



Memorandum

To: Jeff Cullen, MassDOT  
David Phaneuf, MassDOT  
file

Date: July 18, 2014

Project No.: 11537.00

From: Bazinet, Amanda

Re: ADA Response to Comments

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**Responses to comments received from Jeff Cullen via email on December 12, 2013:**

1. Ramps lengths are not sufficient.  
*The curb reveals and curb transition lengths have been detailed below. It is also noted if variances shall be necessary.*
2. Curb reveal heights are not delineated on the plans. Beginning and end of curbing reveal that is other than 6 inches with transition areas. This impacts number 1.  
*Curb reveals have been added to the construction plans and more specific grading (bottom of curb and top of curb elevations) shall be provided in the 75% design submission.*
3. Curb cuts (CC) that impact the pedestrian circulation route at the back of sidewalk wcr. For example the proposed monuments.  
*The proposed monument plazas are no longer located at the back of wheelchair ramps. The two monuments located on Pleasant Street have been combined into one plaza now located at 102+90 LT.*
4. Roadway grades that are too steep to accommodate a level cross slope. i.e. roadway profiles approximately 6% or greater. (For example 110+30)  
*The crosswalk locations and roadway grades have been detailed below. It is noted that a variance shall be necessary at all locations where the slope of the roadway exceeds 1.5%.*
5. Pedestrian paths not shown on the plans. Elm Street left.  
*The general plan notes have been revised from HMA Pvm't to HMA walk on the left side of Elm Street. An AAB waiver shall be required for the sidewalk width on the left (west) side of Elm Street. On the right side of Wall Street, the note HMA Pvm't was used because this paved area is not being treated as sidewalk since it is insufficient in width for pedestrian access.*
6. CCs that will require a grading plan. For example 101+20 right & 101+45 right Elm Street.  
*Hand grading calculations have been completed for every wheelchair ramp (see attachments). The transitions have been shown graphically on the plans. Formalized details regarding the grading shall be added to the 75% design plans in the form of alignment and grading plans and wheelchair ramp details with schedules.*
7. Steep roadway cross slopes (4.6%) with 7.5% sloping ramps that are a problem traversing in a wheelchair. Reference PROWAG R304.5.4 Counter Slope.  
R304.5.4 Counter Slope. The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions, and turning spaces shall be 5 percent maximum.  
*The counter slope was determined at each of the wheelchair ramp locations. Variances are being requested for locations where the counter slope is greater than 5% or the change in grade between the*

*counter slope and the wheelchair ramp is greater than 12.5%. The locations where variances are necessary are detailed below.*

**Wheelchair ramp curb reveals & transition lengths; a variance is noted if necessary:**

**Main Street**

**Sta. 100+79 19' LT** –The low side transition length is 6.5' but on the high side a 3" reveal must be used and maximum transition length of 7.5' is provided.

**Sta. 100+85 39' LT** –The curb reveal on the low side shall be 3" and a transition length of 3.25' is provided. On the high side an 8" reveal and maximum transition length of 15.0' is provided.

**Sta. 101+10 38' LT** –The curb reveal on the low side shall be 6" and a transition length of 6.5' is provided. On the high side a 6" reveal and maximum transition length of 15.0' is provided.

**Sta. 101+14 29' RT** –The curb reveal on the low side shall be 8" and a transition length of 6.5' is provided. On the high side a 3" reveal and maximum transition length of 7.5' is provided.

**Sta. 101+42 28' RT** –The curb reveal on the low side shall be 8" and a transition length of 6.5' is provided. On the high side a 3" reveal and maximum transition length of 7.5' is provided.

**Sta. 103+33 28' RT** –The curb reveal on the low side shall be 8" and a transition length of 6.5' is provided. On the high side a 7" reveal, using the gutter slopes and a maximum wheelchair ramp slope of 7.5%, a transition length of 10'8" was determined to be necessary and is provided.

**Sta. 103+59 28' RT** –The bituminous pavement on the east side of Wall Street is less than 3' wide and cannot be considered sidewalk. Therefore a single direction ramp is proposed at this location. The existing gutter slope at this location exceeds 4%, but the maximum transition length of 15.0' cannot be provided. Due to existing geometry of the building located at the back of walk and providing continued access to the occupants, only 11.4' of transition length can be provided. This results in a wheelchair ramp slope of 13.4% and shall require a variance.

**Sta. 103+81 18' RT** –The length of single direction ramp proposed at this location is limited to 5.66' (the width of the grass strip). However, constraints such as meeting the existing finished grade elevations at building entrances and maximum ramp slope of 7.5% between the building entrance and the sidewalk, results in a steeper wheelchair ramp. The resulting slope is approximately 12.7% and at this location the Main Street roadway cross slope is approximately 6.3% which result in a 19% grade differential and shall require a variance.

**Sta. 103+84 23' LT** –A 6" curb reveal is typical on both sides of this wheelchair ramp. On the high side a 9.0' transition is provided. On the low side a 6.5' transition is provided.

**Sta. 104+02 36' LT** –A 6" curb reveal is typical on both sides of this wheelchair ramp. On the high side a 9.0' transition is provided. On the low side a 6.5' transition is provided.

**Sta. 104+14 48' LT** –A 6" curb reveal is typical on both sides of this wheelchair ramp. On the high side a 9.0' transition is provided. On the low side a 6.5' transition is provided.

**Sta. 107+14 16' LT** –A 3" curb reveal is typical on both sides of this wheelchair ramp. On the high side a 7.5' transition is provided. On the low side a 3.25' transition is provided.

**Sta. 107+14 18' RT** –On the low side a 3.4" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 5.6" reveal is proposed and a 15.0' maximum transition length is provided.

**Sta. 107+59 27' RT** –A 3" curb reveal is typical on both sides of this wheelchair ramp. On the high side and a 4.5' transition is provided. On the low side a 3.25' transition is provided.

**Sta. 107+97 26' RT** – On the low side a 6" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 3" reveal is proposed, but a grass area is proposed adjacent to the ramp.

**Sta. 110+35 28' RT** –On the low side a 3" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 6" reveal is proposed and a 15' transition length is provided.

**Sta. 110+63 41' RT** –On the low side a 6" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 6" reveal is proposed and a 9' transition length is provided.

**Sta. 110+27 25' LT** – an apex ramp is proposed at this location and the Accessible Pedestrian Signal at this location shall be the talking type to direct pedestrians. On the low side a 6" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 6" reveal is proposed and a 15' transition length is provided.

**Sta. 110+63 31' LT** –On the low side a 6" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 6" reveal is proposed and a 15' transition length is provided.

**Sta. 110+99 25' LT** –On the low side a 6" curb reveal is proposed and a 6.5' transition length is provided. On the high side a 6" reveal is proposed and a 15' transition length is provided.

**Sta. 110+97 23' RT** –An apex ramp is proposed at this location and the Accessible Pedestrian Signal shall be the talking type to direct pedestrians. On the low side a 6" curb reveal is proposed and a 6.5' transition length is provided. On the high side an 8" reveal is proposed and a 15' maximum transition length is provided.

**Pleasant St**

**Sta. 14+03 27' RT** –A 6" curb reveal is typical on both sides of this wheelchair ramp. Grass and 6' granite transition curb proposed on the high side, since no sidewalk is proposed on west side of Pleasant St and the Town of Spencer Sidewalk Master Plan does not propose future sidewalks at this location. On the low side a 6.5' transition is provided.

**Sta. 14+02 20' LT** –A 6" curb reveal is typical on both sides of this wheelchair ramp. On the high side a 9.0' transition is provided. On the low side a 6.5' transition is provided.

**Crosswalks that require a variance for cross slopes are noted below:**

**Main Street**

- ① **Sta. 100+79 19' LT to Sta. 100+88 17' RT** –gutter slope at Sta. 100+79 LT is 5.1%.
- ② **Sta. 100+85 39' LT to Sta. 101+10 38' LT** –gutter slope is 15%.
- ③ **Sta. 101+14 29' RT to Sta. 101+42 28' RT** –gutter slope is 5.7% at Sta. 101+14 and 3.5% at Sta. 101+42 RT
- ④ **Sta. 103+33 28' RT to Sta. 103+59 28' RT** –gutter slope is 4.6% at Sta. 103+33 RT & 4.3% at Sta. 103+59 RT
- ⑤ **Sta. 104+02 36' LT to Sta. 104+14 48' LT** –gutter slope is 4.1% at Sta. 104+14 LT.
- ⑥ **Sta. 107+14 16' LT to Sta. 107+14 18' RT** –gutter slope is 6.6% at Sta. 107+14 LT and 7.0% at Sta. 107+14 RT.
- ⑦ **Sta. 107+59 27' RT to Sta. 107+97 26' RT** –gutter slope is 8.3% at Sta. 107+97 RT.
- ⑧ **Sta. 110+27 25' LT to Sta. 110+35 28' RT** –gutter slope is 5.7% at Sta. 110+35 RT and 9.3% at Sta. 110+27 LT.
- ⑨ **Sta. 110+27 25' LT to Sta. 110+63 31' LT** –gutter slope is 3.0% at Sta. 110+63 LT and 9.3% at 110+27 LT.
- ⑩ **Sta. 110+63 41' RT to Sta. 110+97 23' RT** –gutter slope is 2.3% at Sta. 110+63 RT and 6.8% at Sta. 110+97 RT.
- ⑪ **Sta. 110+99 25' LT to Sta. 110+97 23' RT** –gutter slope is 5.7% at Sta. 110+99 LT and 6.8% at Sta. 110+97 RT.

**Pleasant Street**

- ⑫ **Sta. 14+03 27' RT to Sta. 14+02 20' LT** gutter slope is 2.4% at Sta. 14+02 LT

**Wheelchair ramps that require a variance for counter slopes are noted below:**

**Main Street**

- A **Sta. 100+85 39' LT** – counter slope = 5.5%
- B **Sta. 103+59 28' RT** – counter slope = 2.0% & wheelchair ramp =13.4% ->  $\Delta=15.4\%$
- C **Sta. 103+81 18' RT** – counter slope = 4.1% & wheelchair ramp =12.7% ->  $\Delta=16.8\%$
- D **Sta. 107+59 27' RT** – counter slope = 8.0%
- E **Sta. 110+63 41' RT** – counter slope = 6.1%