

Moving Massachusetts Forward.
massDOT



Massachusetts Department of Transportation

Magazine Beach Pedestrian Bridge Replacement Project

May 20, 2010
Morse Elementary School
Cambridge, MA

Massachusetts Department of Transportation

- **The Massachusetts Department of Transportation, MassDOT, is the unified transportation organization serving the residents and visitors of Massachusetts with a focus on public safety, customer service and efficiency.**
- **MassDOT is governed by a five member board, managed by a Secretary/CEO, and includes four divisions: Highway, Rail & Transit, Registry of Motor Vehicles, and Aeronautics.**
- **MassDOT was created on November 1, 2009, the result of a historic transportation reform law signed into law by Governor Deval Patrick in June 2009.**



Patrick-Murray Accelerated Bridge Program

○ **Authorization:**

- Chapter 233 of the Acts of 2008
- Project must be complete by 2016

○ **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
- Provide Access and Opportunity for all
- Manage with Transparency and Accountability



Program Overview- 8 years only

- **Size and Scope**

- Former MassHighway: \$2.078 billion
 - rehabilitation or replacement of 189 bridges
 - preservation of 305 bridges
- Former DCR: \$906 million
 - rehabilitation or replacement of 29 bridges
 - preservation of 50 bridges

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

Magazine Beach Pedestrian Bridge



Designer: URS

Contractor: S&R Construction

Magazine Beach Pedestrian Bridge

- **DCR-owned bridge**
- **Constructed in 1953**
- **Single (82' long) span steel girder, crossing Memorial Drive**
- **Access to bridge via 8'- wide ramps sloped at 8.2%**
- **Bridge has been severely damaged due to an impact from a large vehicle**
- **Bridge does not conform to ADA standards**

Existing Conditions



- Major damaged elements due to vehicle hit damage
- Deformed girder that supports the main span over Memorial Drive
- Cracked bearing seat that supports one of the ramps

Existing Conditions



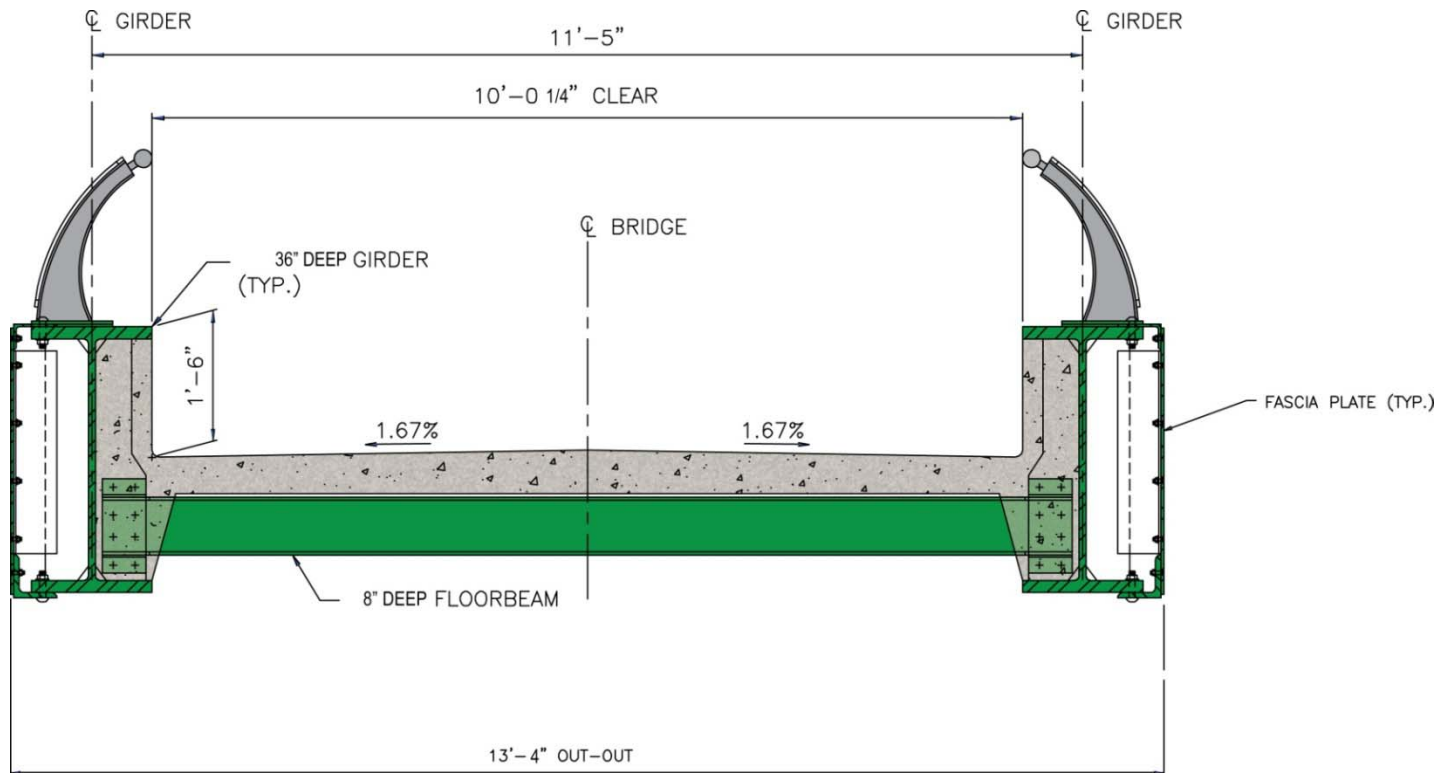
- **Temporary supports**
- **Bridge rail does not meet latest code requirements**

Scope of Work

- **Designed for a 75-year service life**
- **New superstructure with concrete deck and steel beams**
- **Steel coated with high quality ‘metalizing’**
- **Substructure replaced**
- **ADA improvements**
 - Ramp width expanded from 8’ to 10’
 - Ramp slope improved from 8.2% to 5%
- **Safer, code-compliant handrails to be installed**
- **Bridge low-height warnings: east and west of bridge**

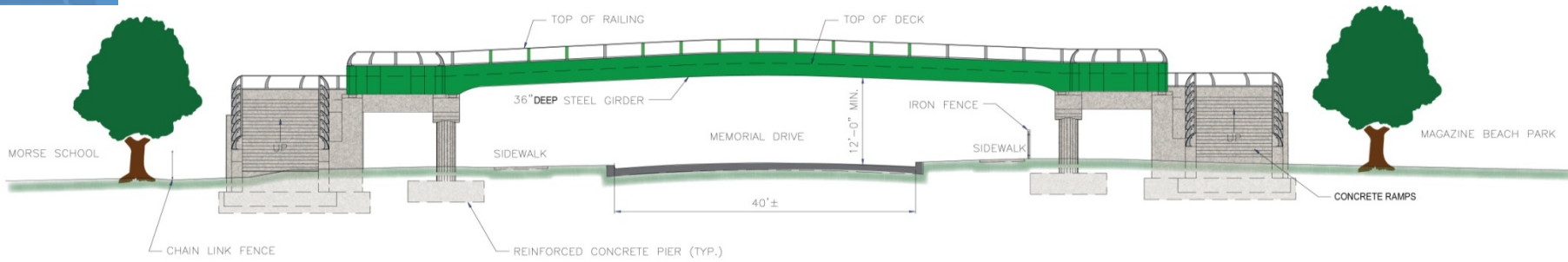
Magazine Beach Pedestrian Bridge Replacement Proposed Cross Section

- 10'-0" wide ramp
- 5% slope ramp walkway
- 42" high railing



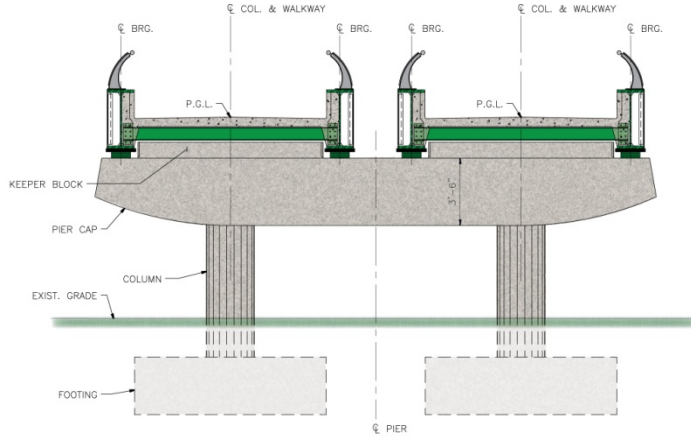
Magazine Street Pedestrian Bridge Replacement

Bridge Elevation

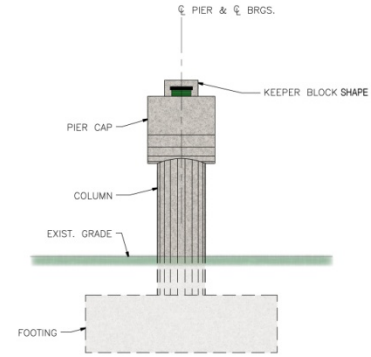


WEST ELEVATION

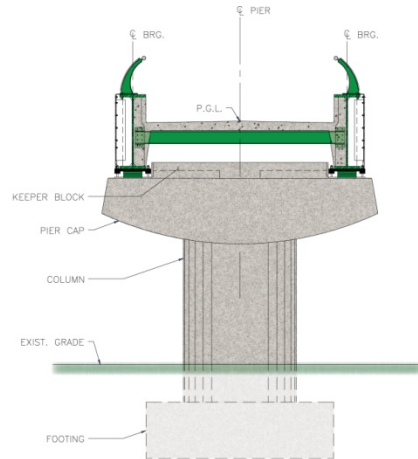
Magazine Street Pedestrian Bridge Replacement Pier Elevation



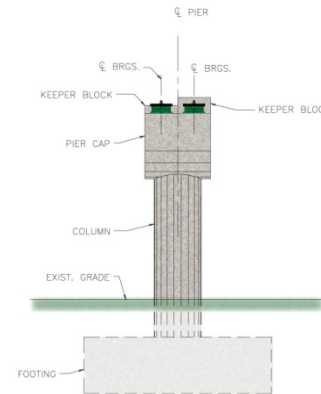
SIDE ELEVATION
SCALE: 3/8"=1'-0"



END ELEVATION
SCALE: 3/8"=1'-0"

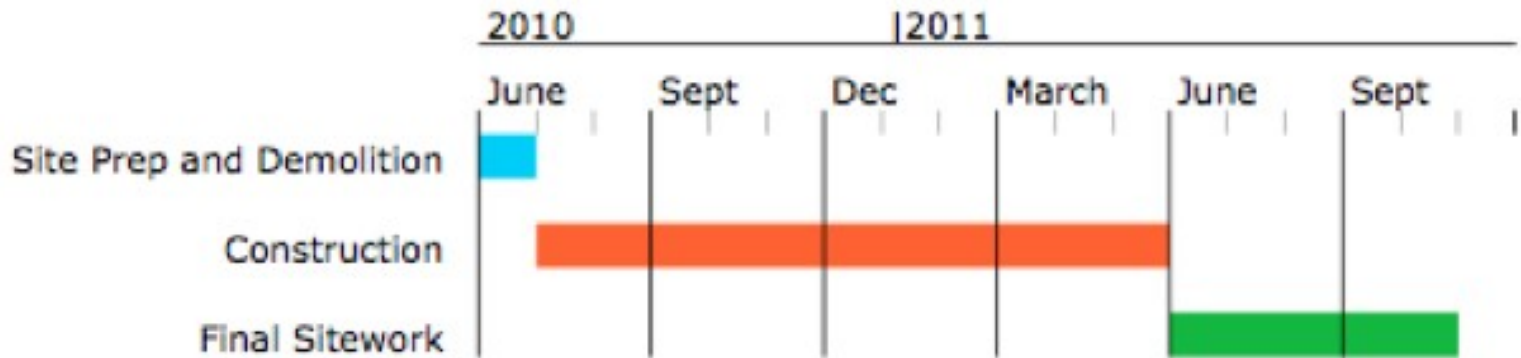


SIDE ELEVATION
SCALE: 3/8"=1'-0"



END ELEVATION
SCALE: 3/8"=1'-0"

Anticipated Schedule



Sequence of Work

- **Installation of temporary asphalt walk surface & traffic signal**
- **Demolition of bridge**
- **Excavation of existing & proposed footing**
- **Placing concrete at new foundations**
- **Erecting structural steel**
- **Placing concrete deck**
- **Installing bridge railings**
- **Site restoration & landscaping**

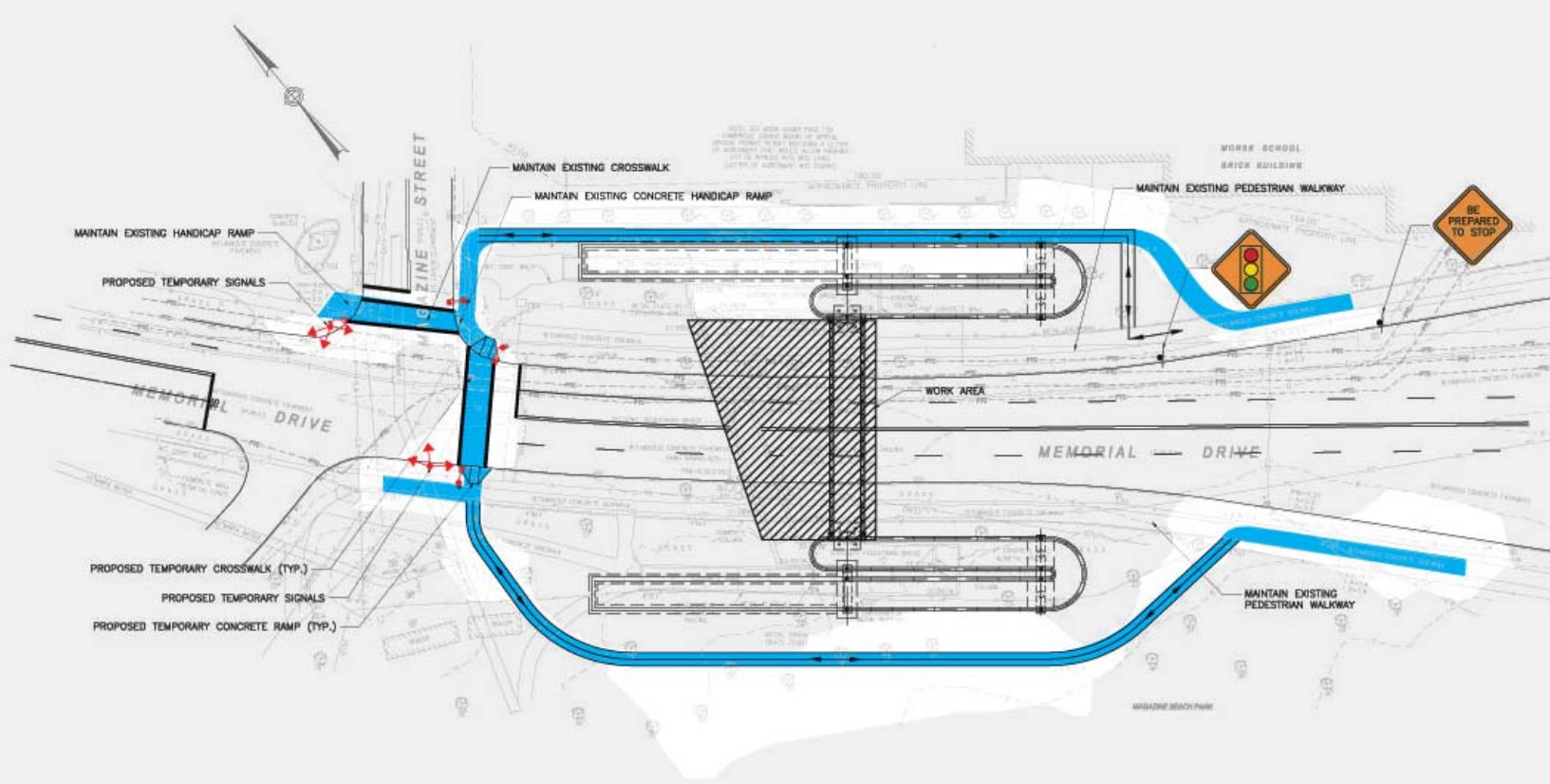
Special Considerations During Construction

- **Pedestrian/bicycle/handicap passage and safety**
- **Vehicle traffic management during road closures**
- **Landscaping alterations and improvements**
- **Construction noise mitigation**
- **Public Outreach**

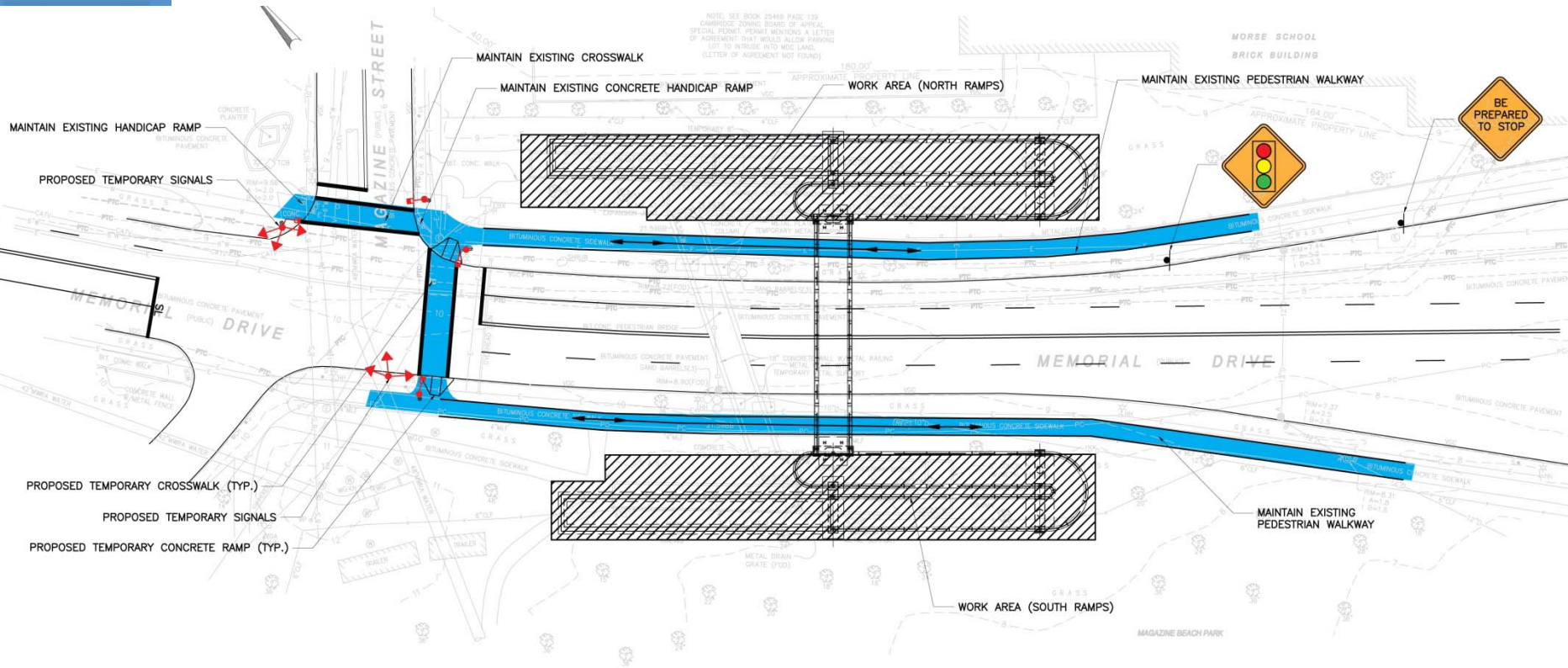
Pedestrian/Bicycle/Handicap Passage and Safety During Construction

- **Maintain existing pedestrian walkways**
- **Maintain existing crosswalk and handicap ramp at Magazine Street**
- **Provide for temporary ground level crosswalk and handicap ramp across Memorial Drive**
- **Temporary traffic signalization**
- **Crossing guards at temporary crosswalk during peak use hours**
- **Increased construction warning signage approaching bridge**

Pedestrian/Bicycle/Handicap Passage and Safety During Main Span Construction



Pedestrian/Bicycle/Handicap Passage and Safety During Ramp Construction



Detour Route



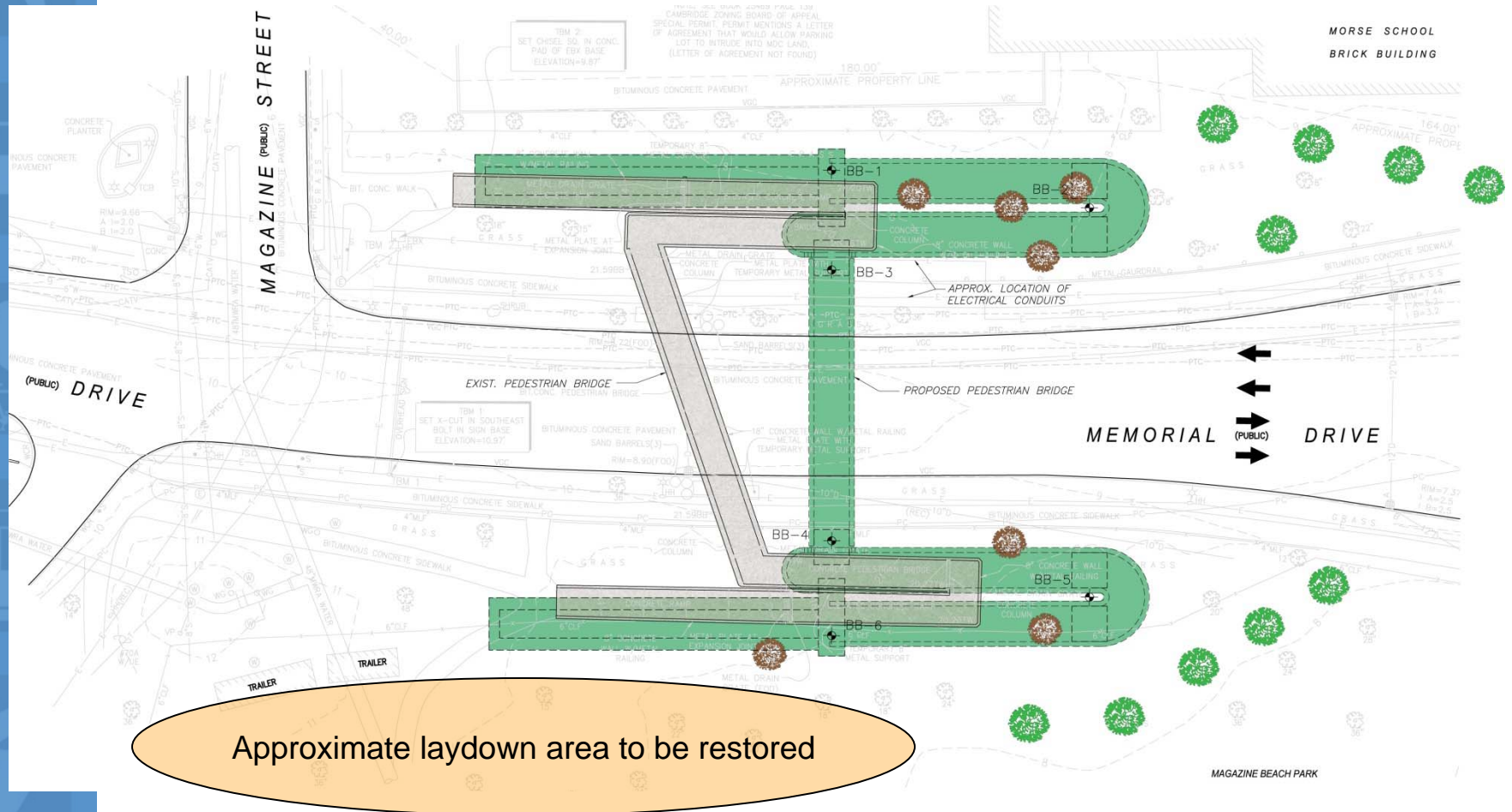
Landscaping Alterations and Improvements



Existing trees to be removed



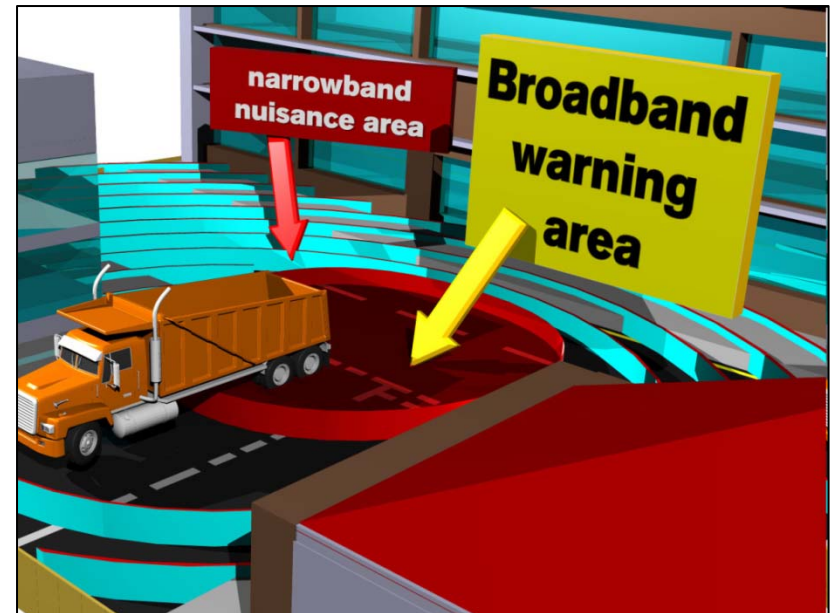
Proposed new trees



Approximate laydown area to be restored

Noise Abatement

- **Standard specification developed to minimize construction noise.**
- **Successfully implemented on recent 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

Public Outreach

- **MassDOT is committed to public outreach throughout the duration of construction for the Magazine Beach Pedestrian Bridge.**
- **To submit concerns, request additional information or be added to the Charles River Basin project database please contact:**
 - Stephanie Boundy, Accelerated Bridge Project Public Outreach Coordinator
 - Telephone: (617)973-8049
 - Email: stephanie.boundy@state.ma.us

For More Information

- www.mass.gov/acceleratedbridges
- For news and updates check out our website www.mass.gov/massdot, blog at www.mass.gov/blog/transportation or follow us on twitter at www.twitter.com/massdot.