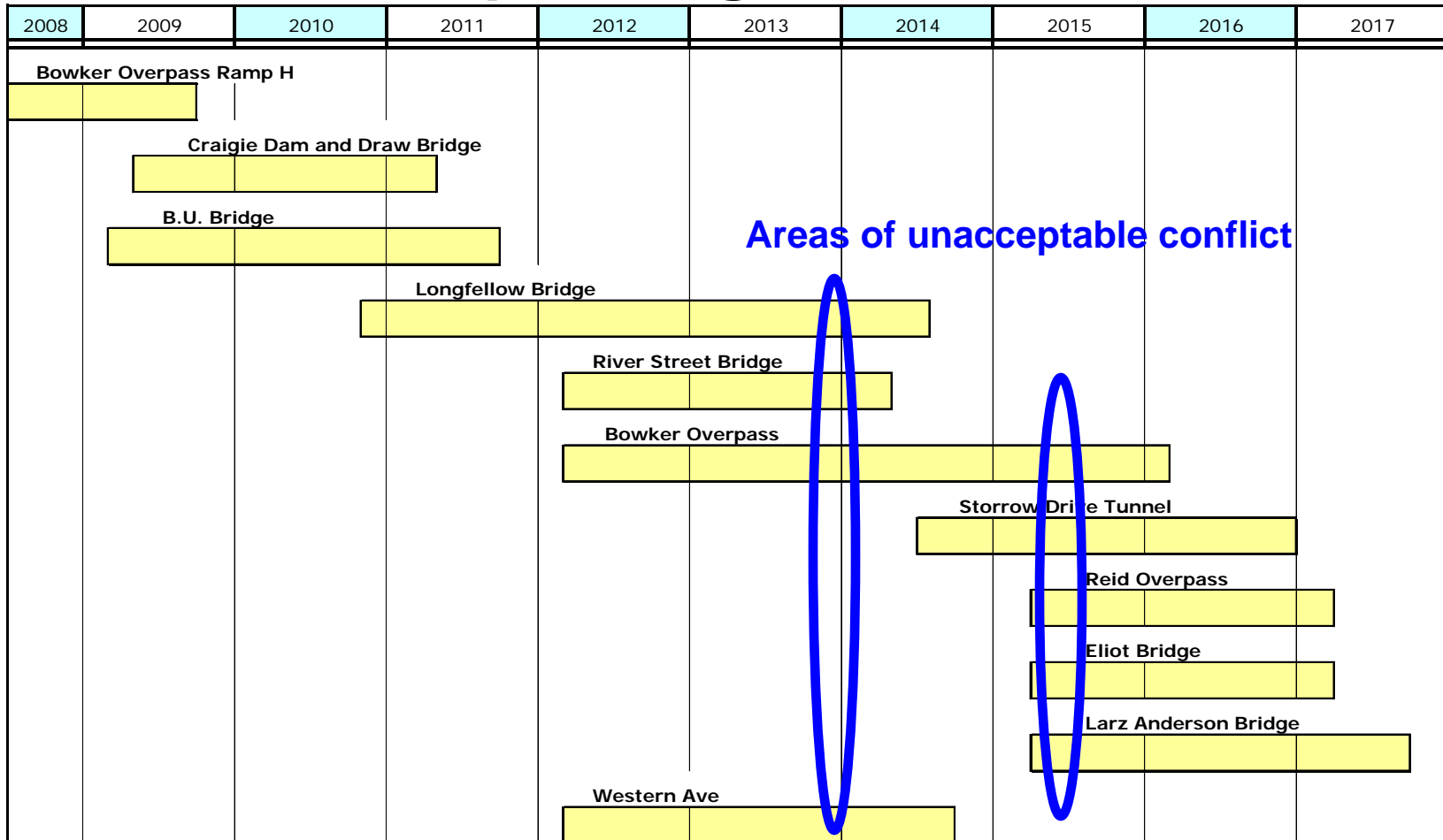
Charles River Basin

Sequencing and Risk



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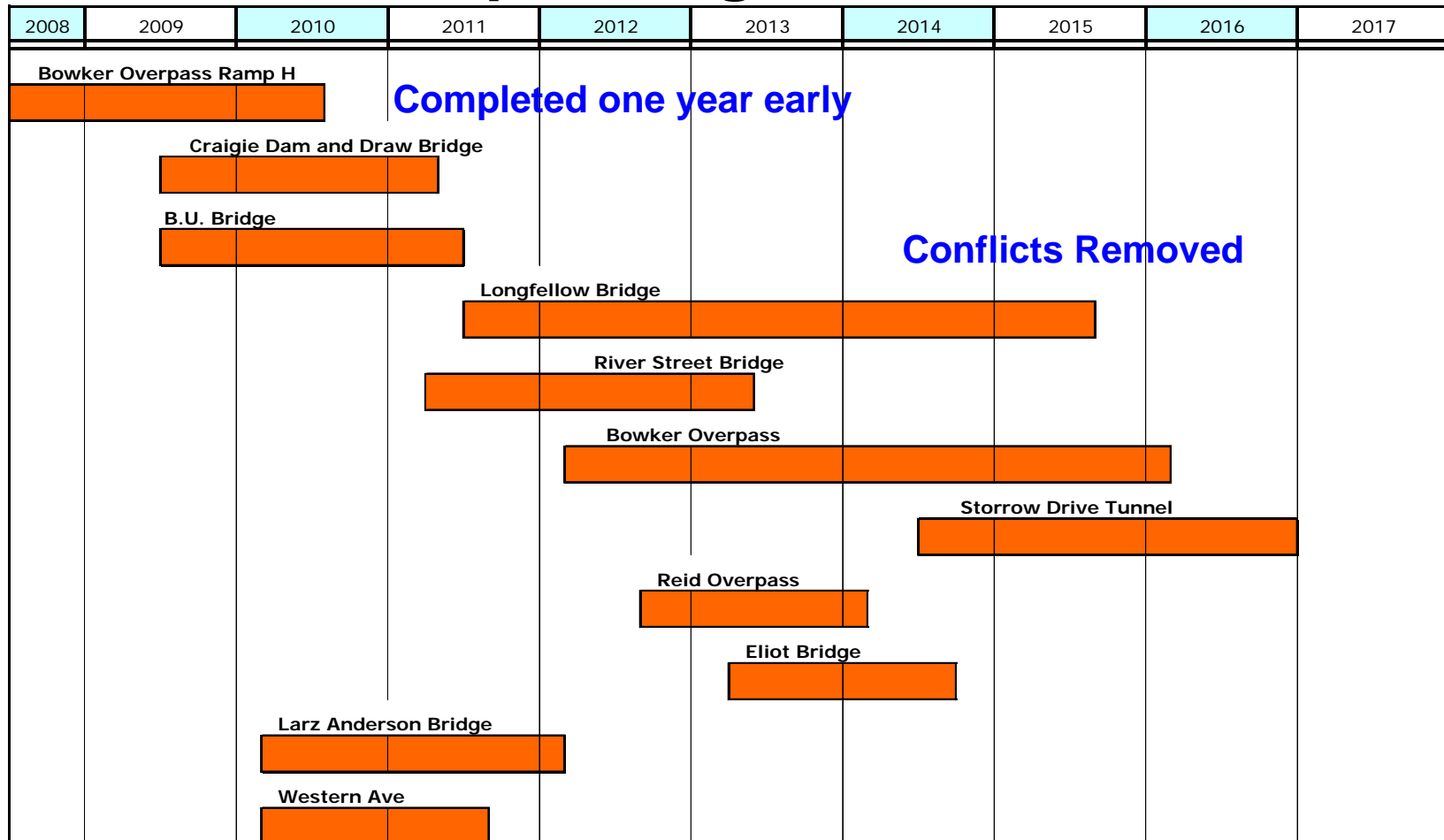
Charles River Basin Sequencing and Risk



Phase I Sequencing Findings – Initial Schedule Evaluation

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Charles River Basin Sequencing and Risk



Phase I Sequencing Findings – Adjusted Schedule Evaluation

Charles River Basin

Sequencing and Risk

Active Risk Management and Sequencing Project

Sequencing Phase II

- Compliments program controls
- Identify all possible points of programmatic and project risk
- Establish risk triggers
- Evaluate projects for design-build and innovative project delivery potential.
- Develop mitigation strategies such as mode-shift and intersection shifts to maintain traffic
- Maintain and monitor the overall program schedule with consideration of established risk

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Staying Informed

- DCR is committed to sharing information on projects being undertaken as part of the Accelerated Bridge Program (ABP) by taking the following steps:
 - Conducting additional stakeholder briefings and public meetings to provide project updates and obtain feedback as project progresses
 - Staffing a dedicated phone line, where the public can call to register concerns, questions, or suggestions.
The phone number is **617-626-4974**
 - Posting regular updates on DCR's website
 - Issuing press releases, traffic advisories, and providing traffic plan updates through Smart Routes
 - Sending announcements concerning projects, as well as traffic advisories over a listserve
 - Communicating via an email account, to which the public can write to register concerns, questions, or suggestions. The account is DCR.Updates@state.ma.us

Additional Information

- For more information
 - Web: www.mass.gov/dcr
 - Email: dcr.updates@state.ma.us
 - Phone: 617-626-4974
- For more information on Accelerated Bridge Program
 - Web: www.mass.gov/acceleratedbridges

Questions & Answers



DCR Mission Statement

*To protect, promote and enhance our
common wealth of natural, cultural
and recreational resources.*