

Massachusetts Water Resources Authority

Letter

To: Mr. Guy F. Rezendes, P.E., MassDOT – Highway Division

From: Ralph A. Francesconi, Project Manager, MWRA

Date: April 8, 2011

Subject: Belmont & Watertown, -Trapelo Rd. & Belmont St., File #604688

Comment 1: The MWRA pipelines need to be shown on the Construction Plans.

Response: *The MWRA Pipelines are now shown on the Construction Plan set in addition to the Drainage and Utility Plan set.*

Comment 2: As can be referenced in the MWRA 8(m) Permit Additional Conditions, all proposed utilities need to provide for a minimum 3 foot horizontal and 18 inch vertical clearance. The MWRA requires that a profile view be submitted for all proposed utility crossings at MWRA pipelines. Any proposed utility installations that do not meet the minimum clearance will require justification demonstrating what hardship was encountered which did not allow meeting this requirement.

Response: *There are two proposed crossings of the 20" water line in Common Street and the proposed profiles have been added on plan Sheet 109. The earlier proposed crossing on the 56" line has been eliminated. We have maximized the clearance between the proposed line and the existing lines as much as possible given the constraint that the drainage lines are gravity lines.*

Comment 3: It is the responsibility of the contractor to protect the MWRA's water main during construction. The Authority may require that a professional review of construction methods be submitted and approved by the MWRA prior to the issuance of an 8(m) permit. This professional analysis of construction methods is required to ensure that the MWRA's pipeline would be protected during construction.

Response: *Materials were submitted to the MWRA in the summer of 2011 and commented on in a follow up letter from the MWRA on 10/11/2011.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Memorandum

To: Marie Rose, P.E., Acting Director of Project Management
From: Luciano Rabito, P.E., Bicycle/Pedestrian Accommodation Engineer
Date: April 11, 2011
Subject: BELMONT- WATERTOWN
Trapelo Road & Belmont Street
75% Project Review
Project File No. 604688 EWO/PARS #604699P11
Albert J. Miller, Project Manager

I have reviewed the subject project for compliance with the Project Development and Design Guide, Engineering Directive E-09-005, and the AASHTO Guide for the Development Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Comment 1: Trapelo Road Sta. 20+00 to Sta. 21+00, Eastbound – 1-11 foot running lane, 1-11 foot travel lane, 1-5 bike lane, 1- variable width rain garden, and 1-5 foot cement concrete sidewalk. Westbound – 2-11 foot travel lanes, 1-variable width turning lane, and 1-6 foot cement concrete sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No response necessary.*

Comment 2: Trapelo Road Sta. 21+00 to Sta. 23+50. Eastbound – 1-11 foot turning lane, 1-11 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot sidewalk. West bound – 2-11 foot travel lanes, 1-13 foot travel lane and 1-6 foot cement concrete sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 3: Trapelo Road Sta. 24+50 to Sta. 25+50. Eastbound - 2-11 foot travel lanes, 1-5 foot bike lane, 1-5.5 foot grass strip and 1-8.5 foot sidewalk. Westbound – 1-11 foot left turn lane, 1-11 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane and 1-8.5 foot cement concrete sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 4: Trapelo Road Sta. 30+50 to Sta. 31+30. Eastbound – 2-11 foot travel lanes; 1-4 foot shoulder, 1-4.5 foot sidewalk, and 1-6 foot to 8 foot HMA driveway. Westbound – 1-11 foot travel lanes, 1-4 foot shoulder, and 1-5.5 foot sidewalk.

This section is NOT in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards. The minimum width for a sidewalk is 5.5 feet. The 4 foot shoulders should be designated as such.

Response: *It is our understanding that a 4 foot sidewalk is undesirable but acceptable as long as there is no street furniture (signs, poles) on it and a wheelchair can pass and there is a passing zone at least every 200 feet, which is the case here. Without reducing the sidewalk width to 4 feet in this stretch of the roadway a 4 foot shoulder would not be possible. The 4 foot shoulder has been designated as a shoulder.*

Comment 5: Trapelo Road Sta. 39+00 to Sta. 41+00. Eastbound – 1-16 foot lane, 1-5 foot bike lane, 1-8 parking lane, and 1-8.5 foot sidewalk. Westbound – 1-16 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 6: Trapelo Road Sta. 45+00 to Sta. 51+00. Eastbound – 1-12 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-12.5 foot sidewalk at driveway. Westbound – 1-12 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-12.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 7: Trapelo Road Sta. 53+50 to Sta. 55+00. Eastbound – 1-12 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-12.5 foot sidewalk at driveway. Westbound – 1-12 foot gravel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-12.5 foot sidewalk,

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 8: Trapelo Road Sta. 61+75 to Sta. 62+25. Eastbound – 8” raised planted island, 1-1 foot shoulder, 1-11 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot cement sidewalk. Westbound – 1-1 foot shoulder, 1-11 foot gravel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 9: Trapelo Road Sta 62+65 to Sta. 62+90 and Sta. 64+10 to Sta. 65+15. Eastbound -8’ raised planted island, 1-1 foot shoulder, 1-11 foot travel lane, 1-5 foot bike lane, 1 -8 foot parking lane, and 1-8.5 foot sidewalk. Westbound – 1-1 foot shoulder, 1-11 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 10: Trapelo Road Sta. 76+00 TO Sta. 77+50. Eastbound – 1-12 foot travel lane, 1-5 foot bike lane, 1 – 8 foot parking lane, and 1-12.5 foot sidewalk driveway. Westbound – 1-12 foot travel lane, 1 -5 foot bike lane, 1-8 foot parking lane, and 1-12.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 11: Trapelo Road Sta. 88+25 to Sta. 89+90. Eastbound -1-10 foot turning lane, 1-11 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot cement concrete sidewalk. Westbound 1-8.5 foot cement concrete sidewalk.
Westbound – 1-11 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-8.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 12: Belmont Street Sta. 107+00 to Sta. 114+00. Eastbound – 1-10 foot raised island, 1-2, 1-2 foot shoulder, 1-11 foot travel lane, 1-5 foot bike lane, 1-7.5 foot parking lane, and 1-5.5 foot cement concrete sidewalk. Westbound – 1-2 foot shoulder, 1-11 foot travel lane, 1-5 foot bike lane, 1-7.5 foot parking lane, and 1-8.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 13: Belmont Street Sta. 125+00 to Sta. 127+00. Eastbound – 1-12 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane, and 1-7.5 foot cement concrete sidewalk. Westbound – 2-11 foot travel lanes, 1-5 foot bike lane, 1-8 foot parking lane, and 1-7.5 foot sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 14: Belmont Street Sta. 131+00 to Sta. 134+00. Eastbound – 2-11 foot travel lanes, 1-4 foot shoulder, and 1-7.5 foot cement concrete sidewalk. Westbound – 2-11 foot travel lanes, 1-4 foot bike lane, 1-8 foot parking lane, and 1-7.5 foot sidewalk.

This section is NOT in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards. The 4 foot shoulder should become a 5 foot bike lane, as only bike lanes are allowed between a travel lane and a parking lane.

Response: *The 8.0' parking lane has been reduced to 7.0' and the bicycle lane has been increased to 5.0'*

Comment 15: Belmont Street Sta. 137+00 to 138+00. Eastbound – 2-11 foot travel lanes, 1-4 bike lane, 1-8 foot parking lane and 1-7.5 foot cement concrete sidewalk. Westbound – 2-11 foot travel lanes, 1-4 foot bike lanes, and 1-7.5 foot sidewalk.

This section is NOT in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards. The 4 foot shoulder should become a 5 foot bike lane, as only bike lanes are allowed between a travel lane and a parking lane.

Response: *The 8.0' parking lane has been reduced to 7.0' and the bicycle lane has been increased to 5.0'*

Comment 16: Belmont Street Sta. 142+00 to Sta. 147+00. Eastbound – 1-10.5 foot to 16 foot travel lane, 1-5 foot bike lane, 1-8 foot parking lane and 1-8 foot to 7.5 foot cement concrete sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Comment 17: Mill Street Sta. 1+50 to Sta. 3+00. Northbound – 2-11 foot travel lanes, 1-4 foot shoulder, and 1-6 foot cement concrete sidewalk. Southbound – 1-11 foot travel lane, 1-4 foot shoulder, and 1-5.5 foot cement concrete sidewalk.

This section is in compliance with The Project Development and Design Guide, Engineering Directive E-09-005, and The AASHTO Guide for the Development of Bicycle Facilities, and relevant bicycle and pedestrian accommodation standards.

Response: *No Response Necessary.*

Belmont Office of Community Development

Letter

To: Guy F. Rezendes, P.E., MassDOT – Highway Division
From: Glenn R. Clancy, P.E., Town Engineer, Dir. of Community Development
Date: May 4, 2011
Subject: Trapelo Road / Belmont Street Project, Project File No.: 604688

Comment 1: On behalf of the Town of Belmont Office of Community Development and the Department of Public work I am responding to your request for information dated 31 March 2011.

The Office of Community Development – Engineering Division is responsible for the Sanitary Sewer and Storm Drain System. I will serve as the contact person for these utilities.

Glenn R. Clancy, P.E.
19 Moore Street
Belmont, MA 02478
617-993-2659

Depiction of sewer and drain was developed with the assistance of the designer, the BSC Group. To the best of my knowledge the depiction is accurate. All conflicts, proposed relocations, and/or anticipated expansions (if any) are included in the 75% design drawings.

Response: *No Response Required.*

Comment 2: The Department of Public Works is responsible for the Water Distribution System. The contact person is:

Michael Bishop
Water Division Manager
19 Moore Street
Belmont, MA 02478
617-993-2706

The water distribution system has recently been upgraded in anticipation of the Trapelo Road/Belmont Street reconstruction project. Depiction of this water system reflects the upgrades. To the best of our knowledge the depiction is accurate. We are unaware of any conflicts, proposed further relocations, and/or anticipated further expansions of the water system as depicted don the 75% drawings.

Response: *No Response Necessary*

The Commonwealth of Massachusetts

MBTA Railroad Operations
Engineering and Maintenance Division

E-Mail

To: Raymond Stinson,
From: James Duncan, Engineering Officer
Date: May 10, 2011
Subject: Project File No. 604688 Utility Relocation in Belmont / Watertown

Comment 1: MBTA Railroad Operations has reviewed the proposed work and has no comments as the work that is planned does not affect the movement of trains in the construction zone.

Response: *No Response Necessary.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Memorandum

To: Albert J. Miller – Project Manager
From: Jeff Cullen, AAB/ADA Review Coordinator
Date: May 10, 2011
Subject: Belmont – Watertown - Trapelo Road and Belmont Street Reconstruction
Project File # 604688
AAB/ADA 75% Accessibility Review

Comment 1: Wheelchair ramps (WCR) D46 and D47 have a skewed ramp edge in the path of travel which is difficult for the wcr user to negotiate because of tipping. Please redesign with the wcr normal or radial to the edge to prevent this phenomenon. Note: ramps D46 and D47 are not Style D wcrs because Style D is normal to the edge in the path of travel.

Response: *Wheelchair ramps/D47 was redesigned to become directional ramps with a “level entrance” in order to prevent WCR users from tipping. A separate WCR detail (Type “N”) was provided for these directional ramps. All similar WCR along the corridor were looked at and modified to prevent tipping. WCR D46 was also revised to correct the problem but in a different way.*

Comment 2: Wheelchair ramps (WCR) can provide geometric way finding assistance to the visually impaired to correctly orientate them to the proper direction when crossing a street. Radial wheelchair ramps inherently interfere with this property and can direct the visually impaired into the traffic stream instead of directing them to properly cross the street within the cross walk markings. As a result, we direct the designers not to place a radial wheelchair ramp in the “apex location” of a turning radius, but rather, to shift the wcr along the curvature of the radius as much as allowable, up to a maximum allowable by the MUTCD, to help negate the effect of improperly directing the visually impaired into the traffic stream. Also, a 4 foot deep by the length of the width of the ramp landing area is required at the bottom of all ramps to be within the cross walk strips and outside of the through-travel lanes. Apex wcrs, or apex positioned wcrs are only allowed when there are site constraints.

Please move the radial wcrs to provide the best possible wayfinding assistance for the visually impaired. As an example wcr A14 is non-compliant nor is it a best practice. Please redesign.

Response: *In order to provide better assistance to the visually impaired, radial wheelchair ramps along the corridor were rotated as far as each site allowed to direct the visually impaired in the proper direction. Another approach to this problem was to convert*

radial wheelchair ramps to directional ramps. In the specific case of WCR A14, it was converted to a directional ramp because site restrictions prevented the WCR from being rotated around the curve.

Comment 3: For wcr E1 recommend a Blended Transition around the turning radius that blends a 5% ramp continuously around the corner which will also be edged with a warning panel. East sidewalk transition will drop the sidewalk about 3 inches to a level landing then to the 5% ramp to the street. In addition the cross walk strip will not come to a point at the curb line or gutter but will meet set back 48 inches from the gutter. What is proposed for E1 is non-compliant or is a best practice. This also applies to E3.

Response: *The E1 WCR's have/ has both been revised in a manner very similar to what was recommended.*

Comment 4: Please provide curb cut construction details with a sectional views for all the types of wheelchair ramps and driveways aprons with continuous sidewalk crossings. All proposed construction plans with wcrs and driveway aprons with continuous sidewalk crossing must use this outlines that comply with the types of curb cut construction details provided. The selected scaled symbols used for the construction plans must be reflective of the finished ramp or driveway apron. For example E2 is not a Style E wcr and will require a separate construction detail.

Response: *Individual details for each variation of wcr have been created. A new detail for driveways where the roadway is being narrowed (and the sidewalk widened) has been created.*

Comment 5: Wcr B29 is not a Style B wcr. Style B ramps are normal to the curb line. This is not the case with B29 which is skewed to the path of the travel and is noncompliant. Also one side is 3.94 feet. When the curbing is 6 inches and the ramp is at a 7.5% slope, it does not reach 6 inches. Please redesign and provide a separate construction detail.

Response: *This wcr has been revised and it is now an "S" type.*

Comment 6: How is the curved curb Type VB being paid for the wcr Style B, sheet CD-2?? For example, where specifically in the contract documents are C873, C874, C875, C876 and C877 called out for payment? Where are the radii and lengths for these curved edges of granite?

Response: *The curve information for the missing curves are not on the plan. These sections of curbing are paid for under the curved curbing item for VB curbing, Item 506.1.*

Comment 7: Please relocate D3-91 for the wcr A96 ramp.

Response: *D3-91 is proposed to be mounted on an existing utility pole that was within the wcr. The wcr has now been changed in type to and moved so that the pole is no longer in the wcr.*

Comment 8: For a best practice please relocate the accessible parking space at station 23+00 right Trapelo Road up station one space to have this space next, or adjacent to, the cross walk at station 24+00. Reference PROWAG Chapter R3: Technical

Provisions, Section 308.2.2 **Narrow Walkways**. Another example is station 49-00 right Trapelo Road. This applies to the entire project.

Response: *All accessible parking spaces along the corridor were examined to determine if they are in the best location. Where applicable, accessible parking spaces were relocated to be adjacent to crosswalks. The handicap space at 23+00 was for a restaurant that recently closed down and the space has been moved closer to the crosswalk. The handicap spaces in the commercial centers are all adjacent to a crosswalk. The other handicap spaces in the residential areas were put in for a handicap resident living at the particular location. We checked with the Town and these must stay where they are presently shown.*

Comment 9: For the parking lot at station 36+00 right Trapelo Road, at least one space has to be van accessible and signed as such. Reference 521 CMR 23.6, **Signage**.

Response: *In the parking lot at station 36+00 RT Trapelo Road, one accessible parking space was deemed van accessible and signed as such.*

Comment 10: The location of the pedestrian signals at the intersection of Trapelo Road, station 19+50 left (P6), and Mill Street is not recommended (a best practice). The pedestrian signal is located greater than 5 feet from the cross walk lines. Please relocate. Reference the Pedestrian Facility Design, Reference Manual, Chapter **Push Button Location**, page 97, Section **(E) Close to crosswalk**. Also reference, **ACCESSIBLE PEDESTRIAN SIGNALS/A Guide to Best Practices**.

Response: *All locations have been reviewed and modified if necessary or appropriate.*

Comment 11: In conjunction with comment 10 recommend locating P6 at the back-of-sidewalk adjacent to the level landing. See attachment. Reference: Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations, Chapter 4 Design Solutions, Limited Right-of Way, number 1.06.

Response: *The pedestrian signal (P6) at station 19+50 LT was relocated to be adjacent to the level landing as seen in Reference to: Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations, Chapter 4 Design Solutions, Limited Right-of Way, number 1.06.*

Comment 12: The location of the pedestrian signals at the intersection of Trapelo Road, station 19+27 left (P4) and Mill Street, sheet TSP-1, is not recommended (a best practice). The controls have to be adjacent to a clear ground space 32 x 54 inches.

Response: *The grading in the wcr has been modified and the signal posts move to make sure the push button is adjacent to a level landing area.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Memorandum

To: Brian Fallon, DPE

Through: Mike Karas, P.E., DTOE
Peter Gfatter, DTE

From: Sara Timoner, EIT

Date: May 16, 2011

Subject: Belmont/Watertown - Trapelo Road and Belmont Street- 75% Review
EWO# P # 604688-P11, File No. 604688
75% D4 Traffic Comments

General Comments

Comment 1: The 2003 version of the MUTCD is the most recent edition approved for use by MassDOT. Please check with our Boston office regarding the use of the 2009 MUTCD.

Response: *The Boston office was contacted and it was confirmed that MassDOT has now approved for use the 2009 MUTCD.*

Comment 2: Two channel phase selectors and video processors should be used.

Response: *This is now shown in the Major Items List.*

Comment 3: Conform/note the color of the emergency strobe (white) on plans.

Response: *We have now listed the color in the Major Items List.*

Comment 4: Please ensure all electrical and communications conduit is separated.

Response: *Lines have been separated as requested.*

Comment 5: Better define 'accessible pedestrian pushbutton assembly' in the special provisions. What type of locator will be used in these assemblies? Will the located be on 24 hours a day?

Response: *Done. One that will respond to the ambient noise level. They will be on 24 hrs a day.*

Comment 6: Please place a note on the plan stating countdown phase of pedestrian signals should not occur during the WALK period.

Response: Done

Comment 7: Traffic controller cabinets should be at least 18 inches above the finished surface.

Response: A paragraph has been added to the special provision to satisfy this comment.

Comment 8: Please include arrow/legend pavement marking detail in the planset.

Response: Done – it is on the first plan of the Pavement Markings and Signing Plans.

Comment 9: The bus stops at Willow Street and Payson Road are proposed (or currently exist) in the middle of these T intersections. Consider relocating these bus stops to create a safer condition at these locations.

Response: They have both been moved.

Comment 10: Add R4-7 signs to the end of the raised islands just east of Oakley Road (approx. Sta 105+26).

Response: There is an R4-7 sign at the end of the raised island just east of Oakley Road at approximate station 105+26. The island to the west of Oakley Road is a flush island.

Comment 11: W11-2 and W16-7 signs should be located prior to the crosswalk (see page PM-7 just east of Payson Road)

Response: The signs are shown on the plans but the drafting has been revised to make them more visible.

Comment 12: Please correct the spelling of Westland Road (D3-51) in the traffic sign summary. Also, sign D3-48 should read: Worcester St (instead of Worcester Ave).

Response: Done

Trapelo Road at Mill Street (LOC 1)

Comment 14: Currently there is an existing underground service connection to the cabinet. Will the proposed service connection be an aboveground or underground tie in from the utility pole? If necessary, please update cost estimate and description for Item 816.01.

Response: It is our understanding that the existing service connection is to a utility pole at the northwest corner of the intersection and the project is proposing a new service to the same pole via a new 3" conduit from the controller cabinet to the pole. We are calling this an "Overhead" service connection as the final destination is on a utility pole vs. a "Underground" whose final destination is a manhole.

Comment 15: Add video detector cameras and video processor to cost estimate and item description.

Response: The video detector cameras are already in the cost estimate along with a description.

Comment 16: Consider moving P7 and P8 to west side of crosswalk to reduce conduit necessary. Can P8 be installed on the mast arm?

Response: *P7 and P8 have been moved as requested. P8 cannot be mounted on the mast arm post unless the mast arm post is moved adjacent to the level landing as the push button needs to be adjacent to the level landing.*

Trapelo Road at Pleasant Street (LOC 3)

Comment 17: Is the service connection (to be located in existing conduit) and underground connection? Please fix in Item 815.03.

Response: *Historically we have defined an “overhead service connection” as a service connection to a utility pole (even though the cable gets to the pole in an underground conduit) and an “underground service connection” as a service connection to an electric manhole. We have not changed the plan. If MassDOT still wants it changed we will oblige.*

Comment 18: To provide a safer condition consider switching phase 3 and 8 so the offset driveway operates as an exclusive phase.

Response: *Done.*

Trapelo Road at Lexington Street (LOC 4)

Comment 19: It does not appear from the plan that P1 is connected to conduit.

Response: *The Plan has been corrected.*

Lexington Street at Church Street (LOC 5)

Comment 20: Gore lines should be provided around the raised island at this location to provide better delineation between the westbound through movement from Lexington Street, and southbound right turn movement from Church Street.

Response: *Gore lines have been added.*

Comment 13: Vehicle Signal Heads lists the second paragraph twice. Remove the duplicatives

Response: *We do not see the issue. There are three separate lines for vehicle signal heads, one for one way housings (5), one for two way housings (1), and one for a three way housing (1).*

Trapelo Road Beech Street (LOC 7)

Comment 21: Preemption strobe should be located close to the middle intersection.

Response: *Done*

Comment 22: P1/P2 and P5/P6 do not call phase 9 but appear in the sequence/timing plan. These phases also appear up at in the sequence plans as WALK DON'T Walk” in timing plan.

Response: *The plan has been corrected and now P1/P2 and P5/P6 do call phase 9.*

Trapelo Road at Common Street/Cushing Street (LOC 9)

Comment 23: A pull box or separate conduit should be used connect the illuminate bollard and pedestrian signal. Electrical wire and communications conduit must be separated.

Response: *This had not been done. Both the cables to the bollards and the cables to the traffic signals are electrical. Neither is communication cable.*

Comment 24: What is the purpose of the illuminated bollard at the northwest corner of this intersection?

Response: *The bollards in question have been removed.*

Comment 25: Eliminate second set of arrow and ONLY markings on Common Street, or extend the SWLL to the end of these markings.

Response: *The SWLL has been extended.*

Belmont Street at School Street (LOC 12)

Comment 26: Remove concurrent pedestrian phase during phases 2 and 6 since an exclusive pedestrian phase is provided.

Response: *We have left the plans as they are. Our intention is to allow pedestrians to cross the side street approaches without calling the exclusive pedestrian phase, but if the exclusive pedestrian phase is called by someone wishing to cross Belmont Street, we want the side street crossings to get the walk indication also. We contacted a traffic signal provider to see if this was possible and they said it is possible.*

US Department of Transportation

Federal Highway Division

Memorandum

To: Tom Broderick, P.E., Acting Chief Engineer, MassDOT (Highway Division)
From: Joshua Grzegorzewski
Date: May 23, 20011
Subject: Belmont – Watertown; Reconstruction of Trapelo Rd and Belmont St, Town Owned Facility.
75% Design Submission Review (Key # 604688)

Resolution of Previous Comments:

n/a

Outstanding Items to be Resolved:

n/a

Review Comments:

- Plans

Comment 1: TS-2: Travel Rd (STA 30+50 – 31 +30) provides a 4.5 foot sidewalk has potential to fall beneath ADA minimum clear width requirements.

Response: *This is a 140 foot section of the roadway where the existing right of way width is 50' instead of 85' as it is along the rest of the roadway. It has been this way since the roadway was laid out in 1903. On the south side of the roadway is a multi-story brick building that abuts the sidewalk and on the north side is a gas station with it pumps about 12' from the layout line. No utility poles or signs are proposed within the sidewalk area for the entire 140 feet. We believe it meets the ADA minimum clear width requirements.*

Comment 2: TS-3: Trapelo Rd. Scored Cem. Conc. Sidewalk.

Response: *The project is proposing to install standard cement concrete sidewalk but with a different scoring pattern in commercial areas.*

Comment 3: TS-7: Trapelo Rd, 4 foot Cem. Conc. Sidewalk, this is the ADA minimum clear width under PROWAG.

Response: *This section is proposed to be 5' in the 100% submission plans. The sidewalks do sometimes narrow down to 4' trees when deemed desirable or necessary.*

Comment 4: CP-9: Shift curb ramp D54 to the East so that it is adjacent to the MBTA centenary pole creating a shorter more perpendicular crossing that does not create a desire line that crosses the ramp surface diagonally along Beach Street.

The Pole can be within in the flared sides or returned curb can be provided on that side of the ramp.

Response: *The ramp in question has been shifted to the East but not as far as requested as it would then be in the bus stop area.*

Comment 5: CP-10: Remove center GB tree at STA 63+25 to improve visibility of (and for) pedestrians in center median at cut-through crossing.

Response: *Done.*

Comment 6: PM: general Pavement Marking comment/question, is MBTA “T logo” proposed to be placed on pavement at bus stop locations as depicted on plans? If not, perhaps it would be a good idea to help define the space and identify bus stops for all users.

Response: *The T Logo is not intended to be placed on the pavement but more for review purposes. The limits of the bus stops are now shown on the plans to be added to the pavement in the field as suggested.*

Comment 7: PM/TSP: Instructional signs for Pedestrian Push Buttons are not identified. Are these considered incidentals to the push button assembly?

Response: *Yes. The Major Item Block on the Traffic Signal Sequence and Timing Plan has been modified to include the sign as part of the push button assembly.*

Comment 8: TSP-1 (and others): clarify Note regarding location of Push Buttons by adding “Horizontally” between “10 (inches)” and “from”.

Response: *Done*

- **Specifications:**

Comment 1: Lack of page numbers or identifications for where subsections are to be included creates difficulty in providing useful comments. Items such as: *Construction Safety, Protection of Underground Facilities, and Personal Protective Safety Equipment for Contractor Personal* are disjointed, duplicative, or irrelevant based upon existing Specification language.

Response: *Page numbers have been added to the special provisions. The sections identified have been reviewed and modified or eliminated.*

Comment 2: Construction Staging and Scheduling: 1 (b) MassDOT Project Manager and D-4 DUCE should have been in regular contact with the impacted utilities to obtain necessary resource information; test pits at previously specified locations should be obtained during DESIGN to reduce potential changes, cost overruns, and delays.

Response: *MassDOT to respond.*

- Comment 3:** No need to incorporate Subsection 4.06 Supplemental Specs into Special Provisions.
- Response:** *Subsection 4.06 has been removed.*
- Comment 4:** Architectural Access Board Tolerances: This and all other MassDOT projects are also subject to the federal requirements of Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act.
- Response:** *MassDOT to respond.*
- Comment 5:** Item 100.01 Special Provisions has not been included for our review.
- Response:** *The Special Provision for Item 100.01 has been included in the 100% review package for review.*
- Comment 6:** Item 487 – Resin Crosswalk: Material “minimum physical properties” seem to be rather *specific* and unclear since they include identified ranges and maximum values. Also, the maximum heating temperature of 440 °F under *Installation* exceeds the maximum temperatures for some resin crosswalk manufacturers by a sizeable margin.
- Response:** *language has been modified; cone flow and plane test have been omitted from minimum physical properties. Maximum temperature has been corrected to 325 °F.*
- Comment 7:** Item 707.2 provides two example products; three is the minimum required by Mass General Law or permitted by FHWA when *any* are listed.
- Response:** *Three products are now listed.*
- Comment 8:** Item 740. Replace Floppy disks with USB flash drives, the listed technology is more than 5 years out of date. The same applies to the digital camera storage media specs and the Modem for internet connectivity.
- Response:** *The title of this item is still in the Special Provisions but we have replaced the remainder to the spec with “To Be Inserted by MassDOT”. We do not have the latest and we are not sure what MassDOT will want for this item. It is best to let MassDOT insert it.*
- Comment 9:** Item 752.3 – Root Path: Under “Products” the second sentence begins with “Geogrid soil reinforcing...”; “geogrid” is a specific trade name for a geotextile and should be replaced with the term “geotextile”.
- Response:** *Per our meeting with DOT Landscape Architects Item 752.31 “Biaxial Soil Reinforcing Grid” has been added as a separate Item.*
- Comment 10:** Item 752.5 – Structural Soil: Eliminate detailed listing for “Root Barrier” by just providing reference “consistent with barrier provided under Item 752.3”.
- Response:** *Done.*
- Comment 11:** Traffic Signal *Video Detection Camera* requires “Belden 821 or an equivalent 75 ohm...” coaxial cable be used. Eliminate the reference to “Belden 8281”.

Response: *The reference has been eliminated.*

Comment 12: *Mast Arm Foundations* requires passage by “physically-challenged persons” not be impaired. This term is meaningless and should be replaced with the legally defined “disabled” pedestrians.

Response: *The term as been replaced as recommended.*

Comment 13: *Vehicle Signal Heads* lists the second paragraph twice. Remove the duplicatives

Response: *Done*

- **Estimate:**

Comment 1: Items 187.3 and 187.31 are non-Federal participating items, break these out as 100% State funded.

Response: *These items have been removed. The Towns will clean the structures to be retained prior to construction.*

Comment 2: Items 854.014 and 854.016 along with 854.034 and 854.036 are comparable in cost and purpose. Enhance constructability by eliminating the, by MassDOT estimates, more costly temporary 4 inch markings and make all temporary markings 6 inch.

Response: *Items 854.014 and .016 (Temporary - Paint) is proposed to be used on the binder course. Items 854.034 and .036 (Temporary - Tape) are intended for the surface course to be used until the permanent markings are installed. The 6” width is for the bicycle lanes. It is very doubtful that the 6” lines would not be less costly than the 4” lines. Both have been kept. If the 6” lines actually come in less expensive than the 4” the resident can require for the 6” lines in place of the 4” lines.*

- **General Comments:**

Comment 1: Provide Federal Aid number and proposed funding categories to ensure elements are eligible for Federal-aid participation within this multi-modal project.

Response: *MassDOT to provide.*

Comment 2: Provide NEPA process documentation (park, land, wetlands, permits) to verify that federal requirements have been addressed.

Response: *MassDOT to respond.*

Comment 3: Verify and document that ROW is properly secured and that Force Account agreements are in place PRIOR to Final PS&E submissions to FHWA.

Response: *Will do.*

Comment 4: Current estimates place this project just under \$20 million, which is the threshold for a mandatory Value Engineering (VE) study. However, MassDOT

may want to consider undertaking a streamlined VE study that evaluates methods to further minimize the multi-modal and business impacts.

Response: *MassDOT to respond.*

- **Conclusion:**

This project is approved for further development subject to the satisfactory resolution of the above noted comments.

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Memorandum

To: Marie Rose, PE – Director of Project Management
Attn: Albert Miller – Project Manager
From: Michael Trepanier – MEPA/NEPA Supervisor
Date: July 27, 2011
Subject: Belmont-Watertown – Reconstruction Trapelo Road and Belmont Street
Project File #604688

Early Environmental Coordination

Comment 1: The Designer provided evidence of Early Environmental Coordination as required by the MassDOT (former MassHighway) Project Development and Design Guide (dated 2006). However, the Designer must provide any comment letters, specifically from the Local Historical Commission upon receipt.

Response: *We sent you what we had on 2/22/12 via e-mail.*

Outstanding Items

Comment 2: Environmental Services has initiated the new Impaired Waters Program to ensure that MassDOT projects are designed and constructed to be in compliance with the EPA's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Sewer System (MS4) Permit. Although the project is defined as a "redevelopment project" in accordance with the Massachusetts Stormwater Standards, the project will be reviewed in light of the Impaired Waters program to ensure the project meets all applicable standards and determine if additional improvements are warranted. As part of this new program, Environmental Services developed the 25% and 75% Water Quality Data Form (WQDF). This form must be completed and submitted in excel format for all MassDOT projects. The form can be accessed electronically at:

<http://www.mhd.state.ma.us/default.asp?pgrid=content/envpublications02&sid=about>

Please contact Alex Murray, Impaired Waters Coordinator at 617-973-8284 for any questions regarding the Impaired Waters Program.

Response: *The 75% Water Quality Data Form (WQDF) was submitted to the MassDOT Project Manager on 7/28/2011.*

Plan Requirements

Comment 3: It appears the project limits are within Bordering Land Subject to Flooding (BLSF) associated with Beaver Brook as identified in the attached FIRM map. The Designer should verify and revise the plans to identify this resource and determine if there are impacts to BLSF resulting in any loss of flood storage.

Response: *The plans now show the impacted areas. There is no resulting loss in flood storage as the project proposed to reconstruct the roadway and sidewalk to the existing elevation in the impacted area.*

Comment 4: The plans identify several dots along the sidewalk from approximately STA 20 to STA 40 which appears to reference the Waverly Trail. Please clarify what these dots are in reference to.

Response: *A local private group installed "Waverley Trail" signs and kiosks in the area between Waverley Street (Sta. 43+60 Lt.) and some of the remaining "Waverly Oak Trees" that are within the Beaver Brook Park off Waverley Oaks Road in Waltham (off Trapelo Road - See plan sheet 2). The trees have a historical significance. The local group has purchased metal medallions, 3" and 12" in diameter that they have asked be installed in the sidewalk as a sort of "Waverley Trail" in much the same way as Boston has its "Liberty Trail" but, instead of using paint they want to use the medallions. The 12' ones are used to advise the person following the train that there is a Waverley Trail sign or kiosk at that location.*

Project Comments

Comment 5: The Designer has provided a draft Environmental Form (ENF) in accordance with the Massachusetts Environmental Policy Act (MEPA). The Designer must provide an editable (WORD) format copy of the draft ENF. Based on the draft ENF, the project will result in the removal of 35 living public shade trees that are 14" or greater in diameter at breast height. The construction plans do identify all trees to be removed, however due to the amount of information on the plans, it is difficult to identify existing tree calipers. The Designer should provide a plan which only identifies tree removals and planting. This is also likely to be requested by the MEPA Analyst when the project undergoes the MEPA process. Environmental Services will review and approve the ENF and file the document with MEPA. The Designer will be responsible for presenting the project at the MEPA Site Visit and answer any questions raised by the public.

Response: *An editable (WORD) copy of the Draft ENF was submitted to MassDOT. MassDOT filed the ENF and a Certificate from the Secretary of Environmental Affairs was issued indicating no significant impact. The preparation of an EIR will not be required for the Project.*

Comment 6: Based on the most recent submission of Preliminary Right-of-Way Plans, the project will not require any easements on the Beaver Brook Reservation. Through a recent discussion with the MassDOT Project Manager, it is the intent to avoid all impact to the reservation and as such the construction plans will be revised to reflect the Preliminary Right-of-Way Plans. However, the Designer should verify if work will occur at a wheelchair ramp located at STA 3. If so, the Designer should consult with the MassDOT Community Compliance Section to

determine if this work can be completed without taking a temporary construction easement. As such, at this time, it does not appear that the project will result in a use of land protected under Section 4(f) of the DOT Act, no result in a disposition of Article 97 Land.

Response: *The Designer has discussed this issue with the Community Compliance Section and it is agreed that the wheelchair ramp can be constructed without the need for a temporary easement on DCR land.*

Comment 7: Environmental Services' Cultural Resources Unit (CRU) has completed a preliminary review of the project. Based on the number of inventoried historic properties along the project area, the CRU staff will obtain the inventory forms from the Massachusetts Historical Commission and evaluate the area to determine if it is within a historic district. At this time, the CRU staff would like more information as to what will occur on sheet CP-19. According to the plans, several buildings are proposed "by others". Are any buildings proposed for demolition? Is this work being done by the property owner? The Town?

Response: *The existing buildings that were shown on the 75% plans east of Oakley Road (Church and Rectory) have been demolished and replaced with three condominium buildings. The base plans have been revised to reflect the current conditions. The proposed buildings that were shown to the west of Oakley Road within the Church parking lot have not been built yet and are still shown on the plans as "Proposed by Others". A developer purchased the properties from the Church and is still in the process of completing the project.*

Comment 8: The project requires the preparation and approval of a Categorical Exclusion (CE) Checklist in accordance with the National Environmental Policy Act (NEPA). The Designer must submit the draft CE Checklist in editable (WORD) format. It is anticipated that Environmental Services will approve the CE in-house under the Programmatic Agreement.

Response: *The Category Exclusion (CE) Checklist in an editable format was submitted to MassDOT and later approved.*

Comment 9: The project will not impact resource regulated under Section 404 or Section 401 of the Federal Clean Waters Act. If changes to the design are made, the Designer should re-evaluate the need for a Section 404 ACOE Permit or 401 WQC. Please note, the Environmental Services identified the need for a Major WQC in the 25% Environmental Review Comments (dated 4/29/08). However, impacts to Beaver Brook have been removed and the project will no longer impact resources protected under Section 401.

Response: *Changes have not been made to the design since the 75% Submission that require a re-evaluation of the need of a Section 404 ACOE Permit or 401 WQC.*

Comment 10: The Designer has provided a draft copy of a Request for Determination of Applicability (RDA). Work will occur within designated Riverfront Area and Buffer Zone associated with Beaver Brook. Although work within RFA is generally limited to previously distributed areas, the Designer should be prepared to submit a Notice of Intent (NOI) should the Belmont Conservation Commission issue a positive determination. Environmental Services' Wetlands

Unit staff will review the draft RDA and provide comments to the Designer prior to filing with the Belmont Conservation Commission.

Response: *The Belmont Conservation Commission issued a Negative Determination of Applicability for the Project in December of 2011.*

Comment 11: According to the latest Massachusetts Natural Heritage and Endangered Species Program (NHESP) atlas dated 2008, the project is not within mapped estimated or priority habitat. Therefore, no further review under the Massachusetts Endangered Species Act (MESA) is required.

Response: *No response required.*

Comment 12: The project will be reviewed by Environmental Services' HazMat Unit Staff. Additional items may be recommended to be included into the special provisions as a result of their review.

Response: *MassDOT has not indicated that additional items may be needed so none have been added. It is not known if the HazMat Unit completed their review.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Memorandum

To: Al Miller, Project Manager
From: Gerry Doherty, Community Compliance, Right of Way
Date: August 10, 2011
Subject: Belmont/Watertown – Trapelo Road and Belmont Street
Project No. 604688
75% Review of Preliminary Right of Way Plans

75% Revised Right of Way plan dated July 2011 is submitted for review. This Plan shows approximately Three Hundred Forty Temporary Easements and Eight Permanent Easements needed. The following comments need to be addressed.

General:

Comment 1: Parcel Summary Sheet

1. The book and page number for each easement needs to be identified.
2. The type of easement need to be identified.
3. The description of proposed work which necessitates Easements must be identified in the "Remark" column.

Response: *This has been done.*

Comment 2: Location Plans will be necessary with revised plans.

Response: *Location Plans have been provided.*

Comment 3: Property Plan

- a. Identify property lines with "PL" symbol.
- b. Parcel Identification text is needed in this format; parcel identification number, owner's name, then approximate area.
- c. Dimensioned all easements parcels +/- to the nearest foot and provide tick marks at all change direction.
- d. Property owner's names are needed on all properties affected by takings.

Response: *Property lines have been identified with "PL" symbol. Parcel identification text has been revised to the specified format per comment 3b. All easements are dimensioned and tick marks locate all change in direction. Property owner's names are located on all takings.*

Comment 4: It is our opinion that the proposed sidewalk work along the Beaver Brook Reservation, DCR Properties, will be difficult to perform without encroaching onto private property as the wall is not at the back of the sidewalk. The Districts DUCE has been asked to comment on this issue on 8/8/2011.

Response: *We have reviewed the area in question and it appears that the entire public sidewalk is within the roadway layout and there is an approximate 30" high wall along the entire frontage except for two openings to allow pedestrians to access the park. Except for these two openings the contractor would have to mount the wall to step onto DCR land. At the two openings the contractor could build the sidewalk without stepping onto DCR land if given such instructions.*

Comment 5: What is being removed on the north side of Trapelo Road at station 26+50?

Response: *A small recently planted tree is being removed because it encroaches on the proposed 5.5' cement concrete sidewalk.*

Comment 6: At the northeast corner of Pleasant St. & Trapelo Rd, will a Temporary Easement be needed behind the sidewalk where the proposed WCR is going?

Response: *We do not believe an easement will be necessary at this location. There is an existing wall at the back of the sidewalk.*

Comment 7: The parcel labeled TE-30 is confusing and needs to be better defined.

Are easements necessary for the proposed work to be performed within the train station area?

Response: *The leader has been relocated. To show that TE-30A is a parcel owned by the MBTA and leased to the adjacent car wash. There is no work proposed within the train station area.*

Comment 8: The parcel labeled TE-39 needs to be better defined.

Response: *With the dimensions now added we believe it is clear.*

Comment 9: Will a Temporary Easement be necessary at the northwest corner of Gilbert St. between the back of the sidewalk and stonewall?

Response: *We do not believe a temporary easement will be necessary at this location as the sidewalk is all within the public layout and a private wall is at the back of sidewalk. It may not appear that way on the plan as the proposed back of sidewalk line is on top of the front of wall line.*

Comment 10: Will a Temporary Easement be necessary at the northwest corner of Palfrey Rd. & Common St. between the back of the sidewalk and stonewall?

Response: *No. In the area that the sidewalk will be replaced the property line is either at the face of the wall or inside the wall.*

Comment 11: General

- a. Confirm that the District Utilities and Constructability Engineer's comments have been addressed and incorporated on the plan.
- b. Confirm that MassDOT ADA/AAB reviewer's comments have been addressed and incorporated on the plan.
- c. Confirm the next submission incorporates the latest design.
- d. Layout Plan will be necessary.

Response:

- a. *Confirmed*
- b. *Confirmed*
- c. *Confirmed*
- d. *Taking plans have been prepared. Layout and Alteration Plans will be prepared sometime in the future.*

Massachusetts Water Resources Authority

Letter

To: Mr. Guy F. Rezendes, P.E., MassDOT – Highway Division
From: Ralph A. Francesconi, Project Manager, MWRA
Date: October 11, 2011
Subject: Belmont & Watertown, -Trapelo Rd. & Belmont St., File #604688

Comment 1: The MWRA pipeline must be protected, at all times, during construction. The Authority may require a professional engineer licensed in the State of Massachusetts to submit a construction plan and or pipeline analysis before an 8m Permit be granted. This condition should be considered and prepared for during the design phase as many MWRA water mains are of shallow depth.

Response: *Materials were submitted to the MWRA in the summer of 2011. Additional design information has been added to the 100% Design Plans.*

Comment 2: The plan submitted titled Trapelo Road & Belmont St shows multiple crossings to the MWRA's water main with traffic signal conduits along with signal posts that may be positioned directly on top of the water main. Please take into consideration the MWRA's clearances setback requirement of 18-inches of vertical separation and 3-feet of horizontal separation.

Response: *The plans have been revised. A proposed mast arm at Sta. 24+15 Rt. (610/612 Trapelo Road) has been moved to the back of the sidewalk. Expected clearances from the traffic signal posts to the MWRA line are shown at the Pleasant Street installation. The number of traffic signal conduit crossings of the MWRA line at this location has been reduced from three to one. A conduit crossing detail is included with the construction details.*

Comment 3: The plan submitted title Trapelo Road & Belmont St. shows a crossing of the MWRA's water main with an RCP drain line. Please take into consideration the MWRA's clearance setback requirement of 18-inches of vertical separation.

Response: *We do not believe it is possible to obtain the required 18 inch clearance at this location. This is an existing crossing in which we are replacing the existing drainage culvert with a larger one and we believe we are providing more clearance than presently exists.*

Comment 4: The MWRA will make its final review and comments once an 8m Permit application is on file with the Authority.

Response: *The contractor will be submitting the 8m Permit soon after the notice to proceed is given.*

Comment 5: It is also important to remember when filing for an 8(m) permit that it may be necessary to file with MWRA Wastewater Operations. My counterpart on the wastewater side is Mr. Kevin McKenna, who can be reached at (617) 305-5956.

For your convenience I have forwarded these plans to Mr. McKenna for his review.

Response: *The project was submitted to Mr. McKenna at the 25% and 75% design stage and he responded at the 75% design stage that the MWRA has no sewer facilities in the corridor.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Memorandum

To: Marie Rose, P.E., Director of Projects
From: George Batchelor, Supervising Landscape Architect
Date: October 25, 2011
Subject: Belmont – Trapelo Road and Belmont Street
Landscape Design – 75% Review
Attn: Al Miller, Project Manager
Project File # 604688

General:

- Comment 1:** There is quite a bit of specialized tree pit conditions on this project. Tree roots paths may cause sidewalk lift. It is recommended that there be meeting with the Landscape Architect, MassDOT and the Town.
- Response:** *On November 9th, 2011 the Town's landscape architect and the Town met with the MassDOT Landscape Section representatives and the MassDOT project manager to discuss and resolve these issues.*
- Comment 2:** Construction of Tree Pits with Root paths may require someone with expertise to oversee the contractor. This should be noted in the specifications if so. Tree pits with Structural Soil may also require expertise. The Construction Engineer will likely not have this kind of expertise. Are the Root Paths and Structural Soil necessary for all locations where trees are located in larger tree pits or in grass strips, the Root Paths and Structural Soil can be eliminated (i.e., Sheet CP-6, elms at Station 41+58 and 42+11Lt.; Sheet CP-10 Ginkos near Station 65+00R and Maples near Station 66+00R in the grass strip).
- Response:** *Sand Based Structural Soil specification has been modified to include equivalent items available from three local soil manufacturers. Unit price has been modified. No special preparation or placement will be required. Material shall be placed and compacted as with common sand borrow.*
Root Path specification has been modified to make Biaxial Soil Reinforcing Grid a separate item. Description of compaction method has been added. Special oversight or instruction to resident engineer may be necessary to ensure individual trenches remain separate as indicated on plans and details. Emphasis of this has been noted in the revised specification.
Root paths where indicated are necessary to prevent sidewalk disruption. Sand Based Structural Soil where indicated is necessary to ensure long term tree health. If price for

structural soil installation are deemed excessive the associated tree shall be removed from the project entirely.

Comment 3: Plant Lists – Remove columns for Item Numbers (no longer required on plans), Root, and Notes to reduce text on page. “Matched Specimens” can go on the detail sheet (Summary Table) or in the specifications.

Response: *Done. See separate landscape plans which were created per a comment by others.*

Comment 4: It appears that some of the trees and shrubs are on private property. Typically, MassDOT does not plant on private property.

Response: *The owners of the properties will be asked to sign an agreement provided by the MassDOT Landscape Section that they understand that the tree will be a “Public Shade Tree” and, as such, it cannot be removed for five years unless it is dying or a Public Shade Tree Hearing is held. If the owners are not willing the proposed tree will be removed from the plans.*

Comment 5: For locations where shrubs plantings are proposed such as the intersection of Common Street, Cushing Avenue and Trapelo Road and the medians, the Town will be responsible for the maintenance of these plants. MassDOT will require a letter from the Town accepting responsibility for maintenance after the contract is closed. A sample letter is available upon request.

Response: *It is understood that the Town will be responsible for the maintenance of these plants. A signed letter agreement will be provided. Shrubs have been removed from the center islands.*

Comment 6: Index on Cover Sheet might be more helpful if it referred to the actually page number.

Response: *Actual sheet numbers have been provided on the 100% Submission.*

Plans:

Comment 7: Sheet CP-1: Pines are not labeled. Are these the small circles? Perhaps a different symbol for evergreens would be helpful.

Response: *Plant symbols have been changed to indicate evergreen v/s deciduous.*

Comment 8: Bioswales have trees located in them. Is maintenance expected or are these simply depressed planting beds? If bioswales need to be periodically cleaned, this will not work as the trees will be impacted.

Response: *The Bio Swale is a flow through system which will function as a depressed planting bed. No special maintenance is required.*

Comment 9: It’s not clear where the Town Layout line is along Mill Street to Trapelo Road. Does the layout follow the wall? If so, the trees are outside the Town layout.

Response: *At the northeast corner of Mill Street and Trapelo Road, and along each leg, the roadway layout is being widened into the Belmont Housing Authority land and many trees are being removed. The new layout line will be the front of the proposed wall. The*

proposed trees along the northeast corner and along each leg are replacing the ones that are being removed and are indeed being planted outside the Town layout. As these trees are replacing trees that are being removed and it is our understanding that no maintenance agreements are necessary.

Comment 10: Sheet CP-9 – is UA at Station 57+30R on Town layout?

Response: *This tree in question was proposed on private property but is no longer proposed.*

Comment 11: Sheet CP-10 – Are Inkberries between Station 61+69 and 62+55R within the Town Layout?

Response: *The inkberries are proposed outside the Town Layout and the purpose is to screen the view of the construction vehicles that use the parking lot there. The proposed trees are replacing trees that are being removed. There are a few other locations where shrubs are proposed on private properties but, in these locations, the shrubs are replacing shrubs that will be disturbed by construction, an example being the same sheet but at Sta. 66+70 Lt.*

Comment 12: Will the Town be maintaining the Juniper in the median? If not, it might be best to eliminate these as the bed is quite small and the conditions difficult for the plants and to access for weeding.

Response: *Median Shrubs have been removed from the plan.*

Comment 13: Are trees from Carver Road (Station 118+00R) to School Street and those from Windsor Avenue to Templeton Parkway (Station 135+50R) on private property?

Response: *They were. All but three (all on one property) have either been eliminated or moved to the sidewalk.*

Comment 14: Pine bark mulch for shrubs is specified at 4 inches. Typically, 2-3 inches is sufficient. Too much mulch will deprive roots of water. Please change is appropriate and change quantity calculations. Are these shrubs on Town layouts or shrubs on private property that will be disturbed by construction?

Response: *The “4” Pine Bark Mulch” has been changed to “3” Pine Bark Mulch” on the plans and the Calculation Book quantities have been revised. The pine bark mulch is used when we are reconstructing the sidewalk adjacent to private property bordered by shrubs. It is also used for tree pits in commercial areas.*

Details:

Comment 1: Add “Shrub Planting” to Notes for the Shrub Planting Bed Detail to clarify that notes apply to Shrub Plantings and not the Infiltration Swale above.

Response: *Done.*

Comment 2: Sheet CD-11 has only one detail on it. Are more expected? If not, perhaps some of the other details can go on this sheet.

Response: *Additional details are now on that sheet.*

Comment 3: Infiltration Swale calls for Sod. Why sod rather than seeding? What will be the species in the sod? They will need to be tolerant of inundation.

Response: *Sod was called for as this swale would have water flowing down it during every rainstorm that would wash away the seeds.*

Comment 4: Tree Pit with Root Paths – Detail calls for “Root Path extended to open ground as shown on plans and as directed by Engineer... Is this something that requires expertise? The Engineer will likely not be familiar with Root Paths or tree requirements.

Response: *No expertise is required. Notes and labels of detail have been revised to clarify this.*

Special Provisions:

Comment 15: Item 745.1 Pedestrian Bus Shelter is incomplete.

Response: *This special provision has been revised.*

Comment 16: Tree Pits – Under Materials, change to “Loam shall meet the criteria of Item 751. Loam per the standard specifications.

Response: *Done.*

Comment 17: 752.3 Root Paths – Will this require specialized knowledge? If so, this needs to be written into the special provision. Engineer will not have the expertise. Change “Owner” to MassDOT. Specify sequence of construction.

Response: *No special knowledge is required for this item. Language has been changed to read MassDOT rather than Owner. Sequence of construction has been clarified.*

Comment 18: 752.4 Bioswale Soil – The bioswale appears to be basically a depressed planting bed as opposed to an infiltration swale with special soils for drainage. Is any special maintenance required? How will it be determined that compost is free of weeds? Section on Placement of Planting Medium does not seem complete. Resident Engineer may not have the expertise in how to create a bioswale or know what s appropriate “relative compactness” – compaction for roadways is likely different than compaction for planting. Special provision does not specify or refer to what will be planted or seeded in the planting medium. What is intended? Detail says Sod, but what species will the sod consists of? Why sod instead of seeding?

Response: *The Bio Swale is a flow through bypass system consisting of a depressed turf plant bed employing rapidly infiltrating soils. It designed to intercept first flush storm events while allowing the standard drainage system to operate normally outside these conditions. No Special maintenance is required. Description of Bio Swale Soil material has been replaced with reference to equivalent standard materials supplied by three local soil manufacturers. Submittal of material content a source will be sufficient to ensure the quality of organic content. Compaction has been described in detail reference to relative compaction has been removed. Laying of sod has been added to the specification.*

Sod shall meet the requirements of standard item 770. M6.05 No.3 Multi use turf. This sod will perform under dry partially shaded conditions with periods of inundation, and requires no special maintenance.

Sod is specified so that the structure can receive drainage immediately upon completion rather than having to provide a diversion while seed stabilizes the surface of the swale.

Comment 19: Structural Soil specification – Use standard specifications. See note above regarding meeting with DOT to discuss.

Response: *Done.*

Comment 20: Planting Special Provision is now a standard. Only the description of the items needs to be included.

Response: *Done.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Boston

Interoffice Memorandum

To: Albert Miller, Project Manager
From: Kevin Fitzgerald, Pavement Design Engineer
Date: November 3, 2011
Subject: Belmont/Watertown – Reconstruction of Trapelo Road & Belmont Street
File No. 604688

The Pavement Design Section has reviewed the 75% submittal for the above subject project and offers the following comments in the form of written comments and mark-ups. The PSE submittal should address all comments and mark-ups and make all revisions to all documents and calculation book as necessary.

Comment 1: The typical Section Plan, Pavement Notes shall be shown on the Detail Cover Sheet to be provided next submission. The Pavement Notes are approved with minor revisions as shown. Specification of a Superpave Leveling Course 9.5 may be necessary according to the variable pavement section.

Response: *The pavement notes have been included in the Detail Sheets. An item for Superpave Leveling Course 9.5 has been added.*

Comment 2: The proposed trench detail shown on the plan sheet CD-5 is recommended to be revised with notes to indicate permanent and temporary pavement. A minimum 3 ton vibratory roller for constructing trenches requires a minimum width of 5' - 0". The 4" Intermediate Course shall be increased to 5" thick placed in two layers of 2 1/2" compacted thickness.

Response: *The proposed trench detail has been modified as suggested and the calculation book quantities revised to reflect the change.*

Comment 3: The cross sections and grading is imperative to resurface the existing pavement with milling depth to protect the underlying penetrated stone pavement layer to remain.

Response: *We believe the commenter mistook the existing surface line on the cross sections as the bottom of milling line and was concerned the milling would be too deep. We believe the milling that is proposed, maximum 2.25 inches, will not be too deep.*

Comment 4: Item 415. Micromilling shall be substituted with Quality Assurance special provision Item 415, available upon request.

Response: *The special provision for the new item 415 Pavement Micromilling has replaced the old one.*

Comment 5: Remove entirely Section 464, and Section 472.1 from the special provisions. These items are entirely replaced with special provisions Section 450 Quality Assurance for HMA pay items 451. and 452.

Response: *Done*

Comment 6: The Design Engineer is recommended to remove the Resin Crosswalk and scored concrete pavement. It is not cost effective to recess in the new surface course pavement thermoplastic resin. The section weakens the new overlay and the resin application has reduced service life. It is recommended that all crosswalk utilize details shown on drawing PM-1. The scored concrete pavement is suggested to be done with HMA and pavement markings as a cost savings. The scored concrete can be a source of increased noise and the joint between concrete and HMA materials is prone to pavement distress and water damage.

Response: *While it is true that the standard thermoplastic crosswalks are more cost effective the Town wants to do something special in the major commercial areas and our research and field observations of existing facilities have indicated that the resin crosswalks are much less likely to damage the pavement and are expected to last as remain maintenance free until the next pavement overlay. The plans still propose resin crosswalks but we will do additional research on the resin crosswalks and alternative treatments between the 100% submission and the P&E submission. The Colored Scored Cement Concrete Pavement will not have a very rough surface texture such as the State's standard Item 486 Scored Cement Concrete Pavement. It will instead have a one foot by one foot scoring pattern which will be much quieter. The colored scored cement concrete pavement is used in place of raised islands where the raised island would have blocked the access and egress from the driveways. It also keeps the vehicles in the lane and out of the direct path of the raised islands.*

Comment 7: The preliminary estimate list of items shall revise Item 464 with Item 452. Asphalt Emulsion for Tack Coat. Item 472.1 shall be revised with Item 451 HMA for Patching. Item 451 HMA for Patching is for constructing all permanent repairs and patches. Item 472. HMA for Miscellaneous Work is for constructing all temporary work. Item 472. unit bid price based on the work consisting of hand work should be approximately \$140.00 per ton. Other comments are provided as mark-ups.

Response: *Done*

Comment 8: Did the Designer talk with the District about performing a pavement preservation treatment to bridge deck at Waverly Square? Is the parking lot at Waverly Square planned to be resurfaced?

Response: *Pavement preservation of the surfaces of the two bridges was discussed at the meeting in the District on January 12th and it was agreed that the project would not include it as it may involve work within the MBTA right of way and delay the project. The parking lot in Waverley Square is very poorly graded and the pavement is crumbling. The pavement is proposed to be replaced with a standard driveway pavement.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

District 4

Interoffice Memorandum

To: Brian Fallon, DPE

Through: Ray Stinson, District Utility & Construction Engineer

From: Jack Wood, Alex Normandin

Date: November 4, 2011

Subject: Belmont/Watertown – Reconstruction of Trapelo Road & Belmont Street
File No. 604688
75% Submission Review Comments
Project Manager: Albert Miller

UTILITY ISSUES

General Project Comments:

Comment 1: It is recommended that the Town Permit's Engineer be contacted so that any permit requested within the project limits can be reviewed by the Designer to ensure potential conflicts can be avoided and so that any new work is properly shown on the plans.

Response: *Both Towns have been advised.*

Comment 2: In general, it is recommended that a complete review of the proposed project be conducted to weigh the impacts of some of the proposed work with regards to utility relocations. The time and cost impacts to the project given the proposed number of relocations will be extensive. All methods to retain as many utility poles, MBTA poles, and existing underground utilities in their current locations should be investigated.

Response: *A thorough review of all the MBTA poles and Utility poles has been conducted and many no longer have to be relocated.*

Comment 3: The District would like to request a meeting with the Pavement Design Engineer to discuss the project's proposed cold plane and overlay roadway pavement design.

Response: *A meeting was held on January 4, 2012 at the District 4 Office and the method of milling and overlay was discussed and agreed to.*

MBTA

Comment 1: It is noted that the MBTA Power Division has provided comments on several aspects of the project. Before the final design stage, confirmation from MBTA Power should be received that the proposed locations of relocated catenary poles and wires is acceptable.

Response: *We have not received any comments from the MBTA. MassDOT is hiring a sub-consultant that we believe the MBTA will use to review the plans and design the modifications. We are expecting that the approval will have to wait until the MBTA Consultant has had time to review the latest design. The MBTA has walked the site with the consultant and a meeting will be held in early March to go over these issues and their scope of work.*

Comment 2: Has the MBTA requested that their own forces construct the relocated bus shelters? They are shown "BO". It would reduce coordination efforts during construction if this could be done as contract item.

Response: *The MBTA's consultant was contacted and we received the following response: "The shelters would be MBTA -owned and they don't need power. The installation of the shelters kind of depends on both project schedules. At this point we would likely get to this route in Spring/Summer 2013, but there may be some wiggle room to push these installs to the last project, but the entire KBR program should be constructed by Fall 2013. If this project doesn't co-incide with that can the Town/others store the shelters and you do the installs as part of your project? ". We now call for the bus shelters to be installed by the contractor.*

Comment 3: Via email dated May 10, 2011 the MBTA Railroad Operations Division stated that they have no comments since work will not impact the movement of trains. However, it is recommended that a small contingency allowance item for Railroad flaggers be put in the Estimate.

Response: *An item 999.002 Railroad Flaggers has been added.*

Comment 4: Please show MBTA ROW lines on Sheet 4 of the Drainage and Utility Plan.

Response: *Done*

Comment 5: Please include Transit Realty Associates (TRA) Permit information in the Special Provisions for work around the railroad tracks.

Response: *Done*

Comment 6: Please confirm who will adjust MBTA manholes if necessary. Plans show BO, but it was discussed at the utility coordination meeting that this would be done by the Contractor.

Response: *The plans presently call for the MBTA manhole covers to be adjusted by the Project Contractor and paid for under Item 811.36 Electric Manhole Adjusted.*

Comment 7: Catenary Pole Relocations

- A general note should be added to the plan sheets (and in Special Provisions) that the contractors will be required to support MBTA poles in place during excavation for drainage lines. The MBTA Power Dept.

will need to review and approve the proposed support method prior to use.

- Several poles are noted to R&R the streetlights on the poles even though the poles are staying in place. Why are the lights being R&R?
- In areas with proposed sidewalk widening, there are several poles with streetlights that are being retained, where the lights will no longer be located above the roadway. The City should confirm that this will be acceptable.

Response:

- *The requested note has been added to the “General Notes on plan sheet 12 and to the special provisions.*
- *Many of the stand alone light poles will all be removed and reset as generally we are raising the front edge of the sidewalk and, unlike utility poles, these poles are on foundations flush with the sidewalk and the base of the pole would be under the sidewalk material if not removed and reset. We have revised the plans to show the light post relocated to the right or left so the intention is more apparent.*
- *We do not believe we have moved any of the light poles enough to make a noticeable difference in the level of illumination. In each case that a light fixture has been moved further from the edge of the road there was a good reason and no other option.*

MWRA - Waterworks

Comment 1: A separate meeting has been held between the MWRA-Waterworks Division, MassDOT, and BSC. Several potential conflicts were discussed including locations of proposed drainage and signals, as well as removing an old MWRA hydrant. The topics discussed at the meeting should resolved prior to the 100% submittal.

Response: *The resolutions to the issues were submitted to the DUCE unit on 8/16/2011 and the MWRA replied in a letter to Guy Rezendes on 10/11/2011*

Comment 2: Show and label MWRA air bleed vents throughout the project limits.

Response: *There is only one and it is located at Sta. 23+45 RT and labeled on the Drainage and Utility Plan.*

Comment 3: Label the MWRA water main as such.

Response: *This has been done.*

National Grid – Gas:

Comment 1: The plans show a newly installed (2010) gas main. At the utility coordination meeting it was discussed that NGRID may relay additional main within the project limits. Please continue coordination with NRID to show any proposed work.

Response: *The additional lines have already been installed and are now shown on the plans. We have been in coordination with National Grid and it is our understanding that they have no additional planned work in the corridor.*

Comment 2: Some proposed drainage conflicts with the main that was installed in 2010. The gas company will greatly resist relocating sections of brand new gas main. Please review and alter drainage design to avoid conflicts if possible.

Response: *National Grid was given our base plans with our proposed drain system on it so they would know where our new system would be going. When developing their plan they used our plans with our proposed drain lines on them. We believe they avoided our proposed drainage structures. We do not know if they changed the depth of their system when they crossed our proposed lines. The plans we gave them has our proposed elevations on them.*

Comment 3: Please color-code the 2010 gas main. It is currently shown in gray scale.

Response: The gas line should now be shown correctly.

Comment 4: Does NGRID Gas wish to include any requirements for work around the gas vault at Sta. 104+40 Rt.? Please confirm and include in the Special Provisions if necessary.

Response: National Grid was contacted and provided instructions that have been included in the General Notes on sheet 12 of the plan set (the last few notes in the list)

Town of Watertown:

Comment 1: No representatives from Watertown attended the utility coordination meeting. The Town DPW, Water & Sewer Dept.'s were notified of the meeting. Appropriate Town Departments should be canvassed for comments on proposed work. For example, it appears that hydrant locations in Watertown are being altered (R&R). Also street lights on UP's in Watertown are maintained by the Watertown Lighting Department.

Response: *Plans were sent to Watertown at both the 25% and 75% stages and no comments were received from any Town Department. We will call them after the 100% submission and ask for comments on that submission as much has changed.*

Plans

Comment 1: Sheet numbers should be listed consecutively throughout the plan set. Individual section numbers can be placed below the sheet title description (e.g. Construction Plan, sheet 1 of 28 etc.).

Response: *Consecutive sheet numbers have been added for this submission*

Legend and General Notes

Comment 1: G.N. #4 states that electrical castings shall be adjusted by others. The Estimate includes Item 811.36 Electric MH Adjusted. Please clarify note.

Response: *The note has been revised to indicate that the contractor shall adjust the MBTA and MWRA castings. Item 811.36 covers the cost of relocating the MBTA castings. The MWRA water manholes are covered under Item 220 – Drainage Structure Adjusted.*

Comment 2: G.N. #16 states that “the Town of Belmont uses a plow with a 52” wide blade to clear snow from sidewalks. When construction is complete there must be a 56” clear width to allow this to continue. The installation of utility poles, hydrants and sign poles must be accomplished with this in mind.” It has been noted that there are numerous violations of this requirement throughout the Project due to the proposed design.

- a. Sheet CD-5 Hydrant Detail shows the C.L. of a hydrant to be 2” from the curb). It is assumed that this should actually be 2’). The T.S. and plans show proposed 5.5’ and 6’ sidewalks in locations where hydrants are proposed. It is unlikely that at 56” clear width will be feasible.
- b. The plans show U.P.’s and Catenary Pole relocations within proposed sidewalks (at back of sidewalk). Some of these are within 6’ sidewalks where retaining walls are proposed at the back of sidewalk. Given that wall footing extends beyond the face of wall and the pole diameter can be around 18”, it is unlikely that a 56” clear width will be feasible
- c. It should not be the responsibility of the contractor to comply with this requirement if it is not physically attainable.
- d. Change the note to say that this only applies to sidewalks in residential areas. Station limits to where this applies should be provided.

Response: *The note has been revised, a list as to where the 56” clear space does not apply has been included, and we have checked the plans to make sure that this request can be achieved.*

Typical Sections

Comment 1: Pavement Notes –

- a. Add note for 0.05 gal./s.y. tack coat on base and intermediate course layers.
- b. Proposed Full Depth Pavement – Add notes for box widening 4’ wide or less. Substitute cem. conc. base course for the 4-1/2” Super Pave Base Course and 4” D.G.C.S. (as shown on Detail “A”).
- c. Add scored cem. Con. Sidewalk to the pavement notes.
- d. Add HMA sidewalks (as shown on Construction Plans and Item 702. in the Estimate).
- e. Prop. Colored scored Cem. Conc. Pavement (SD 105.2.0) – Change cem. conc. Mix to 5000 psi. See construction standard drawing note #4.
- f. HMA Driveway – specify type of HMA mix (i.e. top, binder)

Response: *All requested revisions have been made except item b. There is a Pavement Note for widening less than 4’ that calls for an 8” Cem. Conc. Base as requested.*

Comment 2: Suggest showing MWRA 54” steel aqueduct locations on typical sections.

Response: *The water line has been added to the typical section:*

Comment 3: Show P.G.L. locations on each typical sections.

Response: *The P. G. L. has been added to the typical sections that have a profile associated with it.*

Comment 4: Suggest showing proposed U.P. locations on the typical sections.

Response: *The Utility poles have been added to the typical sections as requested.*

Comment 5: They typical sections show prop. Type VA-4 granite curb while the Construction Plans and Estimate includes Items 506. And 506.1, Type VB granite curb. Please clarify.

Response: *In some areas we reset the existing VA-4 granite curb in place. In some sections we call for new VB curbing. In other sections we call for Relocated VA-4 curb. The typical sections have been revised to agree with the plans.*

Comment 6: Add details joint filler material for sidewalks along buildings and walls.

Response: *Done.*

Comment 7: The typical sections show prop. 5" and 6" curb reveal at certain locations. Since it does not appear that there is a "typical" curb reveal, the reveal should be shown for each location) e.g. Sta. 61+75 to 62+25, raised median).

Response: *Done*

Comment 8: Details "A" and "B" –

- Suggest adding references to C.S.E 106.3.0.
- Detail "A" calls for H.E.S. 3500 psi cem. conc. The specifications for Item 431.1 calls for 3000 psi (see *Std. Spec.* subsection 430.40).
- Detail "B" calls for H.E.S. 3000 psi cem. com. C.S.E 106.3.0 allows any designated cem. conc. that is acceptable under *Section M4*. If there are any changes, a special provision is required for standard items. Recommend revising.

Response: *Done. The call out for the cement concrete in now just "8" CEM. CONC."*

Comment 9: It was noted that proposed layout lines extend to the face of proposed retaining walls. Will permanent easements be required for the walls?

Response: *A permanent easement will not be required as the wall will be built on private property and become the property of the abutter.*

Comment 10: T.S. Sta. 20+00 to 21+00 –

- A proposed cemented Stone Masonry Wall (Balanced) is shown on the left side. Show the disposition of the existing wall.
- The Construction Plan shows prop. Trees along the right side where the swale is proposed. Recommend showing prop. tree locations on the typical section.

Response: *Done*

Comment 11: T.S. sta. 21+00 to 23+50 – Proposed Cemented Stone Masonry Wall -

- Reference is made to C.S. 302.1.0 – The Standard drawing has been removed from the 2010 Construction Standards. A construction detail is now required.
- Provide design information for walls (i.e. top elevations, heights etc).

- c. Suggest providing a T.S. show the upper retaining wall between Sta. 23+24 and Sta.23+69.

Response: *A new detail for the low retaining wall has been added. Design information for the wall is included in a profile on the construction plan. The upper retaining wall is shown in a cross section at Station 23+50*

Comment 12: T.S. Sta. 30+50 to 31+30 – The section shows prop. 5.5” wide sidewalks on the right side (including curb width). The plans call for light poles along this side. Please address the concern than an unobstructed path of 39” be maintained (or 36” minimum). Suggest showing typical pole offsets. Also see Legend and General Notes comments regarding minimum widths for plowing.

Response: *The light pole has been moved to the back of the sidewalk. The plow blade can overhang the curb. The light pole as been added to the typical section.*

Comment 13: T.S. Sta. 53+50 to 55+00 – The proposed textured Scored Cem. Conc. Sidewalk is shown beyond the layout line. Are permanent easements required?

Response: *A meeting was held in the Boston MassDOT office on 1/10/12 and it was agreed that permanent easements would not be required for areas like this.*

Comment 14: T.S. Sta. 88+25 to 89+90 -
a. Reference is made to Detail ‘A’ on the right side. Should this be “Detail ‘B’”?
b. Note: “Meets Exist Grade at Doorways” – Where grades or cross slope change significantly, detailed grading plans must be developed to minimize impacts to building entrances.

Response: *a. Detail B is correct.
b. The milling, paving and curb reveal have all been worked together to meet the existing back of sidewalk. Grading plans have been prepared where necessary and work behind the back of sidewalk is proposed where we feel the back of sidewalk grade cannot be met. We generally call for two feet of work in the private properties just to finish the work off, not to make up a difference in grade.*

Comment 15: Mill St. Sta. 1+50 to 3+00 – The section shows a wall on the right side. Is this a prop. wall? If so, label it as so and include a description (i.e. prop. stone masonry wall in cement mortar). Also a construction detail is required.

Response: *Wall has been labeled. There is a construction detail on the Construction Detail sheets.*

Comment 16: T.S. Arlington St. Sta. 1+10 to 2+50 – Calls for 8” Quarter Round Curb on the right side. Give a description of the type of material (i.e. HMA, granite, cen. conc.) for all non-standard items.

Response: *The work on Arlington Street has changed and the typical section is no longer necessary.*

Construction Plans

Comment 1: The plans show prop. roadway paving micro-milling at variable depths throughout the project. It is doubtful whether there is milling equipment available that is capable of meeting these depths as shown. It is more likely that

a combination of milling and shimming will be necessary to attain the desired cross slopes. Suggest showing prop. crown grades and cross slopes on the Grading and Tie Plans to show prop. grading.

Response: *A meeting was held at the District 4 Office on January 4, 2012 and this issue was discussed and agreed to. The MassDOT Pavement Design Engineer agreed that the propose work could be done either with the large milling machine or with a smaller one the milling specification requires to be on hand.*

Comment 2: Utilities and Drainage -

- a. Please clearly show all existing (to be retained) and proposed locations UP's, Catenary Poles, OHW's, U.G. utilities, T.S. Poles etc. so potential conflicts with prop. landscaping etc, can be evaluated.
- b. There are some notes for utility relocation shown on the Construction Plans. Since these are also shown on the Drainage Utility Plans, suggest only showing the new lines but remove the notes to reduce the clutter on the sheets. Also, some notes are overwritten and are difficult to read.
- c. It was noted that the location of some prop. drainage structures are shown. It would be beneficial to show all locations so potential conflicts can be identified.
- d. It was noted that the Construction Plans show prop. hydrant locations. It is recommended that the notes for prop. hydrants only be shown on the Drainage and Utility Plans. It was also noted that the information is sometimes inconsistent between the 2 plans. See comments below.

Response:

- a. *All existing and propose utility poles and MBTA poles are presently shown on the Construction plan. All underground and overhead utility lines are shown on the Drainage and Utility plans. The proposed traffic signal pole and trees have been added to the colored utility plans so they can be reviewed for conflicts.*
- b. *We have shown proposed drainage structures on the construction plans with one note on each plan for each type of structure.*
- c. *We believe all proposed and all existing catch basins to be reused are shown on the Construction Plans.*
- d. *This has been corrected. Some proposed poles are now existing and some existing are now gone as a result of recent water project.*

Comment 3: It appears that there is prop. work beyond the Construction Easements such as tree protection, drainage (e.g. Mill St. Sta. 0+64, , 70' Rt.) The easements should encompass all proposed work.

Response: *Proposed easement has been expanded*

Comment 4: Generally all WCR entrances should be centered in the crosswalk. In cases where the crosswalk is skewed to the WCR, a 4' diameter turning area, entirely contained within the crosswalk must be provided at the base of the WCR.

Response: *Almost all the WCR are on the corner radii. We have been asked by the Boston AAD/AAB section to move the WCR as far around the curve and down the street and away from the corner as possible without putting the stop line more than 30 feet from the edge of the travel lane (in this case the bicycle lane). The purpose is to direct the WCR more toward the other side of the street rather than into the middle of the intersection. The result is that most of the WCRs are at the outer edge of the WCR. When this is not an issue the WCRs are in the center of the crosswalk.*

Comment 5: The plans have a number of notes stating “Meet Existing Grade at Walk,” “Meet existing grade at drive” and “Meet Existing grade at Doorway.” Does this mean that at these locations the sidewalk cross slopes will not meet the 1.5% (or exceed 2.0%) requirement? If so, detailed sidewalk grading plans must be developed to minimize impacts to driveways and building entrances.

Response: *We have looked at all these walks and doorways and concluded that, with the proposed milling and overlay, curb reveal, and allowable sidewalk cross slope, the grade at the back of sidewalk can match the grade of the walk or doorway.*

Comment 6: It was noted that in some areas there is either no existing curb or the reveal is very low (especially along Belmont St). Since there are no cross sections provided, it is unclear what the impacts will be where curbing is being reset to a 6” reveal. This issue needs to be addressed during the design stage.

Response: *Working cross sections were taken at each walkway and driveway where there may be a problem and the design adjusted if necessary to make sure that the proposed grade at the back of the sidewalk could meet the existing grade within the design tolerances given to the contractor. To make it work, in some areas the curb reveal was reduced to five inches and in one location, four inches. In the areas that was not enough a gutter shim is proposed. If that was still not enough additional work in the private walkways and driveways was proposed beyond the nominal two feet call for to blend the existing into the proposed.*

Comment 7: The plans show cem. conc. sidewalks at driveways. Construction details should be provided to show method of prop. grading. Recommend using MassDOT Construction Standards (i.e. E 107.0 thru E 107.8.1). Provide design data for each drive (similar to WCR designs). Include curb curve radii (not provided on the Grading & Tie Plans) or label Curb Corner (type?).

Response: *A note has been added to the plans that all curb corners are 2’ unless otherwise noted on the plans. At present we do not believe there are any 3’ curb corners in the corridor. The typical Sections show how a standard driveway curb opening shall be treated. Depressed drives identified with an “F” within an oblong are detailed in the construction details along with the wheelchair ramp details. Special Sidewalk at Drive detail “R” has also been added for drive in areas where the roadway is narrowed*

Comment 8: The plan only shows track removal for the prop. raised median islands. Will it also be necessary to remove the track for the prop. scored concrete median? C.S.E 105.20 calls for 8” of cem. conc. over gravel.

Response: *It will. Plans have been revised.*

Comment 9: There are proposed sidewalks throughout the Project that are replacing recently constructed sidewalks. The existing conditions should be reviewed and updated to avoid doing unnecessary work.

Response: *Most of the existing sidewalks in the project area have a greater than 2% cross slope. Some of the newer sidewalks that have been installed are already cracked and spalling. In one area in Watertown (138+50 Rt.) a new sidewalk was constructed and the gutter raised up but the gutter no longer flows and the abutter has since had some drainage issues that he is requesting be addressed in the final design. To resolve the issue the*

sidewalk will need to be reconstructed. In another area on Lexington Street puddles form in the gutter and the resolution was to adjust the grading and reset the curb. We are not aware of any relatively new sidewalks that we believe should be saved. Please provide specific locations and we will review them closer.

Comment 10: The presence of OHW's should be considered at locations where the planting of new trees is proposed.

Response: *There are overhead wires throughout most of the corridor and they were considered in the design. There are existing trees under the wires and we have proposed new trees under the wires. This issue was discussed recently in a meeting with the Boston Landscape section and it was agreed that the existence of overhead wires should not be a reason to not plant a tree but that the overhead wires should be a consideration in the type of tree planted under the wires. The proposed planting design is the result of extensive study of above and below ground obstructions and represents a carefully balanced response to the site constraints.*

Comment 11: Please clarify meaning of note: "R, R&R." It is not included in the abbreviations on sheet #12.

Response: *Remove, Relocate, and Reset. It has been added to the Legend.*

Comment 12: The Construction Plan shows a number of prop. hydrants that are not shown on the recently completed water main construction along Trapelo Road.

Response: *Some of the hydrants were moved to the locations that matched our plans and some they were not able to. The plans have been reviewed to make sure that what we show the correct condition, either existing or proposed.*

Comment 13: Show all prop. pavement sawcuts.

Response: *Done*

Comment 14: Provide installation details for the prop. 12" and 3" Waverly Trail Medallion."

Response: *Done. Don't see on Plans. .*

Comment 15: Show match line sheet numbers to facilitate plan orientation.

Response: *Match lines are now shown on the Construction Plans.*

Comment 16: There are a number of exist. U.S. Postal Service mail boxes that are at locations where new sidewalks are proposed. Provide dispositions for each of these.

Response: *This has been done.*

Comment 17: Has traffic signal visibility been considered when selecting tree locations?

Response: *Yes*

Comment 18: It was noted that some of the commercial buildings along Trapelo Rd. have awnings that protrude over the sidewalk. Have impacts by prop. trees been considered?

Response: *Yes Tree locations and types have been studied with the assistance of the Street Tree Committee, Town Tree Warden and second consultant. Trees are selected and placed to provide maximum canopy while reducing or minimizing impacts to awning utilities and business signage.*

Comment 19: Have commercial building signs been considered when prop. tree locations were selected? The visibility of store signs should be considered to avoid disputes during construction.

Response: *Yes see response #18*

Comment 20: The plans show a number of prop. trees that are to be planted beyond the layout line. Are there permanent easements? What is there to prevent the land owner from removing the tree?

Response: *Most of these trees have now been removed. For those that are still in private properties we will attempt to get the owners to sign an agreement letter that the MassDOT section provided a sample of.*

Comment 21: Are hazmat handling payment items and special provisions needed for the removal of any abandoned railroad tracks that are unearthed during full depth reconstruction of islands?

Response: *It is now understood that the existing RR tracks have wooden ties. The required special provisions and payment items have been added.*

Sheet CP-1 (Sheet 35)

Comment 22: Trapelo Rd. Sta. 21+45, 45' Lt. – Please identify disposition of the exist. conc. pad (Traffic Control Box?) which is within the prop. slop limits where trees are proposed.

Response: *Done*

Comment 23: Additional layout information is needed for the prop. retaining walls along the back of sidewalk on the left side (i.e. radii at the ends, top of wall elevations etc).

Response: *The vertical information can be found on the profile. The horizontal information can be found on the Grading and Tie Plan.*

Sheet CP-2 (Sheet 36)

Comment 24: Trapelo Rd. Sta. 23+34 to 23+69, Lt –
a. It appears that it will be necessary to replace the exist. walk at the back of the prop. retaining wall. Revise the direction of the leader for the prop. 5.0' sidewalk to show this.
b. R&R fence be installed along sidewalk along the top of the wall? The x-sect for Sta. 12+50 shows these as handrails. Show details how these are to be installed and provide a method of payment.

Response: *a. Done*

b. Handrail removed and reset shall be paid for under item 670. No detail is required. Rail shall be removed from existing concrete pavement and reset in place in proposed concrete pavement to match existing condition.

Comment 25: Trapelo Rd. Sta. 24+95, Lt. – There is a prop. hydrant shown at this location that is not included on the Drain. & Utility Plans. Please clarify.

Response: *The Town was going to install a hydrant here but they instead installed it across the street. Utility plan was updated but Construction Plan was not. It is now corrected.*

Comment 26: Trapelo Rd. Sta. 24+0 to 26+50, Lt. -
a. Add note to retain exist. conc. walk
b. Label existing trees in the landscape strip and add note to retain.

Response: *a. Done
b. Done*

Sheet CP-3 (Sheet 37)

Comment 27: The plan calls for HMA Drive at the Getty Station – Recommend full depth roadway HMA for these drives due to the heavy wheel loads for a gas station.

Response: *Done*

Sheet CP-4 (Sheet 38)

Comment 28: WCR A-14 –
a. See previous comment #4 regarding WCR positioning at crosswalks. Suggest moving ramp around the corner away from the roadway.
b. It appears that the ramp design is meant to conform to C.S. 107.69. The difference is that there is no landscaping strip proposed here making it a potential tripping hazard. It is assumed that the design is intended to avoid relocating the adjacent UP.

Response: *a. The type and alignment of the WCR has been changed in response to a comment by Boston AAB/ADA
b. There is existing landscaping on the north side of the ramp.*

Comment 29: Much of the proposed sidewalk work shown on this sheet appears to be in areas that have been recently been constructed especially on the right side of Trapelo Rd./Lexington St. and the island surrounded by Trapelo Rd./Lexington St./Church St. What is the intention here?

Response: *We have inspected this area in the field and believe that the sidewalk areas we are proposing is correct. The plans do not call for all the sidewalk in the island surrounded by Trapelo Rd./Lexington St./Church St. to be replaced, only the areas we are resetting the curb at. In some areas (Lexington Street) we are adjusting the gutter to eliminate a low point that has no catch basin. In other areas the existing sidewalk cross slope is greater than 2%.*

Comment 30: A portion of the sidewalk/WCR work at Shaw's Drive is beyond the layout line that is shown. Are layout alterations required here?

Response: *The wcrs have been revised to have the ramp and the level landing within the roadway right of way. The final design was submitted to Boston AAB/ADA for review and they were OK with it given it is a Town roadway (Trapelo Road).*

Comment 31: Show all MBTA RR ROW lines on the plan.

Response: *Done*

Sheet CP-5 (Sheet 39)

Comment 32: There are numerous exist. fixed objects within prop. WCR's A115, C34 & E1. These either need to be relocated or new locations for the WCR's need to be chosen.

Response: *A115 and E1 have been revised. C34 is a signal post that will be removed.*

Comment 33: WCR E1 as shown on the plan (two-way) is not the same design as Style "E". It is an apex type ramp (two-way) that is not allowed according to MassDOT standards. Please review and revise.

Response: *We worked with Boston on E1 and revised the design of it.*

Sheet CP-6 (Sheet 40)

Comment 34: Trapelo Rd. Sta. 39+80, Rt. – The plan shows a prop. bike rack along the 5.0' sidewalk. Please address concern regarding path-of-travel clearances.

Response: *At the location of the bicycle rack the proposed sidewalk is 8.5 feet wide with a 6 foot scored cement concrete sidewalk and a 2 foot colored scored utility strip and a 0.5 foot curb. The bike rack is in the 2-foot colored scored utility strip.*

Comment 35: Please review the locations where red maple trees are proposed along the right side of Trapelo Rd. and address concerns about planting underneath OHW's and next to buildings that are located at the back of the sidewalk.

Response: *Red maples between Worcester St. and Grove St. will intersect with overhead utilities. Individual plant selection will require non-central leader specimens. This shall be noted on the landscape plans and specifications. Commercial buildings at back of walk in this location are 1 story high. A minimum height of branching shall be specified at 6'+. Proposed planting allow partially obstructed view of all signs with the understanding that obstruction will be reduced as canopies are adjusted upward by town as plantings mature to improve business sign visibility. This is true for all tree plantings at commercial streetscape.*

Comment 36: Trapelo Rd. Sta. 42+93, Rt. – There is a prop. driveway curb cut called for where there is not one under existing conditions. Please re-evaluate whether this work is warranted.

Response: *The proposed curb cut has been removed.*

Sheet CP-7 (Sheet 41)

Comment 37: Trapelo Rd. Sta. 47+99, Lt. – Suggest removing note :Prop. Hyd. (Typ.) – The D&U Plan calls for an R&R.

Response: *The note has been removed.*

Comment 38: Trapelo Rd. Sta. 48+25, 42' Lt. – The prop. American Elm tree is shown over a prop. 12" RCP. Please reconsider this location.

Response: The tree has been moved.

Sheet CP-8 (Sheet 42)

Comment 39: Trapelo Rd/ Sta. 53+00, - The plan shows a prop. hydrant that is not shown on the D&U Plan however there is an exist, hydrant at Sta. 53+68,

Response: *The location on the Construction Plan is where we asked the Town's water consultant to have it moved to. In the field they ended up moving it to where it is shown on the Drainage and Utility Plan. Once it was installed we corrected the Drainage and Utility Plan but failed to correct the Construction Plan. A comment on the WCR on the NE corner resulted in the need to propose to have it moved again.*

Sheet CP-9 (Sheet 43)

Comment 40: WCR D54 should be realigned (to the east) so the direction of the path-of-travel aligns better with the crosswalk to WCR D55.

Response: *WCR D54 has been realigned to the east as much as possible without needing to eliminate a parking space in the commercial area.*

Comment 41: Have the prop. tree impacts to the store awing been considered at property #353-361?

Response: *Yes, two columnar trees have been proposed in place of one canopy tree at the section where awnings are deepest. In other locations canopy can be limbed up as trees mature toward the building.*

Sheet CP-10 (Sheet 44)

Comment 42: The sidewalks and streetscape (i.e. trees, benches etc.) at the CVS property #264-276 appear to have been recently reconstructed. Recommend reconsidering replacement of sidewalk at this location.

Response: This sidewalk is spalling in many locations and we believe it should be replaced as it will only get worse.

Sheet CP-11 (Sheet 45)

Comment 43: Show disposition of USPS mail box at northwesterly corner of Trapelo Rd/Harriet Ave.

Response: *This has been done.*

Comment 44: HMA Drive is proposed at Harriet Ave. property #232. This is between the prop. cem. conc. Sidewalk and the exist. cem. conc. drive. Recommend using cem. conc. rather than HMA.

Response: *The plans have been revised.*

Sheet CP-13 (Sheet 47)

Comment 45: Trapelo Rd. Sta. 83+58, Lt. – Plan shows a hydrant (in bold) that is not showing on the D&U Plan. Please clarify.

Response: *Hydrant symbol has been removed*

Comment 46: Show prop. location for USPS mail box (R&R) at Trapelo Rd. WCR A52.

Response: *Done*

Response: *Yes, it was deemed necessary to use columnar trees in this location. Awnings and architectural features are not included in survey, we have done our best to interpolate their location and place trees where they will cause as little disruption as possible to doorways signs and awnings. These are 1 story buildings so as the trees mature the canopy can be raised to clear the building.*

Sheet CP-14 & CP-15 (Sheet 48 & 49)

Comment 48: Have the prop. tree impacts to the store awning been considered along the left and right side of Common St.

Response: *Yes, and in certain locations on this street it was deemed necessary to use columnar trees, and to space them irregularly to fit around deeper awnings. These are 1 story buildings so as the trees mature the canopy can be raised to clear the building.*

Sheet CP-16 (Sheet 50)

Comment 49: WCR A63 – The existing sidewalk and WCR pavement is severely cracked. Recommend investigating the cause and design to prevent similar future problems.

Response: *This situation has been reviewed in the field and discussed with the Town. The Town believes the problem was caused by delivery trucks that served the adjacent building. The problem will go away as there are plans to redevelop the block. This work is now shown on the plans as work by others.*

Sheet CP-17 (Sheet 51)

Comment 50: Show disposition of USPS mail box at northwesterly corner of Trapelo Rd./Willow St.

Response: *Done*

Sheet CP-18 (Sheet 54)

Comment 51: Trapelo Rd. Sta. 99+10 to Sta. 99+47, Rt. – Plan shows a portion of the prop. scored conc. walk surface beyond the City layout. Will easements be required?

Response: *A temporary easement has been added.*

Comment 52: Trapelo Rd. Sta. 100+80, Lt. – Plan shows a prop. hydrant that is not shown on the D&U Plan. Please clarify.

Response: *Hydrant is now existing and we believe it does show upon the Utility plan but not on colored set. This has now be corrected.*

Sheet CP-19 (Sheet 53)

Comment 53: The plan sheet shows future development along the left side of Belmont St. The design includes providing curb cuts for the future development. Provide an update of the status of the development.

Response: *Much of the project is now constructed and is now shown as an existing condition on the plans. The portion not constructed is still shown as by others on the plans.*

Sheet CP-21 (Sheet 55)

Comment 54: Belmont St. Sta. 113+60 to 114+90 - Will it be necessary to remove the tracks before placement of the prop. colored scored concrete in the roadway? If so, this should be called out on the plans.

Response: *It will be necessary and is now called out on the plans.*

Sheet CP-22 (Sheet 56)

Comment 55: WCR E2 as shown on the plan (two-way) is not the same design as Style “E”. It is an apex type ramp (two-way) that is not allowed according to MassDOT standards. Please review and revise.

Response: *This detail has been revised. We have discussed this type of wcr with the Boston AAD/ABA Section and they do not consider it to be against the guidelines for wcrs.*

Comment 56: Belmont St. Sta. 120+96, Rt. – Please investigate grading impacts to the stairs at WCR A89.

Response: *A cross section was taken at this location and, with the latest design which has been modified at the request of the Town, the proposed WCR meets the existing grade at its level landing. A cross section radial to the curb was prepared to confirm this.*

Sheet CP-23 (Sheet 57)

Comment 57: Belmont St. Sta. 125+35, Lt. – Plan shows a note for a prop. hydrant that is not shown on the D&U Plan. Please clarify.

Response: *This has been revised.*

Comment 58: Belmont St. Sta. 126+50, Lt. - Show disposition of USPS mail box (i.e. new location).

Response: *Done*

Comment 59: Have the prop. tree impacts to the store awning been considered at property #237-247?

Response: Yes. This address refers to the 1 story buildings between Harriet Ave and Harding Ave. The proposed trees replace existing trees and as the trees mature the canopy can be raised to clear the building.

Comment 60: Belmont St. Sta. 129+00, Lt. - Show disposition of 2 USPS mail boxes (i.e. prop. locations).

Response: *Done*

Sheet CP-24 (Sheet 58)

Comment 61: WCR E3 as shown on the plan (two-way) is considered an apex type ramp that is no longer allowed. Please review and revise.

Response: *This WCR E3 is now an T1 and the design of it has been modified. We do not consider it an apex type ramp.*

Sheet CP-26 (Sheet 59)

Comment 62: Are the prop. bound locations for the prop. Town Layout lines on Templeton Pkwy. shown correctly? It seems the layout lines are being shifted to the west. Please clarify by showing the existing and proposed using the conventional signs (shown on the Title Sheet).

Response: *Proposal for Arlington, Grove, and Templeton has changed and comment in no longer applicable.*

Comment 63: The plan calls for new wrought iron fence and gates. What is the disposition of the removed exist. conc. curb and wrought iron fence (i.e. discard, stack)?

Response: *NA – See response to Comment 62.*

Comment 64: Show disposition of USPS mail box at the Templeton Pkwy, Sta. 1+25, Lt.

Response: *NA – See response to Comment 62.*

Sheet CP-27 (Sheet 60)

Comment 65: Belmont St. Sta. 141+13, Lt. - Show disposition of USPS mail box (i.e. prop. locations).

Response: *Done*

Comment 66: WCR D43 - It appears that the ramp design is meant to conform to C.S. 107.6.9. It is unclear whether there is a landscape strip proposed here. Please address the concern of a potential tripping hazard.

Response: This has been corrected.

Grading and Tie Plans

Comment 1: Roadway Grading – See Construction Plan comment #1.

Response: *This was discussed at a meeting at the District on January 4th and resolved.*

Comment 2: As stated in the Construction Plan comments, the radii for the driveways need to be provided. According to the Estimate, it appears that Curb Corners (Types A & B) are to be used, however the information needs to be shown on the plans.

Response: *All driveway curb corners are Type A. The Type B curb corners were isolated on an island in Common Street. They have since been removed and replaced with curved curbing.*

GT-1 (Sheet 63)

Comment 3: There is missing curb radii data for the raised island between Sta. 19+25 and Sta. 87+00, Lt.

Response: *Corrected*

GT-14 (Sheet 81)

Comment 4: There is missing curb radii data for the raised island between Sta. 86+63 and Sta. 19+68, Lt.

Response: *Curve information has been added to the following sheet.*

Drainage & Utilities Plan

Comment 1: The plans show a number of UP relocations. These locations are being confirmed during DUCE site walks that have been recently scheduled. The intent is to minimize the need for pole relocations as much as possible by redesigning elements such as WCR locations. The plans should be updated accordingly.

Response: *The plans have been revised to minimize the number of utility poles that need to move.*

Comment 2: Given the current proposed locations of relocated utility poles, several aerial ROW encroachments can be expected:

- a. The designer should make every attempt to eliminate the need for the Utilities companies to acquire aerial easements from private property owners as this will add months and significant costs to utility relocations.
- b. Consider relocating the poles to the front of sidewalk rather than the back.
- c. Also see comment below regarding snow plowing the sidewalks.

Response: a. *The number of required aerial easements has been eliminated.*

- b. *The utility poles in front of the Belmont Housing Authority along the curve between Mill Street and Trapelo Road have been moved to the front of the sidewalk. Belmont Housing Authority will plow this sidewalk. This will eliminate the Town sidewalk plow from clearing the snow in this area. The utility poles in front of the Belmont Housing Authority along the straight section along Trapelo Road have been moved kept at the back of the sidewalk as they presently exist. Either Belmont Housing Authority or the Town will plow this sidewalk.*
- c. *The Belmont Housing Authority will clear the sidewalk of snow.*

Comment 3: It was noted in the General Notes that Belmont has a 52" snowplow for sidewalks and that installation of new facilities needs to account for this clearance. This requirement creates several constructability issues given that only 6' wide sidewalks are proposed and in some areas there are existing or proposed walls directly behind the sidewalk and/or obstacles in the middle of the proposed sidewalk. Please note and address the following:

- a. *Placing utility poles at the back of sidewalk creates aerial ROW infringements.*
- b. *Several hydrants are shown in the middle of the sidewalk.*
- c. *Signage is required to be at the front of sidewalk.*
- d. *Given these conflicts, it is not possible for a contractor to provide the required clearance in some areas. Please address these conflicts.*

Response:

- a. *The poles problem poles along the curve have been moved to the front of the sidewalk.*
- b. *This is no longer an issue. The hydrants have already been moved or will be moved under this project.*
- c. *The signs have been put at the back of the sidewalks only where necessary to allow for the plow to pass by. In those cases the sidewalks are narrow and the sign is still very close to the curb and easily viewed from the roadway.*
- d. *Issue resolved at Mill Street*

Comment 4: Please show proposed relocated overhead wires (OHW). Also show relocated MBTA catenary wires. A separate plan for the MBTA system may be warranted. There have been discussions regarding an effort to minimize catenary pole relocations. MBTA has stated that all pole relocations need to be designed by a MBTA approved designer. The issue remains unresolved at this time.

Response: *MassDOT has retained a consultant to work with the MBTA to do the design for the relocation of the MBTA poles. The plans the consultant develops will be included in the construction plans when prepared but this is not likely to happen before the 100% submission but will be completed for the PS&E Submission.*

Comment 5: In situations where a pole with a streetlight only is located in close proximity to an MBTA catenary pole, attempts should be made to consolidate the street light and MBTA poles. Coordination with the MBTA for approval of this will be required.

Response: *This is proposed at the two locations we are aware of. This will also be discussed with the MBTA consultant when he is made available to discuss the project with BSC.*

Comment 6: Add utility pole numbers and other information (w/ light, risers etc.) to the plans.

Response: *Where utility pole numbers were available they were picked up by the survey crew and added to the base plans. MBTA pole numbers were not picked up or added except where provided by the MBTA. These may not be necessary as the MBTA consultant may include this information on their drawings.*

Comment 7: Please review proposed plantings for potential conflicts with existing underground utilities.

Response: *The trees have been added to the colored utility plans for review by the various utilities and the District. In some areas trees have been planted over utility lines as the location of the utility line is not usually known for sure and there is no reason that the tree should interfere with the utility line if it was installed at the proper depth. The trees proposed do not have "Tap Roots" and, in most instances, the trees have been planted with a wider rather than deeper 24-36" layer of planting soil and, where applicable, root paths that will direct the roots away from the utility lines. The wide pit planting design allows a degree of adjustment where shallow utilities are encountered. In no instance should tree locations interfere with utilities that project to the surface.*

Comment 8: Please show proposed traffic signal pole locations on the D&U Plans so potential conflicts can be evaluated (i.e. WCR's, OHW's etc.).

Response: *This has been done.*

Comment 9: The plans show a number of utility structure castings within the surface of prop. WCR's. The true surface cannot have deviations greater than 1/4". Some castings that do not conform may need to be replaced if they are within the ramp.

Response: *Generally, the electrical and drainage castings in the corridor have surfaces that do not deviate by more than 1/4th inch.*

Comment 10: Hydrant R&R –

- a. Has the Belmont Fire Dept. reviewed and approved the hydrant locations?
- b. Show all associated work for new connections (i.e. pipe, fittings, gates etc.).
- c. See Construction Plan comments regarding hydrants not shown on D&U Plans.

Response: *a. The plans were sent to the Watertown fire Department on February 28th, 2012 and they have not had time to respond yet.
b. Done
c. The Construction Plans had not been updated when the Town installed many of the new hydrants and the Utility Plans were. That is why there were so many discrepancies. They have all been corrected.*

Comment 11: Hydrant RET - In some areas where the curb line is being moved into the exist. roadway (sidewalks widened), the exist. hydrants are shown to stay in their current locations, thus they are set back 5-10+ feet from the curb. Has the Belmont Fire Dept. reviewed and approved the hydrant locations? Also see comment related to clearance for plows.

Response: *Plans showing the proposed and existing locations of all their hydrants have been sent to both Watertown and Belmont for review. Neither have responded at this time.*

Comment 12: The plans show the new water lines (2010), but it seems that some of the new service connections are not shown. Instead it appears that the services for the abandoned water mains are still shown to be active. Please review and clarify.

Response: *The base plans have been revised.*

Comment 13: It was noted that prop. drainage structure inverts are shown on the plans. Add a note on each sheet stating that: "The inverts shown are 'proposed' and shown for bidding purposes only. Actual invert elevations will be confirmed in the field."

Response: *The note has been added as requested.*

Comment 14: Prop. CBCI's – Granite Curb Inlets are 6' long. Please review plans and ensure that CBCI locations are not within WCR transitions or that the granite inlet will not overlap curb curve alignment PC's and PT's.

Response: *All the WCR's have been checked and if a catch basin is in the transition of a wcr it has been moved or made a CB instead of a CBCI.*

Comment 15: Add notes to identify MWRA facilities (i.e. rather than Weston Aqueduct).

Response: *This has been done*

Comment 16: The plans show a number of drainage structures to be removed. It is usually sufficient to abandon structures (i.e. remove masonry 3' below finish grade) rather than total removal.

Response: *Most of the structures that were labeled to be removed are now labeled to be abandoned. Where in the way of a new structure they are still labeled to be removed.*

Comment 17: Label all exist. drain lines that are to be abandoned.

Response: *All existing lines that are to be abandoned are now labeled to be abandoned.*

Comment 18: Please review the prop. curb layout since in several areas it is shown passing through an exist. manhole or gate. Can alterations be made to the curb line to avoid these conflicts?

Response: *The plans have been reviewed and modified where possible. Where not possible a "Galvanized Curb Cover" has been used. A detail has been provided (in the Appendix to the Special Provisions) along with a pay item and special provision. We have not called out the item at locations on the*

Comment 19: There are several proposed WCR's shown that have existing utility structures (gates, manholes, MBTA poles, etc.) within transition areas. Confirm with MassDOT ADA/AAB engineer that this is an acceptable design. Variances or redesigns may be necessary, especially for instances where an MBTA pole exists.

Response: *We have been told that it is OK to have castings within the WCR as long as there are no depressions or bumps greater than 1/4th inch. All the WCR's have been reviewed and the designs of them modified where possible.*

Comment 20: It was noted that the Town of Belmont stated that the layout of the water and sewer mains appear to be accurate. However, there are many water gates shown with no water mains passing through them (For example, Sheet DU-5) and several sections of incomplete sewer main. Please show complete water and sewer system.

Response: *The base plan has been reviewed and updated.*

Comment 21 Clearly identify the limits of abandoned utilities on the plans and showing locations of caps for the abandoned lines if known.

Response: *Where known, the abandoned water and gas lines have been identified as abandoned with an (A) after the text identifying the line.*

Comment 22: There are notes to ADJ water gates on abandoned water mains. Will this be necessary or can the gates be removed? Please review.

Response: *The Town has just completed removing the gates and they have been removed from the base plan.*

Comment 23: There are notes to REM water gates BO. Why would this water work not be done by the Contractor?

Response: *It was not at the time of the 75% submission and it was unclear whether or not they would but they have since been removed by the Town and the notes have been removed.*

Comment 24: In several areas on the plan, there are contingency notes to relocate the new gas main that was installed in 2010 if necessary to avoid conflicts. The gas company will most likely strongly resist relocating a new gas main which may eventually result in delays to the Construction Schedule. Please review to see if alterations can be made to the drainage design to avoid potentially relocating the new gas main.

Response: *The plans have been revised where possible to avoid the new gas lines.*

Comment 25: There are several areas where proposed drainage structures are shown on top of the abandoned gas or water. Will the contractor be removing the abandoned gas mains if there is a conflict or will it be done by the gas company? Please show on the plans and address in Special Provisions if the gas company will allow the contractor to remove the abandoned lines.

Response: *National Grid has told us that the contractor may plug and the plans now reflect this. A note has been added to the General Notes on plan sheet 12 indicating the contractor need to get in touch with the National Grid before excavating for the structure and the gas company needs to confirm that the lines are indeed abandoned and clear of gas.*

Comment 26: Please review proposed drainage structures for conflicts with existing underground utilities and address any conflicts.

Response: *The plans have been reviewed and revised where possible to minimize the number of conflicts.*

Comment 27: Does the Town of Watertown have any public utilities on the southern side of Belmont St (water, sewer etc.?) Please show any and label accordingly.

Response: *The Town of Watertown generally has a sewer line in the sidewalk, a water line near the gutter, and a drain in or near the parking lane. They are shown on the plans.*

Sheet DU-1 (Sheet 96)

Comment 28: Mill St. Sta. 1+16 Rt. –
a. The prop. Type BF DI has 2 throats. Show the swales that lead into this structure.
b. The prop. DMH is shown with 4 inlets and an outlet. Considering that the structure is only 6.5' deep, it appears that an oversize structure will be required to accept this many pipes.

Response:
a. *The swales have been added to the plans.*
b. *We believe a standard DMH will work as two of inlets come in at least 1.5 feet about the lower three.*

Comment 29: Trapelo Rd. Sta. 19+35, Rt. – 12" Flared Ends are called for on prop. 10" DI pipe. Provide details.

Response: *A detail has been added to the plan set.*

Comment 30: Mill St. Sta. 0+65 Rt. – Calls for a prop. CB. If this is in an unpaved area, a DI is recommended instead.

Response: *A DI is now called for on the plans.*

Comment 31: Trapelo Rd. Sta. 19+40, Lt. – Shows a EMH ADJ BO. Under exist. conditions, this is at the back of curb. Under prop. conditions this in a roadway widening area. Will this be impacted by the grade changes (i.e. cut)?

Response: *BMLD's consultant has confirmed that the manhole structure is deep enough to not be a concern.*

Comment 32: Trapelo Rd. Sta. 20+50, Lt. – WG (REC). Add to the abbreviations on sheet 12.

Response: *Done*

Comment 33: Trapelo Rd. Sta. 21+50, Lt. – What is the "R&R BO" note referring to? Please clarify on the plan.

Response: *The Belmont Housing Authority electrical service "splice box" is now proposed to be removed and replaced with a new splice box after discussing the situation with the BHA and the Belmont Municipal Light Department. A payment item and special provision has been added.*

Sheet DU-2 (Sheet 97)

Comment 34: Trapelo Rd. Sta. 23+45, Rt. – Label the MWRA Air Vent Stack.

Response: *The plan has been revised to show this.*

Comment 35: Trapelo Rd. Sta. 25+11, Rt. –

- a. There is a note at prop CBCI to “See Note 3” which is regarding a test pit to relocate the gas line if necessary. Should the note actually be to check the MWRA 54” Aqueduct instead? Has there been consideration to tying the CBCI to the Agassiz St. drainage instead of crossing the MWRA water line?
- b. Clarify note: CBCI Type 3 w/flat top. Is this something different than what is shown in the details? If so add details.

Response:

- a. *That CBCI is no longer proposed. There is no existing drain system in Agassiz Street until you get to the bottom of the street.*
- b. *This structure is no longer proposed. In cases where a shallow outlet is required or a utility is in the way a standard catch basing with an offset cone will be called for.*

Comment 36: Trapelo Rd. Sta. 25+55, Rt. – Please confirm that this UP falls outside of the prop. WCR.

Response: *The UP is in a grassy area. There is no sidewalk on this side of the side street.*

Sheet DU-3 (Sheet 98)

Comment 37: Trapelo Rd. Sta. 28+70, Rt. – Consider relocating the prop. CB and/or DMH to a location further away from the MWRA water main. There could be thrust blocks at the bend and disturbing the soil could adversely affect the bend.

Response: *The drainage system has been revised to minimize work around the MWRA water line.*

Comment 38: Trapelo Rd. Sta. 30+00, Lt. –

- a. What is the intention for the hydrant R&R? If it is to keep it out of WCR A10, consider shifting the ramp to avoid the conflict.
- b. Show how the connection to the old hydrant is to be discontinued.

Response: *At the request of the MWRA the hydrant is now called to be removed and there are notes as to how the old connections are to be removed.*

Comment 39: Trapelo Rd. Sta. 30+30, Rt. – It appears that the prop. gas main relocation could still be in conflict with the proposed drainage.

Response: *The gas line is now installed and shown on the base plan as existing. The proposed drain line has been modified based on new information as to the location of the existing gas line the new gas line tied into.*

Comment 40: Trapelo Rd. Sta. 30+50, Rt. – Provide details on the relocated service connection to the relocated street light.

Response: *The light pole will be relocated by its owner, Belmont Municipal Light Department. We believe it is better for them to locate the service line in the field from their own plans than for us to try to plot it from their plans. In one area in particular there are three separate hand hole next to the light poles and we are not sure which is the electric, telephone or cable.*

Comment 41: Pleasant St. Sta. 0+95, Lt. – Calls for R&R of the driveway trench drain. Provide details and a method of payment.

Response: *This has been done.*

Comment 42: Pleasant St. Sta. 1+28, Rt. – Shows a WG REM BO. Please clarify. It was noted that this note appears throughout the project.

Response: *These water gates have since been removed by the contractor and the Town, and the notes have been removed from the plans.*

Sheet DU-4 (Sheet 99)

Comment 43: Trapelo Rd. Sta. 34+65, Rt. – Calls for an exist. DMH “Rebuilt.” It seems like this should be a “Remodeled” instead.

Response: *This structure is now labeled “REMOD” instead of “REBUILD”.*

Comment 44: Trapelo Rd. Sta. 36+30, Lt. – Calls for WG REM BO on and exist. 10” water main (1998). Please clarify.

Response: *Plan has been corrected.*

Comment 45: The plan calls for a prop. 18” RCP between a prop. DMH at Lexington St. Sta. 0+82, Rt. and an exist. DMH at Sta. 1+73, Rt. Recommend connecting to the exist. 24” RCP further north to avoid transversing the gas and water.

Response: *The alignment of the gas line has been modified to avoid traversing the gas and water lines.*

Comment 46: Church St. Sta. 0+65, Lt. – Note for a water plug “BO”. Who will be performing this work?

Response: *This plug should have already been installed by the Town’s water contractor a few years ago. Note has been removed from the plans.*

Sheet DU-6 (Sheet 101)

Comment 47: Trapelo Rd. Sta. 40+83, Lt. – Recommend adding a DMH at the angle of the prop. 21” RCP.

Response: Done

Comment 48: Trapelo Rd. Sta. 42+00, Lt. – Please clarify the note for “Prop. 8” DICL BO (To Avoid Prop. Tree.)” Who will be performing this work? Will the work be done prior the start of this project or during?

Response: *This is another leftover from the Town’s water main replacement project that was finished a few years ago. We had asked the Town’s consultant to revise their design to avoid a location where we are proposing trees. The line is already in place and avoids the trees. Note has been removed.*

Comment 49: Trapelo Rd. Sta. 43+30, Lt. - Note for a water plug "BO". Who will be performing this work?

Response: *See response to question 48.*

Comment 50: Recheck designations for Utility MH's on this sheet (i.e. EMH vs. TMH). There are some that appear to be mislabeled.

Response: *Designations have been changed.*

Comment 51: Recheck leader for abandoned 6" Water on right side of the sheet. It appears to be pointing towards a gas main.

Response: *Corrected*

Sheet DU-7 (Sheet 102)

Comment 52: Proposed drainage on the left side of Hawthorn St. may have conflicts with the exist. water and sewer lines. Please review and revise drainage locations as necessary.

Response: *The existing water line under the proposed catch basin has been abandoned. The proposed drain line will pass over the existing sewer line.*

Comment 53: According to notes, both gas mains on the northern side of Trapelo Rd are abandoned. However, there are also notes to ADJ gates BO on these mains. Please clarify.

Response: *Found one and corrected it.*

Comment 54: Trapelo Rd. Sta. 46+26, Rt. – Please confirm that the prop. gutter line will direct runoff to the prop. CB in the middle of the driveway on Sycamore St.

Response: *Confirmed.*

Comment 55: Trapelo Rd. Sta. 47+30, Rt. & 48+25, Rt. – It appears as if there are prop. plugs in the drainage lines at these locations. Please label.

Response: *Do not see one at 47+30. Notes added at 48+25.*

Comment 56: Trapelo Rd. Sta. 47+92, Lt. – The plan shows prop 22' of 6" DICL around prop CBCI. According to the note, this water main is abandoned. Please clarify.

Response: *Plan has been revised. The plans now call for the line to be plugged were the section of abandoned water main will be removed.*

Comment 57: Trapelo Rd. Sta. 49+6, Lt. – The plan calls for 22' of 6" DICL to relocated waterline around prop. CBCI -
a. The exist. line is shown as 8" DICL.
b. Show proposed fittings.

Response: –
a. *The 8" line has since been abandoned and is now called to be cut and plugger.*

b. *Fittings have been shown for all proposed drain lines.*

Sheet DU-8 (Sheet 103)

Comment 58: Several prop. locations of the relocated MBTA poles will be in conflict with exist. underground utilities. Please review.

Response: *The poles in question are no longer being relocated.*

Comment 59: Trapelo Rd. Sta. 54+25, Lt. – There is a structure here labeled “BFD.” It is assumed this is a Belmont Fire Dept. manhole for fire alarm facilities. Will it require adjustment?

Response: *This structure is now labeled to be adjusted by others. Belmont Municipal Light Department is responsible for the Fire Department call boxes, wiring, and castings.*

Comment 60: Trapelo Rd Sta. 55+17, Rt. - The plan calls for a CBCI along the transition for WCR #A31. A granite curb inlet is unfeasible along the WCR transition. Either move the CB (further west) or eliminate the CI. Moving to another location may eliminate the need for a gas line relocation.

Response: *The CI has been removed.*

Comment 61: Trapelo Rd. Sta. 55+50, Lt. – There is an exist. fire alarm box here. Will it require any adjustment and/or relocation? Coordination with Belmont FD is necessary.

Response: *It is now labeled to be removed and reset by others, the others being Belmont Municipal Light Department. The plan showing the proposed resetting of the fire alarm boxes (2) were sent to the Belmont Fire Department for review.*

Sheet DU-9 (Sheet 104)

Comment 62: Trapelo Rd. Sta. 56+15 Lt. – There is a note to relocate a gas line if necessary if it conflicts with the prop. drainage but the note points to a section of gas main that is shown as abandoned. Please review and revise if necessary.

Response: *The plan has been corrected.*

Comment 63: Trapelo Rd. Sta. 57+35, Rt. – It appears that moving this UP to the front of sidewalk will place it in conflict with the MBTA power lines. Please review.

Response: *This UP is no longer being relocated.*

Comment 64: Trapelo Rd. 57+50, Lt. – It appears that moving this UP to the front of sidewalk will place it in conflict with the MBTA power lines. Please review.

Response: *This UP is no longer being relocated.*

Comment 65: Trapelo Rd. Sta. 58+19, Rt. - The plan calls for a CBCI along the transition for WCR #C8. A granite curb inlet is unfeasible along the WCR transition.

Response: *The curb inlet is no longer called for.*

Comment 66: Trapelo Rd. Sta. 59+90, Lt. – Will this UP be in the middle of the driveway with the new layout? Please review and consider relocating this pole.

Response: *We have been instructed to retain as many utility and MBTA poles as possible in their current position. We considered putting a pair of curb corners in front of it but it would make the movement in and out of the driveway very narrow and the driver is more likely to hit the curb corner than the light pole. We do not believe it is necessary to move the pole as it is an existing condition. On the utility pole field walk we were instructed to not move two other poles that we were calling to be relocated because they were at the edge of a driveway.*

Comment 67: Sta. 60+50 Rt. – Notes for water work:

- a. There are two notes for water work to be preformed “BO”. Is this work to be done by the Town as part of the water replacement project? If so, please show notes in gray scale.
- b. Should the plug shown be placed on the abandoned line? As shown, it would cut water off to Walnut St from the new main.

Response:
a. *This work has already been done. Notes will be removed*
b. *The plug was shown on the wrong line. It is now shown on the abandoned 6” line.*

Comment 68: Trapelo Rd Sta. 61+02, Rt. – The plan shows UP#A37 being retained within prop. WCR #C11. Please revise to meet standards.

Response: *The corner has been redesigned and the UP is now in a grass strip.*

Sheet DU-10 (Sheet 105)

Comment 69: Trapelo Rd Sta. 63+70, Rt. –. The plan calls for a CIT to Type 2. Is it feasible to change an exist. CB to Municipal Standard CB Type 2? Should a special item (and detail) be provided?

Response: *The plans have been revised and the existing catch basin is now called to be removed and replaced with a new structure outside the limits of the drive opening.*

Comment 70 The plan calls for a prop. 21” RCP trunkline in the sidewalk along the right side. Exist. UP’s are shown in the path. Has following the alignment of the exist. 21” VC been considered?

Response: *The alignment of the new drain line now follows the alignment of the existing line that is being replaced,*

Sheet DU-11 (Sheet 106)

Comment 71: There are several OHW lines shown going to UP at the Slade St. intersection. These UP’s have no dispositions shown; several are within WCR transition areas. Please show their dispositions.

Response: *The ramps have been modified to avoid the poles.*

Comment 72: Harriet Ave. Sta. 1+25, Rt. - Is this a prop. plug within the swale area? Please label if so.

Response: *Done*

Sheet DU-12 (Sheet 107)

Comment 73: Trapelo Rd. Sta. 78+30, Rt. and 78+70, Rt. – Please label prop. plugs.

Response: *Done*

Sheet DU-18 (Sheet 113)

Comment 74: Intersection of Trapelo Rd and Belmont St – There are two MBTA poles proposed to be relocated on either side of the intersection where the prop. poles are shown moving a significant distance away from the roadway.

Response: *The plans have been revised and these two poles are no longer being relocated.*

Comment 75: Trapelo Rd. Sta. 99+00, Rt. – The prop. location of the UP and MBTA pole is on top of the MBTA duct bank. Please revise proposed locations.

Response: *The proposed location of the relocated MBTA pole and the relocated utility pole have been moved to the back of the sidewalk*

Comment 76: Trapelo Rd. Sta. 100+25, Lt. – Please confirm that the CB here can be REMOD since the curb line is shifting. Will a new CB be required?

Response: *The CB in question is now called to be abandoned.*

Sheet DU-19 (Sheet 114)

Comment 77: Trapelo Rd. Sta. 104+35, Lt. – The prop. CB is shown directly on top of the exist. 4” gas main. Please address this conflict.

Response: *This issue has been addressed by having the gas company relocate their line. We see no other option if we want a CB to improve drainage in that area.*

Comment 78: Trapelo Rd. Sta. 104+90, Rt. – Please show the water supply and gate for this hydrant.

Response: *There is no gate visible on the surface and no record plans showing that there ever was. A line from the water main to the hydrant has been added to the base plan.*

Comment 79: Trapelo Rd. Sta. 106+90 Rt. – Please revise the note for the prop. MBTA pole. It is assumed that it should read “Prop. MBTA CAT Pole.”

Response: *Done*

Sheet DU-20 (Sheet 115)

Comment 80: Belmont St. Sta. 108+00, Rt. – There is a note to REM this UP. Please revise and show a prop. relocation as it is assumed that the UP cannot be removed and not replaced.

Response: *The only apparent purpose of this wooden pole is to act as a span wire pole for the existing traffic signals.*

Comment 81: Belmont St. Sta. 110+25, Lt. – The UP here could be undermined during prop. drainage installation. Consider adding a General Note to the plan set stating that the contractor shall coordinate with UP owners as necessary before starting work which could undermine poles.

Response: Done

Sheet DU-21 (Sheet 116)

Comment 82: Belmont St. Sta. 114+50, Rt. – Please show the water supply and gate for this hydrant.

Response: *There are no gates visible in the field for many of the Watertown hydrants including this one.*

Comment 83: Belmont St. Sta. 113+47, Rt. – Consider a shorter (90°) connection between the prop. CBCI and the 20" VC pipe (new DMH) to avoid the need to cross the water and gas lines diagonally.

Response: *Done. Connection is now much closer to 90 degrees.*

Comment 84: Belmont St. Sta. 117+56, Rt. – Consider tying the prop CBCI to the exist. CB at Sta. 117+73 and CIT to DMH to avoid the need to cross the water and gas lines.

Response: *The existing catch basin has been filled with debris for at least three years and has a blind connection to the main drain line. We believe it is better to replace the existing structure.*

Sheet DU-22 (Sheet 117)

Comment 85: Belmont St. Sta. 123+10, Rt. – It appears that this UP is being relocated to allow for the widening of the exist. driveway. Revise the plan to show this UP to be retained and maintain the existing driveway width.

Response: *Done*

Sheet DU-23 (Sheet 118)

Comment 86: Belmont St. Sta. 123+30, Lt. – Consider tying the prop CBCI to the exist. CB at Sta. 123+45 and CIT to DMH to avoid the need to cross the water and gas lines.

Response: *The existing gas line has been abandoned and the water should be deep enough to easily go over.*

Comment 87: Belmont St. Sta. 128+35, Rt. – There is a UP shown to be retained in the middle of the WCR opening. This pole needs to be relocated. Show a prop. relocation.

Response: Done

Sheet DU-24 (Sheet 119)

Comment 88: Consider maintaining the existing curb line along the right side in this vicinity. The new layout would require relocation of both MBTA poles and the gas lines since the MBTA poles are proposed on top of the exist. gas line. There is a considerable amount of time and cost for these relocations to only move the curb line less than a foot.

Response: A DER has been submitted and tentatively approved and the proposed curb line are now approximately in the same position as the existing.

Sheet DU-25 (Sheet 119)

Comment 89: Belmont St. Sta. 134+21, Lt. – Consider a shorter (90°) connection between the prop. CBCI and the prop. 24” RCP (new DMH) to avoid the need to cross the water and gas lines diagonally. This would also avoid the need to relocate the gas line at Sta. 134+87.

Response: We have moved the proposed drain manhole westerly off the gas line and moved the proposed CB easterly which sharpened the crossing of the water and gas and shortened the length of the proposed drain line. We did not propose a new DMH thinking this was the more cost affective solution and one less casting in the roadway.

Comment 90: Belmont St. Sta. 135+20, Rt. – Why is this MBTA pole being relocated? Recommend retaining in the exist. location.

Response: The MBTA has told us that the power supply cables running along the top of the poles on this side of the road cannot be less than ten feet from the mast arm poles. We have called for the MBTA pole to be moved to the back of the sidewalk to move it as far away from the mast arm post as possible. We have discussed this issue with the MBTA consultant and he thought the solution was to use a combined pole. The MBTA Power Division indicated previously that they were not in favor of pole sharing. This issue will be further discussed when the MBTA consultant is under contract.

Comment 91: Belmont St. Sta. 137+13 and 137+64, Lt – The service boxes are currently in the sidewalk, however will be in the roadway with the widening. Should these be relocated to the sidewalk rather than adjusted? This condition may also occur at other locations.

Response: In cases where the roadway has been widened and the service box ends up in the street we now call for the service box to be removed and a new curb stop and service box installed along with some copper service pipe.

Comment 92: Templeton St. Sta. 0+90, Lt. – Calls for rebuild exist. DMH. It appears that this is to move away from prop. curb line. This should be a “remodeled” instead. See Std. Specifications descriptions.

Response: No longer applicable. Design has changed

Sheet DU-26 (Sheet 120)

Comment 93: Belmont St. Sta. 135+88, 80' Rt. – Label MBTA pole to be removed.

Response: *Given Boston's instructions to affect as few MBTA poles as possible we have labeled this pole to be retained.*

Sheet DU-27 (Sheet 121)

Comment 94: Belmont St. Sta. 145+78, Lt. – Consider a shorter (90°) connection between the prop. CBCI and the prop. 12" RCP (new DMH) to avoid the need to cross the water and gas lines diagonally.

Response: *Done*

Sheet DU-28 (Sheet 122)

Comment 95: Oxford Ave – Can the drainage line be placed in an alternate location that could potentially eliminate 2 gas line relocations?

Response: *We do not see a good alternate location for this line. It is possible that the DMHs can be installed without disturbing the gas line.*

Pavement Marking & Signing Plans

Comment 1: Provide a legend that includes all abbreviations shown on the PM&S Plans (i.e. MOMA, MOUP etc.).

Response: *The legend is shown on the first PM&S plan and has now been added to the legend sheet.*

Traffic Signal Plan

Comment 1: Exist. T.S. Plans -

- a. Please verify whether or not there will be any conflicts between the locations of exist. and prop. equipment by showing exist. in gray scale on the T.S. plans.
- b. Staging plans should be provided for some locations showing how traffic control signals will function in the interim period between the removal of exist. equipment (to accommodate widenings) and activation of the prop. new signals.
- c. Will it be necessary to provide items for temporary signals (not clear in the Special Provisions).
- d. Show disposition of exist equipment (including PB's, foundations) and ensure a method of payment.
- e. It was noted that the traffic signal items (with the exception of Location #3) are all "reconstruction" items. Will any of the exist. equipment be utilized? Please clarify.

Response: *Exist. T.S. Plans –*

a. *The existing traffic signal posts are now shown on the traffic signal plans using a standard symbol with one noted as "Exist TS Post (Typ)".*

- b. *We have reviewed each signal location to determine whether or not temporary traffic signals will be necessary and, if needed, called for them on the plans. It should be noted that at locations 9 and 13 the mast arms on the southwest corner cross over the existing mast arms. However, the proposed mast arm structures are higher than the existing and should not present an insurmountable problem. If there was a solution that did not require a crossover we would have changed the plans. We have also included on the plans the some temporary signals will be required in case they are needed.*
- c. *A paragraph has been added to the special provisions notifying him that temporary traffic signals will be required at certain locations and indicating that the cost of the temporary traffic signal is incidental to the cost of the intersection signal reconstruction.*
- d. *The disposition of the existing equipment is shown in the first few notes on each traffic signal plan with some additional information included in the existing traffic signal plan when appropriate. A paragraph has been added to the special provisions relative to the payment of disposition of the existing traffic signal equipment.*
- e. *The only location where some of the existing equipment will be utilized is at Location 10 where some of the existing conduit will be reused.*

Comment 2: Provide stations and offsets for prop. traffic signal equipment locations.

Response: *Done*

Comment 3: As stated in the Drainage and Utility Plan comments, utility conflicts (underground and overhead) need to be addressed regarding the locations of prop. equipment.

Response: *The placement of the traffic signal equipment has been reviewed relative to existing utilities, both overhead and underground.*

Comment 4: Provide conduit installation trench details. Note that conduit in roadway areas should either be concrete encased or specify the use of Schedule 80.

Response: *BSC obtained a draft of a conduit trench detail from Boston which it modified and used. Since it did call for schedule 80 conduit we did not include the concrete encasement option.*

Comment 5: Pedestrian Pushbuttons need to be located at an accessible location. Please refer to MUTCD Figure 4E-2.

Response: *We believe this has been addressed in the design. Section 4E-9 lists three guidelines for location of the push button and it is not always possible to meet all three. The MUTCD says you "Should" meet these guidelines, not "Shall" and we believe we have met these guidelines as far as practical.*

Comment 6: Some prop. signs are shown within WCR's which is not allowed.

Response: *The plans have been reviewed and revised where necessary.*

Comment 7: Show prop. Town Location Lines on the Traffic Plans.

Response: *Done*

Comment 8: Major Items Lists – Pull Boxes are listed. Add note that these are to be paid for under their respective items.

Response: Done

Comment 9: Borings – The plan shows borings that were taken at locations for some mast arm locations but none are shown for other locations. What is the status of the borings for the project?

Response: *All the required borings have been taken and show up in gray scale on the Traffic Signal Plans and the Construction Plans. They are more clearly visible on Plan Sheet 2, 3, and 4.*

TSP-1 (Sheet 136)

Comment 10: Note #8
f. Note refers to Interconnect Major Item List on sheet TSP-27. The list could not be found.
g. Recheck plan references to note 7. The reference should refer to note #8.

Response: f. *This note has been revised. You are correct. There is no Major Item List on TSP-27*
g. *Corrected*

TSP-3 (Sheet 138)

Comment 11: There appears to be a potential path-of-travel clearance issue at the location of the prop. controller cabinet along the 5.0' wide sidewalk.

Response: *The plans have been revised to correct this situation.*

TSP-5 (Sheet 140)

Comment 12: There appear to be a potential path-of-travel clearance issues at the location of the Traffic Signal Pole "G"/Ped. Signal "P-1" and Mast Arm Signal Pole "A, B, C & F" along the 5.0' wide sidewalk. Traffic Signal "G"/Ped. Signal "P-1" Pole also appears to be within WCR #A-11.

Response: *The plans have been revised to correct this situation.*

Comment 13: Recommend redesign of the island to eliminate traffic signal foundations on or close to the MWRA 56" water main.

Response: *The plans have been revised to keep the traffic signal foundations at least the required minimum distance from the MWRA water line and the number of crossings of the line with traffic signal conduit has been minimized. The MWRA line is now more detailed and clearly shown on the plans.*

Comment 14: Signal Post "M" at Sta. 30+11, Lt. is next to the exist. conc. retaining wall. Please make notes on the plan to verify depth of foundation is adequate in the event the wall is removed at a later date.

Response: *This has been done.*

TSP-9 (Sheet 144)

Comment 15: Prop. Traffic Signal Poles are shown within prop. WCR's: Ped. Signal P9 and Video Detection Camera (VC-4) in WCR E1, Ped. Signal P10 in WCR C34.

Response: *The plan has been cleaned up as much as possible. There is still one traffic signal post with the WCR at the northwest corner of Thayer and Lexington. We believe this is the best we can do. We direct your attention to P6 at Location 1. We were asked by the MassDOT Boston pedestrian access reviewer to place the pedestrian post and push button on the ramp to meet other ADA/AAB requirements. His justification was that there was enough room to get a wheelchair by the signal post and the push button ends up in a very desirable location. We agree with this logic.*

Comment 16: Prop. R10-22 signs are shown within prop. WCR's A17 and D76.

Response: *Plans have been revised*

Traffic Management Plan

Comment 1: Generally the TMP Plans are inadequate. They need to address site specific lane closures that are required for full depth reconstruction (widening, medians, islands etc.), staging catenary pole and U.P. relocations, Traffic Signal installations etc. They also need to address allowable minimum lane widths, street parking issues, temporary crosswalks, bus stops etc (i.e. temporary pavement markings for each stage). Workday and hourly restrictions should also be provided.

Response: *This issue was discussed at a meeting in the District on January 4th, 2012 and it was agreed that the TMP plans don't need to be so site specific. We have included the necessary standard traffic management in our plan set and identified those details that need to be used in each of the project areas. We do not believe it is necessary or desirable to be more specific. It is our understanding that MassDOT's intention is to leave it to the contractor and resident to engineer determine how they want to do the work and manage the traffic accordingly. Most of the project area has more pavement than necessary (21' travel lanes) and parking that can be easily restricted (mostly in the residential areas) so traffic can easily be directed around a work zone using the standard details that are included on the plans. The segment of roadway between Mill Street and Lexington Street is the most difficult area and we recommend in the plans that the work in this area be done during the summer months. Most of the work is limited to milling and overlay with minimal full depth construction. Relocation of the MBTA catenary poles should be no more of a problem than the relocation a utility pole as its power will be turned off. Some of the information the commenter is requesting is in the special provisions and has also now been added to the TMP plans. Information has been added to the TMP plans to help the contractor. The proposed lane widths on the Typical Sections have been replaced with the existing lane widths which are more appropriate since that would reflect the existing condition at the time of construction.*

Comment 2: A site specific construction signing plan is required. Include a sign summary.

Response: *This is now included.*

Wheel Chair Ramp Details

Comment 1: Sheet CD-4, Style “E” – Detail references C.S. 107.6.4. The detail is for a one-way ramp. The Style “E” is an apex (two-way) ramp this is not allowed. See Construction Plan comments.

Response: *We have discussed this comment with Jeff Cullen at the Boston office and he is in agreement that the ramp is not an Apex as long as it is a two tier wcr with a separate detectable warning panel facing each direction. The Detail has been modified.*

Construction Details

Comment 1: Provide details for: Resin Crosswalk, Waverly Trail Medallion installation, Bus Shelter R&R and any other required detail mentioned in the comments.

Response: *Details have been provided for the Resin Crosswalk and the Waverley Trail Medallions. We did not feel a detail was necessary for the installation of the bus shelters.*

Sheet CD-5

Comment 2: Hydrant and Valve Detail – Revise curb offset distance from “inches” to “feet.”

Response: *Done*

Comment 3: Trench Patch Detail – Show sawcuts/RS-1 Asphalt Emulsion and recommend overlapping the trench by 12”

Response: *This has been done. The detail has been moved to the typical sections*

Comment 4: Sedimentation Control Bale Placement at Drainage Structure – Show locations where this treatment is to be used and provide a method of payment.

Response: *This detail has been removed and a silt sack detail and pay item has been added.*

Sheet CD-6 (Sheet 196)

Comment 5: CB Details call for a 12” Crushed Stone Base - This is not a MassDOT standard. Stone is only used to stabilize foundation as directed by the Engineer. It should be noted that the extra depth is considered Cl. B Trench Excavation for payment.

Response: *Crushed stone has been removed from the details.*

Comment 6: Alternate Top Slab Detail – Detail is shown without rebars. These need to be designed for HS-20 loading, therefore the detail design should be shown accordingly.

Response: *A note has been added to each detail stating that the design shall conform to H-20 loading.*

Comment 7: Catch Basin Municipal Standard Detail – Show standard depth (see S.P. comment #15c).

Response: *All the proposed catch basins have four foot sumps resulting in a 7’-6” standard height instead of f 6’-6” standard height.*

Sheet CD-7 (Sheet 203)

Comment 8: 2 x 2 Drop Inlet – Where are these to be used and what is the method of payment?

Response: *There are two of them and they are used in conjunction with the proposed bio-swale between stations 18+50 and 21+00 Rt. They are paid for under Item 201.54.*

Comment 9: CB Municipal Standard Type 4 – Add additional details (i.e. dimensions, finish grade lines etc.).

Response: *We believe all the required dimensions are included in the detail except the rim elevations which is given in the Drainage and Utility Plans.*

Sheet CD-8 (Sheet 204)

Comment 10: Scoring and Banding at Corners Detail – Shows scoring on the level landing. It is recommended that the scoring not be shown in this area so the level landing can be graded separately.

Response: *Done.*

Sheet CD-9 (Sheet 205)

Comment 11: Bench, Trash Receptacle, Bike Rack – Recommend specifying vandal-proof anchor bolts.

Response: *Vandal resistant anchor bolts have been added to the specification.*

Comment 12: Bollard – Detail shows electrical connection and refers to plans. It is unclear where this can be found.

Response: *The note has been expanded to specify the Traffic Signal Plans*

Sheet CD 10 (Sheet 205)

Comment 13: Quarter Round Curb – Specify type of cem. conc.

Response: *Done. See Plan Sheet 205*

SPECIAL PROVISIONS

Comment 1: Add page numbers.

Response: *Done*

Comment 2: MBTA Coordination – Section needs to be revised to reflect the MBTA issues that are currently under discussion.

Response: *The special provisions have been revised as best we know the situation. We have not been told definitively what the MBTA plans are for closing down the system so we are still assuming that they will use the Benton Square turnaround as a transfer station from busses to trackless trolleys during the winter, spring and summer schedules. Once*

they tell us definitively that they will be closing the trackless trolley system all the way to Harvard Square for the duration of the project, we will revise the text accordingly.

Comment 3: Traffic Management –

- a. As stated in the TMP comments, more site specific plans need to be developed showing stage construction where single lanes in each direction and turning lanes need to be maintained.
- b. States vehicle access to abutting properties cannot exceed a period of 1 hour. This is not reasonable since cem. conc. aprons are proposed.

Response:

-
- a. *See response to Comment 1 under “Traffic Management Plan”*
- b. *This line has been revised.*

Comment 4: Utility Work –

- a. First paragraph states Contractor shall not violate clearance for catenary wires. Provide a typical section showing clearances.
- b. Third paragraph: suggest adding unless approved by the Engineer.
- c. Fourth paragraph states that there is a very old fragile MWRA 56” water main (shown as 54” on plans) with very little cover.
 - i. Recommend that a profile be provided showing the amount of cover.
 - ii. Has this been considered in the design so construction impacts can be minimized?
 - iii. Further information should be provided to describe limitation for work over the 54” MWRA water line especially where full depth construction is proposed.
- d. Last paragraph states that contractor should verify utility information. Change “should” to “must.”

Response:

-
- a. *This has been added to the Traffic Management Plans.*
- b. *Done*
- c.
 - i. *The depth of cover of each of the lines has been added to the text.*
 - ii. *This has been considered and special details were prepared and submitted to the MWRA.*
 - iii. *No full depth pavement is proposed over the MWRA water lines and an 8(m) permit is included in the appendix of the special provisions.*
- d. *Done*

Comment 5: Subsection 8.03-Prosecution of Work –

- a. Add that castings for CB’s should be adjusted temporarily for interim drainage and paid for under Item 220. to prevent adverse effects.
- b. States removing and stacking of frames and grates will be paid for under Item 223. Should MBTA castings be included?
- c. Utility trenches must be in place prior milling: Over 3’ = 5 months and under 3’ = 3 months. Does this also apply to trenches where CDF was used? If so, please clarify.

- d. States castings of structures should be set to finish grade within 2 weeks prior to placing the surface course. What about the private utility trenches?

Response:

-

- a. Done
- b. We believe the MBTA agreed to let the MassDOT contractor remove, reset, and adjust their castings.
- c. This would not apply where CDF is used. A note to the special provision has been added to that affect.
- d. The sentence has been revised to read "All castings".

Comment 6: Notice to Owners of Utilities – Update names of Contact Persons as per <http://www.mhd.state.ma.us/WebApps/utilities/select.asp?t=BELMONT&d=4&c=27> and <http://www.mhd.state.ma.us/WebApps/utilities/select.asp?t=WATERTOWN&d=6&c=315>. Suggest adding web sites to the special provisions.

Response: Done

Comment 7: Materials to be Stacked –

- a. Materials are to be stacked **on** site for pickup by the municipality. Otherwise use Material Removed and Discarded items.
- b. It was noted that some items call for the Town to pick up items and others specify that the Contractor is to deliver items.
- c. Insert that the Town of Belmont shall provide the contractor with receipts for material received.

Response:

-

- a. The special provision has been revised accordingly.
- b. The special provisions now call for all Town items to be stacked for pick up by the Town.
- c. Done

Comment 8: Maintenance of Traffic Signals - Insert: "The contractor shall inspect all signal locations for operational status. Those signals that have defective equipment shall be repaired with all costs borne by the Town of Belmont.

Response: Done

Comment 9: Recommend adding a requirement that the project be video-taped by the Contractor prior to the start of work (1 copy to RE). This is to avoid/or settle disputes with abutters regarding pre-existing conditions.

Response: Done

Comment 10: Include a list of items with options (e.g. chain link fence).

Response: Done

Comment 11: Item 127. Concrete Excavation – The provision is for removal of concrete in limits of roadway and trench excavation. See Estimate and OCB comment for this item regarding sidewalk removal. Please clarify what this item is for.

Response: *This item is mainly used for the removal of concrete sidewalks, islands, and walks.*

Comment 12: Item 129.3 Old Pavement Excavation - See Estimate and OCB comment for this item.

Response: *This item is used for the removal of HMA pavements.*

Comment 13: Items 129.52 and 129.54 Track Excavation –
a. See Estimate and OCB comment for these items.
b. Add item includes the removal of ties, drainage pipe, switches and sidings.
c. Add separate item for disposal of treated wood products.

Response: -
a. *This has been changed to a LF item.*
b. *Done*
c. *Done*

Comment 14: Item 153. Controlled Density Fill-Excavatable –
a. Add: The Contractor is made aware that steel plates that are required are incidental and no additional payments will be required should plating be necessary for locations where the Engineer directs the use of CDF.
b. See previous comment 5c (under Section 8.03 *Prosecution of Work*). Revise for consistency.

Response: -
a. *Done*
b. *Done*

Comment 15: Items 201.5 to 201.54 Catch Basin-Municipal Standard – Method of Measurement and Basis of Payment -
a. Delete bedding and backfill since they will be paid for under separate items if required.
b. The Construction Details call for the use of Hoods (Item 224.12, C.S. 201.12.0). Traps were mentioned as included under the item. Are these the same as hoods? Please clarify.
c. S.P. states that structures are to be paid for at the respective Contract unit price per each. Add that payment should be according to *Std. Specification subsection 201.80* (i.e. based on standard depth).

Response: -
a. *Done*
b. *Traps and hoods are similar. We have revised the wording to hood to be consistent.*
c. *Done with the exception that we are using 4' sumps and the standard depth is 7' 6" which we have specified in the special provision.*

Comment 16: Item 222.3 Frame and Grate (or Cover) Municipal Std. – Provide names of 3 manufactures and model numbers.

Response: *We have included a detail of the proposed frame and grate and a special provision. We do not believe we need to identify three manufacturers if we have that information.*

Comment 17: Item 223.1 Frame & Grate (or cover) R&S – See Estimate and OCB comment for this item and previous comment #7 (*Materials to be Stacked*).

Response: *See response to Estimate and OCB comments. Most of these castings are being removed and stacked prior to pavement milling and then reinstalled later.*

Comment 18: Item 250.08 8” PCV Sanitary Sewer Pipe – Called for on the plan but an item was not included in the Estimate.

Response: *We could not find it on the plans. Perhaps we caught it earlier and removed it. We do not see where we would call for it.*

Comment 19: Items 390. and 390.1 Sprinklers – Unless it is known whether there are specific systems that will be impacted, suggest using a lump sum item.

Response: *We believe that it should be as is as we do not know how many they will run into. We have left it as is and will change it if you ask us again.*

Comment 20: Item 369.06 6x6 Tapping Sleeve, Valve and Box – General: Change Section 360 to 300 and see Estimate comment for this item.

Response: *Done*

Comment 21: Item 384.2 Curb Stop Adjust – Remove from S.P. since this is a standard item and there is nothing “special” specified.

Response: *Standard Nomenclature indicates that it is not a standard item.*

Comment 22: Item 415. Micro Milling – The 3rd paragraph under “Construction” states that exist. MH’s or other structures shall be temporarily ramped. This conflicts with *Subsection 8.03-Prosecution of Work*.

Response: *This line has been removed.*

Comment 23: Item 431.1 High Early Cem. Conc. Base Course – A special provision is required for this item but none was provided.

Response: *We have changed the item to 431. Per SY and it no longer needs a SP*

Comment 24: Section 450 Quality Assurance – Some items do not match those listed on the Estimate.

Response: *This has been corrected.*

Comment 25: Item 472.1 HMA for Permanent Patches – This item was not listed on the Estimate. However Item 451. HMA for Patches was included. Is this item required?

Response: *This item has been removed from the special provisions.*

Comment 26: Item 482.3 and 482.4 Saw Cutting –
a. Add that sawing through rebar should be considered incidental.

- b. All locations should be shown on the plans.

Response:

-
- a. Done
- b. Done

Comment 27: Item 486. Scored Concrete Pavement –

- a. Called for on the plan but an item was not included in the Estimate.
- b. Specify type of cem. conc. (i.e. 5000 psi, ¾”, 705 lb./s.y.). Also see Pavement Notes comments.

Response:

-
- a. *Item has been removed from the special provisions.*
- b. Done

Comment 28: Item 486.2 Colored Scored Cem. Conc. Pavement - Recommend specifying size of sample field panel. Suggest providing a separate S.P. for Item 486. to avoid confusion.

Response: *Item 462 has been eliminated as there is no need to separate this item. An 8' by 8' sample panel is now specified.*

Comment 29: Item 487. Resin Crosswalks – On past projects, this was found to be a proprietary item which is not allowed unless it is non-participating. Recommend an alternate treatment.

Response: *It is unclear whether or not there is an alternative treatment other than standard painted crosswalk that would be participating. The item is being left in as the Town may come up with the funding for the resin crosswalk.*

Comment 30: Item 514.2 Granite Curb Inlet-Straight-Municipal Std. – Provide tolerances.

Response: *The special provision has been amended to refer to the materials specification of a granite curb inlet, M9.04.5.*

Comment 31: Item 532. Quarter Round Curb R&R and Item 533.1 Paver Edging R&R – S.P. states that curb and pavers are to be stored on the property from which they originated. Recommend adding that the material needs to be protected against theft and the Contractor is responsible for replacements.

Response: Done.

Comment 32: Item 580.1, 581.1 and 582.2 Curb Remove, Relocated and Reset – Give conditions where relocation would apply (i.e. how these items are different than the R&R items).

Response: *The special provision has been amended in response to this comment.*

Comment 33: Items 590., 593. and 594. Curb R&S and R&D – There is no mention of “discarded.” Suggest removing Item 594. since it is a standard item and does not require a S.P.

Response: Done.

- Comment 34:** Item 650.030 through 654.072 CLF –
- a. Add Item 650.031 since it requires a S.P. and possibly all of the post items (i.e. 650.048 and 654.080).
 - b. Basis of Payment: Change reference for Item 903. to 901.3.

Response: -

- a. Done.
- b. Done.

- Comment 35:** Items 655.30 to 655.32 Metal Fence –
- a. Finish: S.P. states items require a 20 year warranty against rusting. Who will follow up on this after final acceptance since the contract is with MassDOT not the Town?
 - b. Basis of Payment: Change reference for Item 903. to 901.3.

Response: -

- a. *It is likely neither the State nor the Town will follow up but it does not hurt to put the requirement in as it would probably result in a better product.*
- b. Done

- Comment 36:** Items 670.1 and 672.1 Metal Fence R&R - Basis of Payment: Change reference for Item 903. to 901.3.

Response: Done.

- Comment 37:** Item 705. Flagstone Walk – General: S.P. states as shown on the plans. There are no locations or construction details for this work shown on the plans. The OCB list the quantities as a contingency. Recommend providing more information on the plans.

Response: *This item is not needed and has been removed from the special provisions and the estimate.*

- Comment 38:** Items 706 and 706.1 Brick Walk and Removed and Relaid – Generals' states as shown on the plans. There are no locations or construction details for this work shown on the plans. The OCB list the quantities as a contingency. Recommend providing more information on the plan. Also provide a description and specification for the new bricks.

Response: *The item for brick walk has been removed as it was not called for on the plan. Brick walk removed and relaid is required (23+80 Rt.) and the calculation book now describes where. New bricks are not required.*

- Comment 39:** Item 706.1 Park Bench –
- a. General: States that for each bench R&S, duplicate and replace memorial placards where applicable. Be more specific and provide a method of payment.
 - b. Finish: Please review requirements for painting. They seem excessive.

Response: -

- a. *An item for Replacement Bench Plaque Item 707.12 has been added.*

b. Description of finish has been clarified to describe either electrostatically applied polyester powder coat, or hot dipped galvanizing with enamel paint, and minimum thickness.

Comment 40: Items 707.72 and 707.81 Waverly Trail Medallions – General: S.P. states that medallions are to be installed in conformance with manufacturer’s recommendations and the details shown on the plans. Details could not be found on the plans.

Response: *A detail has been added to sheet 205 or 206*

Comment 41: Item 707.81 Steel Bollard R&R –

- a. Recommend showing locations on the Detail Sheets and list in the OCB.
- b. Payment: S.P. calls for cem. conc. to be paid under Item 903. Recommend changing to Item 901.3.

Response: -

- a. *The steel bollard in question was within the DCR parkland and the project no longer proposed any work on it. The item has been removed from the special provisions.*
- b. *No longer applicable*

Comment 42: Item 707.82 Bollard – See Construction Detail comments regarding service connections (i.e. conduit, riser etc.). Include a method of payment for this work.

Response: *Done*

Comment 43: Item 715.1 Mail Box R&R – General: S.P. states work shall be performed in accordance with details shown on the plans. Details could not be found on the plans. Also See Construction Plan comments regarding locations of exist. mail boxes.

Response: *These mail boxes are UA Postal Service mail boxes and will be removed and reset by the postal service. The pay item and specification has been removed and no detail is now required for the relocation of mailboxes. The notation on the plan is now R&R “By Others”.*

Comment 44: Item 740. Engr’s Field Office – Leave blank. The Contract Section will provide provision.

Response: *Special provision text has been removed and not added calling for the special provision to be added.*

Comment 45: Item 745.1 Pedestrian Bus Shelter-R&R –

- a. Add that work shall be coordinated with MBTA Bus Division.
- b. Method of Measurement and Basis of Payment – Remove “per square yard.”

Response: -

- a. *Done*
- b. *Done*

Comment 46: Item 767.9 Matting for Erosion Control - This item was not listed on the Estimate.

Response: *Item 767.9 matting for erosion control has been removed from the project as it is not used.*

Comment 47: Items 804.3 through 804.33 – Basis of Payment: According to S.P. for Items 482.3 and 482.4 Saw Cutting, saw cuts are paid separately under those items. Since saw cuts are typically included under the conduit items, recommend adding that saw cuts shall be paid separately.

Response: *Done*

Comment 48: Item 811.32 Pull Box 12x24” – This is a non-standard item therefore construction details need to be provided. Please verify that this size is available. As an alternative, consider using an 8x23” P.B. (Item 811.30 Pull Box 8x23 Inches - SD2.030).

Response: *We call for a 12” x 24” pull box when we believe that a 12” x 12” or an 8” x 23” are both too small. Historically the 8” x 23” have been used for the installation of magnetic detectors. We have written a special provision that describes the 12” x 24” relative to the 12” x 12” and have included a detail in the appendix of the special provisions.*

Comment 49: Item 813.79 Interconnect Cable System – Please clarify how conduit and PB are to be paid for.

Response: *Done*

Comment 50: Items 815.03 through 816.13 Traffic Signal –

- a. Mast Arm Structures: S.P. states that if the design calculations dictate a different depth, the variance from the 15’ depth will be addressed in accordance with subsection 801.62 foundations via pay Item 815.98. This item is not listed in the Estimate. It is MassDOT’s policy to no longer pay for cost adjustments.
- b. Warranty – S.P. calls for a 60 month warranty period for the LED module. The S.P. should include a specification for 1 year warranty period (6 month parts and labor + 6 months on parts only) for the traffic signal system after final acceptance of the traffic signals.

Response: -

- a. *This paragraph has been removed*
- b. *The warranty for the traffic signal system is already included in the section “Guarantee of Traffic Signal System After Final Acceptance”. The 60 month warranty for the LED has been retained.*

Comment 51: Items 823.75 through 823.78 Catenary Poles – S.P. are subject to MBTA approval. Provide status.

Response: *It is our understanding that the MBTA was sent copies of the 75% Submission documents. We have not received any comments from the MBTA on the 75% Submission documents. It could be that the MBTA consultant will review them once signed to a contract.*

Comment 52: Item 826.51 Fire Alarm R&R - General: S.P. states work shall be performed in accordance with details shown on the plans. Details could not be found on the plans.

Response: *This pay item has been removed. Belmont Municipal Light Department will remove and reset under a force account.*

Comment 53: Items 831.1 and 832.1 Sign items – These are non-standard items. Recommend replacing items with 831. and 832. respectively. Otherwise provide special provisions.

Response: *The items have been changed as suggested.*

Comment 54: Item 826.70 Electric Service Riser Relocation – This item was not included on the Estimate.

Response: *It is now included.*

Comment 55: Item 874.11 Street Sign w/o Post – This is a standard item, however a special provision was not provided.

Response: *While it is a standard item we thought we should write a special provision for it as it is for street name signs mounted on the mast arm posts or arms.*

ESTIMATE and OFFICE CALCULATION BOOK

Comment 1: The OCB listed as many quantities for items as “contingency” even though the work is shown on the plans and it is likely that the quantity can be determined (e.g. Item 369.06). The Designer needs to minimize the number of contingency quantities and provide more accurate counts for many items.

Response: *Item 396.06 has been removed. We have reviewed the plans for cases of the other contingency items and eliminated the ones we thought were unlikely to be needed.*

Comment 2: Item 102.4 Hand Evacuation Root Zone – Should this be “excavation” rather than “evacuation” as shown in the S.P.?

Response: *This has been corrected.*

Comment 3: Item 120. Earth Excavation – It is unclear whether excavation for prop. curbing was included for areas without widenings.

Response: *It is our understanding that the excavation required to install a new curb or remove and reset an existing curb is included in the cost of the curbing items and is not covered here.*

Comment 4: Item 120. Earth Excavation and Item 120.1 Unclassified Excavation – Do not use both items. Recommend using Item 120. because it covers a huge variety of materials and eliminating Item 120.1.

Response: *Item 120.1 has been removed from the estimate.*

Comment 5: Item 127. Concrete Excavation – According to the OCB this for the removal of sidewalks. This is typically paid for under Item 120. Please explain why this item is being used.

Response: *If we recall correctly, in comments received on a previous project, the District asked that removal of HMA and cement concrete pavements be estimated separately. We have used the same logic for this project.*

Comment 6: Item 129.3 Old Pavement Excavation - According to the OCB this for the removal of roadway pavement for roadway narrowing, widening, islands, full depth pavement replacement. These are typically paid for under Item 120. Please explain why this item is being used.

Response: *See response to item 5 above.*

Comment 7: Items 129.52 and 129.54 Track Excavation – It is unclear why 2 track and 4 track are being paid for under separate items given that the pay unit is CY. Recommend using 2 items with a “foot” pay unit. Please clarify.

Response: *Done.*

Comment 8: Item 144. Class B Trench – The OCB calculation does not seem to include the allowance for the 1:1 slopes. See Std. Spec. subsection 140.80.

Response: *This has been corrected.*

Comment 9: Item 145. Drain Structure Abandoned and. Item 146. Drain Structure Removed – See Drainage Plan comments regarding using Item 145. vs. Item 146. (i.e. justify why structures need to be removed).

Response: *The structures in the roadway that were previously removed have now been identified as to be abandoned and the quantities revised accordingly.*

Comment 10: Item 150.1 Special Borrow – The OCB calculation includes quantities “to be used at all areas of rock cut and areas where unsuitable material is encountered.” This does not seem to be called out anywhere on the plans.

Response: *The special borrow is used between Stations 22+00 and 23+50 on the left side. See cross sections.*

Comment 11: Item 151. Gravel Borrow - It is unclear whether gravel borrow for prop. curbing was included for areas without widenings.

Response: *Lines have been added to include the gravel for the curb installation.*

Comment 12: Item 151.2 Gravel Borrow for backfilling Structures and Pipes – It seems that the OCB assumption is based on the need to backfill all of the prop. drainage and water pipes with new material. MassDOT Std. Spec. (Subsection 150.64, A) only call for using new material when the existing material is unsuitable. Recommend providing a contingency quantity.

Response: *We have eliminated the backfill for the drainage and water pipes but included the backfill for the walls.*

- Comment 13:** Item 153. Controlled Density Fill-Excavatable –
- a. This was not called for on the plans. A construction detail should be provided. Also the OCB assumed width of 0.5' for trenches in coldplane/overlay areas is unclear. What is this based on?
 - b. Should trenches for T.S. conduit in roadway crossings also be included?

Response: -

- a. *The CDF is intended only for areas where the pipe is crossing over or under an existing utility and the area cannot be compacted in the usual manner for fear of harming the other utility. We had assumed 5% of the length of the pipe but reduced it to 1%. The 0.5' was an error and has been corrected.*
- b. *We have also revised it to include the traffic signal conduit. A traffic signal conduit trench detail has been included with the Typical Sections,*

Comment 14: Item 156. Crushed Stone – The OCB assumption is that stone is used for all new structures. See Construction Detail comments for sheet CD 6.

Response: *The details have been revised to eliminate the crushed stone foundation and the pay item is now a contingency item.*

Comment 15: Items 187.3 and 187.31 Removal and Disposal of Drainage Structure and Pipe Sediments - These items are considered non-participating. Has the Town been given the option of cleaning the structures and pipes prior to the start of construction rather than paying the Contractor to do the work?

Response: *Both Towns were given the option of either paying the State's contractor to clean the structures or have their own crew do it prior to the start of construction. Belmont agreed to have their crews do it prior to construction. We are waiting for a response from Watertown. They have indicated that they clean their system yearly.*

Comment 16: Items 201.5 to 201.54 Catch Basin-Municipal Standard – The OCB assumes the unit standard depth of 7.5' and that all structures are equal to or less than 7.5'. The prop. depths for each structure should be listed so actual quantities can be determined (for structures with depth exceeding 7.5').

Response: *Done*

Comment 17: Item 220. Drain. Struc. Adj. – The OCB assumptions are unclear. Were new structures included? Was staging considered (i.e. adjusting structures twice for milling and top course)? Also see S.P. comment #5a, Subsection 8.03-Prosecution of Work.

Response: *When this item was originally done there were a certain set of circumstances as to how the castings would be treated during the milling and the two overlay operations. The situation has changed and there are a new set of circumstances. The item now includes adjusting the existing drainage structures to 3" below grade before the milling operation, adjusting them to the intermediate grade after the binder course and to the surface course just before the placement of the surface course. This process would occur after the new drain system is installed and some of the existing structured removed. Therefore the quantity includes some of the existing drainage structures and all of the new drain structures.*

Comment 18: Item 220.2 Drain. Struc. Rebuilt – See Drainage and Utility Plan comments.

Response: *The structures listed as Rebuild are now listed as Remodel. In the calculation book the Rebuild item is a contingency item only.*

Comment 19: Item 220.6 San. Struc. Rebuilt – The OCB list 7 ea (5% ADJ), however the pay unit is feet. As stated in the Construction Plan comments, this item is only used for structures that need replacement of deteriorated masonry.

Response: *Unit has been corrected.*

Comment 20: Item 223. Frame & Grate (or Cover) R&R – Item 222.3 assumes 70 are reusable but the R&R quantity is only 2. Please clarify. Also see next comment.

Response: *At the 75% stage it was planned that the drainage castings in the road at the time of the milling would be removed and stacked and then put back to their original location after the binder course was placed. The R&S Item included all those casting so most were not available to be reset at a new location. However, this method is no longer being used as a result of the meeting in the District on January 4th 2012. The plan is to adjust the castings below grade instead of removing and stacking them.*

Comment 21: Item 223.1 Frame & Grate (or cover) R&S – The estimated quantity is the same as the total number (379) of exist. castings on the project.

- a. This is after assuming that half need to be discarded [Item 223.2] and 70 are reusable [Item 223.]. The numbers do not add up. Please review the quantities for all of these items.
- b. Why are so many castings being replaced? If they are suitable for stacking, it is assumed that they are in good enough condition for reuse.

Response: -

- a. See response to comment # 21.
- b. See response to comment #21. We have increased the available for re-use up to 80%

Comment 22: Item 224.12 12” Hood – See S.P. comment for Items 201.5 to 201.54.

Response: *See response to S.P comment on 201.5 to 201.54.*

Comment 23: Item 242.12 12” RCP Flared End – See Drain. And Utility Plan comment regarding using 12” FE with 10” DI Pipe.

Response: *OK*

Comment 24: items 241.21 and 241.27 RCP – These are not standard sizes that are available. Is there a particular reason why these sizes were chosen? Provide justification.

Response: *These are the sizes the drainage calculations called for and we saw no reason to call for a larger one given the need to get by existing utilities. A larger pipe than needed may result in a conflict with an existing pipe that may be avoided with a smaller pipe.*

Comment 25: Item 302.06 6” DI Water Pipe (Rubber Gasket) –

- a. Does the quantity include pipe required for Hydrant R&R throughout the project?

b. See Drain. And Utility Plan comment regarding using 6" pipe on an 8" line.

Response:

-
- a. *We have reviewed the plan and the quantity to make sure all relocated hydrants are accounted for.*
- b. *Quantity has been revised.*

Comment 26: Item 309. DI Fittings for Water Pipe - Does the quantity include fittings required for Hydrant R&R throughout the project?

Response: *Yes. Almost all the hydrant work was done by the Town a few years ago.*

Comment 27: Item 350.06 6" Gate and Gate Box - Does the quantity include WG's required for Hydrant R&R throughout the project?

Response: *Yes. Almost all the hydrant work was done by the Town of Belmont a few years ago.*

Comment 28: Item 358. Gate Box Adjusted - Was staging considered (i.e. adjusting structures twice for milling and top course)?

Response: *Yes. Three time actually.*

Comment 29: Item 369.06 6x6 Tapping Sleeve, Valve and Box – The OCB shows this as a contingency item. As stated previously, the design needs to include connections for hydrants (R&R) to exist. water mains (different sizes).

Response: *Almost all the hydrants have already been replaced or relocated by the Town of Belmont a few years ago. The plans call for any of the remaining hydrants that are to be removed to be connected to the existing connection.*

Comment 30: Items 390. and 390.1 Sprinklers – Is it known whether there are any on the project that will be impacted. Please investigate and provide necessary quantities.

Response: *The project has been designed so that the proposed back of sidewalk can meet the existing grade at the back of the existing sidewalk in almost all locations. We have shown a 2' wide loam and seed or mulch strip so that the contractor can make any minor adjustments if necessary. We have noticed some sprinkler systems along the project but have likely not seen them all. The ones we have seen the contractor should not have to impact them. We have included quantities for the locations we have not seen that may be disturbed.*

Comment 31: Items 440. and 443. Dust Control – The quantities seem very low for a project length of 2-1/2 miles.

Response: *The estimate was based on two application of each of the items for the areas of full depth construction and sidewalk construction, the main area where the sub base will be exposed. The areas did not include most of the project area which is milled and overlaid. Is this an accurate assumption?*

Comment 32: Item 451. HMA for Patching – The quantity of 8,150 Ton seems very high for the project (50' wide x length x 1.67' depth?). This item is for hand work. Please provide a justification for such a high quantity.

Response: *This item has been revised based on comments and discussions with the pavement design engineer. This item includes the permanent patching of the utility trenches. The permanent patches are at least five feet wide and 7.25 inches deep. It also includes the repair of the underlying surface after the milling is completed. The project calls for milling 2.5 inches of milling which, when finished, may reveal many areas where utility work in the past had not installed very deep pavement patches. We have assumed that 10% of the roadway area would be like this. We will change the assumed percentage if requested. However, in the original estimate we did estimate that the proposed patch would be 1.67 feet deep which is wrong. We have changed the depth to agree with our patch detail.*

Comment 33: Item 472. HMA for Misc. Work – According to the OCB this includes temporary patches over trenches. How does the permanent treatment get paid for? Please clarify on construction details.

Response: *The permanent patch gets paid under Item 451.*

Comment 34: Curb Items – The Curb Worksheets in the back of the OCB that are referred to were difficult to follow. Recommend providing more comprehensive summaries for each item showing how quantities were determined.

Response: *We have in our files colored graphics that go along with the calculation book which graphically identify what is shown on the curb takeoff. These will be provided to the resident engineer prior to construction.*

Comment 35: Item 685. Stone Masonry Wall in Cement Mortar – The item is for all of the walls shown for sheets CP 1 & 2. Recommend that is item be used for the retaining and a separate item be used for the Cemented Stone Masonry Wall (Balanced) since they require different methods of construction.

Response: *This has been done.*

Comment 36: Item 740. Engr's Field Office – The OCB estimated quantity is 24 months. Thirty months were assumed for the TMP items. Please clarify.

Response: *We have revised our estimates based on the assumption that construction will begin in the spring of 2013 and be substantially complete by the fall or 2014 with the Field Office being available until the spring of 2015. Therefore, the field office is now set at 30 months but most of the traffic management items based on 24 months or less.*

Comment 37: Items 804.3 through 811.32 – It is unclear whether the quantities for conduit and PB's for the interconnect system were included or not.

Response: *This has been clarified in the calculation book.*

Comment 38: Items 815.03 through 816.13 –
a. It appears that PB's and EMH's were included in the lump sum although they are to be paid under separate items.

- b. The lump sum breakdowns do not show costs for removing exist. T.S. equipment (and stacking).

Response:

-
- a. While the items for the conduit and pull boxes show up in the spreadsheet they have no quantity attached and are not included in the resulting lump sum fee.
- b. The lump sum breakdowns have been revised to include the removal and stacking of the existing equipment and any need to temporary traffic signals.

Comment 39: Items 823.75 to 823.77 Catenary Poles – It appears that the quantities will need to be adjusted based on a new catenary system design.

Response: *The quantities have been adjusted.*

Comment 40: Item 826.51 Fire Alarm Box R&R – The OCB estimate only calls for 1 at Trapelo Rd. Sta. 86+45, Lt. (not shown clearly on the plans). Is this the only one? Provide an update.

Response: *There are actually two. The plans have been revised to indicate that they are to be removed and reset by others (Belmont Municipal Light Department) and the pay item has been removed. This has been discussed with Belmont Municipal Light Department.*

Comment 41: Item 852. Safety Signing for Const. Operations - It is unclear how the quantities were determined since there are none shown on the TMP.

Response: *The quantity was taken from the sign summary sheet contained in the Traffic Management Plans.*

Comment 42: Items 854.014 through 854.3 Temp. Pavement Markings – It is unclear how the quantities were determined since there are none shown on the TMP.

Response: *The calculation book has been revised and the logic for how we arrived at the quantities of items 854.014 through 854.3 is now clear.*

Comment 43: Item 859. Reflec. Drum – The OCB quantity of 22 drums per day seems very low for a 2-1/2 mile project.

Response: *We did increase it to 50 drums a day.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Correspondence

To: Neil E. Boudreau, State Traffic Engineer
From: Michael Galvin, P.E., Interim Manager – Project Reviews
Date: November 10, 2011
Subject: Belmont – Roadway Reconstruction and Related Work
75% Submission – Project Info #604688
Project File No. 604688

Typicals:

Comment 1: Instead of removing and resetting a non standard sign “Not a Through Street”, replace this sign with W14-1 (Dead End) as noted on plan sheet #PM-1.

Response: *Done*

Comment 2: To provide drives with adequate advance information about lane use on Mill Street, replace the sign R3-7L with R3-8 series sign indicating two left lanes and one right lane.

Response: *We have replaced the R3-7L with an R3-8 series sign but with one indicating one left turn lane and one combined left and right turn lane. If MassDOT disagrees we will revise it as requested.*

Comment 3: Reformat the sign D8-1 as noted on plan sheet #PM-11.

Response: *Done*

Comment 4: The cluster sign H1-2 and route marker sign M1-5 (60) are MassDOT standard. Please revise the sign summary accordingly.

Response: *Done*

Comment 5: To improve safety at skewed intersection of Belmont Street with Grove Street and Arlington Street, we recommend that the DWLL (elephant track) be provide on the pavement as shown on plan Sheet #PM-8.

Response: *The 75% submission plans that the commenter is commenting on had two lane approached for both Grove and Arlington Streets, an exclusive left turn lane and a through and right lane. After protests from the neighborhood the plan has been revised to back to much the existing conditions, single lane approaches for each street. With single lane approaches the elephant tracks are no longer applicable.*

Comment 6: The blank for street name signs mounted overhead on mast arm will be 24 inches, not 12. Please revise wherever applicable.

Response: *Done*

Comment 7: As noted on plan sheet #TSP-1, reverse the positions of the signs R10-6L and R10-22.

Response: *Done*

Comment 8: Round the clearance time (yellow and all red) to the nearest whole number wherever applicable.

Response: *Done*

Comment 9: Consider placing right turn from Pleasant Street to Trapelo Road under yield control instead of signal control because the pedestrian phase is not concurrent; and if there is no accident history and the town has not specifically requested that the free right turn be signal controlled.

Response: *This is a relatively heavy pedestrian crossing as pedestrians from the McLean Hospital on the hill, and the residents in the two Town Housing facilities between Pleasant Street and Mill Street use it to get to Waverley Square and the public transportation. The Town has requested that pedestrian signals be included for this crossing. However, we will remove the proposed "No Turn on Red" sign.*

Comment 10: Add a signal head to right turn from Church Street to Lexington Street as noted on plan sheet #TSP-9.

Response: *Plan changed as requested.*

The Commonwealth of Massachusetts

MassDOT - Highway Division

Interoffice Correspondence

To: Marie Rose, P.E., Director of Management
From: Patricia Leavenworth, P.E., District Highway Director
Date: January 5, 2011
Subject: Belmont –Watertown
Roadway Reconstruction of Trapelo Road and Belmont Street
Design Exception Report Review Comments
Project File Number – 60468
Project Manager – Albert Miller
Design Engineers – BSC Group

In concept, the District accepts the selection of Alternative 2 for the less than minimum inside travel lane. Please revise the DER based on the following comments:

Comment 1: On the Design Exception Checklist, add Cross Slope and Horizontal Clearance to Controlling Criteria requiring a Design Exception.

Response: *This has been done.*

Comment 2: Separate discussions should be provided for the less than standard Horizontal Clearance and Cross Slope dimensions. Mitigation strategies should be suggested and implemented with the proposed design (ex. adding reflectors to utility poles).

Response: *This has been done.*

Comment 3: Separate Attachment B tables should be provided for Cross slope and Horizontal Clearance. (Alternative 2 should be noted as the preferred roadway section).

Response: *This has been done.*

Comment 4: If possible, revise the parking lane on the typical section Belmont Street (Station 125+00 to 127+00) to a 7.5 foot parking lane and an 11 foot inside travel lane width.

Response: *This has been done.*

Comment 5: Revise the typical section Belmont Street (Station 141+00 to 147+00) for clarity. It appears there are tow 15.5 foot wide travel lanes in this area.

Response: *This has been done.*

Comment 6: The limits of the 10.5 foot inside travel lane can be reduced to 700 feet (station 131.00 to 138+00) based on the revisions recommended above.

Response: *The limits of the 10.5 foot inside travel lane have been reduced as requested as much as possible.*