

TRAFFIC STUDY

DOCUMENT CONTROL LIST

Updated August 16, 2012

Document 28: Plan dated 11-14-11 showing Emergency Access thru 27-28

Document 29: January 11, 2012 letter from VHB – Traffic Study Review

Document 30: Email from VHB re: Mass DOT meeting January 31, 2012

Document 31: Letter from Bayside Engineering dated February 28, 2012

Document 32: Email from Omni to Rob Nagi, VHB dated July 13, 2012

Document 33: Email from Rob Nagi to ZBA, Omni Properties dated July 18, 2012

Document 34: August 6, 2012 letter from Bayside Engineering

Michelle Cobleigh

From: Leslie French [lfrench@omniproperties.com]
Sent: Friday, August 03, 2012 11:34 AM
To: Michelle Cobleigh
Subject: FW: Fifteen Great Road Littleton - TIAS / Radii plans
Attachments: WB-50 Truck Turns.pdf; SU-30 Truck Turns 7-12-12.pdf; Traffic Study update.pdf; TIAS 070912 No Appendix.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Email to R. Nagi.

From: Leslie French
Sent: Friday, July 13, 2012 1:43 PM
To: 'RNagi@VHB.com'
Cc: 'Sherrill Gould'; Kenneth P. Cram P.E. (kcram@baysideengineering.com); 'David Hale (dhale@Omniproperties.com)'; Mark Brooks
Subject: Fifteen Great Road Littleton - TIAS / Radii plans

Rob,

Hope this email finds you well. We have updated the project in Littleton which has reduced the number of units by 10 from 200 units to 190. As a result, Bayside has updated the TIAS. The ZBA would like VHB to review the changes in the impact (these are listed in the first couple of paragraphs in Traffic Study) and send out an email confirming the new impacts. I have provided a slide from last night's presentation giving you a summary. I have attached the report only (no appendices) portion to this email. The full report is quite large - If you need to, you can access it via this link:
<https://www.dropbox.com/s/e0afaih9ds0e6vt/TIAS%20070912%20w%20Appendix.pdf>

In addition to the updated TIAS, we have generated the attached turning radii plans as you recommended.

Please let us know if you have any questions or need any additional information.

Thank you,
 Leslie

Leslie French
 Omni Properties, LLC | 200 Baker Ave Suite 303 | Concord, MA 01742
 Office: 978.369.4884 | Fax: 978.405.5049 | Cell: 978.808.9346
lfrench@omniproperties.com

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Please print responsibly

Michelle Cobleigh

From: Leslie French [french@omniproperties.com]
Sent: Friday, August 03, 2012 11:38 AM
To: Michelle Cobleigh
Subject: FW: Fifteen Great Road Littleton - TIAS / Radii plans

Follow Up Flag: Follow up
Flag Status: Flagged

Hi,

Here is the email response from R. Nagi. We are preparing a response. I will make sure I copy you on it and apologize for not copying you on the original email to him.

Leslie

From: Nagi, Robert [mailto:RNagi@VHB.com]
Sent: Wednesday, July 18, 2012 4:18 PM
To: Leslie French; Sherrill Gould; Kenneth P. Cram P.E. (kram@baysideengineering.com); dhal@omniproperties.com; Mark Brooks
Subject: RE: Fifteen Great Road Littleton - TIAS / Radii plans

To all,

I have reviewed the information attached.

Regarding the traffic study information ~ As the number of units is being reduced by 10, the corresponding traffic impact will also be reduced and appears accurately presented. So long as the reduction does not eliminate the need for a left-turn lane into the project site, I feel that this can only be viewed as a positive impact on the area traffic network.

Regarding the sight distance improvements ~ without a roadway plan showing the resulting changes being requested by MassDOT, it's difficult for me to make an informed decision on this matter. However, the following provides me with some level of confidence that the applicant is improving the condition along Great Road for drivers entering and exiting the site driveway:

As part of the proposed widening to provide the exclusive left-turn lane into the site, the grade of Great Road will be raised and the profile designed to meet MassDOT requirements. With this change, the SSD approaching from the east will increase to 428 feet, which exceeds the AASHTO requirements for 50 mph, the posted speed limit. In excess of 500 feet will continue to be provided for SSD approaching from the west. The intersection sight distance (ISD) will also improve with the change in grade, from 402 feet to in excess of 500 feet.

My only question would be to confirm that by raising the profile of Great Road that the sight lines at other locations are not being negatively impacted (Grist Mill Road, for example). If the applicant can confirm that the sight lines are not impacted at other locations, then this seems to be a reasonable improvement to the corridor.

Regarding the turning radii plan ~ A review of the plans indicate that there is adequate turning radii provided throughout the site for WB-50 and WB-30 vehicles. The only comment I have is that access to the two end units (#18 and #19) will require the vehicle to back up out of that area (I assume they wouldn't exit via the emergency access gate). I'm not sure this is a significant issue, but I wanted the Board and Applicant to be aware of this. I would recommend that the Board consider some sort of condition that the Town's Building Inspector be provided the turning radius sheets as part of the final design plans for the development and that these plans should demonstrate that trucks can maneuver throughout the site in an unimpeded fashion.

Hope this is helpful. Feel free to call me on my cell phone (508)259-3031 or at the office if you need additional information/clarification on this matter.

Robert L. Nagi, P.E.

Principal - Transportation Planning & Operations

VHB | Vanasse Hangen Brustlin, Inc.

Transportation | Land Development | Environmental Services

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From: Leslie French [<mailto:lfrench@omniproperties.com>]

Sent: Friday, July 13, 2012 1:43 PM

To: Nagi, Robert

Cc: Sherrill Gould; Kenneth P. Cram P.E. (kcram@baysideengineering.com); dhale@omniproperties.com; Mark Brooks

Subject: Fifteen Great Road Littleton - TIAS / Radii plans

Rob,

Hope this email finds you well. We have updated the project in Littleton which has reduced the number of units by 10 from 200 units to 190. As a result, Bayside has updated the TIAS. The ZBA would like VHB to review the changes in the impact (these are listed in the first couple of paragraphs in Traffic Study) and send out an email confirming the new impacts. I have provided a slide from last night's presentation giving you a summary. I have attached the report only (no appendices) portion to this email. The full report is quite large - If you need to, you can access it via this link:
<https://www.dropbox.com/s/e0afaih9ds0e6vt/TIAS%20070912%20F%20w%20Appendix.pdf>

In addition to the updated TIAS, we have generated the attached turning radii plans as you recommended.

Please let us know if you have any questions or need any additional information.

Thank you,

Leslie

Leslie French

Omni Properties, LLC | 200 Baker Ave Suite 303 | Concord, MA 01742

Office: 978.369.4884 | Fax: 978.405.5049 | Cell: 978.808.9346

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(3A)

August 6, 2012

Mr. David E. Hale
Omni Properties
200 Baker Avenue, Suite 303
Concord, MA 01742

RE: *15 Great Road
Littleton, MA*

Dear David:

In response to the comments identified by Rob Nagi, the transportation peer reviewer from VHB in his e-mail of July 18, 2012, Bayside offers the following:

Comment No. 1

Regarding the traffic study information ~ As the number of units is being reduced by 10, the corresponding traffic impact will also be reduced and appears accurately presented. So long as the reduction does not eliminate the need for a left-turn lane into the project site, I feel that this can only be viewed as a positive impact on the area traffic network.

Response:

The left-turn lane warrant was checked and based on the revised traffic volumes, the left-turn lane is still warranted. It is our recommendation that the left-turn lane be installed on Great Road at the proposed site driveway.

Comment No. 2

Regarding the sight distance improvements ~ without a roadway plan showing the resulting changes being requested by MassDOT, it's difficult for me to make an informed decision on this matter. However, the following provides me with some level of confidence that the applicant is improving the condition along Great Road for drivers entering and exiting the site driveway:

As part of the proposed widening to provide the exclusive left-turn lane into the site, the grade of Great Road will be raised and the profile designed to meet MassDOT requirements. With this change, the SSD approaching from the east will increase to 428 feet, which exceeds the AASHTO requirements for 50 mph, the posted speed limit. In excess of 500 feet will continue to be provided for SSD approaching from the west. The

David E. Hale
August 6, 2012
Page 2

intersection sight distance (ISD) will also improve with the change in grade, from 402 feet to in excess of 500 feet.

My only question would be to confirm that by raising the profile of Great Road that the sight lines at other locations are not being negatively impacted (Grist Mill Road, for example). If the applicant can confirm that the sight lines are not impacted at other locations, then this seems to be a reasonable improvement to the corridor.

Response:

For Mannion Place, the existing Stopping Sight Distance (SSD) eastbound is approximately 564 feet, as shown on Figure 1. With the re-grading, the SSD eastbound is approximately 447 feet, as shown on Figure 2. Based on AASHTO, for the measured 85th percentile speed, 397 feet is required and the Mannion Place SSD eastbound exceeds AASHTO requirements. Using the posted speed limit of 50 mph, the required SSD eastbound is 423 feet. The proposed SSD exceeds AASHTO requirements for the posted speed limit.

For Mannion Place, the existing Intersection Sight Distance (ISD) looking west for right turns out of Mannion Place is approximately 663 feet, as shown on Figure 3. With the re-grading, the ISD eastbound is approximately 520 feet, as shown on Figure 4. Based on AASHTO, for the measured 85th percentile speed, for right turns 459 feet is required. Therefore, the Mannion Place ISD eastbound exceeds AASHTO requirements. Using the posted speed limit of 50 mph, the required SSD eastbound is 478 feet. The proposed ISD exceeds AASHTO requirements for the posted speed limit for right-turns out of Mannion Place. Also, the available ISD exceeds the available SSD (447 feet).

The SSD and ISD to/from the east (towards Nashoba Road and Nagog Park) remain unchanged.

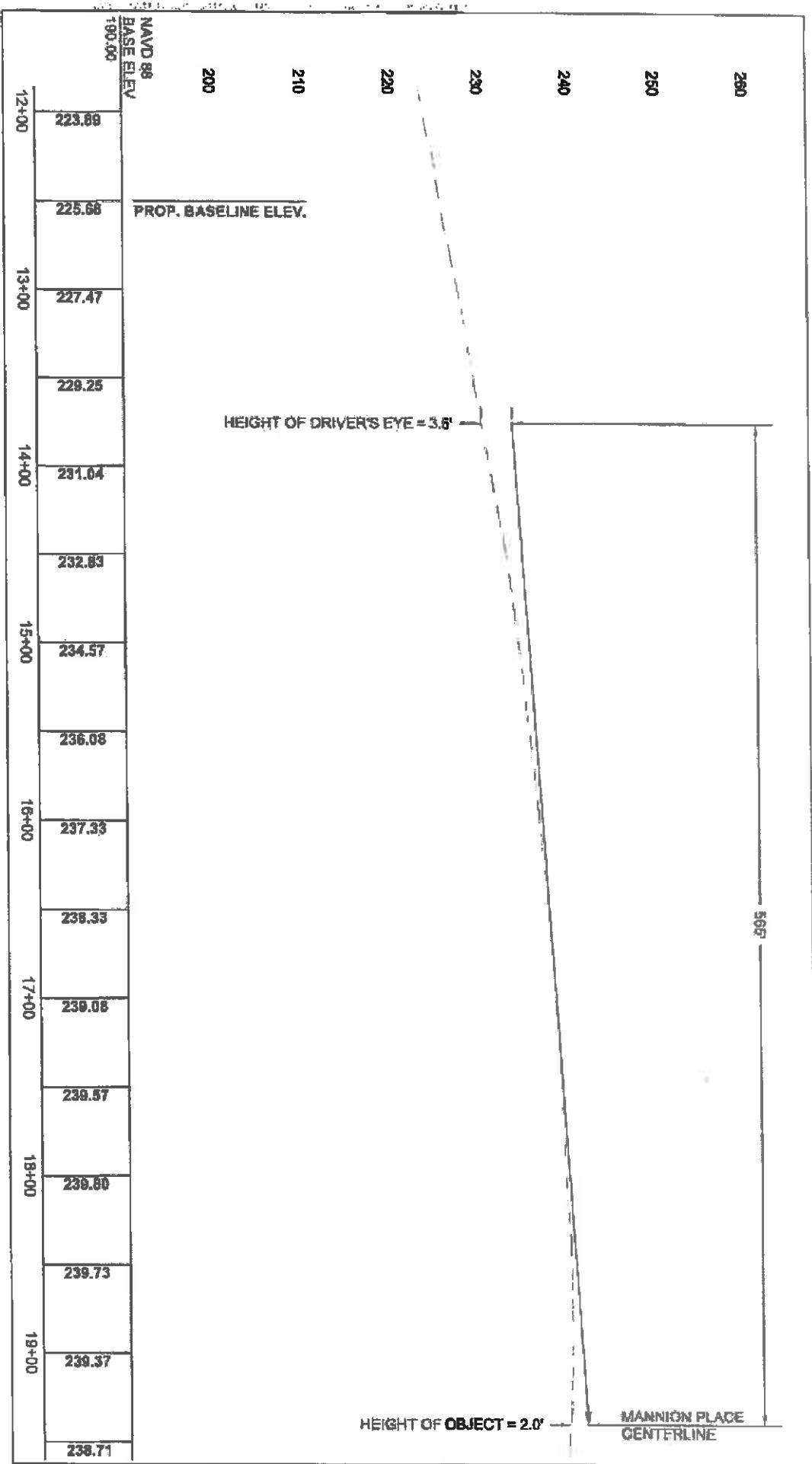
If you have any questions, feel free to give me a call.

Sincerely,

BAYSIDE ENGINEERING, INC.



Kenneth P. Cram, P.E.
Director, Traffic Engineering

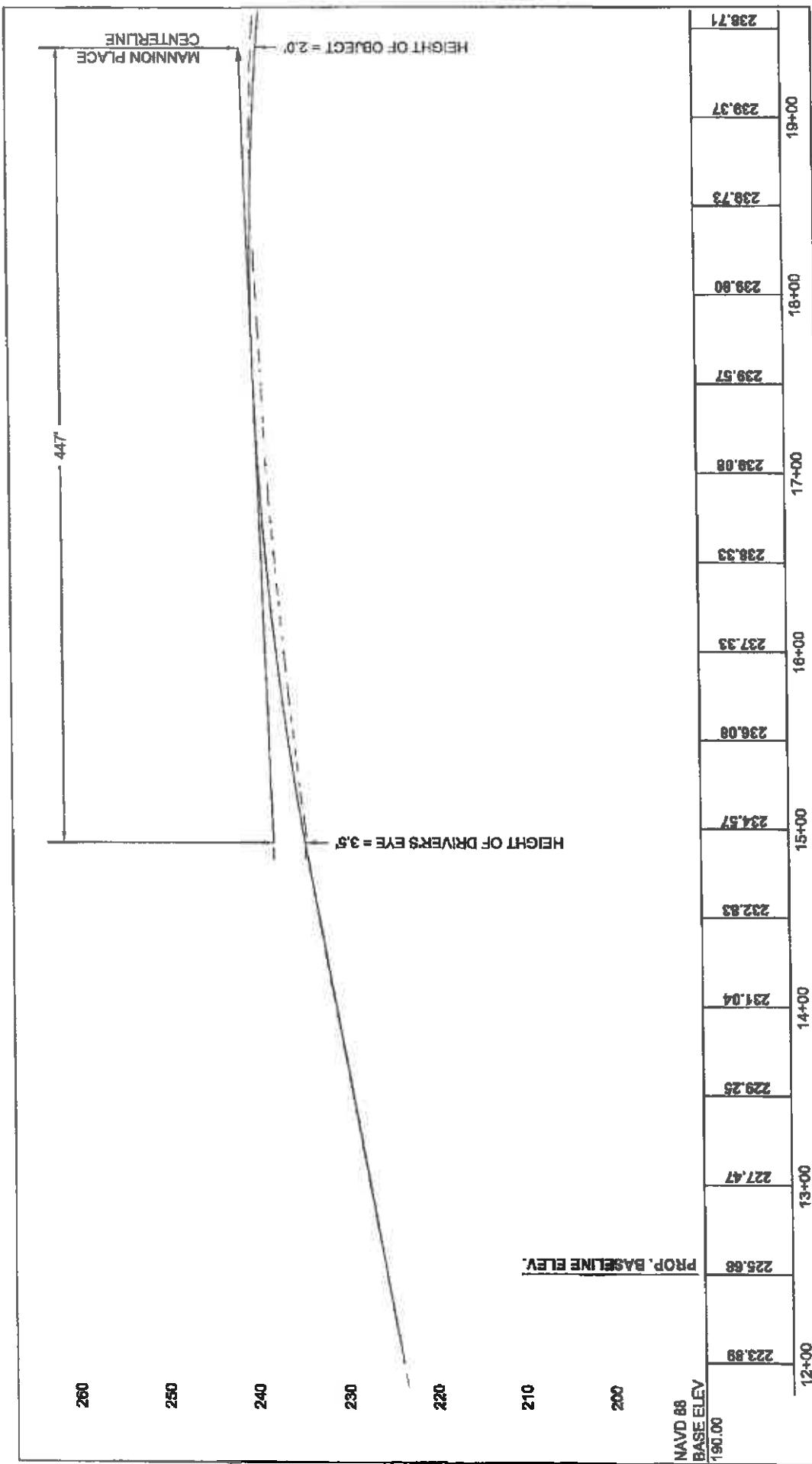


15 Great Road
Littleton, MA

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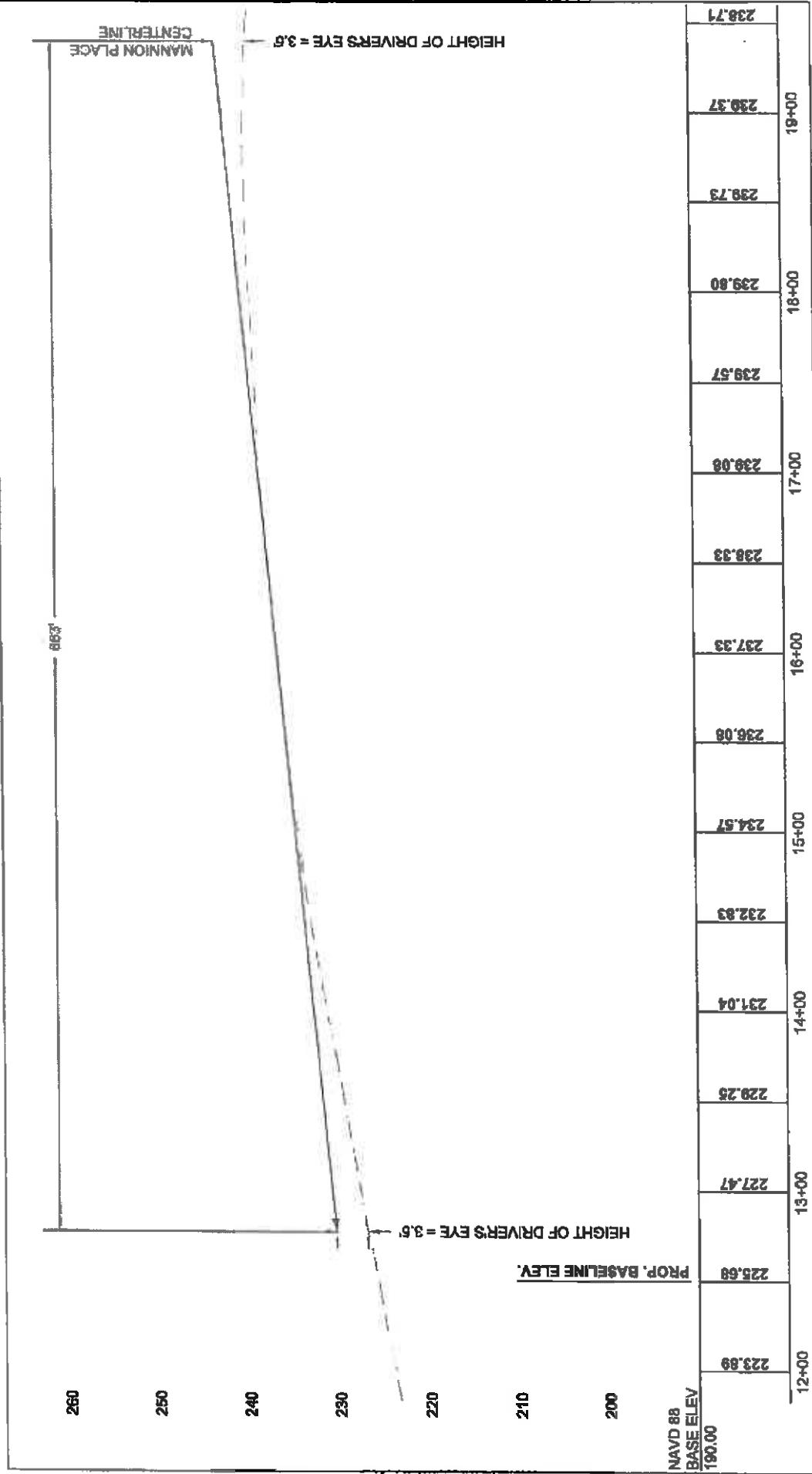
600 Union Park Drive ▲ Woburn, MA 01888
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Figure 1
Mannion Place Existing Stopping Sight Distance Eastbound
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 50'



15 Great Road
Littletown, MA

Figure 2



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Figure 3

Manhattan Place Existing Intersection Sight Distances (Looking West)

HORIZONTAL: 1° = 60'
VERTICAL: 1° = 60'

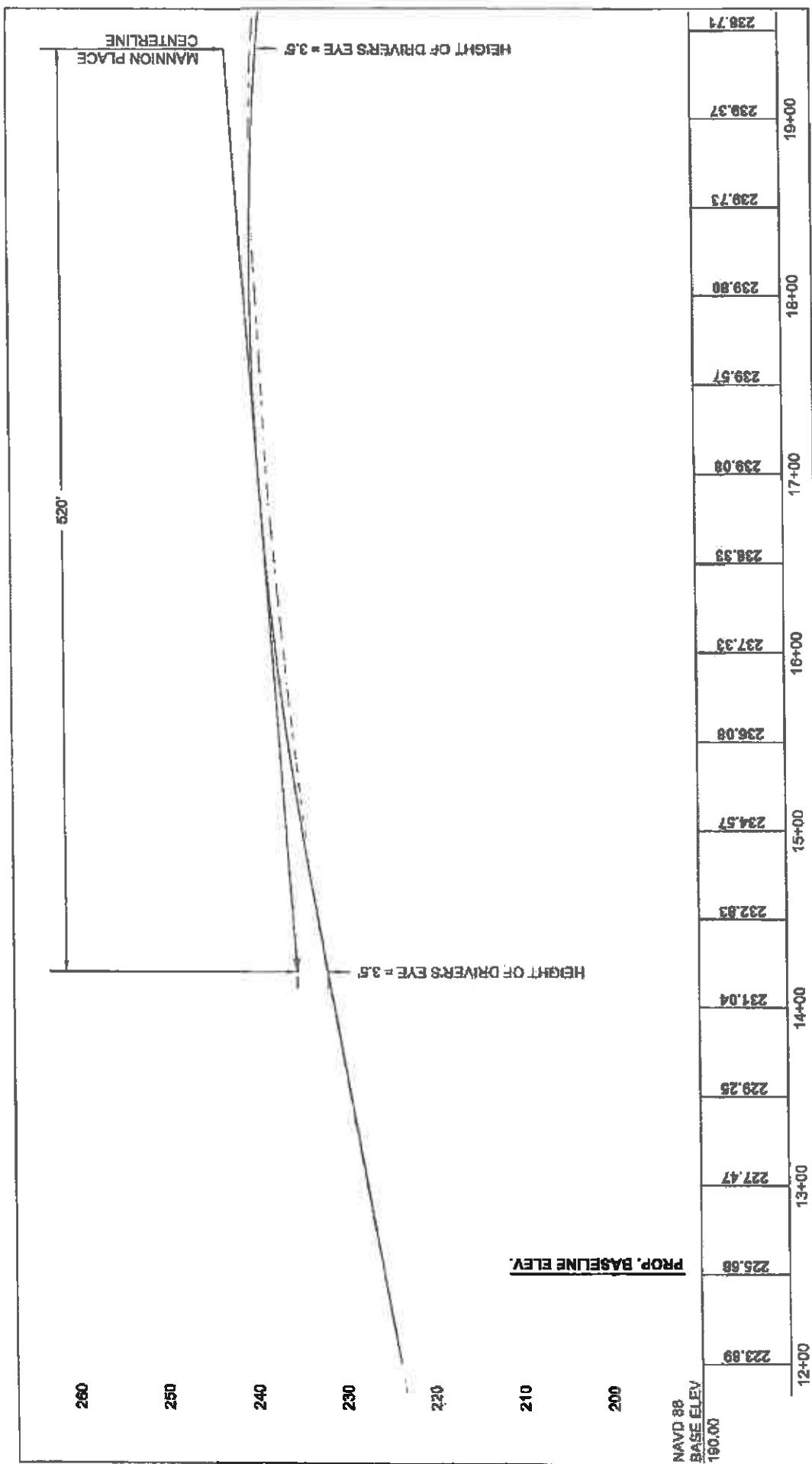


Figure 4

Mannion Place Proposed Intersection Sight Distance (Looking West)
HORIZONTAL: 1' = 50'
VERTICAL: 1' = 50'

15 Great Road
Littleton, MA

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