



TOWN OF RAYMOND

Planning Board Agenda

April 20, 2023

7 p.m. - Raymond High School
Media Center - 45 Harriman Hill

Public Announcement

*If this meeting is canceled or postponed for any reason the information can be found on our website, posted at Town Hall, Facebook Notification, and RCTV. **

1. Pledge of Allegiance

2. Public Hearing-

Application # 2022-008: A SITE PLAN application is being submitted by Wayne Morrill of Jones & Beach Engineers, Inc. on behalf of ONYX Partners LTD. They are proposing to construct a 550,025 S.F. industrial distribution warehouse with associated loading docks, truck parking, and employee vehicle parking. Property is located on Industrial Drive and Raymond Tax Map 22 / Lots 44,45,46,& 47 and Raymond Tax Map 28-3/Lot 120-1.

3. Approval of Minutes

- 03/23/2023 (provided in 04/06/2023 packets)
- 4/06/2023

4. Other Business

- Staff Updates-
- Board Member Updates
- Any other business brought before the board- ***Cemetery Advisory Committee appointment of PB member.***

5. Adjournment (NO LATER THAN 10:00 P.M.)

* Note: If you require personal assistance for audio, visual or other special aid, please contact the Selectmen's Office at least 72 hours prior to the meeting. If this meeting is postponed for any reason, it will be held at a time TBD.



TOWN OF RAYMOND

Planning Board Agenda

April 20, 2023

7 p.m. - Raymond High School
Media Center - 45 Harriman Hill

Planning Board 2023 Submittal and Meeting Dates

Submittal Deadline for Completed Application & Materials	Planning Board Meeting Dates (1st & 3rd Thursdays of the Month)
March 16, 2023	April 20, 2023 Onyx Warehouse
April 06, 2023	May 04, 2023 Severino Excavation
April 20, 2023	May 18, 2023 ONYX EXCAVATION (cont.) & Inkberry Logistics (design review)
May 04, 2023	June 01, 2023 Jewett Warehouse
May 18, 2023	June 15, 2023 White Rock LLA
June 01, 2023	July 06, 2023
June 15, 2023	July 20, 2023
July 06, 2023	August 03, 2023
July 20, 2023	August 17, 2023
August 03, 2023	September 07, 2023
August 17, 2023	September 21, 2023
September 07, 2023	October 05, 2023
September 21, 2023	October 19, 2023
October 05, 2023	November 02, 2023
October 19, 2023	November 16, 2023
November 02, 2023	December 07, 2023
November 16, 2023	December 21, 2023

* Note: If you require personal assistance for audio, visual or other special aid, please contact the Selectmen's Office at least 72 hours prior to the meeting. If this meeting is postponed for any reason, it will be held at a time TBD.

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

February 22, 2023

Town of Raymond
Attn. Planning Board
4 Epping Street
Raymond, NH 03077

**RE: Onyx Partners, LTD
Industrial Drive, Raymond, NH
JBE Project No. 21130
Application # 2022-008**

Dear Planning Board Members,

On behalf of our client, Onyx Partners LTD, Jones & Beach Engineers respectfully submits an addendum letter of the Site Plan Application Book submitted to the board on January 12, 2023. These are corrections and clarifications following a thorough review of the package and comments from the board on the December 20, 2022 meeting.

The following items are denoted by their corresponding Section within the Site Plan Application Book, and its page number within said Section. Page 1 begins with the Index Page.

If you have any questions or need additional information, please let us know.

Section 1:

1. Section 1, Page 2, Site Plan Application Cover Page: Within the title block at the top of the letter the Lots are listed as Tax Map 22, Lots 44,45 46 7 47. The 7 after Lot 46 should have been a & symbol. It should therefore read as Tax Map 22, Lots 44,45,46 & 47. It is Noted the Raymond Site Plan Application itself did list the lots correctly.
2. Section 1, Page 4, Site Plan Application Cover Page: Within the title block at the top of the letter the Lots are listed as Tax Map 22, Lots 44,45 46 7 47. The 7 after Lot 46 should have been a & symbol. It should therefore read as Tax Map 22, Lots 44,45,46 & 47. It is Noted the Raymond Site Plan Application itself did list the lots correctly. This letter also incorrectly stated the building size as 500,025 SF, when it should have stated 550,025 SF.
3. Section 1, Page 5, Raymond Site Plan Review Application: Application incorrectly stated the building size as 500,025 SF, when it should have stated 550,025 SF.

4. Section 1, Pages 10 & 11, Letters of Authorization: As a point of clarification, there are two letters of authorization within the package. This was done so Jones and Beach Engineers Inc. had authority to act on behalf of the applicant ONYX Partners LTD, and the land owner ONYX Raymond LLC.
5. Section 1, Page 26, Special Permit Application Cover Letter: Within the title block at the top of the letter the Lots are listed as Tax Map 22, Lots 44,45 46 7 47. The 7 after Lot 46 should have been a & symbol. It should therefore read as Tax Map 22, Lots 44,45,46 & 47. It is Noted the Raymond Application for Special Permit itself did list the lots correctly.
6. Section 1, Page 45, Conditional Use Application Cover Letter: Within the title block at the top of the letter the Lots are listed as Tax Map 22, Lots 44,45 46 7 47. The 7 after Lot 46 should have been a & symbol. It should therefore read as Tax Map 22, Lots 44,45,46 & 47. It is Noted the Raymond Application for Special Permit itself did list the lots correctly.
7. Section 1, Page 48-49, Design Review Application Cover Letter: Within the title block at the top of the letter the Lots are listed as Tax Map 22, Lots 44,45 46 7 47. The 7 after Lot 46 should have been a & symbol. It should therefore read as Tax Map 22, Lots 44,45,46 & 47. It is Noted the Raymond Application for Design Review itself did list the lots correctly. At this point in the design process the building was 500,025 SF.
8. Section 1, Page 67-68, Design Review Application Cover Letter: Within the title block at the top of the letter the Lots are listed as Tax Map 22, Lots 44,45 46 7 47. The 7 after Lot 46 should have been a & symbol. It should therefore read as Tax Map 22, Lots 44,45,46 & 47. It is Noted the Raymond Application for Design Review itself did list the lots correctly. At this point in the design process the building was 500,025 SF.

At this point in the design process Sippican Capital LLC was listed as the application. Sippican Raymond was a subsidiary of Onyx Partners that is no longer being used. All documents in the name of Sippican Raymond are still valid and pertain to this development.

9. Section 1, Pages 70-74, Letters of Authorization: As a point of clarification, there are multiple letters of authorization for the property owners of all the properties involved. These were submitted with the September 2,2021 Design Review Application and had occurred prior to ONYX Raymond LLC purchasing the properties.

Section 2:

1. Section 2, Page 4, AoT Response Letter: Within the title block at the top of the letter, the only lot Listed is Lot 47. Future correspondence with AoT will listed all proposed lots. It is noted that the AoT application lists all of the subject lots.
2. Section 2, Page 15 (AoT Page 2 of 9), Alteration of Terrain Permit Application: Within Section 6 - Project Type of the AoT application lists the project type as Commercial. The

application has been updated with the “other” box checked and Industrial written in. This application has been resubmitted to the State and a copy has been included with this letter.

3. Section 2, Page 15 (AoT Page 2 of 9), Alteration of Terrain Permit Application: Within Section 7 – Project Location Information of the AoT application checks “no” for the project being within the Groundwater Protection Area (GPA). Following coordination with NHDES it has been determined the project is within the GPA and this box has been checked “yes”. This application has been resubmitted to the State and a copy has been included with this letter.
4. Section 2, Page 26 (AoT Page 1 of 4), Alteration of Terrain Amendment Request Form: Within Section 2 – Project Information of the AoT Amendment Request Form the Lots are listed as Tax Map 28.3 & 22, Lots 120 & 44. It should be listed as Tax Map 28.3 & 22, Lots 120-1 & 44. This form has been resubmitted to the State and a copy has been included with this letter.

Section 3:

1. Section 3, Page 2, Dubois & King Response Letter 4: Within the title block at the top of the letter, the only lot Listed is Lot 47. Future correspondence with Dubois and King will list all subject lots.
2. Section 3, Page 8, Dubois & King Response Letter 2: Within the title block at the top of the letter, the only lot Listed is Lot 47. Future correspondence with Dubois and King will list all subject lots.
3. Section 3, Page 15, Dubois & King Response Letter: Within the title block at the top of the letter, the only lot Listed is Lot 47. Future correspondence with Dubois and King will list all subject lots.
4. Section 3, Page 30, Code Red Consultants Memorandum: Figure 1 image shows the building area as 541,684 SF. This depicts a previous rendition of the building, however the sprinkler design conducted within the memo was done with the correct building area of 550,025 SF.
5. Section 3, Page 39, Rockingham Planning Commission Response Letter: Within the title block at the top of the letter, the only lot Listed is Lot 47. Future correspondence with Rockingham Planning Commission will list all subject lots.

Section 4:

1. Section 4, Page 141, Lamprey River Advisory Committee Response Letter: Within the title block at the top of the letter, the only lot Listed is Lot 47. Future correspondence with Rockingham Planning Commission will list all subject lots.

2. Section 4, Page 202, Salt Minimization Plan Cover Page: The cover page states it was prepared for ONYX Partners LLC. ONYX Partners is in fact a LTD. The cover page should therefore state that the analysis was prepared for ONYX Partners LTD. A copy of the cover page has been attached.

Section 5:

1. Section 5, Page 1, Drainage Analysis Cover Page: The cover page states it was prepared for ONYX Partners LLC. ONYX Partners is in fact a LTD. The cover page should therefore state that the analysis was prepared for ONYX Partners LTD. A copy of the cover page has been attached.
2. Section 5, Page 5 (AoT Page 2 of 9), Alteration of Terrain Permit Application: Within Section 6 - Project Type of the AoT application lists the project type as Commercial. The application has been updated with the “other” box checked and Industrial written in. This application has been resubmitted to the State and a copy has been included with this letter.
3. Section 5, Page 5 (AoT Page 2 of 9), Alteration of Terrain Permit Application: Within Section 7 – Project Location Information of the AoT application checks “no” for the project being within the Groundwater Protection Area (GPA). Following coordination with NHDES it has been determined the project is within the GPA and this box has been checked “yes”. This application has been resubmitted to the State and a copy has been included with this letter.
4. Section 5, Pages 73-74, Soil Plans S1 & S2 (11” x 17”): This plans show a incorrect Locus Map. This map has been updated and the plans included with this letter.

Section 6:

1. Section 6, Page 4 (VAI Page 2), VAI Memorandum: Within the Project Description Section, the building size is stated as 500,025 SF. This will be corrected in all future traffic submissions to reflect the correct building size of 550,025 SF.
2. Section 6, Page 11 (VAI Page 6), VAI Memorandum: Within the Project-Generated Traffic Section, the building size is stated as 500,025 SF. This will be corrected in all future traffic submissions to reflect the correct building size of 550,025 SF.

Section 7:

3. Section 7, Page 4, “Jones Brook NHDES ARCGIS MAP”: This map has been updated to show the subject parcels to provide additional reference to our location. A copy of the map has been included with this letter.

4. Section 7, Page 5, “Map By”: This map has been updated to show the subject parcels to provide additional reference to our location. It has also been retitled “Well Overview Map” for additional clarification. A copy of the map has been included with this letter.

Section 8:

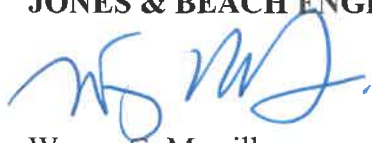
1. Section 8, Page 1, Cover Sheet (Sheet CS): All of the required applications that the project requires have been added to the cover sheet with their corresponding submission dates. Applications that have been approved list the date of approval.
2. Section 8, Page 3, Site Plan (Sheet C2): The total paved area and disturbance area listed under the Site Notes – Note 4 have been reviewed and updated accordingly to match the proposed design.
3. Section 8, Pages 3-7, Site Plan Sheets (Sheets C2-C2-4): The total paved area and disturbance area listed under the Site Notes – Note 4 has been reviewed and updated accordingly to match the proposed design.
4. Section 8, Page 40, Detail Sheet (Sheet D8): Filterra Tree Well details updated per coordination with Contech Engineered Solutions. This coordination resulted in minor invert changes to the discharge pipes of the tree wells.

NH Fish and Game Submission:

Following comments from NH Fish and Game, Jones and Beach submitted a response letter to those comments which has been included with this letter. As a result of that coordination, the following changes were made to the plans;

5. Section 8, Page 3, Site Plan (Sheet C2): Site Notes – Note 22 has been added requiring the posting of sensitive wildlife species information.
6. Section 8, Page 4, Site Plan (Sheet C2-3): Wildlife Identification Information Sign has been added at the entrance.
7. Section 8, Page 8-12, Grading and Drainage Plans (Sheet C3-C3-4): Clarification of mulch berm and double mulch berm usage and locations.
8. Section 8, Page 34, Detail Sheet (Sheet D2): The catch basin detail has been updated to utilize a R-3404 gate. This uses a smaller grate opening to help prevent wildlife entering the system.

Very truly yours,
JONES & BEACH ENGINEERS, INC.



Wayne G. Morrill
President

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

February 13, 2023

NH Fish & Game Department
Attn. Luke Douglas
11 Hazen Drive
Concord, NH 03301

**RE: Response Letter
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE 21130**

Dear Mr. Douglas,

We are in receipt of comments from you dated February 13, 2023. Review comments are listed below with our responses in bold.

- 1. Upon further review of the fence layout and site contours, we do not recommend to fully enclose the site/bury the fence. Instead, we recommend that wildlife identification resources be provided for on-site personnel both during and after construction. NHFG can provide flyers for the sensitive wildlife species identified in the area, which we ask be permanently posted in highly visible areas for personnel entering the facility.*

RESPONSE: Wildlife identification resources will be provided for on-site personnel both during and after construction. A sign location for this information has been added to sheet C2.
- 2. Will the deed restriction language be recorded in a legal document in addition to appearing on the site plans? We recommend that the deed restriction areas be protected in a formal document, to be reviewed by NHFG.*

RESPONSE: The deed restriction language will be recorded in a legal document in addition to appearing on the site plans. Once the deed has been drafted, we will forward a copy to NHFG for review.
- 3. Can you please detail project phasing and the proposed start time of work? Will additional quarrying be done to prepare the site for excavation and construction? When will tree removal occur?*

RESPONSE: Our intention is to commence earthwork cuts and fills (including blasting) immediately after we receive approvals from the Town of Raymond Planning Board, and NH DES for the AOT and Wetlands permits.

The onsite material will require drilling and blasting, of which material will be placed at the lower points of the site to create a level pad for the proposed building and parking area.

Tree removal will occur as the first step of the process, under clearing and grubbing, along with topsoil removal and stockpiling for later use.

4. *Can you please confirm if the entire site will be enclosed by silt fencing? The wildlife report suggests this will be the case, but the site plans appear to show breaks in the fencing. Will double silt fencing be used for the entire site, or only certain sections?*

RESPONSE: The project now proposes to use mulch berms. Berm locations are noted on the C3 sheets within the plan set. In areas in close proximity with wetlands, we are proposing double mulch berms.

5. *Please let us know what you determine regarding sumps.*

RESPONSE: In order to address the concern of wildlife entering the system, and also provide pretreatment for stormwater, the catch basin grate type has been adjusted. The initial design utilized a R-3570 grate which has a 4 5/8" x 2 5/16" opening and now proposes a R-3404 grate which has a 2" x 2" opening.

The following items are included with this submission:

1. Revised Full Size Plan Set.

Thank you very much for your time.

Very truly yours,

JONES & BEACH ENGINEERS, INC.



Erik Poulin, P.E.
Project Manager

cc: Douglas Richardson, Onyx Partners, Ltd (via email)
Anton Melchionda, Onyx Partners, Ltd (via email)

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

August 18, 2022

Raymond Planning Board
Attn. Brad Reed, Chair
4 Epping Street
Raymond, NH 03077

**RE: Site Plan Application
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44, 45, 46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE Project No. 21130**

Dear Mr. Reed,

Jones & Beach Engineers, Inc. respectfully submits a Site Plan Application for the above-referenced parcels on behalf of our client, ONYX Partners LTD. The intent of this application is to propose a 550,025 S.F. industrial distribution warehouse with associated loading docks, truck parking, and employee vehicle parking.

The following items are provided in support of this Application:

1. Site Plan Application
2. Waiver Request Letter.
3. Letters of Authorization.
4. Current Deeds.
5. Fee Check in the Amount of \$75,898.80.
6. Abutters List & Mailing Labels (3 sets).
7. Tax Map.
8. Three (3) Drainage Analysis.
9. Six (6) Full Size Plan Sets.
10. Ten (10) Half Size Plan Sets.

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.


Wayne Morrill
President

cc: Anton Melchionda, ONYX Partners LTD (application and plans via email)
Jeff Adler, DuBois & King (application & plans via email & U.S. Mail)

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 5, 2022

Raymond Planning Board
Attn. Brad Reed, Chair
4 Epping Street
Raymond, NH 03077

**RE: Special Permit Application
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44, 45, 46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE Project No. 21130**

Dear Mr. Reed,

Jones & Beach Engineers, Inc. respectfully submits a Special Permit Application for the above-referenced parcels on behalf of our client, ONYX Partners LTD. The intent of this application is to propose a 550,025 S.F. industrial distribution warehouse with associated loading docks, truck parking, and employee vehicle parking which will require wetlands to be filled.

The following items are provided in support of this Application:

1. Special Permit Application
2. Letters of Authorization.
3. Current Deeds.
4. Fee Check in the amount of \$220.00.
5. Abutters List & Mailing Labels (3 sets).
6. Tax Map.

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.



Wayne Morrill
President

cc: Anton Melchionda, ONYX Partners LTD (application and plans via email)
Jeff Adler, DuBois & King (application & plans via email & U.S. Mail)

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 5, 2022

Raymond Planning Board
Attn. Brad Reed, Chair
4 Epping Street
Raymond, NH 03077

**RE: Conditional Use Application
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44, 45, 46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE Project No. 21130**

Dear Mr. Reed,

Jones & Beach Engineers, Inc. respectfully submits a Conditional Use Application for the above-referenced parcels on behalf of our client, ONYX Partners LTD. The intent of this application is to propose a 550,025 S.F. industrial distribution warehouse with associated loading docks, truck parking, and employee vehicle parking. The project will have impervious within aquifer per Section 5.2.11.2.

The following items are provided in support of this Application:

1. Conditional Use Application

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.



Wayne Morrill
President

cc: Anton Melchionda, ONYX Partners LTD (application and plans via email)
Jeff Adler, DuBois & King (application & plans via email & U.S. Mail)

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 24, 2022

NHDES Alteration of Terrain Bureau
Mr. Michael Hansen
P. O. Box 95
Concord, NH 03302-0095

**RE: Response Letter
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE 21130**

Dear Mr. Hansen,

We are in receipt of your comments, dated October 19, 2022. Review comments are listed below with our responses in bold.

1. *Due to proximity of the Regis Tannery site, that if any visible signs of contamination are encountered during earthwork (i.e. skins/hides, discolored soil, odors etc.) that work should stop and NHDES be consulted.*

RESPONSE: If any visible signs of contamination are encountered during earthwork, that work will stop and NHDES will be consulted, Note 30 on Sheet C3 has been added requiring this.

2. *On the plan cover sheet, the incorrect NHB number and project description are referenced in the NHF&G notes.*

RESPONSE: The plan cover sheet has been corrected to reference the correct NHB number and project description.

3. *Indicate whether a request for consultation with New Hampshire Fish & Game Department relative to threatened and endangered species has been submitted as required by rule Env-Wq 1503.19(h). Once the assessment is deemed complete and adequate, the plans must be revised as necessary to incorporate any recommendations from the NHFG resulting from their review of the wildlife biologist's assessment report. Please provide correspondence with NHFG and provide that NHFG has been satisfied with the updates.*

RESPONSE: A request for consultation with NH Fish & Game Department has been submitted. We are awaiting NH Fish & Game for their comment.



ALTERATION OF TERRAIN AMENDMENT REQUEST FORM



Water Division/ Alteration of Terrain Bureau/ Land Resources Management
Check the Status of your Application: <https://www4.des.state.nh.us/DESOnestop>

RSA/ Rule: RSA 485-A:17, Env-Wq 1500

Administrative Use Only	Administrative Use Only	Administrative Use Only	File Number:
			Check No.
			Amount:
			Initials:

1. TYPE OF AMENDMENT REQUESTED [See Env-Wq 1503.27(a)]			
<input checked="" type="checkbox"/> Permit Transfer [use Section 7]	<input type="checkbox"/> Time Extension [use Section 8]	<input type="checkbox"/> Project/Plan Change [use Section 9]	
2. PROJECT INFORMATION [See Env-Wq 1503.27(b)]			
Project Name: Hard Rock Development Excavation			
Street/Road Address: Industrial Drive			
Town/City: Raymond		County: Rockingham	
Tax Map: 28.3 & 22	Block:	Lot Number: 120-1 & 44	Unit:
3. CURRENT PERMIT INFORMATION [See Env-Wq 1503.27(c)-(d)]			
Permit No.: AoT-0195		Current Expiration Date ¹ :	
Name of NHDES Signatory: Craig D. Rennie			
Current Permit Holder Name: Hard Rock Development, LLC		Contact Name: James Watkins	
Email: jamey@jamcoexcavators.com		Daytime Telephone: 603-394-7664	
Mailing Address: 84 Exeter Road			
Town/City: South Hampton		State: NH	Zip Code: 03876
4. CURRENT PERMIT HOLDER'S AGENT [See Env-Wq 1503.27(d)] If none, check here: <input checked="" type="checkbox"/>			
Business Name:		Contact Name:	
Email:		Daytime Telephone:	
Mailing Address:			
Town/City:		State:	Zip Code:
5. CURRENT PROPERTY OWNER INFORMATION (IF DIFFERENT FROM PERMIT HOLDER) [See Env-Wq 1503.27(e)]			
Name: Onyx Partners LTD		Contact Name: Anton Melchionda	
Email: anton@onyxpartnersltd.com		Daytime Telephone: 617-680-9308	
Mailing Address: 60 Center Street			
Town/City: Dover		State: MA	Zip Code: 02030

¹ Expired permits cannot be extended.

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

January 11, 2023

Raymond Planning Board
Attn: Brad Reed, Chairman
4 Epping Street
Raymond, NH 03077

**RE: Response Letter 4
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE 21130**

Dear Mr. Reed,

We are in receipt of comments from Jeffrey Adler, P.E., DuBois & King, dated January 5, 2023. Review comments are listed below with our responses in bold.

1. *Sheet 44. Drawing No. D8. Detail Sheet.*
 - a. *Repeat Comment: We recommend that the Applicant revise the details for the Filterra Tree Box (Treewell #1 & #2) regarding the cover rims (208.55), to be consistent with the values provided in the table (208.58) and drainage analysis (209.55). (See sheet D8).*

RESPONSE: The invert has been adjusted to 208.55. This has been changed on Sheet D8 and the NHDES water quality sheets for Treewell's #1 & #2.

Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.



Erik Poulin, P.E.
Project Manager

cc: Jeff Adler, P.E., Dubois & King (via email & U.S. Mail)
Douglas Richardson, Onyx Partners, Ltd (via email)
Anton Melchionda, Onyx Partners, Ltd (via email)

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 27, 2022

Raymond Planning Board
Attn: Brad Reed, Chairman
4 Epping Street
Raymond, NH 03077

**RE: Response Letter 2
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1
JBE 21130**

Dear Mr. Reed,

We are in receipt of comments from Jeffrey Adler, P.E., DuBois & King, dated October 25, 2022. Review comments are listed below with our responses in bold.

1. *Sheet 3, 4, 5, 6, 7 of 44. Drawings No. C2, C2-1, C2-2, C2-3, C2-4. Site Plan.*
 - a. ***Repeat Comment.** We recommend that the Applicant revise the plans regarding the accessible parking spaces. As required by the 2010 ADA Standards for Accessible Design, two access aisles are still required, as two parking spaces may share an access aisle.*

RESPONSE: The plans have been revised to include additional access aisles to the main walk way in the middle of the handicap parking field.
 - b. *The height of the proposed building is 48 feet. **The Applicant stated they will submit a variance to the Town of Raymond Zoning Board.***

RESPONSE: A ZBA application was submitted to the Town of Raymond on October 25th.
2. *Sheet 8, 9, 10, 11, 12 of 44. Drawings No. C3, C3-1, C3-2, C3-3, C3-4. Grading and Drainage Plan.*
 - a. *On sheet C3-3, west of the proposed access road, the proposed CB-247 (between CB-128 and CB-129) does not appear to be connected to the drainage system. We recommend that the Applicant revise and clarify the location and purpose of this structure.*

RESPONSE: The proposed CB-247 on Sheet C3-3 has been revised and the location and purpose of this structure has been clarified.

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

September 30, 2022

Raymond Planning Board
Attn: Brad Reed, Chairman
4 Epping Street
Raymond, NH 03077

**RE: Response Letter
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1**

JBE 21130

Dear Mr. Reed,

We are in receipt of comments from Jeffrey Adler, P.E., DuBois & King, dated September 6, 2022. Review comments are listed below with our responses in bold.

GENERAL COMMENTS:

1. *We recommend that the Applicant provide a Traffic Impact Analysis for the proposed industrial development, in accordance with Raymond Site Plan Review Regulations Section 5.03.13.*

RESPONSE: A Traffic Impact Analysis will be provided for the proposed industrial development.

2. *Sheet 2 of 44. Drawing No. C1. Existing Conditions Plan.*

a. *We recommend that the Applicant revise the plan and provide a legend identifying and clarifying all designation symbols in accordance with Town of Raymond Site Plan Review Regulations Section 5.03.12.*

RESPONSE: The legend has been revised on the Cover Sheet to identify and clarify all designation symbols shown on the plan.

b. *We recommend that the Applicant revise the scale of the plan in accordance with Town of Raymond Site Plan Review Regulations Section 5.02.03.*

RESPONSE: The boundary plans the project references have been included with this submission. These plans are at 100 foot scale.

c. *We recommend that the Applicant revise the plan prepared and stamped by a Licensed New Hampshire Land Surveyor, to show the distance and bearings of the boundary lines, dimensions and lot area, in accordance with Town of Raymond Site Plan Review Regulations 5.02.04.*

Memorandum

Date: November 15, 2022 Project#: 226076

To: Douglas Richardson - Onyx Partners Ltd

From: Jeremy Souza, P.E., - Code Red Consultants, LLC

Re: Fire Protection Memo - Proposed Warehouse
Industrial Drive, Raymond, NH

Cc: David Carrillo - Code Red Consultants, LLC

Executive Summary

Code Red Consultants, LLC (CRC) has been retained by Onyx Partners Ltd to provide a review of the construction, use, and storage arrangements for a proposed distribution warehouse located in Raymond, NH. The purpose of the review was to determine the appropriate sprinkler design criteria and approximate fire protection water supply requirements based on the requirements of NFPA 13 *Standard for the Installation of Sprinkler Systems* (2016 edition), as currently adopted in the State of New Hampshire.

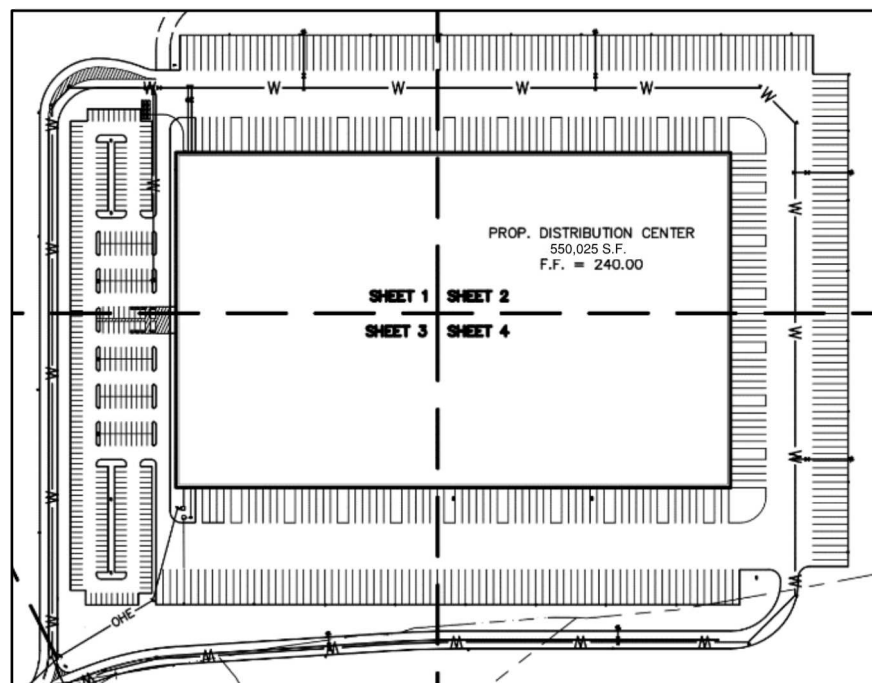


Figure 1: Proposed Warehouse

This review is based on the following:

- Drawing 21130-PLAN.dwg "Raymond Distribution Industrial Drive, Raymond, NH" prepared by Jones & Beach Engineers, Inc. dated 11/10/22 Revision 2 "Issued For Review"
- Excel file "Raymond NH Hydrant Flow Test 2019" provided by Raymond Water Department

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 5, 2022

Raymond Planning Board
Brad Reed, Chairman
4 Epping Street
Raymond, NH 03077

**RE: Response Letter
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1**

JBE 21130

Dear Mr. Reed,

We are in receipt of comments from Madeleine Dilonno, Regional Planner, Rockingham Planning Commission, dated September 29, 2022. Review comments are listed below with our responses in bold.

GROUNDWATER PROTECTION

1. *A Conditional Use Permit for exceeding the maximum 15% impervious cover in the Groundwater Conservation District is required. It is recommended the applicant provide a brief narrative addressing performance standards in ZO 5.2.6 for the Planning Board's review.*

RESPONSE: An application for a Conditional Use Permit has been submitted and a brief narrative addressing performance standards in ZO 5.2.6 has been provided.

2. *The applicant should clarify if there will be any storage, handling, or use of regulated substances in quantities exceeding 100 gallons at one time on the site, in which case, a spill prevention, control, and countermeasure plan is required.*

RESPONSE: We have clarified that there will not be any storage, handling, or use of regulated substances in quantities exceeding 100 gallons at one time on the site and therefore, a spill prevention, control, and countermeasure plan is not required.

3. *A listing of the types and quantities of regulated and hazardous substances and pollutants which may be used on the site should be indicated on the plan (SPR 5.06.03e).*

RESPONSE: No hazardous substances and pollutants are proposed to be stored on site at this time. If user proposes to have such materials on site in the future, this change would need to be submitted to the town of Raymond for review.

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 20, 2022

NHDES Alteration of Terrain Bureau
Mr. Ridge Mauck
P. O. Box 95
Concord, NH 03302-0095

**RE: Response Letter
Industrial Drive, Raymond, NH
Tax Map 22, Lots 44,45,46 & 47
Tax Map 28, Block 3, Lot 120-1**

JBE 21130

Dear Mr. Mauck,

We are in receipt of comments from Joseph Foley, chair, Lamprey River Advisory Committee, dated September 21, 2022. Review comments are listed below with our responses in bold.

1. *Materials reviewed include Alteration of Terrain Permit Application signed and dated 8-9-2022, plans dated 2-19-2021 (?), and Natural Heritage Report dated 9-29-2021.*

RESPONSE: Noted.

2. *The applicant desires to create a 12-acre building to serve as a distribution center. The distribution center will accommodate 158 loading docks, 244 trailer spaces, and 326 vehicle spaces. 1,783,333 square feet will be impacted, with 1,324,729 square feet (almost 31 acres) of impervious surface. A wetlands permit will also be needed. 750,000 cubic yards of rock will be blasted.*

RESPONSE: A wetlands permit has been submitted to the state and was mailed to the Lamprey River Advisory Committee by Gove Environmental Inc. on August 26th, 2022. A supplemental electronic copy was sent September 20th, 2022.

3. *The Natural Heritage Bureau report is dated 9/29/2021 (valid until 9/29/2022). The report indicates that four species of concern have been reported over several years in the vicinity and could be expected on the site: Blanding's turtles, wood turtles, spotted turtles, northern black racers. The NHB did not include any recommendations on the report, but requires the applicant to consult with the NH Fish and Game Department. We assume a fresh NHB report will be required and NHFGD can coordinate with the applicant at that time. We will want to see that communication as it becomes available.*

RESPONSE: Coordination with NH Fish and Game Department and NHDES has begun and is ongoing. We await further comment from those agencies

SALT MINIMIZATION PLAN

**Industrial Building
Tax Map 22, Lots 44, 45, 46, 47
Tax Map 28, Block 3, Lot 120-1
Industrial Drive
Raymond, NH 03077**

Prepared for:

**ONYX Partners LTD
200 Reservoir Street
Needham, MA 02494**

Prepared by:

**Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885
(603) 772-4746
October 11th, 2022
JBE Project No. 21130**

JONES & BEACH ENGINEERS INC.

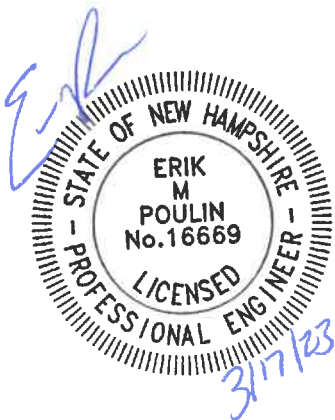
DRAINAGE ANALYSIS

EROSION AND SEDIMENT CONTROL PLAN

Industrial Building
Tax Map 22, Lots 44, 45, 46, 47
Tax Map 28, Block 3, Lot 120-1
Industrial Drive
Raymond, NH 03077

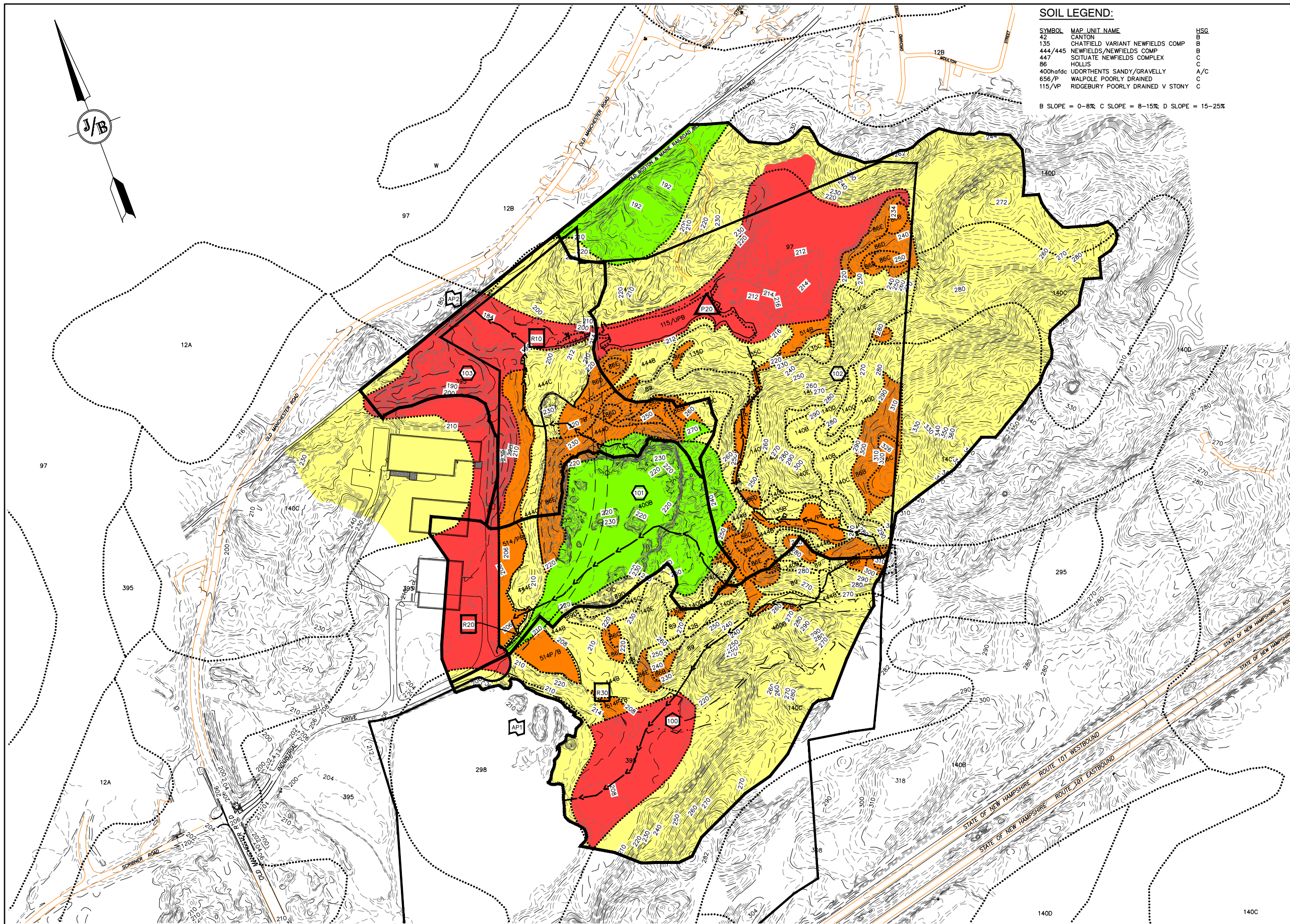
Prepared for:

ONYX Partners LTD
200 Reservoir Street
Needham, MA 02494



Prepared by:
Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885
(603) 772-4746
August 18, 2022
Revision #1: September 30, 2022
Revision #2: November 10, 2022
Revision #3: December 15, 2022
Revision #4: January 11, 2023
JBE Project No. 21130

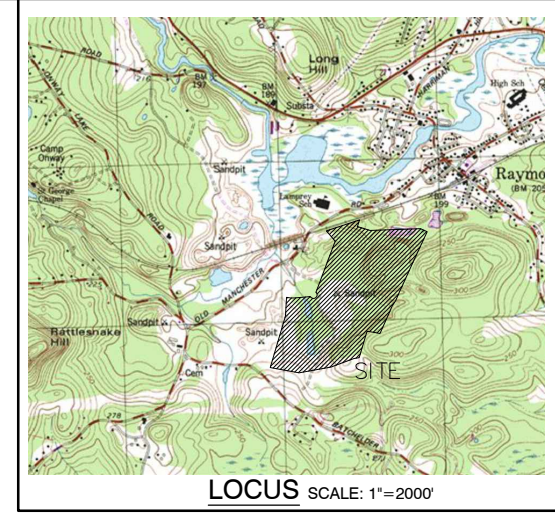
6. PROJECT TYPE			
<input type="checkbox"/> Excavation Only	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Golf Course
<input type="checkbox"/> Agricultural	<input type="checkbox"/> Land Conversion	<input checked="" type="checkbox"/> Other: Industrial	
<input type="checkbox"/> School <input type="checkbox"/> Municipal			
7. PROJECT LOCATION INFORMATION			
Project Name: Raymond Distribution			
Street/Road Address: Industrial Drive			
Town/City: Raymond		County: Rockingham	
Tax Map: 22 & 28	Block: 3	Lot Number: 44-47, 120-1	Unit: N/A
Location Coordinates: 43.031185, -71.18713		<input checked="" type="checkbox"/> Latitude/Longitude	<input type="checkbox"/> UTM <input type="checkbox"/> State Plane
Post-development, will the proposed project withdraw from or directly discharge to any of the following? If yes, identify the purpose.			
1. Stream or Wetland Purpose: Drainage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Withdrawal	<input checked="" type="checkbox"/> Discharge
2. Man-made pond created by impounding a stream or wetland Purpose:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
3. Unlined pond dug into the water table Purpose:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
Post-development, will the proposed project discharge to:			
• A surface water impaired for phosphorus and/or nitrogen? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen			
• A Class A surface water or Outstanding Resource Water? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen			
• A lake or pond not covered previously? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes - include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond			
Is the project a High Load area? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify the type of high load land use or activity: <u>Fleet storage</u>			
Is the project within a Water Supply Intake Protection Area (WSIPA)?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the project within a Groundwater Protection Area (GPA)?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Will the well setbacks identified in Env-Wq 1508.02 be met?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Note: Guidance document titled " Using NHDES's OneStop WebGIS to Locate Protection Areas " is available online. For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.			
Is any part of the property within the 100-year floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cut volume: _____ cubic feet within the 100-year floodplain Fill volume: _____ cubic feet within the 100-year floodplain			
<input checked="" type="checkbox"/> Project IS within ¼ mile of a designated river		Name of River: Lamprey	
<input type="checkbox"/> Project is NOT within ¼ mile of a designated river			
<input type="checkbox"/> Project IS within a Coastal/Great Bay Region community - include info required by Env-Wq 1503.08(I) if applicable			
<input checked="" type="checkbox"/> Project is NOT within a Coastal/Great Bay Region community			
8. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")			
This project creates a 12 acre building to serve as a distribution center. The distribution center will accommodate 158 loading docks, 244 trailer spaces, and 326 vehicle spaces.			
9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT			



SOIL LEGEND:

SYMBOL	MAP UNIT NAME	HSG
	CANTON	B
	CHATFIELD VARIANT NEWFIELDS COMP	B
	NEWFIELDS/NEWFIELDS COMP	B
	SCITUATE NEWFIELDS COMPLEX	C
	HOLLIS	C
	UDORTHENTS SANDY/GRAVELLY	A/C
	WALPOLE POORLY DRAINED	C
	RIDGEBURY POORLY DRAINED V STONY	C

B SLOPE = 0-8%; C SLOPE = 8-15%; D SLOPE = 15-25%



SLOPE PHASES

ALPHA	SLOPE	SYMBOL	RANGE
A	0-3%		0-3%
B	3-8%		3-8%
C	8-15%		8-15%
D	15-25%		15-25%
E	25-50%		25-50%
F	>50%		>50%

HYDROLOGIC SOIL GROUP 'A'	
HYDROLOGIC SOIL GROUP 'B'	
HYDROLOGIC SOIL GROUP 'C'	
HYDROLOGIC SOIL GROUP 'D'	
IMPERVIOUS	

LEGEND

SUBCATCHMENT BOUNDARY	
SUBCATCHMENT	
REACH	
POND	
TC PATH	
WETLANDS	
SITE SPECIFIC SOILS	
FLOW ARROW	

Section 5, Page 73

Design: EJP | Draft: GAP | Date: 08/12/22
 Checked: WJM | Scale: AS NOTED | Project No.: 21130
 Drawing Name: 21130-WATERSHEDS.dwg
 THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

REV.	DATE	REVISION	BY
1	11/10/22	REVISED PER AOT/TRC/TOWN ENGINEER COMMENTS	EMP
0	8/12/22	ISSUED FOR REVIEW	GAP

J/B Jones & Beach Engineers, Inc.
 Civil Engineering Services
 85 Portsmouth Ave. | 603-772-4746
 PO Box 219 | Stratham, NH 03885 | FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

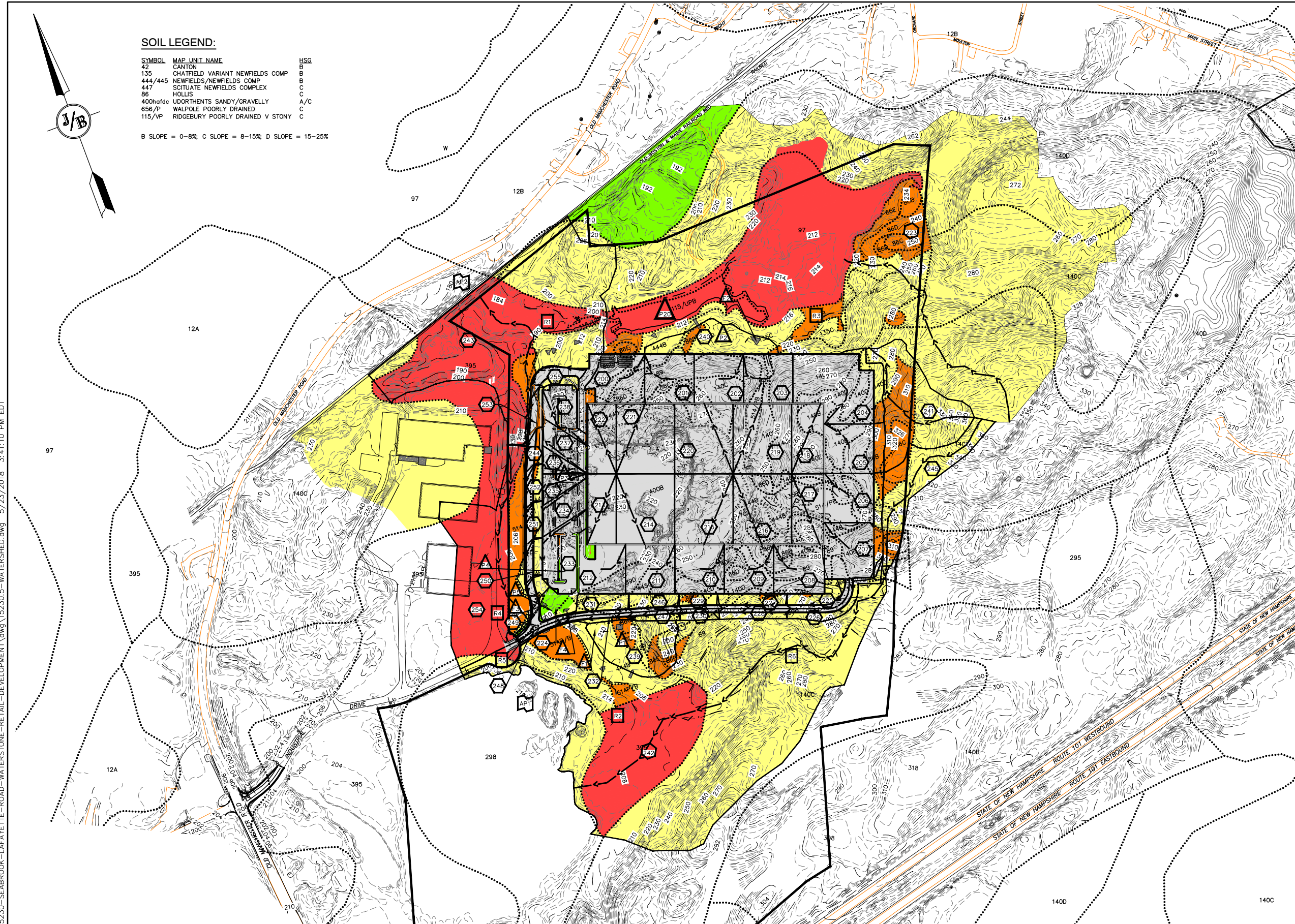
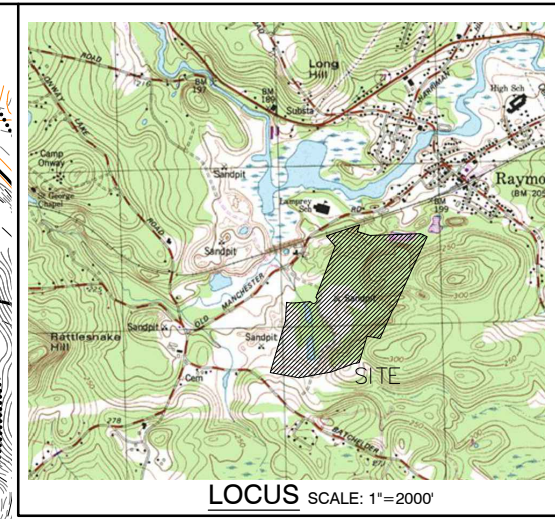
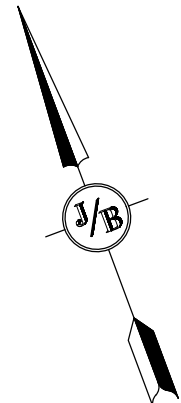
Plan Name:	EXISTING SOIL PLAN
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	S1
SHEET 1 OF 2	
JBE PROJECT NO. 21130	

SOIL LEGEND:

SYMBOL	MAP UNIT NAME	HSG
42	CANTON	B
135	CHATFIELD VARIANT NEWFIELDS COMP	B
444/445	NEWFIELDS/NEWFIELDS COMP	B
447	SITUATE NEWFIELDS COMPLEX	C
86	HOLLIS	C
400hofdc	UDORTHENTS SANDY/GRAVELLY	A/C
656/P	WALPOLE POORLY DRAINED	C
115/VP	RIDGEBURY POORLY DRAINED V STONY	C

B SLOPE = 0-8%; C SLOPE = 8-15%; D SLOPE = 15-25%



HYDROLOGIC SOIL GROUP 'A'	
HYDROLOGIC SOIL GROUP 'B'	
HYDROLOGIC SOIL GROUP 'C'	
HYDROLOGIC SOIL GROUP 'D'	
IMPERVIOUS	

LEGEND

SUBCATCHMENT BOUNDARY	
SUBCATCHMENT	
REACH	
POND	
TC PATH	
WETLANDS	
SITE SPECIFIC SOILS	
FLOW ARROW	

Section 5, Page 74

F:\Land Projects\3\15230-SEABROOK-LAFAYETTE-ROAD-WATERSTONE-RETAIL-DEVELOPMENT.dwg\15230.5-WATERSHED.dwg 5/23/2018 3:41:10 PM EDT

Design: EJP	Draft: GAP	Date: 08/12/22
Checked: WJM	Scale: AS NOTED	Project No.: 21130
Drawing Name: 21130-WATERSHEDS.dwg		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.		

REV.	DATE	REVISION	BY
1	11/10/22	REVISED PER AOT/TRC/TOWN ENGINEER COMMENTS	EMP
0	8/12/22	ISSUED FOR REVIEW	GAP

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	PROPOSED SOIL PLAN
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	S2
SHEET 2 OF 2 JBE PROJECT NO. 21130	

4. A review of the criteria for the installation of a traffic control signal at the intersection indicates that the installation of a traffic signal is not warranted; and
5. A review of the criteria for the installation of auxiliary turn lanes indicates that the addition of a left or right-turn lane on the Old Manchester Road approaches to the intersection is not justified.

In consideration of the above, it does not appear that specific improvements are required at the Old Manchester Road/Industrial Drive/Scribner Road intersection to accommodate the initial opening of the warehouse distribution facility; however, consideration should be given to widening the Industrial Drive approach in the future to accommodate the increased delay and associated vehicle queuing that may be experienced on the approach as a result of future traffic growth.

The following details our assessment.

PROJECT DESCRIPTION

The Project will entail the construction of a 550,025 ± square foot (sf) warehouse building to be located off Industrial Drive Road in Raymond, New Hampshire. The Project site encompasses approximately 123.52± acres of land that is bounded by the Rockingham Recreational Trail and areas of open and wooded space to the north; NH Route 101 and areas of open and wooded space to the south; residential properties and areas of open and wooded space to the east; and commercial properties and Industrial Road to the west. The Project site currently operates as a sand and gravel quarry. Access to the Project site will be continue to be provided by way of the driveway that connects to the existing cul-de-sac at the end of Industrial Drive.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions at the intersection of Old Manchester Road at Industrial Drive and Scribner Road was conducted in July 2022. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The following describes existing conditions within the study area.

Roadways

Old Manchester Road

- Two-lane major collector roadway (Tier 5, Class V) under Town jurisdiction;
- Traverses a general northeast-southwest alignment between Lane Road/Batchelder Road and Main Street, and provides a full access interchange with NH Route 101 to the south;
- Provides two 18 to 20-foot wide travel lanes that are separated by a double-yellow centerline with 1 to 4-foot wide shoulders provided;
- The posted speed limit is 35 miles per hour (mph) south of Industrial Drive and 30 mph to the north;
- Sidewalks are provided along both sides of the roadway south of Industrial Drive and along the west side of the roadway to the north;
- Illumination is provided by way of street lights mounted on wood poles;

PROJECT-GENERATED TRAFFIC

As proposed, the Project will entail the construction of a 550,025 ± sf warehouse building. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)⁴ for various warehouse uses were reviewed, including those for a general warehouse and both sortation and non-sortation type warehouses. Based on this review and the relative size of the warehouse building, ITE Land Use Code (LUC) 150, *Warehousing*, was used to develop the traffic characteristics of the Project as this use produced larger overall traffic volumes for the Project vs. the use of trip-generation data for a non-sortation warehouse given that an end user of the warehouse buildings has not been identified; the sortation-type warehouse produced a disproportionate volume of traffic in relation to the overall size of the buildings that are proposed. The resulting traffic volumes are summarized in Table 2 and have been disseminated into passenger car trips and truck trips.

**Table 2
TRIP-GENERATION SUMMARY^a**

Time Period/Direction	(A) Passenger Car Trips	(B) Truck Trips	(A+B) Vehicle Trips
<i>Average Weekday Daily:</i>			
Entering	264	150	414
<u>Exiting</u>	<u>264</u>	<u>150</u>	<u>414</u>
Total	528	300	828
<i>Weekday Morning Peak Hour:</i>			
Entering	60	5	65
<u>Exiting</u>	<u>14</u>	<u>5</u>	<u>19</u>
Total	74	10	84
<i>Weekday Evening Peak Hour:</i>			
Entering	16	8	24
<u>Exiting</u>	<u>55</u>	<u>7</u>	<u>62</u>
Total	71	15	86

^aBased on ITE LUC 150, *Warehousing* (500,025 sf).

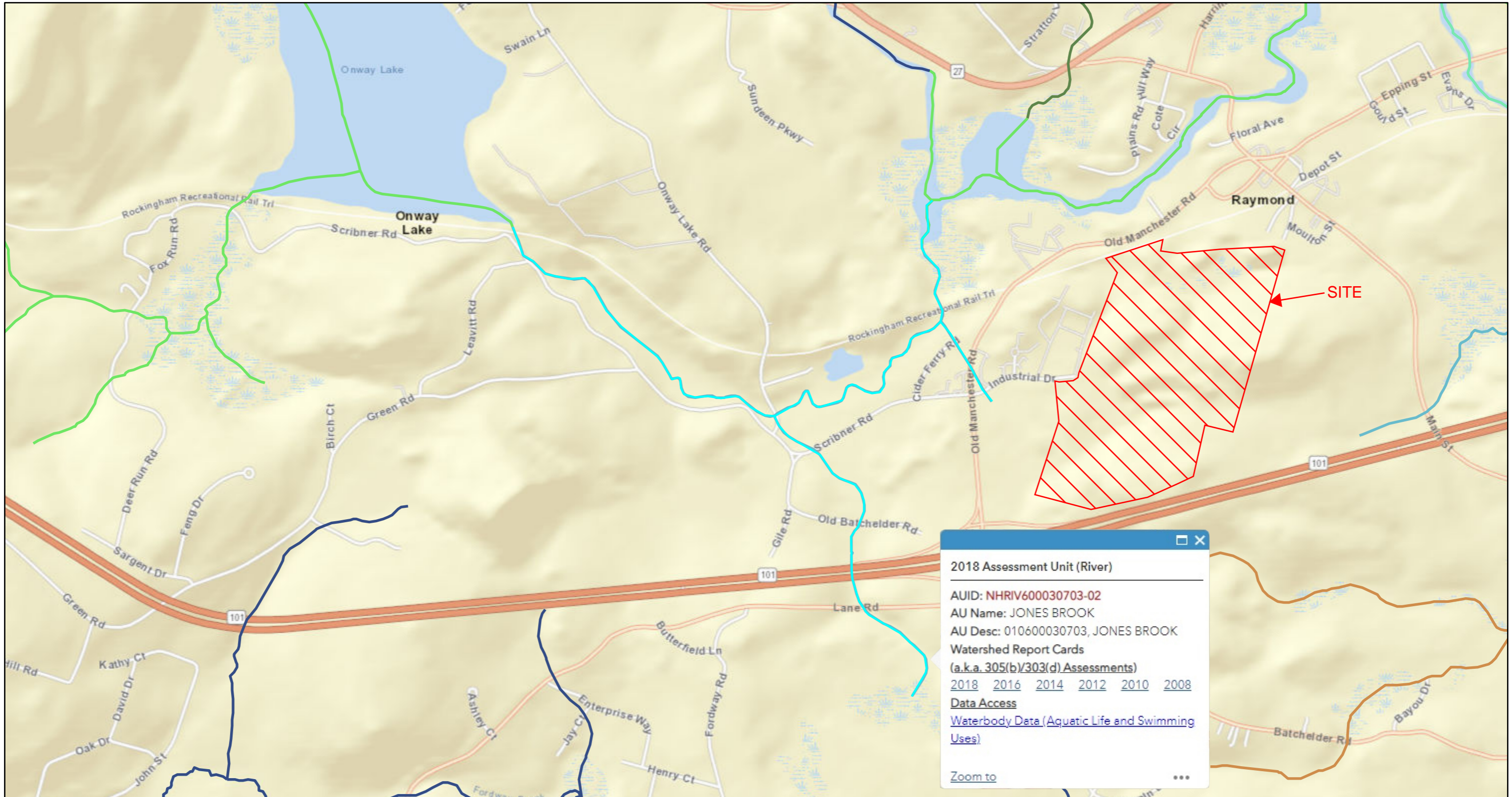
Project-Generated Traffic-Volume Summary

As can be seen in Table 2, using the higher trip rates associated with a general warehouse, the Project is expected to generate 828 vehicle trips on an average weekday (two-way volume over the operational day of the Project, or 414 vehicles entering and 414 exiting), consisting of 528 passenger car trips and 300 truck trips. During the weekday morning peak-hour, the Project is expected to generate 84 vehicle trips (65 vehicles entering and 19 exiting), consisting of 74 passenger car trips and 10 truck trips. During the weekday evening peak-hour, the Project is expected to generate 86 vehicle trips (24 vehicles entering and 62 exiting), consisting of 71 passenger car trips and 15 truck trips.

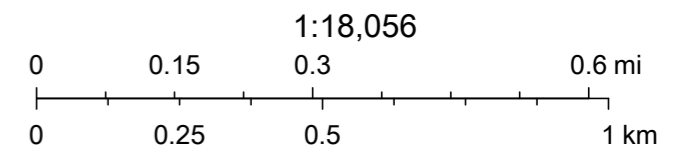
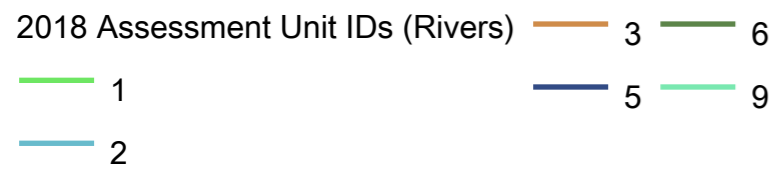
⁴*Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.



Jones Brook NHDES ARCGIS MAP

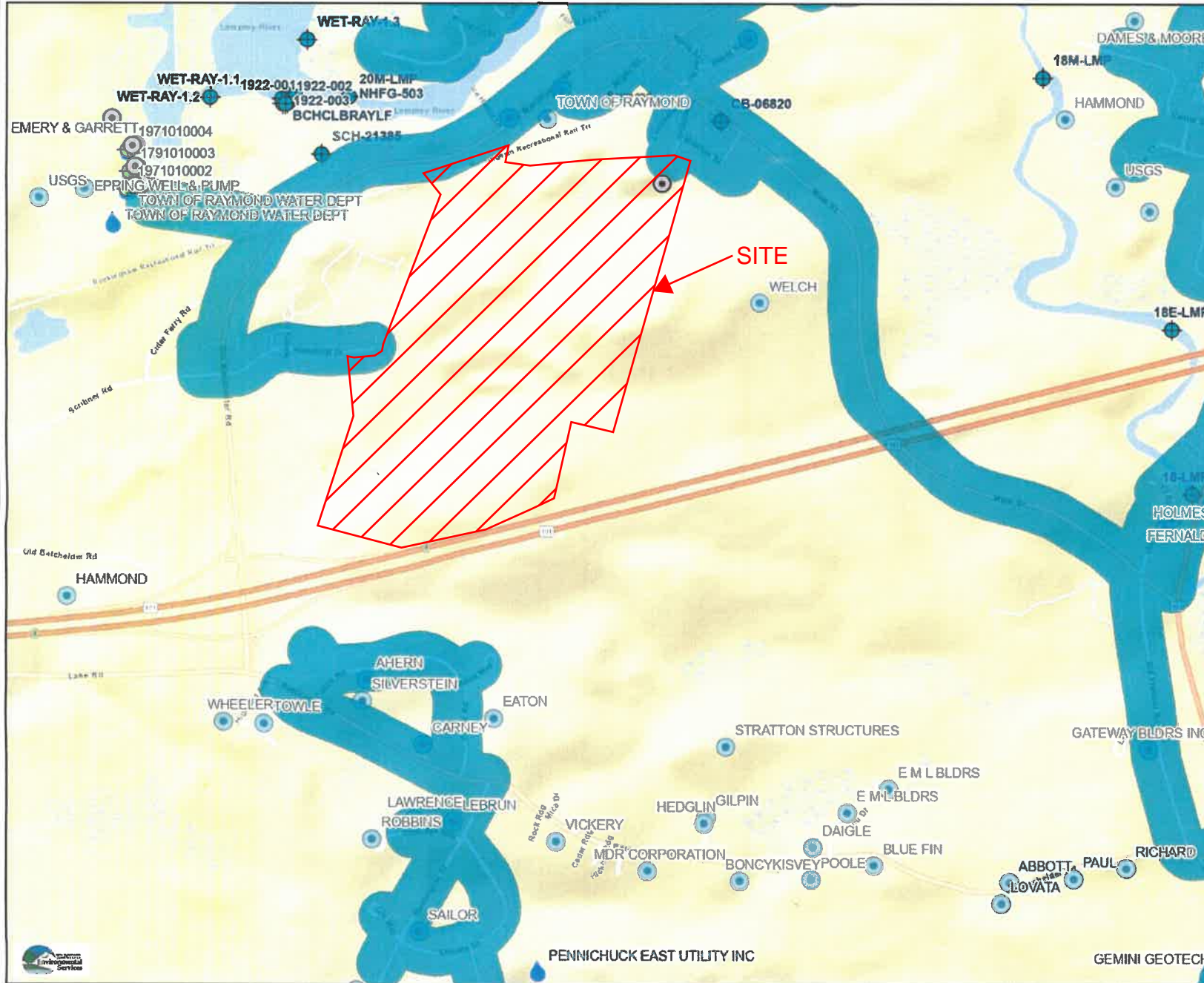


1/6/2023, 10:34:47 AM



Esri, HERE, Garmin, INCREMENT P, NGA, USGS

Well Overview Map



Legend

- Surface Waters with Impair 2016 with Quarter Mile Buffer
- Public Water Supply Entity
- Water and Sewer Lines
 - Both
 - Sewer
 - Water
- Environmental Monitoring Site
- Public Water Supply Wells
- Registered Water Users
- Water Well Inventory
- Environmental Monitoring Site Nonsecure

Map Scale

1: 12,988

© NH DES, <http://des.nh.gov>

Map Generated: 1/6/2023



Notes



WAREHOUSE BUILDING "RAYMOND DISTRIBUTION"

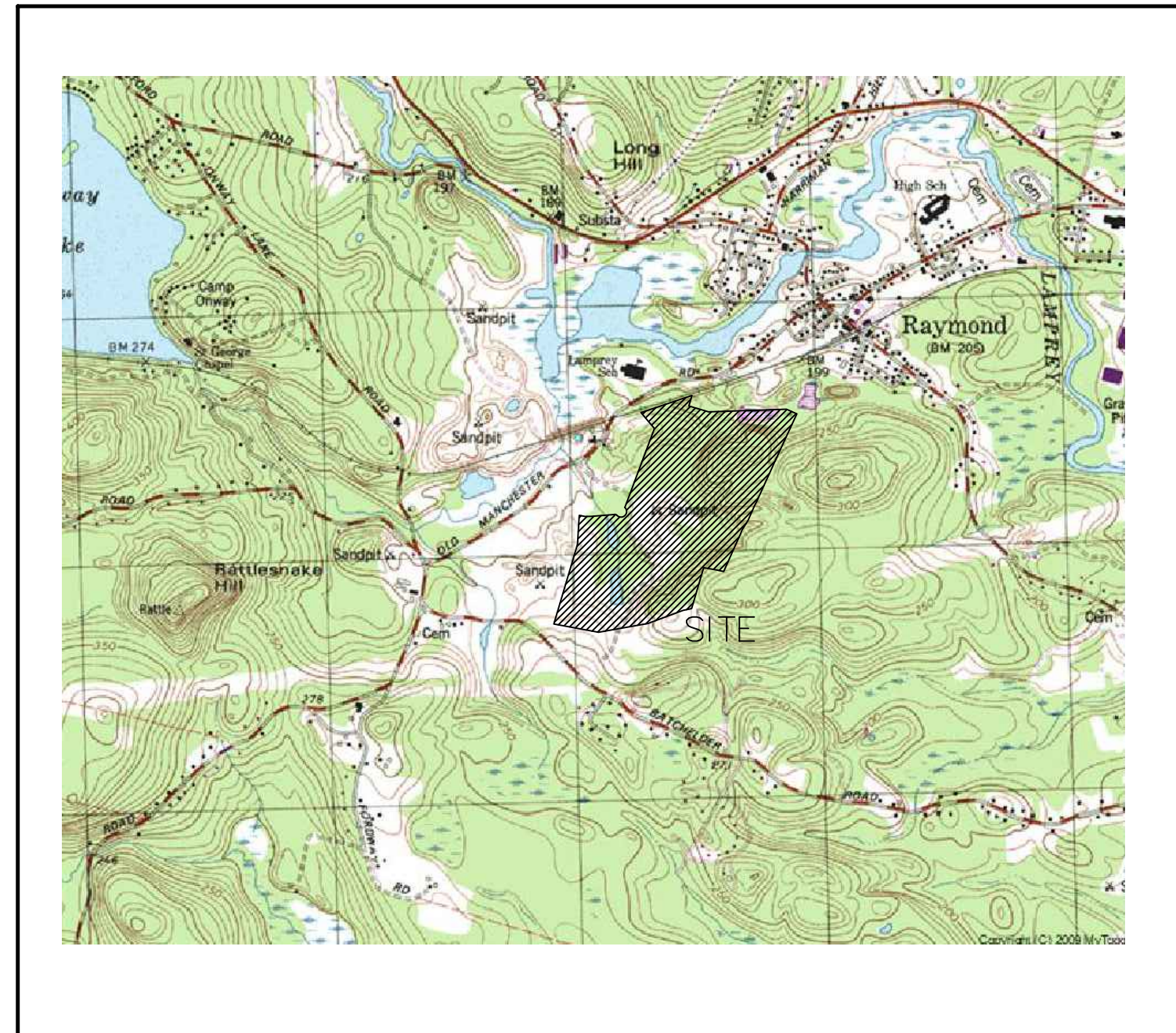
TAX MAP 22, LOTS 44, 45, 46, 47 TAX MAP 28, BLOCK 3, LOT 120-1 INDUSTRIAL DRIVE, RAYMOND, NH

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINES
---	---	SETBACK LINES
---	---	CENTERLINE
---	---	FRESHWATER WETLANDS LINE
---	---	TIDAL WETLANDS LINE
---	---	STREAM CHANNEL
---	---	TREE LINE
---	---	STONEWALL
---	---	BARBED WIRE
---	---	FENCE
---	---	STOCKADE FENCE
---	---	SOIL BOUNDARY
---	---	AQUIFER PROTECTION LINE
---	---	FLOOD PLAIN LINE
---	---	ZONELINE
---	---	EASEMENT
---	---	MAJOR CONTOUR
---	---	MINOR CONTOUR
---	---	EDGE OF PAVEMENT
---	---	VERTICAL GRANITE CURB
---	---	SLOPE GRANITE CURB
---	---	CAPE COD BERM
---	---	POURED CONCRETE CURB
---	---	SILT FENCE
---	---	DRAINAGE LINE
---	---	SEWER LINE
---	---	SEWER FORCE MAIN
---	---	GAS LINE
---	---	WATER LINE
---	---	WATER SERVICE
---	---	OVERHEAD ELECTRIC
---	---	UNDERGROUND ELECTRIC
---	---	GUARDRAIL
---	---	UNDERDRAIN
---	---	FIRE PROTECTION LINE
---	---	THRUST BLOCK
---	---	IRON PIPE/IRON ROD
---	---	DRILL HOLE
---	---	IRON ROD/DRILL HOLE
---	---	STONE/GRANITE BOUND
---	---	SPOT GRADE
---	---	PAVEMENT SPOT GRADE
---	---	CURB SPOT GRADE
---	---	BENCHMARK (TBM)
---	---	DOUBLE POST SIGN
---	---	SINGLE POST SIGN
---	---	WELL
---	---	TEST PIT
---	---	FAILED TEST PIT
---	---	MONITORING WELL
---	---	PERC TEST
---	---	PHOTO LOCATION
---	---	TREES AND BUSHES
---	---	UTILITY POLE
---	---	LIGHT POLES
---	---	DRAIN MANHOLE
---	---	SEWER MANHOLE
---	---	HYDRANT
---	---	WATER GATE
---	---	WATER SHUT OFF
---	---	REDUCER
---	---	SINGLE GRATE CATCH BASIN
---	---	DOUBLE GRATE CATCH BASIN
---	---	TRANSFORMER
---	---	CULVERT W/WINGWALLS
---	---	CULVERT W/FLARED END SECTION
---	---	CULVERT W/STRAIGHT HEADWALL
---	---	STONE CHECK DAM
---	---	DRAINAGE FLOW DIRECTION
---	---	4K SEPTIC AREA
---	---	WETLAND IMPACT
---	---	VEGETATED FILTER STRIP
---	---	RIPRAP
---	---	OPEN WATER
---	---	FRESHWATER WETLANDS
---	---	TIDAL WETLANDS
---	---	STABILIZED CONSTRUCTION ENTRANCE
---	---	CONCRETE
---	---	GRAVEL
---	---	SNOW STORAGE
---	---	RETAINING WALL

SHEET INDEX

CS	COVER SHEET
C1	EXISTING CONDITIONS PLAN
C2	OVERALL SITE PLAN
C2-1 - C2-4	SITE PLANS
C3	OVERALL GRADING AND DRAINAGE PLAN
C3-1 - C3-4	GRADING AND DRAINAGE PLANS
C4	OVERALL UTILITY PLAN
C4-1 - C4-4	UTILITY PLANS
C4-5	INDUSTRIAL DRIVE PLAN
L1	OVERALL LIGHTING PLAN
L1-1 - L1-4	LIGHTING PLANS
L2	LANDSCAPE PLAN
P1 - P5	ROAD PLAN AND PROFILES
D1 - D10	DETAIL SHEETS
E1-E2	EROSION AND SEDIMENT CONTROL DETAILS
WM1	WETLAND MITIGATION PLAN
	ARCHITECTURAL ELEVATIONS/RENDERINGS



LOCUS MAP
SCALE 1" = 2000'

APPLICANT / DEVELOPER
ONYX PARTNERS LTD
200 RESERVOIR STREET
NEEDHAM, MA 02494
(617) 835-4770
CONTACT: ANTON MELCHIONDA

ELECTRIC
EVERSOURCE
740 N COMMERCIAL ST
PO BOX 330
MANCHESTER, NH 03105-0330
(800) 662-7764

OWNER OF RECORD
ONYX RAYMOND LLC
60 CENTRE STREET
DOVER, MA 02030

TELEPHONE
CONSOLIDATED COMMUNICATIONS
1575 GREENLAND ROAD
GREENLAND, NH 03840
(603) 427-5525
CONTACT: JOE CONSIDINE

CIVIL ENGINEER / SURVEYOR
JONES & BEACH ENGINEERS, INC.
85 PORTSMOUTH AVENUE
PO BOX 219
STRATHAM, NH 03885
(603) 772-4746
CONTACT: WAYNE MORRILL
EMAIL: WMORRILL@JONESANDBEACH.COM

PERMITS

TYPE OF PERMIT	STATUS	TYPE OF PERMIT	STATUS
NHDES ALTERATION OF TERRAIN PERMIT: NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES - WATER DIVISION 29 HAZEN DRIVE, P.O. BOX 95 CONCORD, NEW HAMPSHIRE 03302-0095 (603) 271-3503 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 08-18-2022 PERMIT NO. DATED: EXPIRATION:	U.S. ARMY CORPS OF ENGINEERS: NEW ENGLAND DIVISION: 424 TRAPELO ROAD WALTHAM, MA 02254-9149 (800) 343-4789 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 08-23-2022 PERMIT NO. DATED: EXPIRATION:
NHDES WETLAND PERMIT: NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES- WETLANDS BUREAU 29 HAZEN DRIVE, P.O. BOX 95 CONCORD, NEW HAMPSHIRE 03302 (603) 271-2147 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 08-23-2022 PERMIT NO. DATED: EXPIRATION:	RAYMOND SITE PLAN APPROVAL: TOWN OF RAYMOND PLANNING BOARD 4 EPPING STREET RAYMOND, NEW HAMPSHIRE 03077 (603) 895-4735 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 08-18-2022 CASE NO. 2022-008 DATED: EXPIRATION:
USEPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT, NOTICE OF INTENT (NOI), AND NOTICE OF TERMINATION (NOT) TO BE FILED IN ACCORDANCE WITH FEDERAL AND LOCAL REGULATIONS PRIOR TO AND FOLLOWING CONSTRUCTION: EPA STORMWATER NOTICE PROCESSING CENTER MAIL CODE 4203M, US EPA 1200 PENNSYLVANIA AVENUE, NW WASHINGTON, DC 20460 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	RAYMOND ZONING APPROVAL FOR BUILDING HEIGHT: CASE NO. 2022-004 APPROVED 11-16-2022	RAYMOND PLANNING BOARD WAIVER FOR LANDSCAPE ARCHITECT SUBMITTED 8-18-22	APPLICATION #2022-008
		APPLICATION FOR SPECIAL PERMIT, TOWN OF RAYMOND SUBMITTED 10-5-22	PROJECT PARCEL TOWN OF RAYMOND TAX MAP 22, LOTS 44, 45, 46, 47 TAX MAP 28, BLOCK 3, LOT 120-1
		RAYMOND PLANNING BOARD CONDITIONAL USE PERMIT SUBMITTED 10-5-22	APPLICANT ONYX PARTNERS LTD 200 RESERVOIR STREET NEEDHAM, MA 02494
		LOT CONSOLIDATION REQUEST, TOWN OF RAYMOND SUBMITTED 11-2-22	TOTAL LOT AREA 5,380,531± SQ. FT. 123.52± ACRES

NEW HAMPSHIRE FISH & GAME AOT PERMIT CONDITIONS RELATED TO THREATENED AND ENDANGERED SPECIES:

- THERE IS A POTENTIAL FOR BLANDING'S TURTLE (STATE-ENDANGERED), SPOTTED TURTLES (STATE-THREATENED) AND WOOD TURTLES (STATE SPECIES OF SPECIAL CONCERN). OBSERVATIONS OF THESE SPECIES SHOULD BE REPORTED IMMEDIATELY, PARTICULARLY DURING NESTING SEASON (MID-MAY THROUGH THE END OF JUNE) TO NHFG TO MELISSA WINTERS (CELL/TEXT) 603-479-1129 OR JOSH MCGEESY AT (978) 578-0802. SEE PLAN SHEET C3 FOR SPECIES IDENTIFICATION INFORMATION.
- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: **NHB21-3049, RAYMOND INDUSTRIAL DRIVE, WILDLIFE SPECIES OBSERVATION**. PHOTOGRAPHS SHALL BE PROVIDED FOR VERIFICATION AS FEASIBLE.
- THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.
- ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, AND INLET PROTECTION, CHECK DAMS, SEDIMENT TRAPS, AND SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WO 1506.04, SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH. SEE PLAN SHEET E1.

APPROVED - RAYMOND, NH
PLANNING BOARD

DATE:

Design: WGM	Draft: GDR	Date: 8/19/21
Checked: WGM	Scale: AS NOTED	Project No.: 21130
Drawing Name: 21130-PLAN.dwg		
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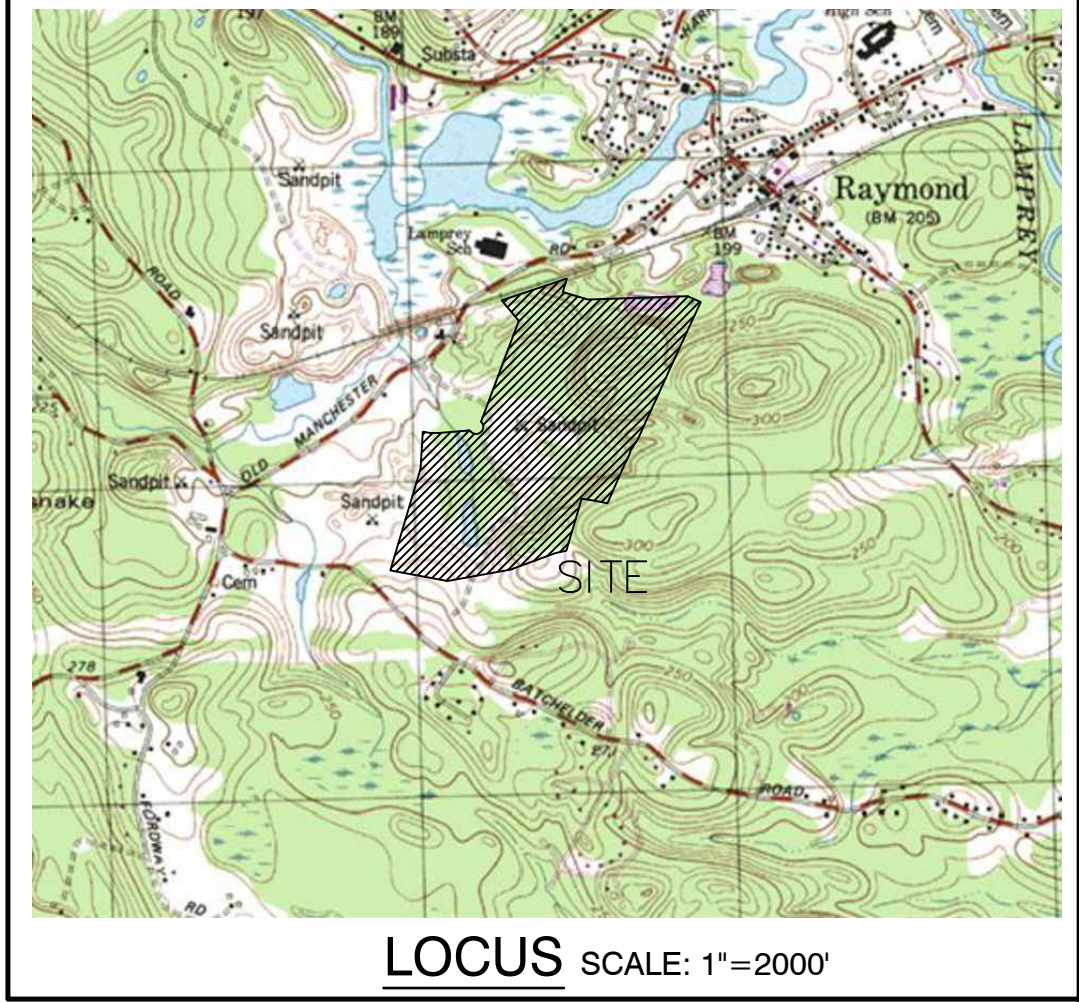
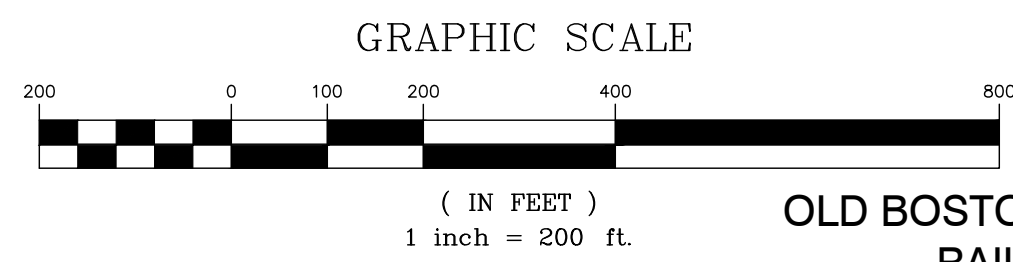
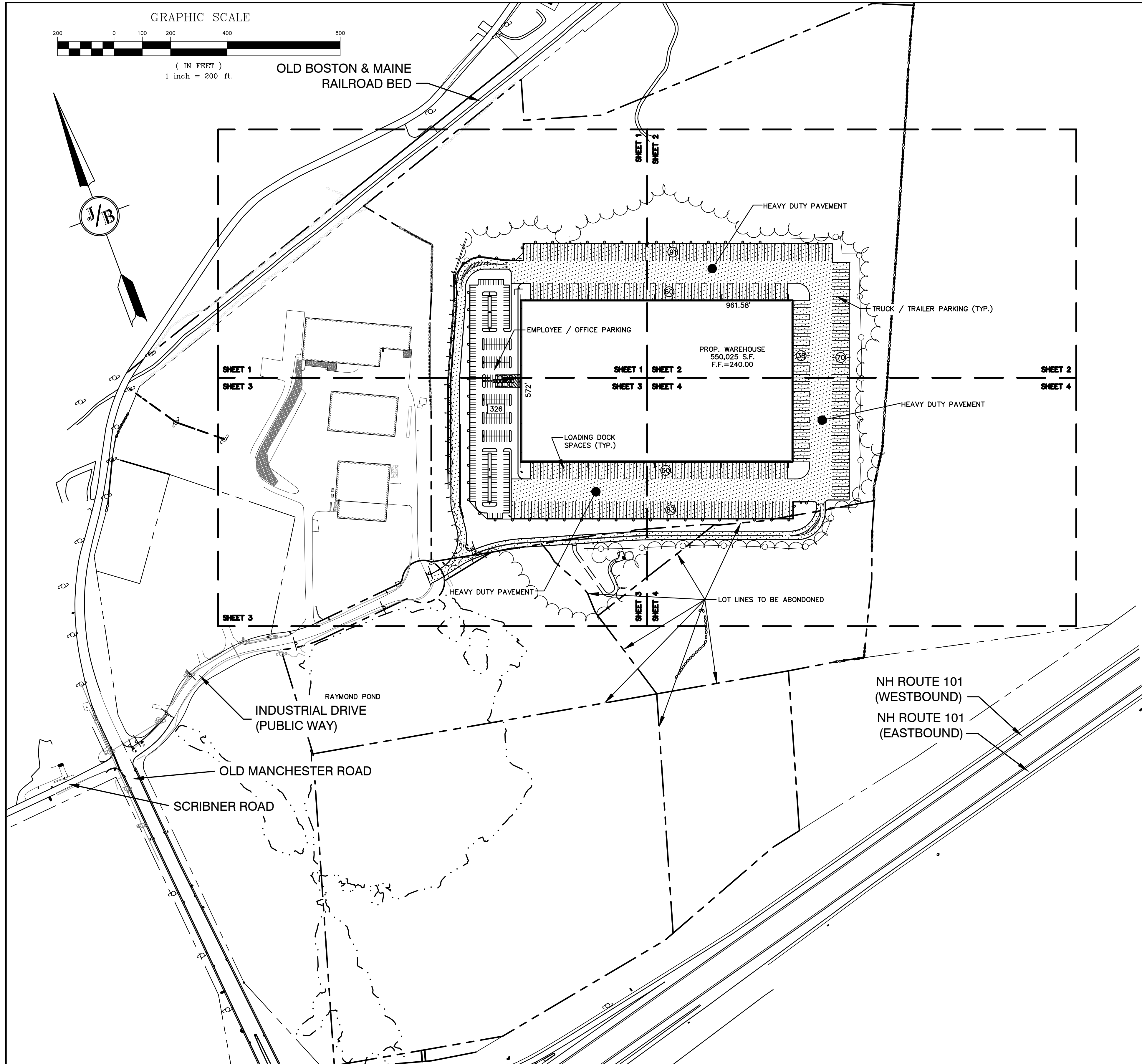
Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
PO Box 219 FAX: 603-772-0227
Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	COVER SHEET
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	CS
SHEET 1 OF 45	JBE PROJECT NO. 21130



SITE NOTES:

- THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED CONSTRUCTION OF A DISTRIBUTION CENTER WITH ASSOCIATED LOADING DOCKS, TRUCK PARKING, AND EMPLOYEE VEHICLE PARKING.
- ZONING DISTRICT: D-INDUSTRIAL
 LOT AREA MINIMUM = 21,780 SF (0.5 AC)
 LOT AREA PROPOSED = 5,380,531± SF (123.52± AC)
 LOT FRONTAGE MINIMUM = 50'
 BUILDING HEIGHT = 48' (VARIANCE REQUESTED)
 BUILDING SETBACKS (MINIMUM):
 FRONT SETBACK = 15'
 SIDE SETBACK = 15'
 REAR SETBACK = 10'
 PRE-EXISTING LOT, ALL SETBACKS = 25'
 ABUTTING RESIDENTIAL ZONE = 50'
 *20' VEGETATED WITH FENCE OR 50' VEGETATED
 WETLAND SETBACK = 25'
- PARKING CALCULATIONS:
 VEHICLE SPACES PROVIDED = 326
 TRAILER SPACES PROVIDED = 244
 LOADING DOCK SPACES PROVIDED = 158
- TOTAL BUILDING FOOTPRINT = 550,025 S.F.
 TOTAL PAVED AREA = 775,148 S.F.
 TOTAL DISTURBANCE = 1,783,333 S.F.
- THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE. FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIG SAFE PRIOR TO DIGGING ON-SITE OR OFF-SITE TO ENSURE SAFETY AND OBEY THE LAW.
- ALL CONSTRUCTION SHALL CONFORM TO TOWN STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
- THE SUBJECT PARCEL IS NOT LOCATED WITHIN AN AREA HAVING A SPECIAL FLOOD HAZARD ZONE DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NOS. 33015C0187E, 33015C0190E, 33015C0191E, AND 33015C193E, ALL WITH EFFECTIVE DATE OF MAY 17, 2005.
- LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
- ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.). THIS DOCUMENT IS TO BE KEPT ON-SITE AT ALL TIMES AND UPDATED AS REQUIRED.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
- ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
- ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.
- ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL BE 100% ACRYLIC TYPE, LOW VOC, FAST DRYING, IN A COLOR OF WHITE.
- ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
- ALL CURBING TO BE CAPE CAD BERM WITH A MINIMUM RADIUS OF 2', UNLESS OTHERWISE NOTED.
- ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
- SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFF-SITE TO AN APPROVED SNOW DUMPING LOCATION.
- ROOF TOP HEATING AND AIR CONDITIONING UNITS (RTU'S) SHALL BE DESIGNED TO VENT UPWARDS AND AIR INTAKES SHALL BE DIRECTED AWAY FROM ABUTTING NEIGHBORS.
- ALL ARCHITECTURAL BLOCK RETAINING WALLS ARE TO BE DESIGNED AND STAMPED BY THE MANUFACTURER'S STRUCTURAL ENGINEER. CONTRACTOR TO COORDINATE WITH APPROVED MANUFACTURER PRIOR TO INSTALLATION.
- DUMPSTERS AND/OR ROLL-OFFS ARE NOT TO BE PICKED UP BETWEEN 7:00 PM AND 7:00 AM.
- ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
- ALL PRECAST CONCRETE PRODUCTS WILL BE SOURCED FROM MANUFACTURING FACILITIES IN COMPLIANCE WITH THE NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA) PLANT CERTIFICATION PROGRAM. EVIDENCE OF COMPLIANCE WILL BE PROVIDED FOR THE CURRENT CALENDAR YEAR THE PRODUCTS WERE MANUFACTURED WITHIN.
- DUMPSTER TO BE LOCATED WITHIN BUILDING.
- AS A CONDITION OF THE TOWN APPROVAL, THE TENANT THAT OCCUPIES THIS SITE WILL BE REQUIRED TO HAVE A PORTABLE SNOW SCRAPER FOR REMOVAL OF SNOW FROM TRAILERS.
- HOURS OF OPERATION: 7:00 AM - 9:00 PM
- NH FISH & GAME FLYERS REGARDING SENSITIVE WILDLIFE SPECIES TO BE POSTED PRIOR TO CONSTRUCTION AND WITHIN THE HUMAN RESOURCE DEPARTMENT OF THE FUTURE TENANT.

APPROVED - RAYMOND, NH PLANNING BOARD	PROJECT PARCEL TOWN OF RAYMOND TAX MAP 22, LOTS 44, 45, 46, 47 TAX MAP 28, BLOCK 3, LOT 120-1
APPLICANT ONYX PARTNERS LTD 200 RESERVOIR STREET NEEDHAM, MA 02494	
DATE: _____	TOTAL LOT AREA 5,380,531± SQ. FT. 123.52± ACRES

Design: WGM	Draft: GDR	Date: 8/19/21
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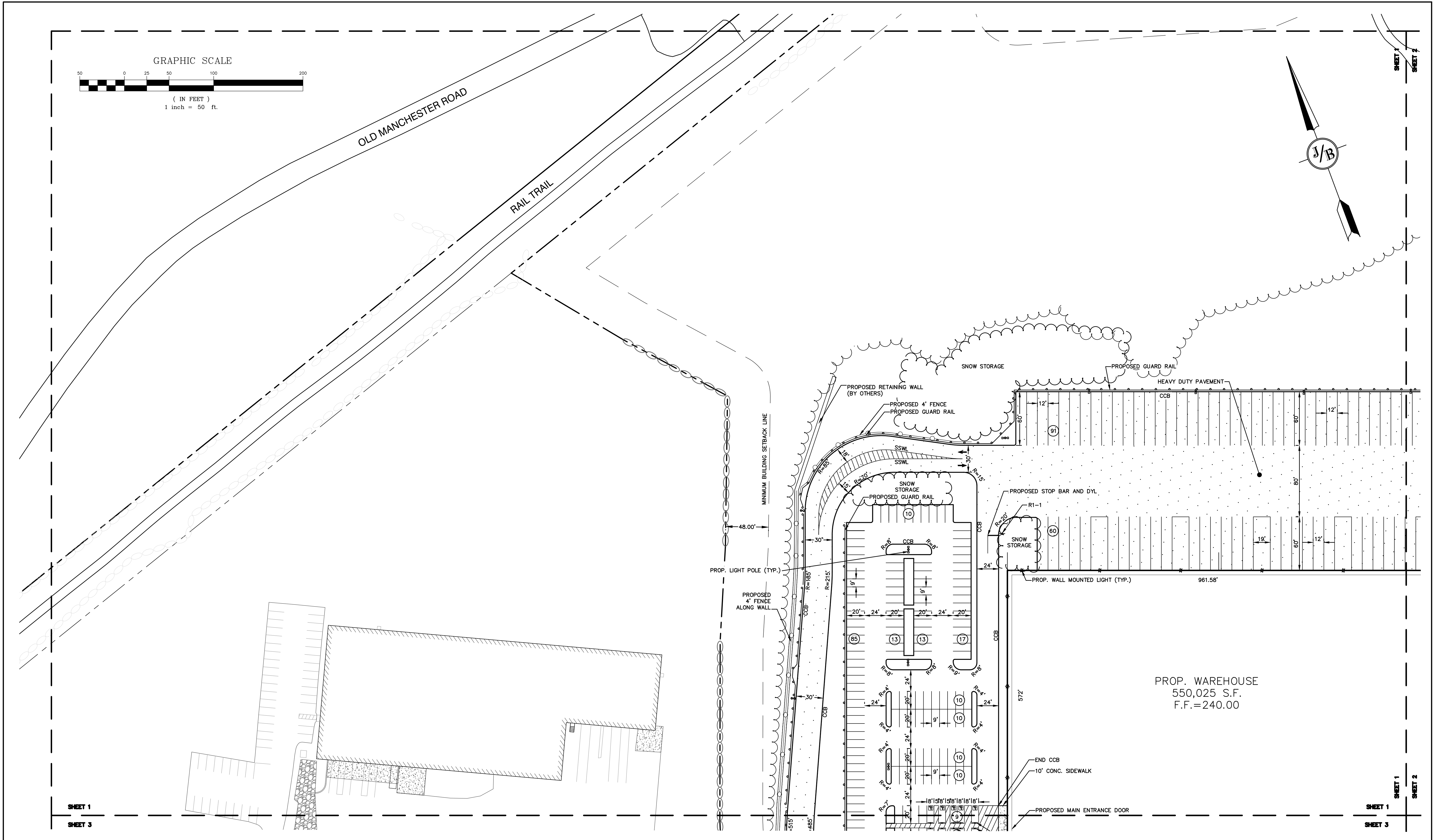
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 Civil Engineering Services
 603-772-4746
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 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	SITE PLAN TAX MAP 22, LOTS 44, 45, 46, 47 & TAX MAP 28, BLOCK 3, LOT 120-1
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	C2
SHEET 3 OF 45 JBE PROJECT NO. 21130	



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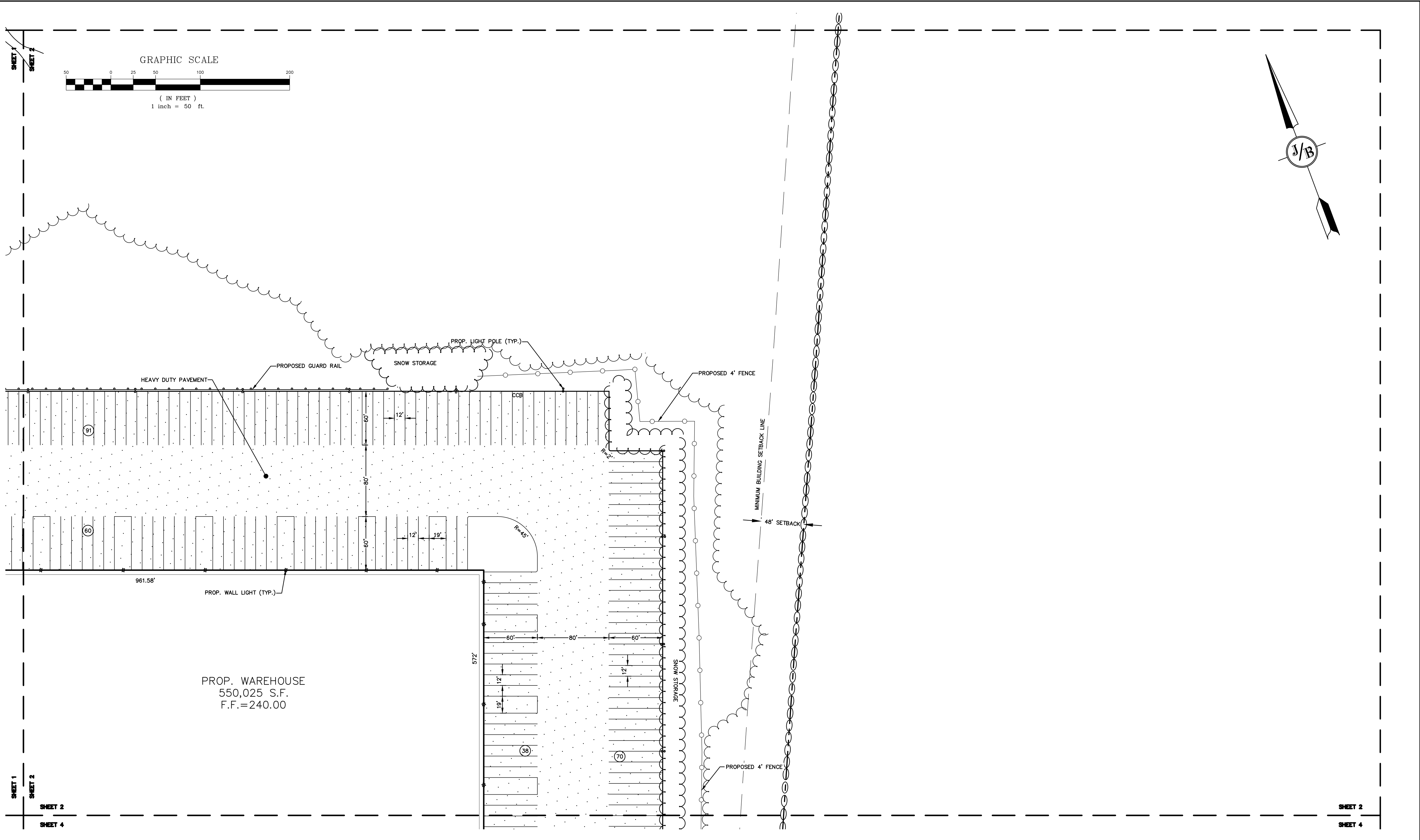
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DRAWING No.
C2-1
 SHEET 4 OF 45
 JBE PROJECT NO. 21130



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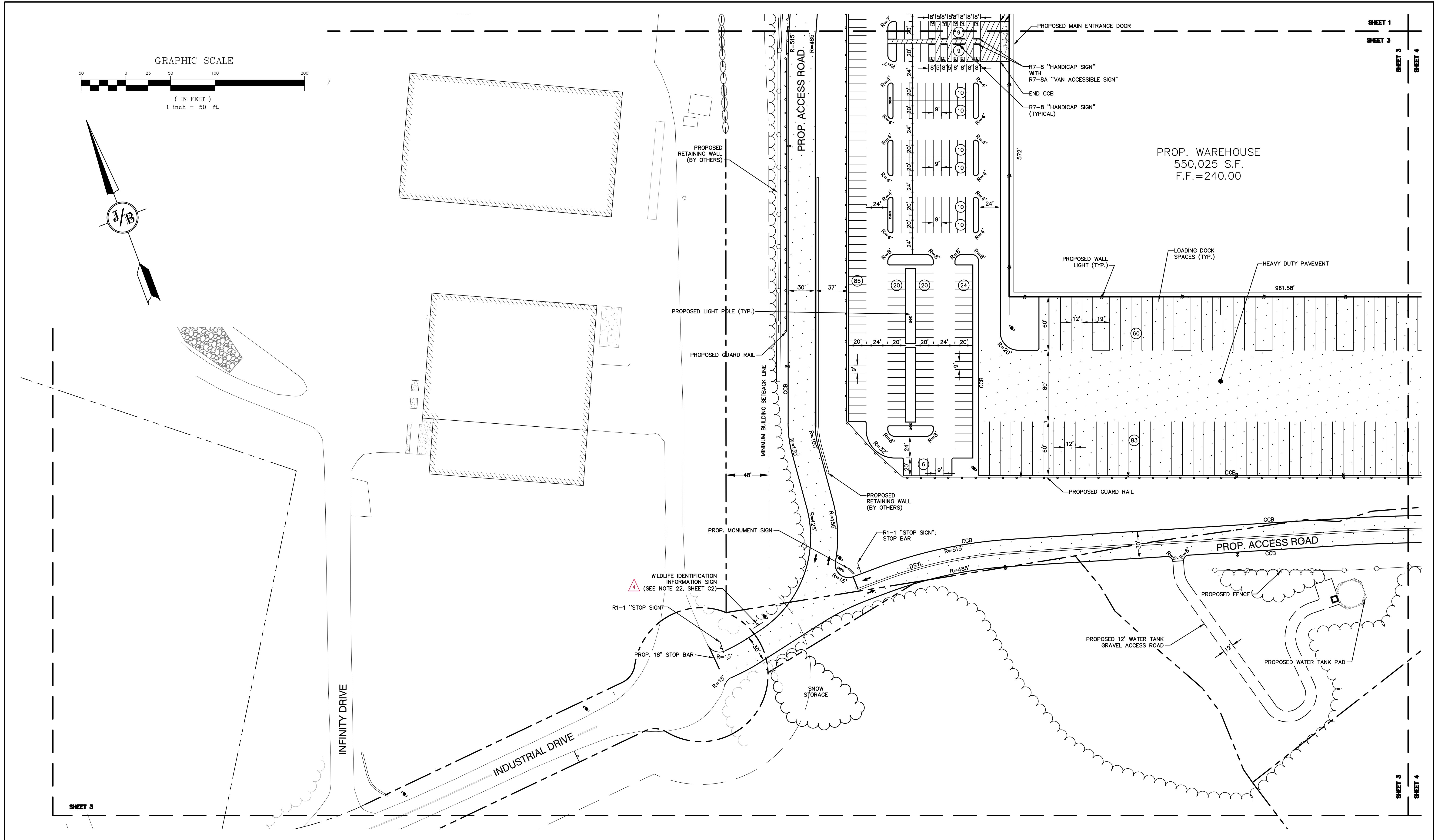
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DRAWING No.
C2-2
 SHEET 5 OF 45
 JBE PROJECT NO. 21130



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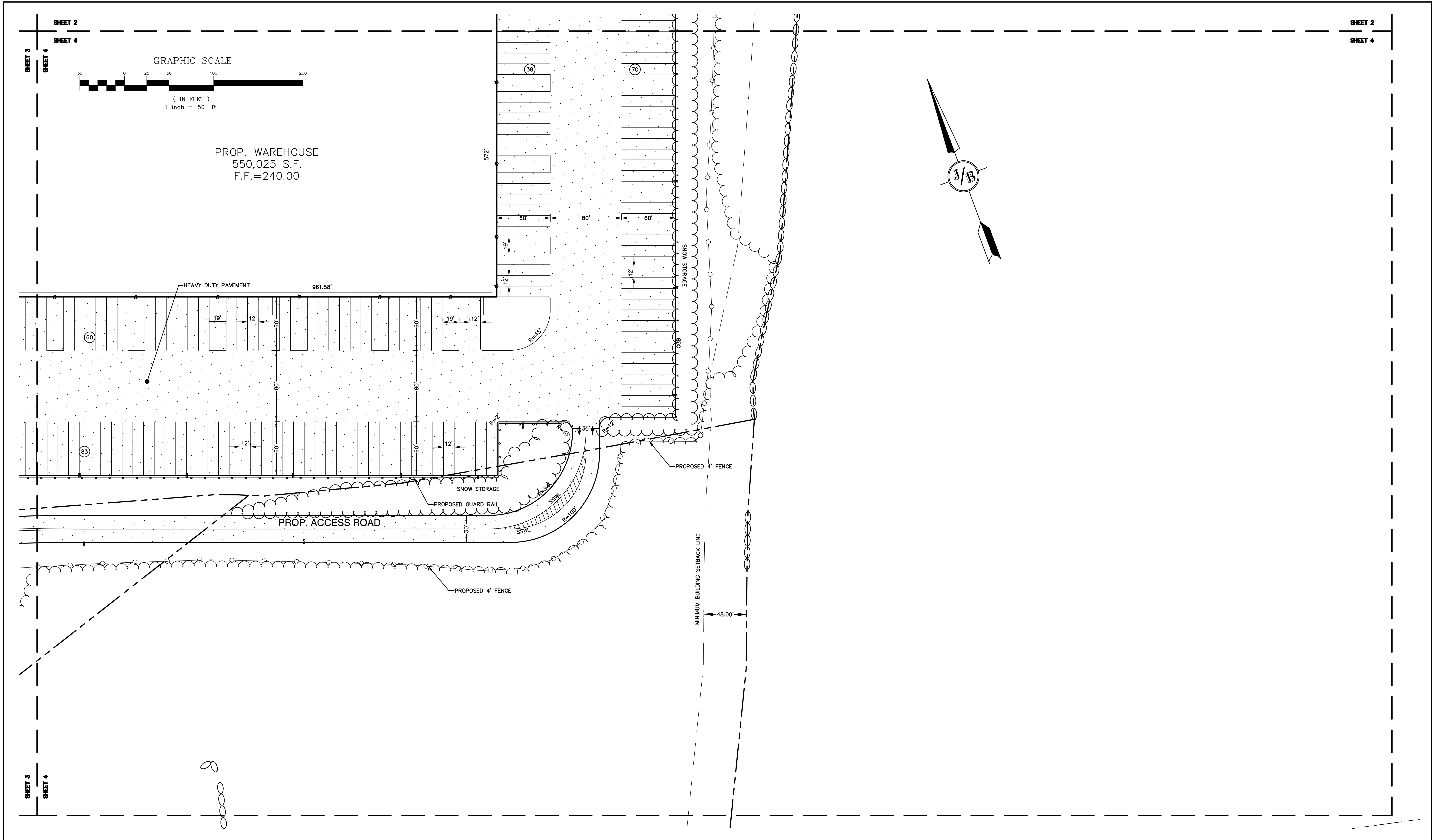
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C2-3
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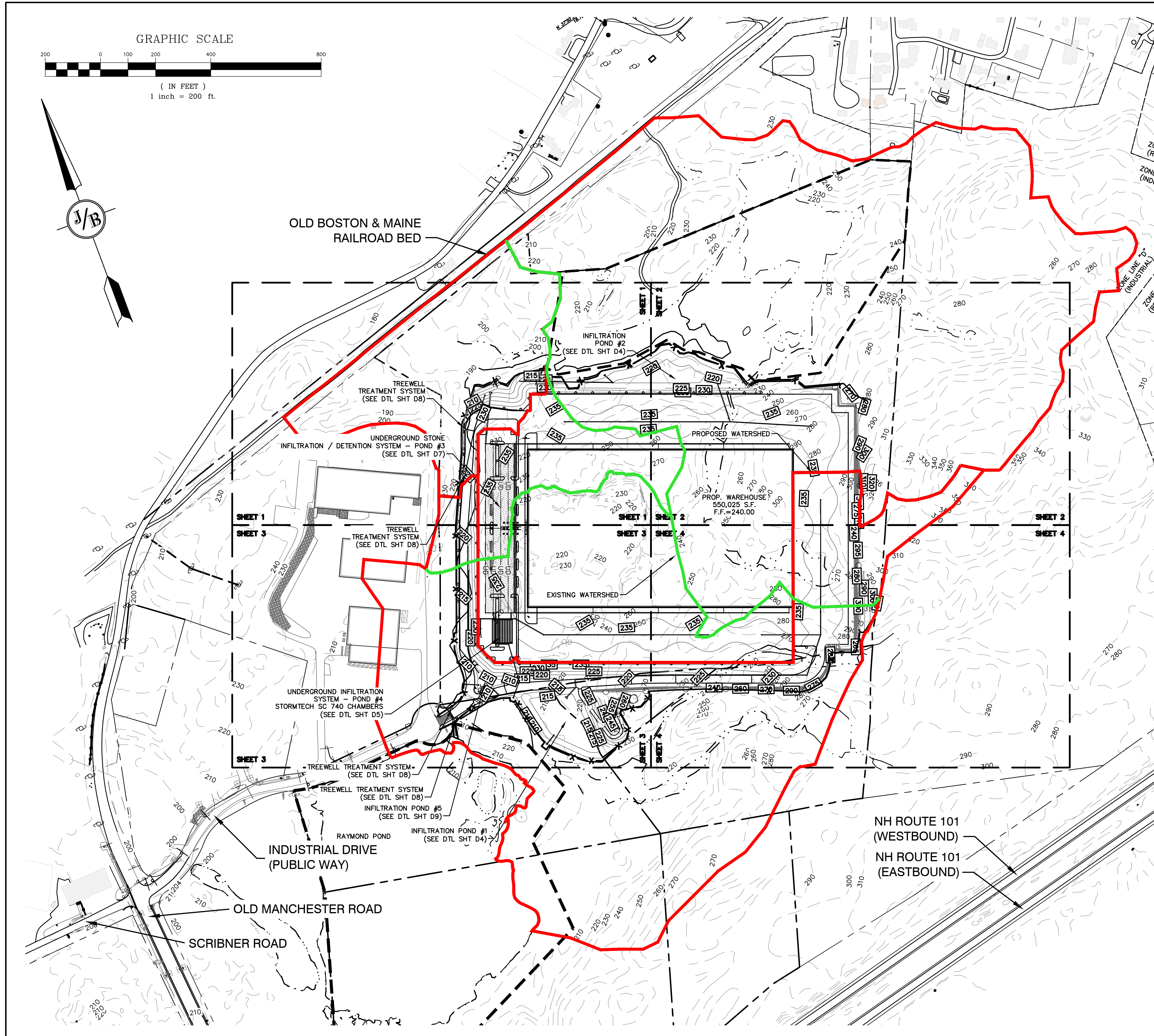
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DRAWING No.
C2-4
 SHEET 7 OF 45
 JBE PROJECT NO. 21130



GRADING AND DRAINAGE NOTES:

- UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
- ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
- ALL ROOF DRAINS FROM BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT THE END. ALL EXTERIOR ROOF DOWNSPOUTS ARE TO BE INSTALLED WITH OVERFLOW DEVICES.
- ALL SWALES AND DETENTION PONDS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
- ALL SWALES AND ANY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S150 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
- ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 3' DEEP SLUMPS WITH GREASE HOODS, UNLESS OTHERWISE NOTED.
- ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. SEE SHEET D2 FOR DRAINAGE STRUCTURE SCHEDULE AND SHEET D4-D9 FOR DRAINAGE DETAILS.
- ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC H20 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
- IMMEDIATELY APPLY AND COMPACT STONE BASE FOR BUILDING PAD TO +/- 1/2" PRIOR TO EXCAVATING INTERIOR AND PERIMETER FOOTINGS.
- IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
- ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.
- STONE INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
- LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE EPA SWPPP DURING CONSTRUCTION OPERATIONS.
- NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
- ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
- SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
- MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
- THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
- IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
- SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
- SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1-E2.
- SOME DRAINAGE STRUCTURES ARE DETAILED ON THE PROFILES SHEETS.
- IF ANY VISIBLE SIGNS OF CONTAMINATION ARE ENCOUNTERED DURING EARTHWORK ACTIVITIES (I.E. SKINS/HIDES, DISCOLORED SOIL, ODORS ECT.) THE CONTRACTOR SHOULD CONTACT THE PROJECT ENGINEER SO COORDINATION WITH NH DES CAN OCCUR TO REVIEW THE FINDINGS.
- SEE PLAN & PROFILE SHEETS FOR DRAINAGE STRUCTURES ALONG ROADWAYS.
- CONTRACTOR SHALL ADHERE TO ANY SITE SPECIFIC PROVISIONS FOUND IN GEOTECHNICAL REPORT BY S.W. COLE ENGINEERS. SOIL PREPARATION SHOULD FOLLOW REQUIREMENTS OF THE GEOTECHNICAL REPORT.

WATERSHED LEGEND

- = PROPOSED WATERSHED
- = EXISTING WATERSHED

IF SPOTTED, WOOD OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, PLEASE CONTACT MELISSA WINTERS AT 603-479-1129 OR JOSH MEGYESY AT 978-578-0802 FOR FURTHER INSTRUCTIONS.



<p>PROJECT PARCEL TOWN OF RAYMOND TAX MAP 22, LOTS 44, 45, 46, 47 TAX MAP 28, BLOCK 3, LOT 120-1</p>
<p>APPLICANT ONYX PARTNERS LTD 200 RESERVOIR STREET NEEDHAM, MA 02494</p>
<p>TOTAL LOT AREA 5,380,531 ± SQ. FT. 123.52 ± ACRES</p>

Design: WGM	Draft: GDR	Date: 8/19/21
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Drawing Name: 21130-PLAN.dwg		
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0	08/18/22	ISSUED FOR REVIEW	EMP
REV.	DATE	REVISION	BY

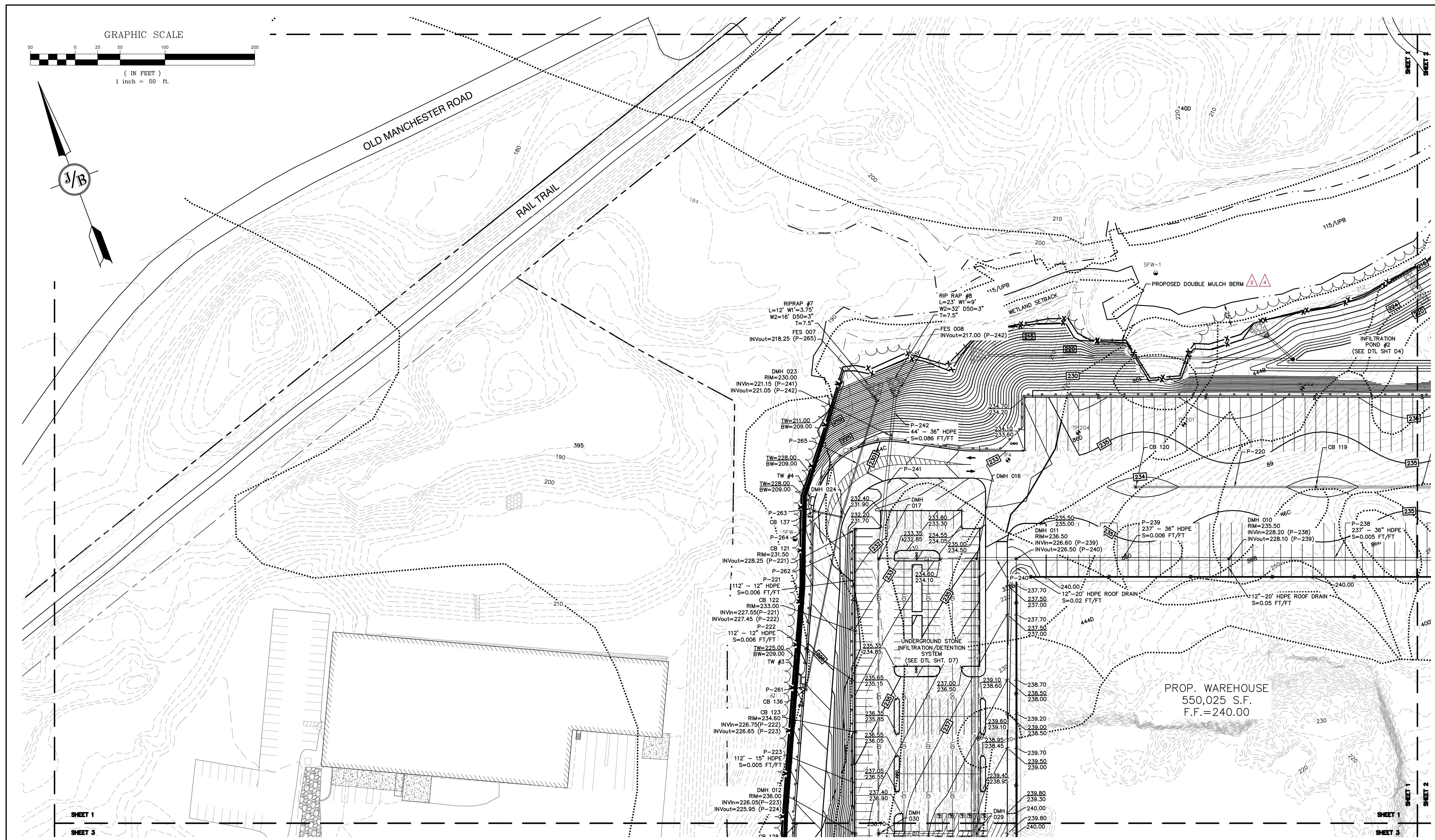
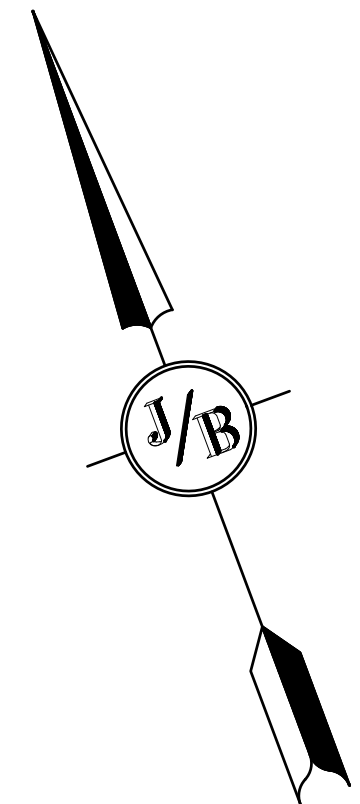
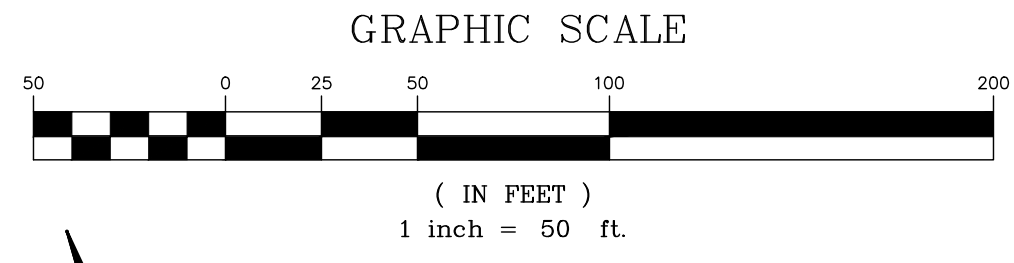
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J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	GRADING AND DRAINAGE PLAN
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	C3
SHEET 8 OF 45 JBE PROJECT NO. 21130	



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DRAWING No.	C3-1
SHEET 9 OF 45	
JBE PROJECT NO. 21130	



Design: WGM Draft: GDR Date: 8/19/21
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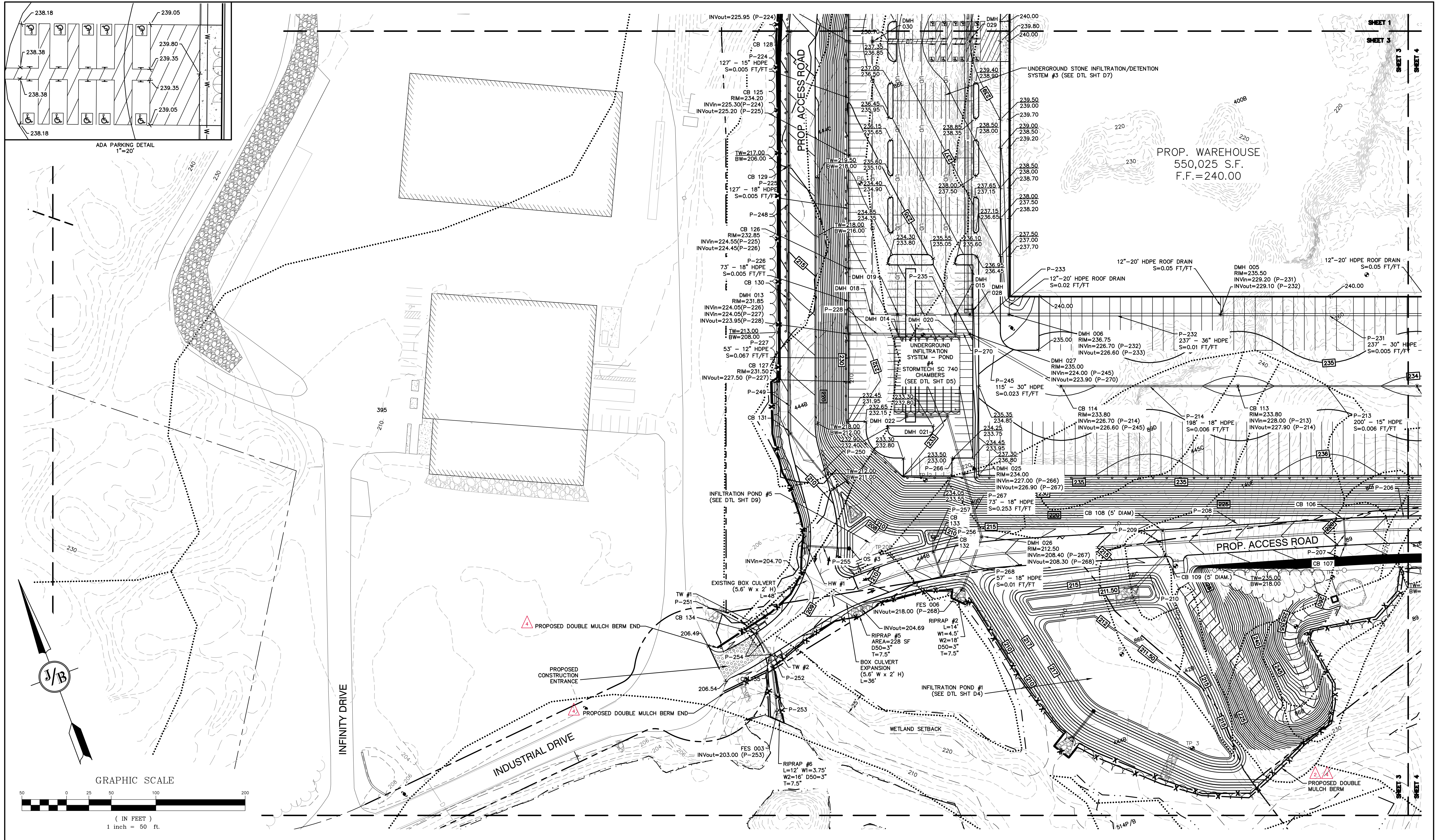
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 Civil Engineering Services
 603-772-4746
 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **GRADING AND DRAINAGE PLAN**
 Project: **RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH**
 Owner of Record: **ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030**

DRAWING No. **C3-2**
 SHEET 10 OF 45
 JBE PROJECT NO. 21130



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5	08/18/22	ISSUED FOR REVIEW	EMP
6		REVISION	BY

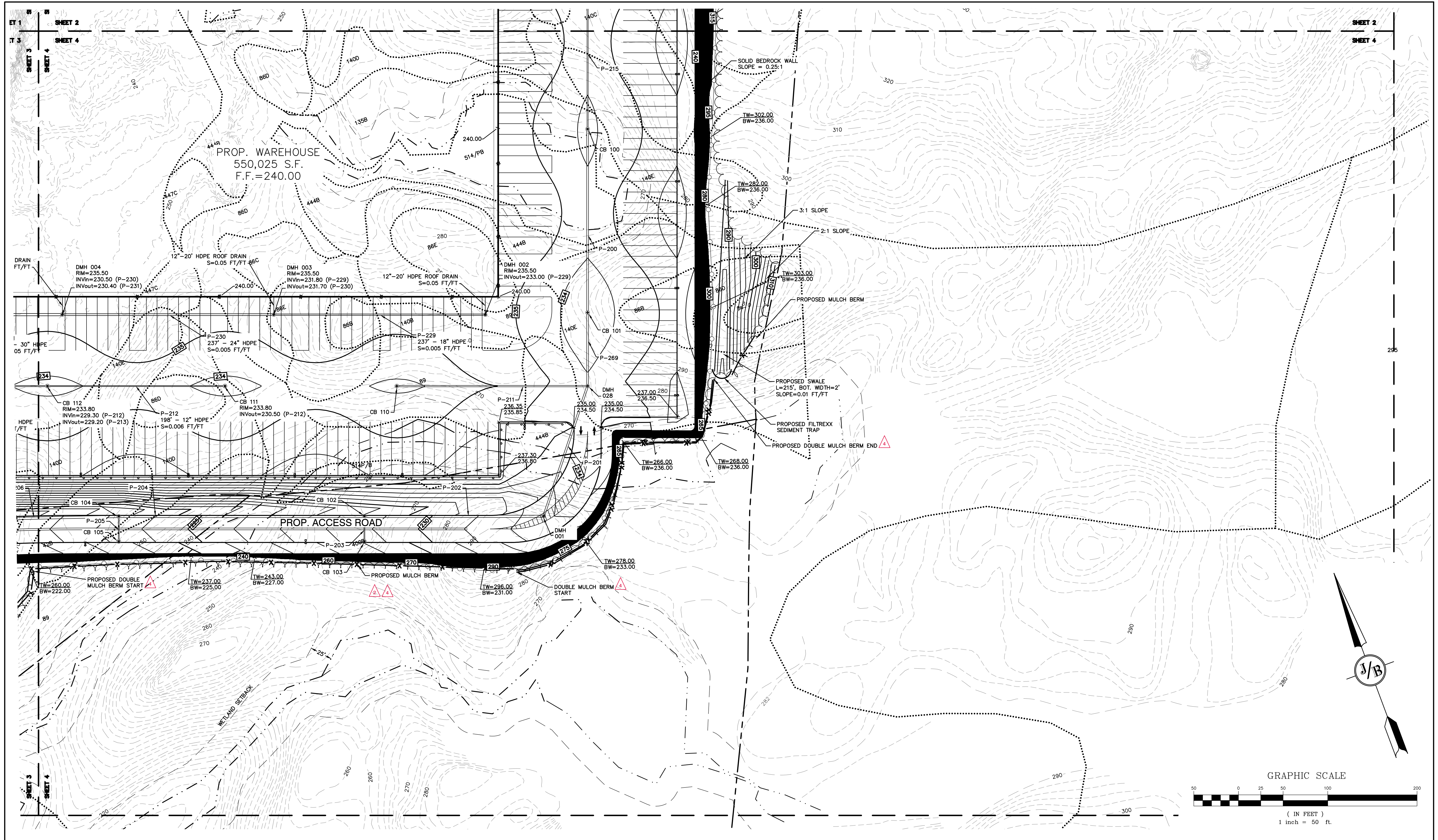
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 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	GRADING AND DRAINAGE PLAN
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	C3-3
SHEET 11 OF 45	
JBE PROJECT NO. 21130	



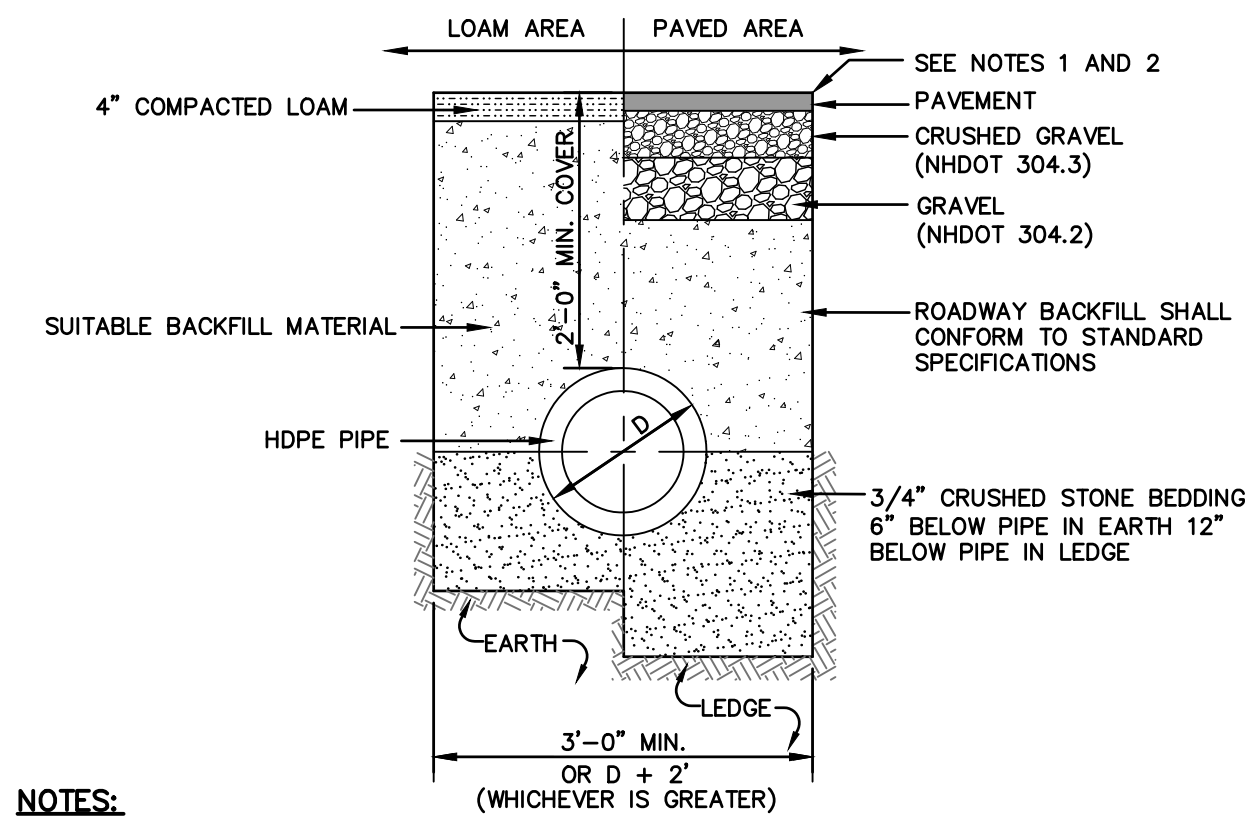
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 Checked: WGM Scale: AS NOTED Project No.: 21130
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 PO Box 219 FAX: 603-772-0227
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Plan Name: **GRADING AND DRAINAGE PLAN**
 Project: **RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH**
 Owner of Record: **ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030**

DRAWING No. **C3-4**
 SHEET 12 OF 45
 JBE PROJECT NO. 21130

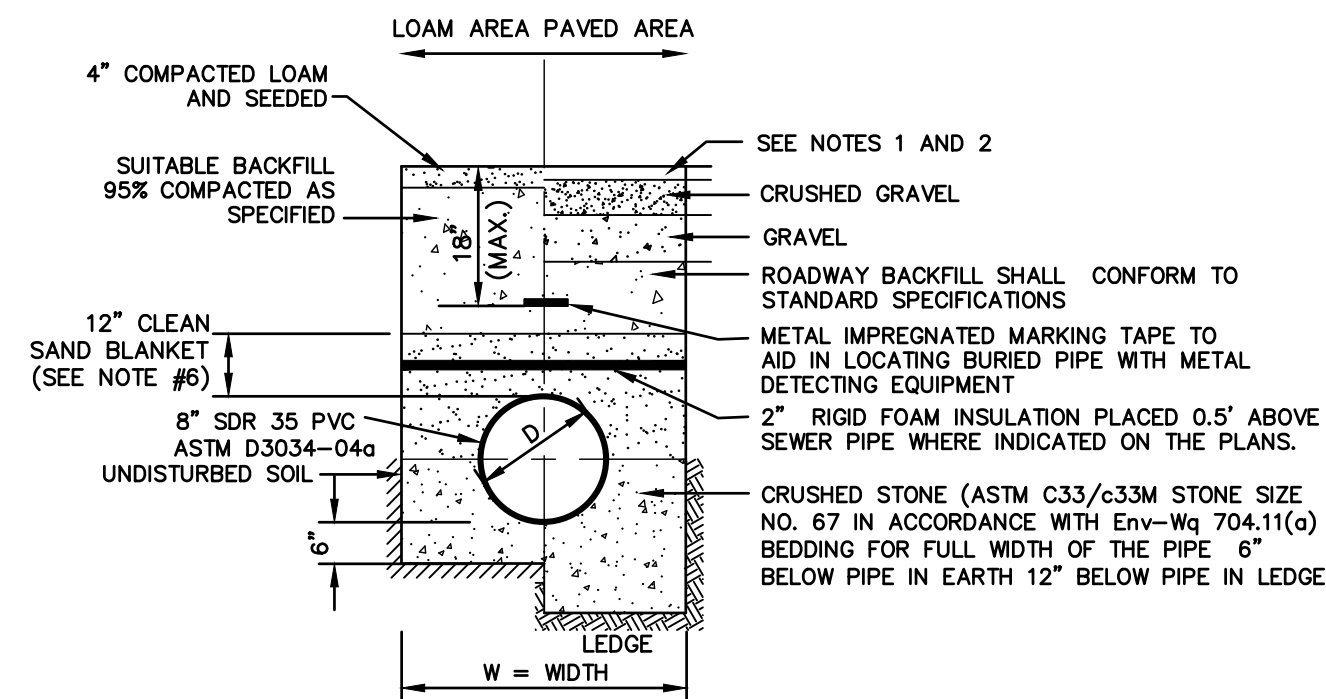


NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.
3. ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557.

DRAINAGE TRENCH

NOT TO SCALE

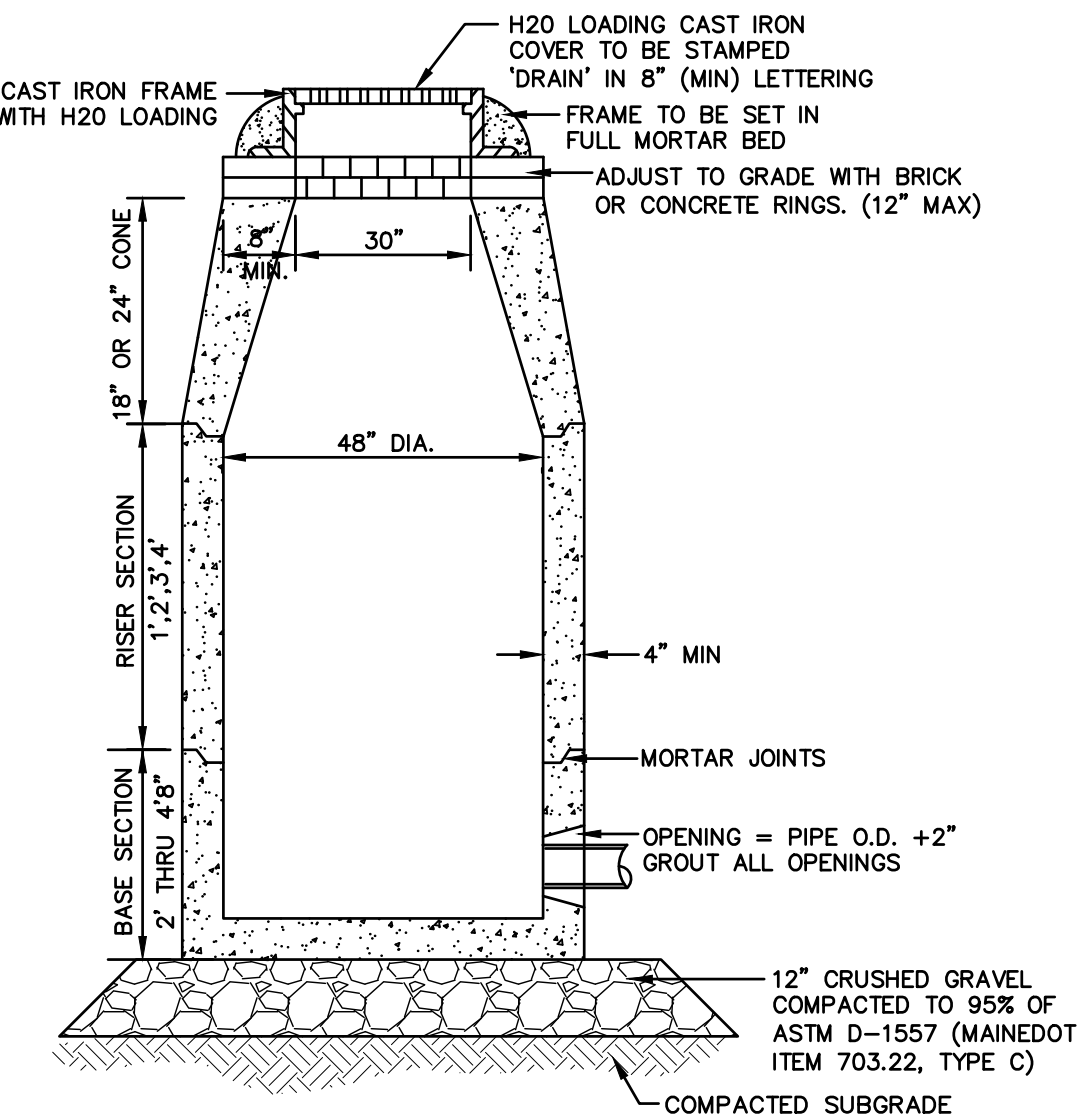


NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO PAVEMENT DETAILS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
3. TRENCH BACKFILL SHALL CONFORM WITH ENV. Wq 704.11(h) AND BE FREE OF DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE OR ROCKS OVER SIX INCHES.
4. W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, WIDTH SHALL BE NO MORE THAN 36"; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, WIDTH SHALL BE 24 INCHES PLUS PIPE O.D. WIDTH SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
5. RIGID FOAM INSULATION TO BE PROVIDED WHERE COVER IN THE ROADWAY IS LESS THAN 6" AND CROSS COUNTRY IS LESS THAN 4", PURSUANT TO DES WAIVER BEING ISSUED.
6. PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND, FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100% PASSES A 1/2" SIEVE AND A MAXIMUM OF 15% PASSES A #200 SIEVE IN ACCORDANCE WITH ENV-Wq 704.11(b).
7. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL AND CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE ASTM D3212 STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE PER ENV-Wq 704.05 (e).

SEWER TRENCH

NOT TO SCALE

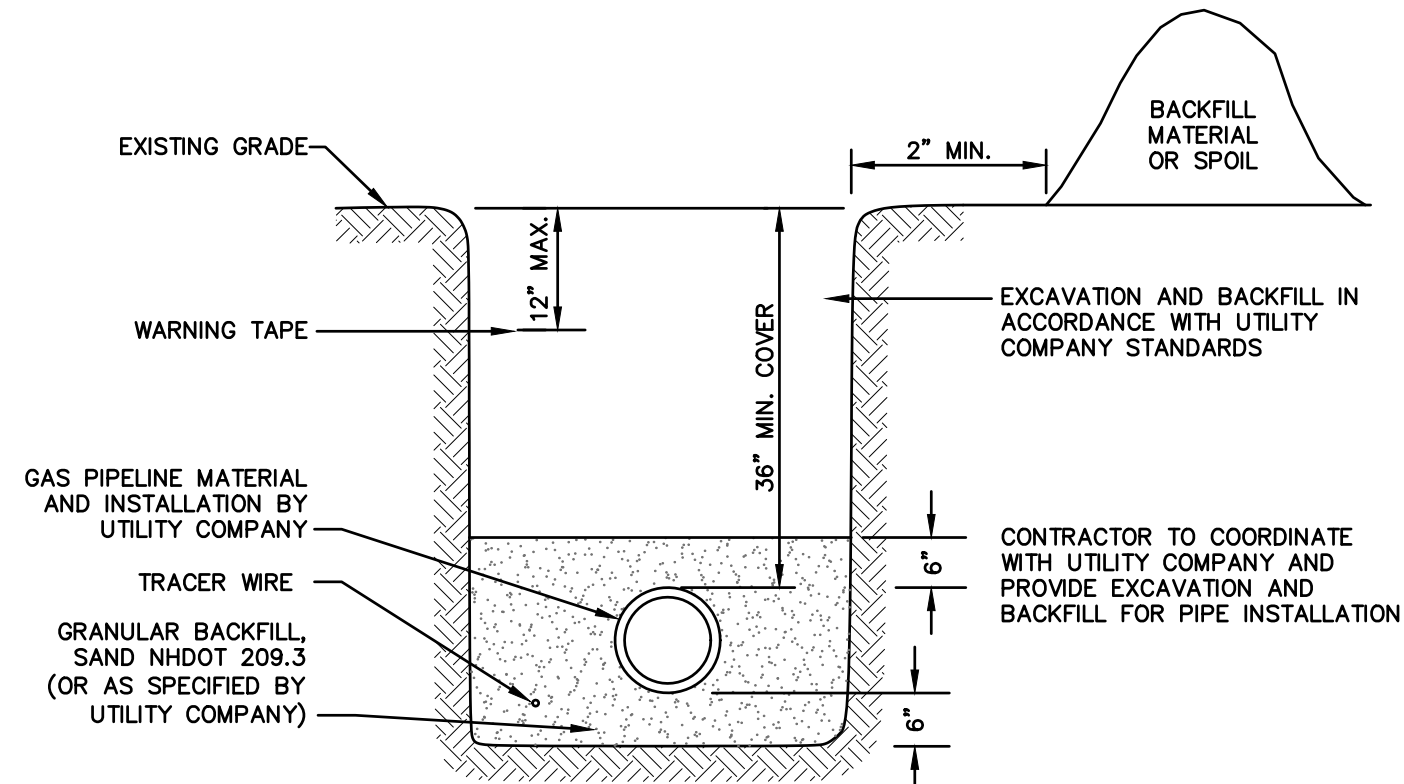


NOTES:

1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
2. ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
5. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
7. ALL DRAIN MANHOLE FRAMES AND GRATES SHALL BE NEEHAH R-1798 OR APPROVED EQUAL (30" DIA. TYPICAL).
8. STANDARD FRAME(S) AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE "DONUTS".

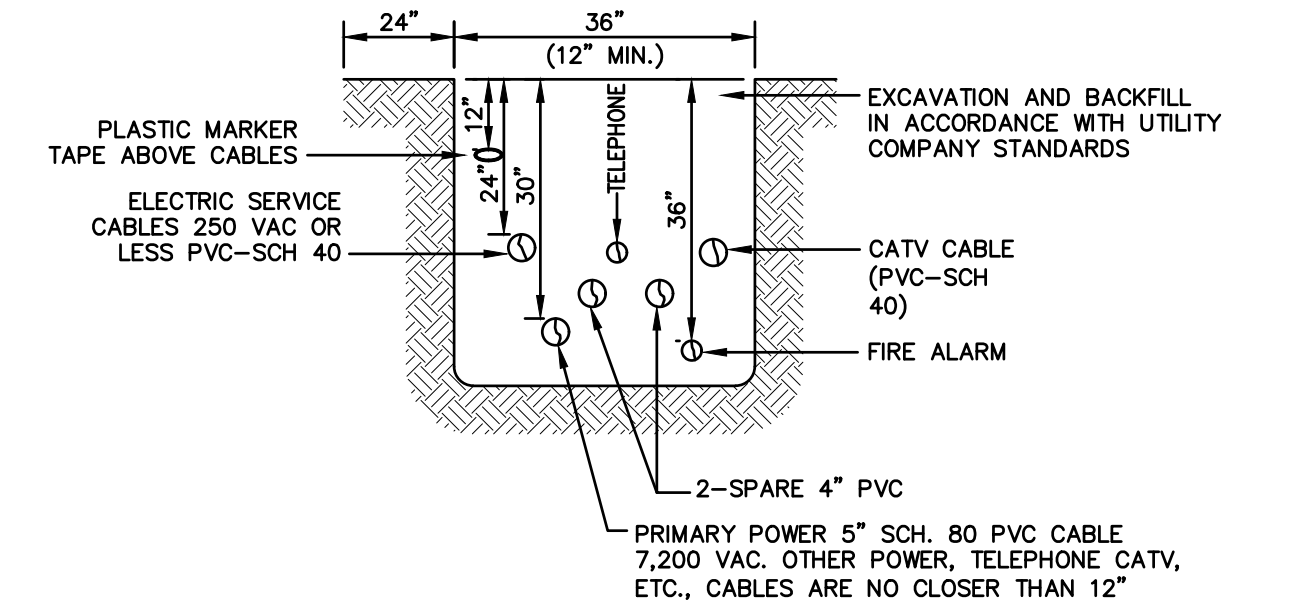
DRAIN MANHOLE (4' DIAM.)

NOT TO SCALE



GAS TRENCH

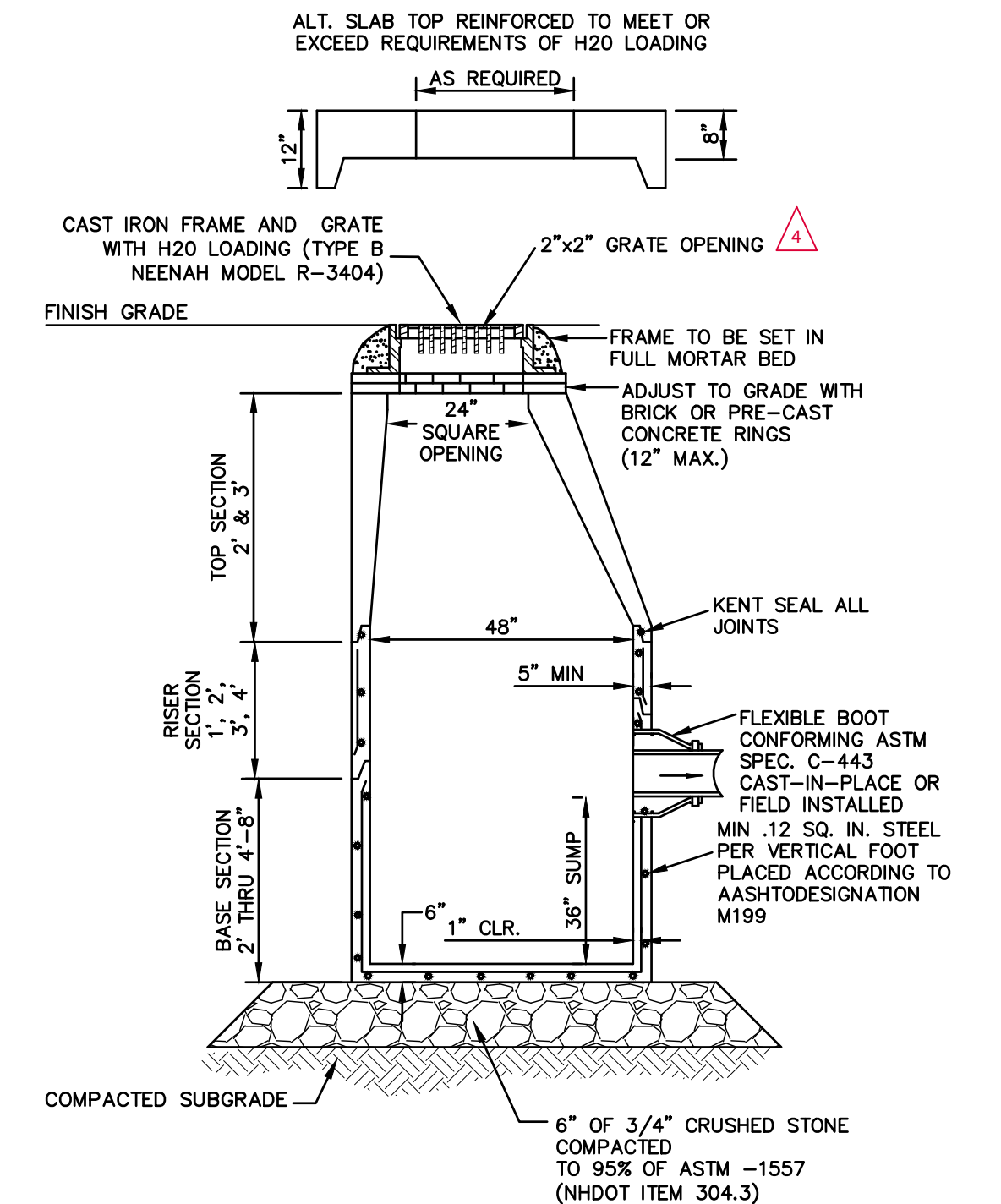
NOT TO SCALE



NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

UTILITY TRENCH

NOT TO SCALE



NOTES:

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3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
5. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
7. ALL CATCH BASIN FRAMES AND GRATES SHALL BE NHDOT CATCH BASIN TYPE ALTERNATE 1 OR NEEHAH R-3570 OR APPROVED EQUAL (24"x24" TYPICAL).
8. STANDARD CATCH BASIN FRAME AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE "DONUTS".

CATCH BASIN

NOT TO SCALE

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85 Portsmouth Ave. Stratham, NH 03885

Civil Engineering Services

603-772-4746

FAX: 603-772-0227

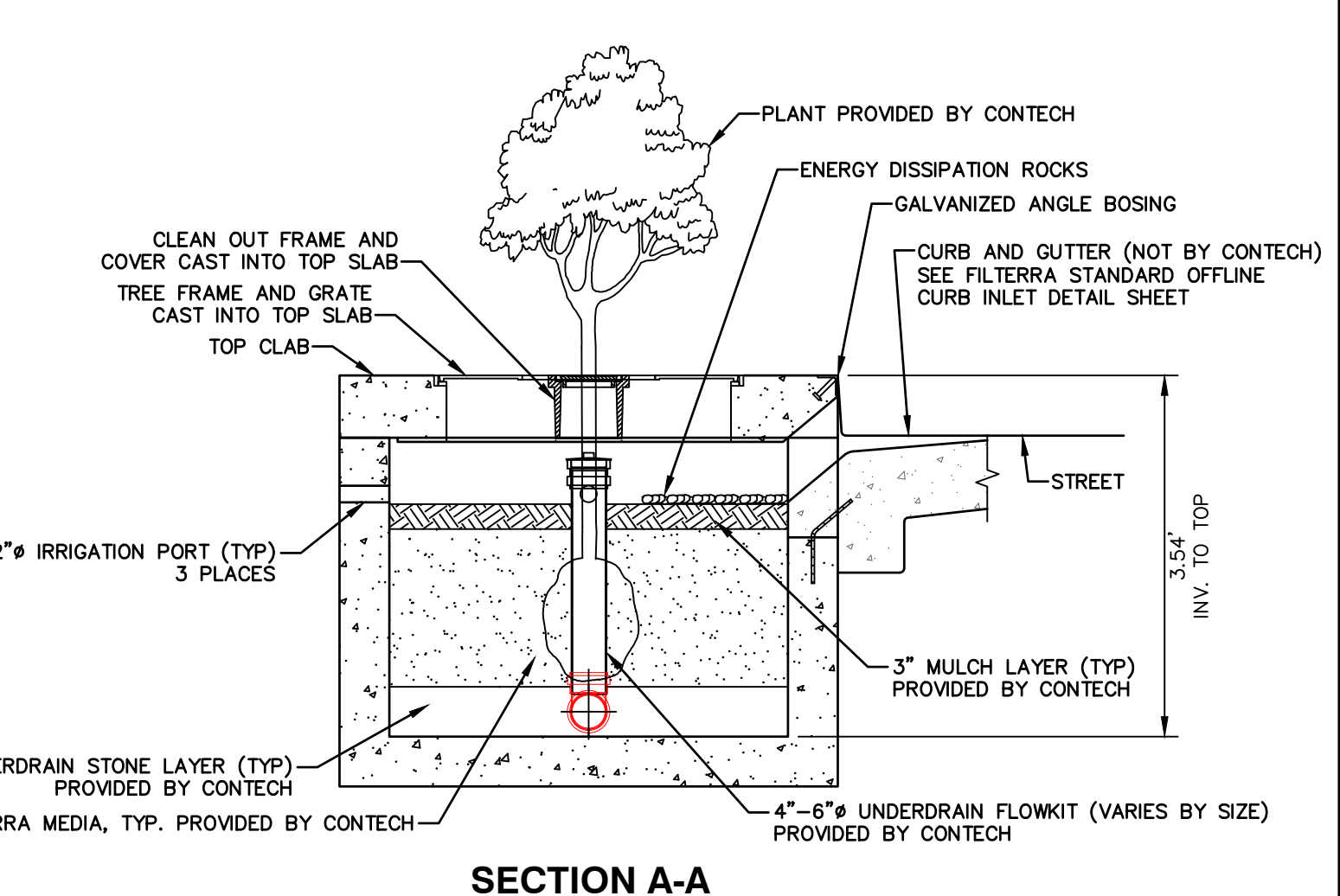
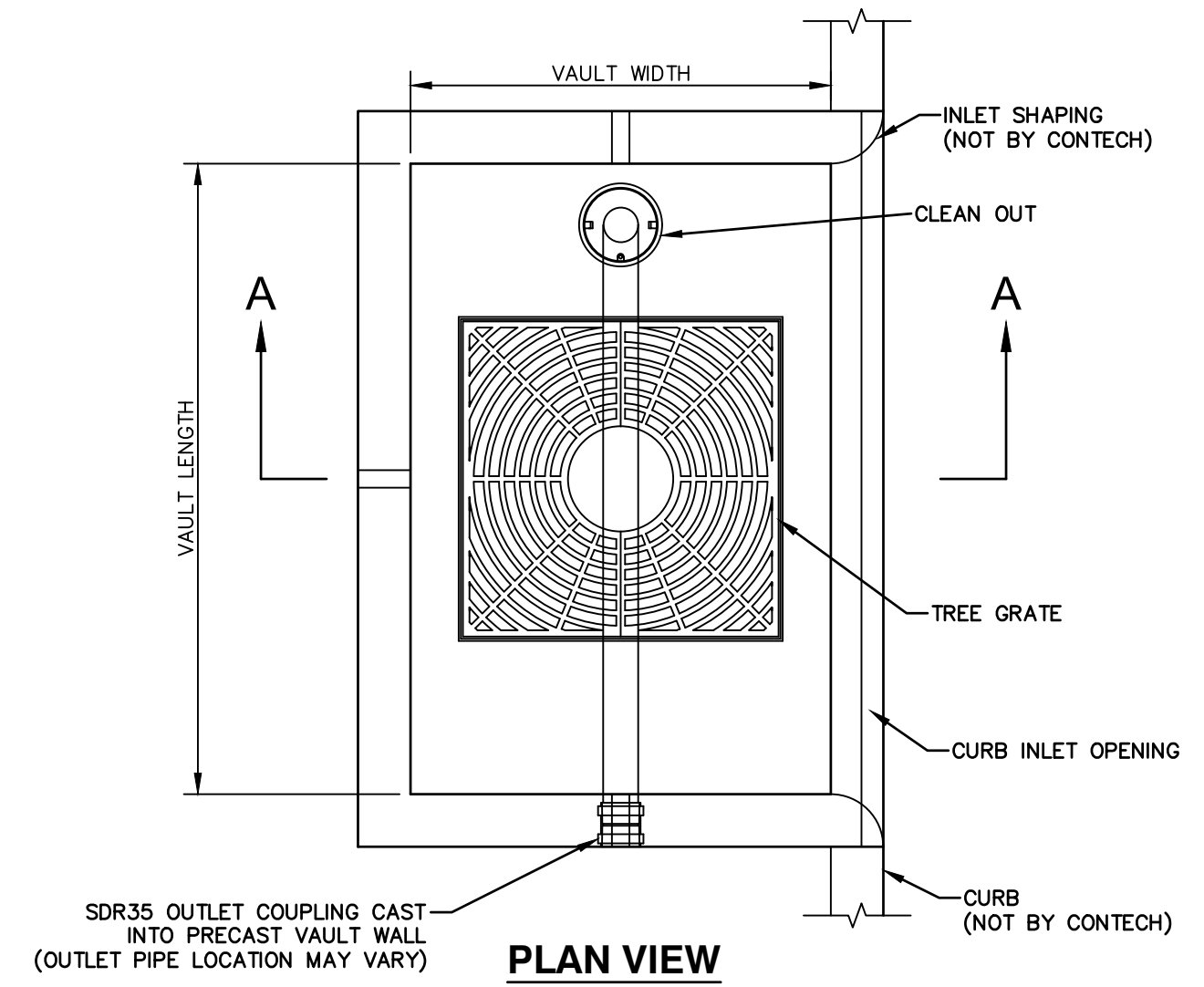
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	RAYMOND DISTRIBUTION INDUSTRIAL DRIVE, RAYMOND, NH
Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	D2
SHEET 34 OF 45	JBE PROJECT NO. 21130

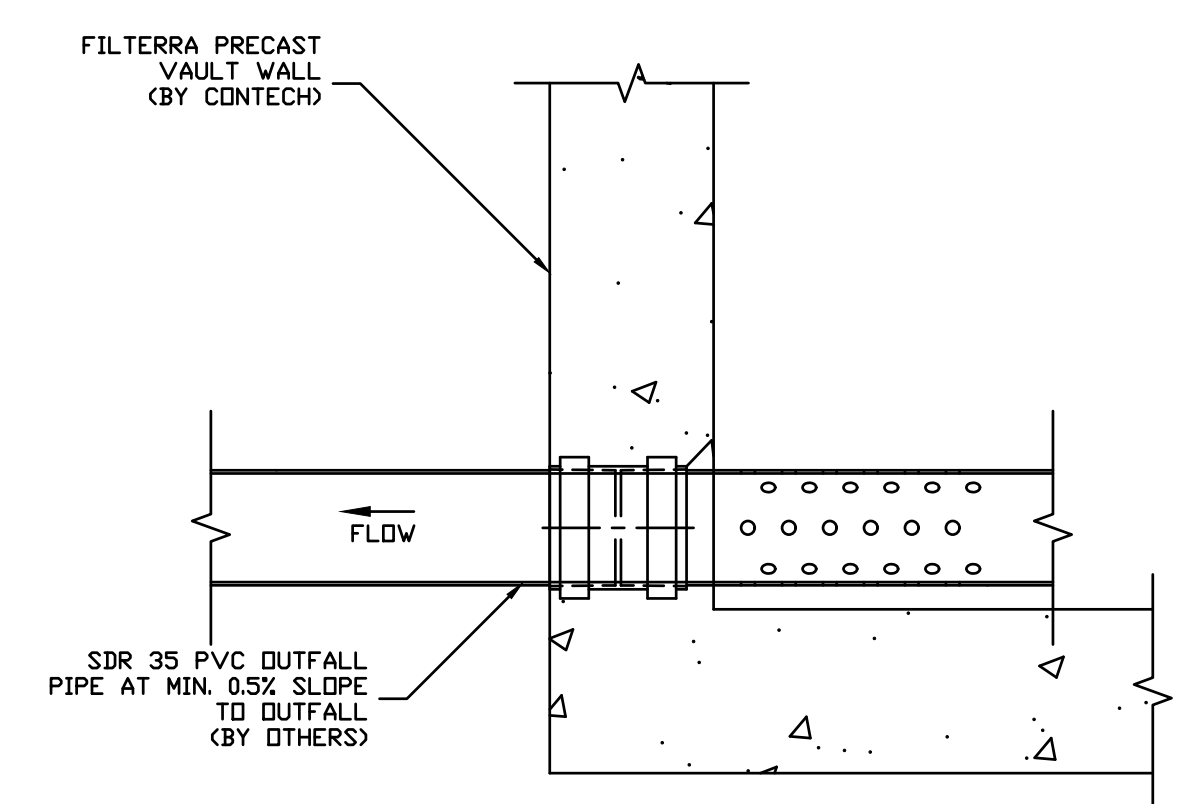
FTIBC-C LONG SIDE CURB INLET										
DESIGNATION (SHORT SIDE)	SIZE (MEDIA BAY)	VAULT LENGTH	VAULT WIDTH	MAX. BYPASS PIPE SIZE	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF.)	TREE GRATE QTY. & SIZE	THROAT INVERT (B)	OUTLET INVERT (A)	COVER RIM (C)
TW #1 FTIBC-C0804	8' x 4'	10'-0"	4'-0"	8" SDR 35	1.89	4" SDR 35	(1) 3' x 3'	208.05	204.63	208.55
TW #2 FTIBC-C0604	6' x 4'	8'-0"	4'-0"	8" SDR 35	1.89	4" SDR 35	(1) 3' x 3'	208.05	204.63	208.55
TW #3 FTIBC-C0604	6' x 4'	8'-0"	4'-0"	8" SDR 35	1.89	4" SDR 35	(1) 3' x 3'	224.15	220.70	224.65
TW #4 FTIBC-C0804	8' x 4'	10'-0"	4'-0"	8" SDR 35	1.89	4" SDR 35	(1) 3' x 3'	228.30	224.85	228.80

INTERNAL PIPE CONFIGURATION MAY VARY DEPENDING ON VAULT SIZE



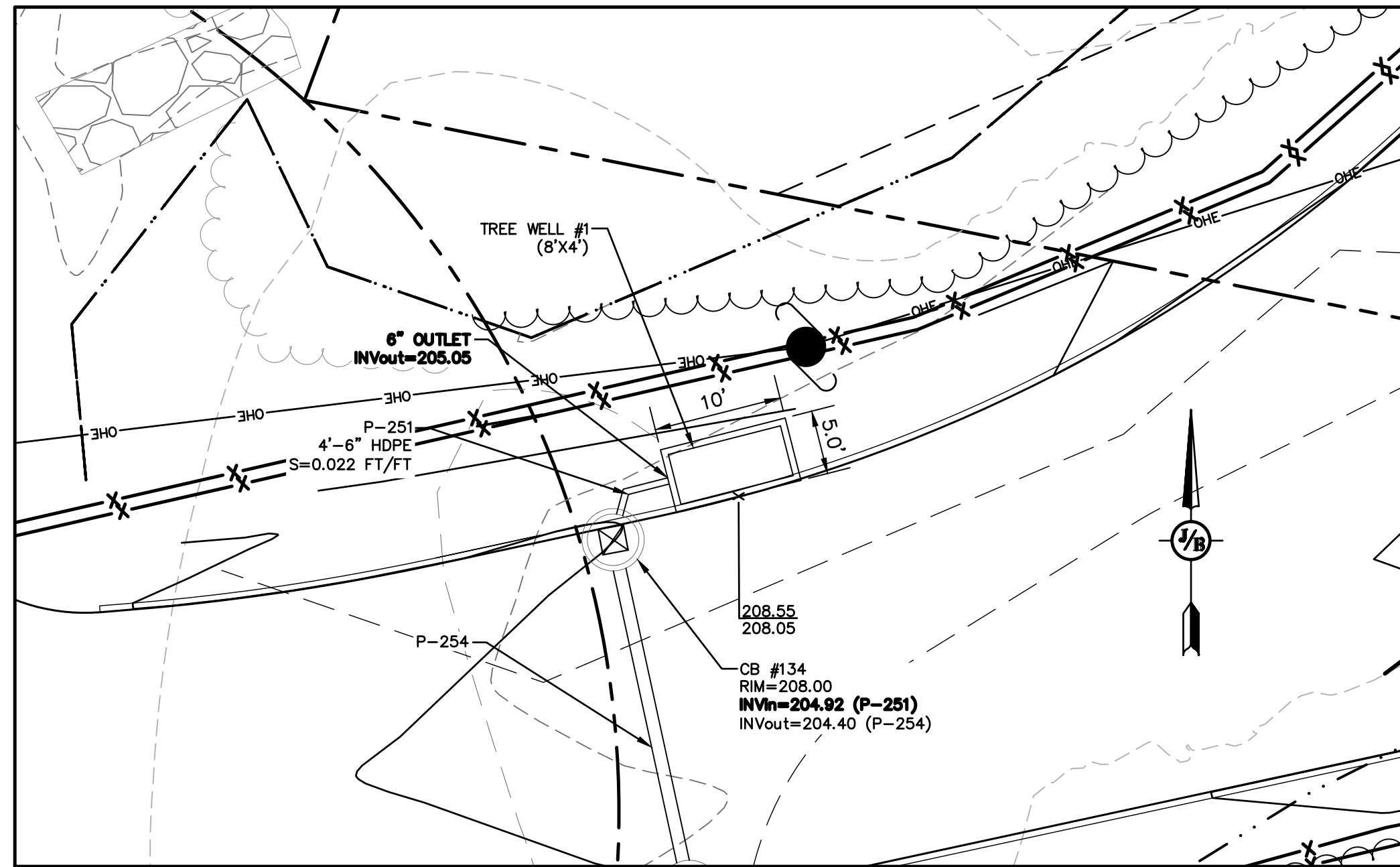
FILTERRA OFFLINE DETAIL (LONG SIDE INLET)

NOT TO SCALE



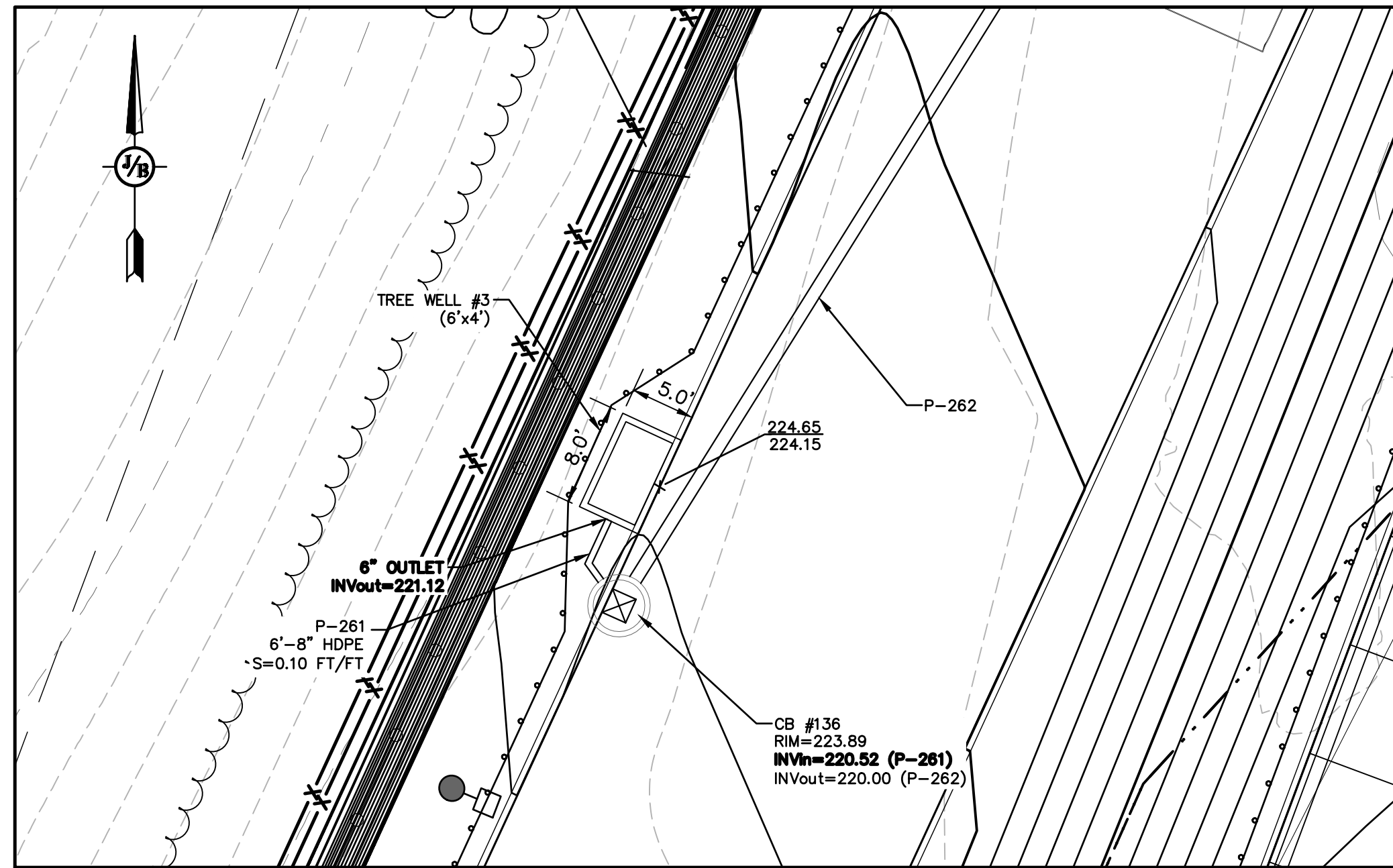
FILTERRA OUTFALL PIPE CONNECTION DETAIL

NOT TO SCALE



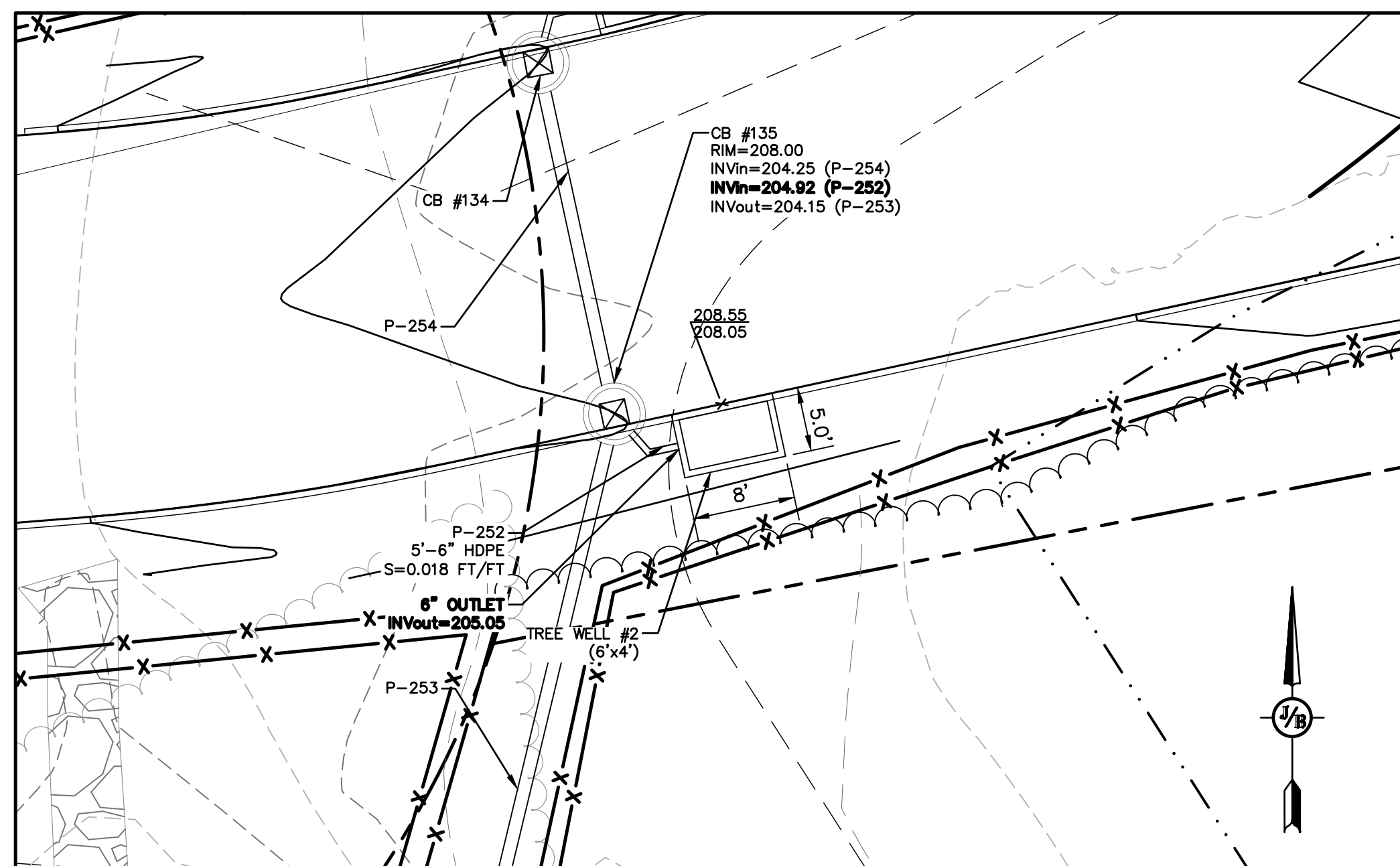
FILTERRA TREE BOX: TREEWELL #1

SCALE: 1"=10'



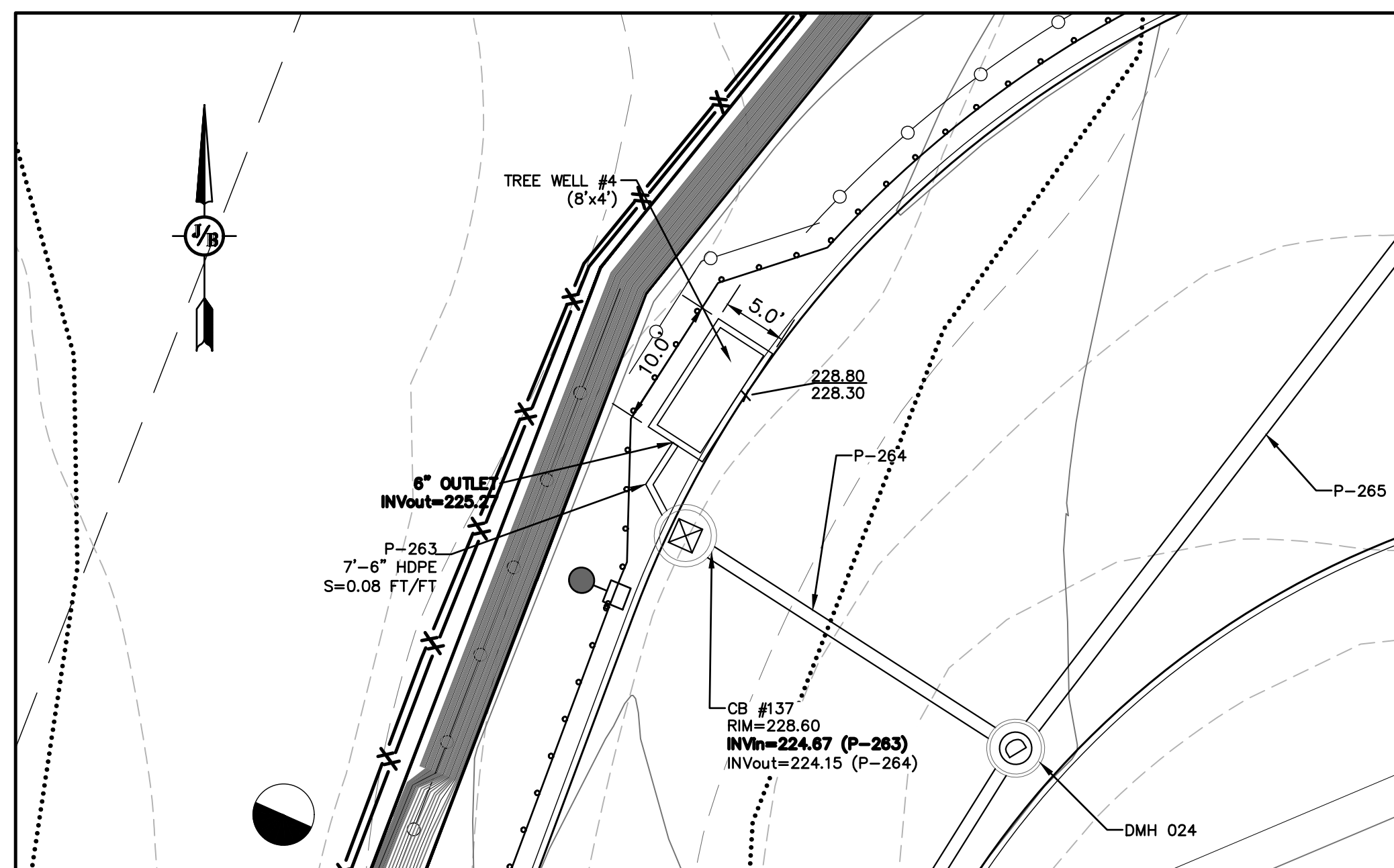
FILTERRA TREE BOX: TREEWELL #3

SCALE: 1"=10'



FILTERRA TREE BOX: TREEWELL #2

SCALE: 1"=10'



FILTERRA TREE BOX: TREEWELL #4

SCALE: 1"=10'

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Civil Engineering Services

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FAX: 603-772-0227
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Plan Name:	DETAIL SHEET
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Owner of Record:	ONYX RAYMOND LLC 60 CENTRE STREET, DOVER, MA 02030

DRAWING No.	D8
SHEET 40 OF 45	JBE PROJECT NO. 21130



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

April 6, 2023

Onyx Partners LTD
Attn: Anton Melchionda
60 Center Street
Dover, MA 02030
(sent via email to: anton@onyxpartnersltd.com)

Re: Hard Rock Development Excavation
Industrial Drive - Raymond, NH
Tax Map/Lot #: 28.3/120 & 22/44

Amended Permit: AoT-0195A
Original Permit Issuance: November 30, 2010

Dear Applicant:

Based upon a recent request, we are hereby amending RSA 485-A:17 Alteration of Terrain Permit AoT-0195. **The amendment consists of a change in permittee from Hard Rock Development, LLC to Onyx Partners LTD.** The amended permit number is AoT-0195A. The permit is subject to the following conditions:

PROJECT SPECIFIC CONDITIONS:

1. **The Permittee must provide the Department a Progress Plan, which consists of a written update and revised plans documenting the status of the project every five years from the issuance of this permit. The next Progress Plan is due in July 2024.**
2. The approved plans dated November 5, 2010, and supporting documentation in the permit file are a part of this approval.

GENERAL CONDITIONS:

1. Activities shall not cause or contribute to any violations of the surface water quality standards established in Administrative Rule Env-Wq 1700.
2. You must submit revised plans for permit amendment prior to any changes in construction details or sequences. You must notify the Department in writing within ten days of a change in ownership.
3. You must notify the Department in writing prior to the start of construction and upon completion of construction. Forms are available at:
<http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm>.
4. Activities shall not cause any violation of fugitive dust requirements established in Administrative Rule Env-A 1002. Precautions shall be taken throughout the duration of the activity to prevent, abate, and control the emission of fugitive dust. Precautions shall include, but not be limited to, the use of water, hydrophilic material, or tarps on operations, surfaces, and material stockpiles.

5. If applicable, no activity shall occur in wetland areas until a Wetlands Permit is obtained from the Department. Issuance of this permit does not obligate the Department to approve a Wetlands Permit for this project.
6. This permit does not relieve the applicant from the obligation to obtain other local, state or federal permits that may be required (e.g., from US EPA, US Army Corps of Engineers, etc.). Projects disturbing over 1 acre may require a federal stormwater permit from EPA. Information regarding this permitting process can be obtained at:
<http://des.nh.gov/organization/divisions/water/stormwater/construction.htm>.
7. This project has been screened for potential impact to known occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have not been surveyed in detail, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species. This permit does not authorize in any way the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.

Sincerely,



Michael Schlosser, PE
Alteration of Terrain Bureau

ec: Raymond Planning Board (cmccarthy@raymondnh.gov)
Wayne Morrill, Jones & Beach Engineers, Inc.
James Watkins

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T: 603.623.3600
F: 603.624.9463
www.gza.com



VIA EMAIL

April 6, 2023
File No. 04.0191548.00

Ms. Christina McCarthy
Tax Collector
Town of Raymond
4 Epping Street
Raymond NH 03077
603-895-7016
cmccarthy@raymondnh.gov

Re: Technical Review Summary Letter
Proposed Onyx Raymond LLC Development
Raymond, New Hampshire

Dear Ms. McCarthy;

GZA GeoEnvironmental, Inc. (GZA) has prepared this technical review summary letter (Summary Letter) to provide the Town of Raymond, New Hampshire (the Town) with a summary of our review and recommendations associated with historical environmental concerns regarding the proposed Onyx Raymond LLC Warehouse Building on and proximate to the Former Regis Tannery property in Raymond, New Hampshire (Site). Within this letter the Former Regis Tannery property is referred to as the Site and the property that is proposed for the construction of the Onyx Raymond LLC Warehouse Building is referred to as the Onyx Property. The northern portion of the Onyx Property is located within the Site boundary. GZA's technical support and review services were completed as described in our Proposal dated February 14, 2023. This Summary Letter provides our technical comments and opinions regarding the proposed redevelopment in the context of known or potential historical contamination issues associated with the Site.

We have developed this Summary Letter based on preliminary discussions with the Town, our review of documents provided to GZA by the Town, documents readily available on the New Hampshire Department of Environmental Services (NHDES) OneStop online database, and our experience working on the Site, as referenced in reports previously prepared by GZA. There have been numerous environmental studies and remedial activities over the years at the Site to assess and manage legacy environmental issues associated with the former tannery operation. Our review services included review or consideration of historical documents and evaluation of potential environmental concerns relative to encountering, mobilizing, or disturbing historical contamination conditions. A list of documents that were reviewed are provided in **Attachment A**.

This letter is subject to the Limitations in **Attachment B**.

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SITE HISTORY AND BACKGROUND

The historical Site (*i.e.*, the Former Regis Tannery property) consists of two parcels identified as Lot 43 (formerly Lot 17) and Lot 120 (formerly Lot 50); located approximately 300 feet (ft.) south of the Lamprey River. **Figure 1** and **Figure 2** contained in **Attachment C** illustrates the location of the proposed warehouse project in context of the Site (Base map from the Jones and Beach development drawings). **Figure 2** depicts Lot 43 (4.24 acres), to the north of the B&M railroad bed which was the location of the former leather tannery buildings and a railroad loading dock. Lot 120, to the south of the B&M railroad bed, is 71.75 acres in size and was the location of two of the former tannery's wastewater settling lagoons identified as Lagoon 1 and Lagoon 2, and a wetland pond formerly dammed and identified as Lagoon 3. Based on previous site investigations, groundwater in the northern area of the Site where monitoring wells are present, is inferred to flow to the north/northwest, towards the Lamprey River. **Figures 1** and **2** are site plans at different scales illustrating certain geographic features, site boundaries, certain historical environmentally relevant features, and the proposed Onyx Raymond LLC proposed development (Onyx property; further defined in subsequent sections).

Prior to 1953, the Faulkner Shoe Company occupied the eastern portion of Lot 43. By 1953 the former Regis Tannery was in operation at the Site, and consisted of a main tannery building, three lagoons, a subsurface piping system associated with a former wastewater drainage, a septic tank, two petroleum underground storage tanks (USTs), a brine UST, and settling and buffing dust pits. Liquid wastes from the facility on Lot 43, consisting primarily of tanning vat solutions and coloring vat solutions from the buffing room, were washed down to a network of concrete and red brick-lined trench drains. Discharge from the drains entered a shallow concrete buffing dust pit, and subsequently overflowed into a concrete settling tank located about 50 ft. north of the main tannery building.

Between 1953 and 1961, wastewater (from the settling tank) was originally discharged into the Lamprey River via pipes under Old Manchester Road. After 1961, the wastewater was discharged into the three unlined lagoons on Lot 120. Reportedly, when storage capacity of Lagoons 1 and 2 were exceeded, wastewater from Lagoons 1 and 2 were pumped and transmitted via an aboveground pipe to Lagoon 3, or via Wetland A and following Lagoon 3 Trench that discharged to Lagoon 3. Lagoons 1 and 2 are located proximate to the northern boundary of the Onyx property and Lagoon 3 is located within the Onyx property. Discharge of liquids from the lagoons was primarily through infiltration into the ground, evaporation, and periodic overflow of the berms.

Leather scraps were generally shipped off Site for disposal; however, in the early 1970s, a deep depression to the north of the tannery building and adjacent to Old Manchester Road was filled with leather scraps to create a level area for use as a parking lot. Additionally, based upon previous investigations, leather scraps were incorporated into fill material to varying degrees throughout the former tannery building area and berms constructed on Lot 120 to create Lagoons 1, 2, and 3. Tannery operations ceased in 1972 when the building was destroyed by fire. Following the fire, the Site building was demolished and leveled.

The Site area had numerous phases of site investigation activities to evaluate the hydrogeology, and the environmental impacts associated with the former tannery operations. This work included characterization of subsurface soils and groundwater conditions, and the collection of sediment and surface water samples. These investigation activities informed the development of a remedial action plan (RAP) for the Site in 2007. Remedial actions were performed in 2008 and 2009 in accordance with the RAP and included excavation of impacted soils from Wetland A and Lagoon 3 trench, and also materials from Lagoon 2 including buffing dust and leather scraps. The materials from Lagoon 2 were excavated and relocated to the Consolidation Area within former Lagoon 1. An activity and use restriction (AUR) was established as an institutional control in 2012 to restrict soil disruption and maintain the integrity of the surface cap on the Consolidation Area.



A Groundwater Management Permit (GMP) with a Groundwater Management Zone (GMZ) was first issued for the Site in 2013 and monitoring has been ongoing. Groundwater monitoring for total chromium has been ongoing since the issuance of the GMP by NHDES. Concentrations of total chromium have been detected below the Ambient Groundwater Quality Standard (AGQS) for total chromium of 100 micrograms per liter ($\mu\text{g/L}$). Groundwater monitoring for per- and polyfluoroalkyl substances (PFAS) has been ongoing since 2018 with the detection of certain PFAS compounds above AGQS in certain monitoring wells. On October 19, 2017, NHDES issued a letter indicating that PFAS are to be sampled at the existing on-Site monitoring wells. PFAS concentrations exceeding the NHDES AGQS were detected in multiple wells during July 2019 (refer to **Figure 2**). The GMP requires the sampling of three wells on Lot 120 (MW-1, MW-2, and GZ-3) once every year in June for the analyses of PFAS substances; one well (MW-3) in June of each odd year for the analysis of PFAS substances; and two wells (MW-2 and GZ-3) in June 2023 and June 2026 for the analysis of dissolved chromium.

SUMMARY OF PROPOSED FUTURE SITE USE

GZA reviewed plans and other documentation regarding the proposed development that has been prepared by Jones and Beach Engineers Inc (Jones and Beach). The GZA review focused on gaining an understanding regarding the proposed development plans and the potential for encountering, disturbing, or influencing known or potential contamination conditions related to the Site. Based on information provided by the Raymond Planning Board, Onyx Raymond LLC is proposing the development of a 550,000 square foot warehouse structure on the Town of Raymond Tax Map referenced as Map 22 Lots 44, 45, 46, 47 and Map 28, Block 3 Lot 120-1 (Onyx property). The total paved area that is planned for the development is 775,185 square feet. The total land surface that is anticipated to be disturbed during the construction is 1,774,358 square feet.

SUMMARY OF DATA RELATED TO PROPOSED SITE AREA TO BE REDEVELOPED

Environmental data for the portion of the historical Site proposed for the construction of the warehouse is limited to previous site investigations by GZA and recent sampling documented in an Enviro North American Consulting LLC (ENAC) letter dated December 8, 2022. Relevant data from the March 3, 2005 GZA site investigation indicated chromium concentrations in sediment samples collected from Lagoon 3 and Wetland A exceeding the S-1 standard in the NHDES Risk Characterization and Management Policy (RCMP).

The ENAC December 8, 2022 letter presents results of surface water quality sampling on and proximate to the Onyx property. Low concentrations of chromium were detected in two of three samples collected. These chromium sampling data are the only environmental data that GZA is aware of for the proposed warehouse portion of the Onyx property. The analyses presented were for total chromium and did not include speciation to evaluate the type of chromium. The results for the three surface water samples were reviewed by GZA including: SFW-1 (former Lagoon 3 area detected 5.6 $\mu\text{g/L}$), SFW-2 (unnamed drainage west of the proposed warehouse <1.0 $\mu\text{g/L}$), and SFW-3 (Wetland A area detected 24 $\mu\text{g/L}$).

ENAC provided a comparison to the NHDES AGQS for total chromium of 100 $\mu\text{g/L}$. These data could also be compared to Env-Wq 1700 surface water standards which includes standards freshwater standards for acute and chronic criteria for hexavalent (16 $\mu\text{g/L}$ acute; and 11 $\mu\text{g/L}$ chronic) and trivalent (152 $\mu\text{g/L}$ acute; and 19.8 $\mu\text{g/L}$ chronic). Dependent upon the speciation of the total chromium detected by ENAC, the chromium could exceed surface water standards. The detection of chromium in these samples is inconclusive relative to the source of the chromium. The chromium detection may or may not be associated with the former tannery operational practices. GZA did not identify additional environmental data that would indicate the potential for encountering contamination conditions associated with the historical tannery activities during construction of the proposed



warehouse. The portion of the Onyx property where the proposed development is planned is situated to the south of the historical tannery operation and lagoon wastewater management areas. GZA did not identify groundwater or soil quality data for the specific area of the proposed earthwork activities for development of the warehouse.

The Remedial Action Implementation Report for the Site prepared by StoneHill Environmental Inc. dated September 30, 2011 and revised October 23, 2012 provides a summary of remedial actions performed at the Site. Important actions relative to the proposed warehouse redevelopment was remediation via excavation of contaminated soil in a former trench that contained elevated lead and chromium, and removal and off-site disposal of the former berm that created the ponding condition associated with Lagoon 3. The trench soil excavation was conducted (165 cubic yards removed) and moved to the Consolidation Area associated with Lagoon 1. Post excavation samples were compared with NHDES Soil Remediation Standards (SRS), and the results were well below SRS for total chromium. The results also were compared to Consensus-Based Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC). The applicability of these values was questionable since they are likely based on hexavalent chromium toxicity and that is a small fraction of the total chromium detected at the Site. The connecting trench was lined with a thick layer of stone rip rap which covers the drainage ditch soil containing residual chromium with concentration below SRS.

GZA notes that while groundwater impacts related to the operation of Lagoon 3 are not known, impacts to groundwater beneath Lagoon 1 and Lagoon 2 including the presence of PFAS in groundwater are known to have occurred. PFAS may or may not be present in surface waters and sediment associated with Wetland A and Lagoon 3 based upon general wastewater management that is known to have occurred.

There is very limited environmental sampling data for the Onyx property on which to base an opinion regarding the potential to encounter, disturb, or influence existing contamination conditions. Based on topography, the direction of groundwater flow beneath the Onyx property would likely be in a northerly to northwesterly direction towards the Lamprey River. It is unclear whether groundwater from beneath the Onyx property would flow in the direction of the GMZ associated with the historical tannery. Due to the creation of impervious surfaces associated with the proposed warehouse and paved surfaces, stormwater flow will be altered resulting in an increase in overland flow and the need for stormwater management systems.

The Jones and Beach design drawings provide details of the proposed stormwater management systems. The approach to manage the stormwater on the Onyx property includes discharge to stormwater ponds and infiltration galleries. Limited historical environmental data indicates sediment and surface water impacted with chromium is likely associated with the former Lagoon 3 (located to the north of and adjacent to the proposed development area). It is unclear whether stormwater generated from the proposed development would all infiltrate on the property proposed to be developed or if surface water could routinely or periodically leave the Onyx property during storm events.

It appears stormwater that would leave the Onyx property would follow existing drainage and travel in a generally northwesterly direction discharging to the Lamprey River. This existing drainage appears to be the same drainage channel that received flow from former Lagoon 3 and may also include sections of Lagoon 3 area. An increase in the magnitude of stormwater flow could result in mobilization of historical surface water or sediment contamination that may exist within drainage features. It is also unclear how the direction and rate of groundwater flow beneath the Onyx property would be altered from the focused recharge of the stormwater systems. Changes to groundwater flow dynamics beneath the Onyx property could also alter groundwater flow beneath adjacent properties. The Town has public water supply wells to the west of the Onyx property that could be sensitive to mobilization of potential contamination.



Due to the limited environmental data for the portion of the proposed property to be developed, and the presence and potential presence of contamination in off-site locations associated with the former tannery operation, as well as uncertainty with regard to the alteration of surface water and groundwater dynamics associated with the proposed development, GZA recommends additional hydrogeologic investigations and analysis be conducted to evaluate anticipated changes to groundwater and surface water flow and potential impacts to contaminated media with the implementation of new stormwater infiltration systems at the Onyx property. Based on GZA's review of historical information, and the current stormwater management design plans, we recommend the following:

- 1) Advance at least one soil boring within the footprint of each proposed stormwater infiltration gallery and infiltration pond.
 - a. Field screen soil samples from the boring(s) using a photoionization detector.
 - b. Collect soil sample(s) for analysis of volatile organic chemicals (VOCs) and Resource and Recovery Act (RCRA) metals.
 - c. Collect soil sample(s) for grain size distribution and hydraulic conductivity estimation.
- 2) Complete the soil boring(s) as a groundwater monitoring well extending 10 ft. below the water table.
 - a. Collect groundwater sample(s) from each monitoring well for analysis of VOCs, RCRA metals, and PFAS.
 - b. Perform hydraulic conductivity testing at each newly installed monitoring well.
- 3) Perform hydrogeologic analysis.
 - a. Develop a groundwater contour plan.
 - b. Estimate hydraulic conductivity of subsurface soils.
 - c. Develop soil boring logs.
 - d. Develop a site conceptual model of subsurface conditions.
- 4) Perform numerical groundwater modeling, which should include simulations of:
 - a. Predevelopment baseline conditions.
 - b. Modelled stormwater infiltration conditions with proposed infiltration galleries.
 - c. Numerical groundwater mounding assessment.
 - i. Water table mounding.
 - ii. Pre- and post-construction simulated groundwater contours.
- 5) Provide technical and engineering details to support the design of the stormwater infiltration galleries. The analyses will provide engineering estimates of the water balance for stormwater for each system detailing the amount of infiltration versus surface water leaving the Onyx property. The analyses should estimate the groundwater mounding beneath each stormwater system.
- 6) Provide key elements of a Soil and Groundwater Management Plan that will guide earthwork activities across the Onyx property in anticipation of encountering contaminated media if the investigation information indicates contamination conditions.
- 7) Provide a plan that describes how the existing monitoring well network will be protected during site development.



GZA greatly appreciates the opportunity to work on this technical review associated with this redevelopment project. If you have any questions regarding the Technical Review Summary Letter, please do not hesitate to contact Mr. Steven Lamb at (603) 494-6551.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read 'Megan E. Murphy'.

Megan E. Murphy
Project Manager

A handwritten signature in black ink, appearing to read 'James M. Wieck'.

James M. Wieck, P.G.
Consultant / Reviewer

A handwritten signature in black ink, appearing to read 'Steven R. Lamb'.

Steven R. Lamb P.G., CGWP
Principal

MEM/JMW/SRL:pca

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Attachments: Attachment A: Summary of Documents Provided for Review
Attachment B: Limitations
Attachment C: Figure 1 and Figure 2



Attachment A: Summary of Documents Provided for Review



SUMMARY OF DOCUMENTS PROVIDED FOR REVIEW

CLIENT-PROVIDED DOCUMENTS

StoneHill Environmental letter titled Groundwater Management Permit Renewal Application, dated October 29, 2019.

ENVIRO North American Consulting LLC (ENAC) letter dated December 8, 2022, titled Environmental Evaluation with Professional Opinion for Proposed Development.

ENVIRO North American Consulting LLC letter dated January 12, 2023, titled Contaminant Remedial Summary Lot 120-1: Wetland A, Lagoon 3, and Connecting Trench.

ENVIRO North American Consulting LLC Transmittal Record and Memorandum dated January 31, 2023.

GZA report dated March 18, 2005, titled Supplemental Site Investigation Former Rex Leather Site.

GZA report dated July 23, 2004, titled Site Investigation Former Rex Leather Site.

“Proposed Raymond Distribution site plan package and application revised January 2023.”

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES AVAILABLE DOCUMENTS

Underground Storage Tank Closure Report, dated June 25, 1997, by Total Waste Management Corp. (TWM).

Site Investigation Former Rex Leather Site, dated July 23, 2004, by GZA.

Draft Remedial Action Plan, dated July 20, 2007, by StoneHill Environmental Inc., and *Quality Assurance Project Plan*, dated October 2008, by StoneHill Environmental Inc.

Groundwater Management Permit Application, Former Regis Tannery- Lot 43, dated September 30, 2011, by StoneHill Environmental Inc.; *Groundwater Management Permit Application (Revised), Former Regis Tannery- Lot 120*, dated August 26, 2011, by StoneHill Environmental Inc.; *Application for Activity Use Restriction (AUR)* dated October 13, 2022, by Donahue, Tucker & Ciandella, PLLC (DTC); and *Remedial Action Implementation Report*, dated September 30, 2011, by StoneHill Environmental Inc.

Letter responses from NHDES regarding the GMP Applications for Lot 43 and Lot 120, AUR Application for Lot 120, and RAP, dated January 18, 2012; January 19, 2012; April 19, 2012; and January 23, 2012 respectively.

Letter responses from NHDES regarding the GMP Applications for Lot 43 and Lot 120, dated January 8, 2013.

Certificate of Completion from NHDES, dated March 20, 2013.

2016 Groundwater Monitoring Summary Report, Former Regis Tannery Property – Lot 120, dated August 4, 2016, by Exeter Environmental Associates, Inc (Exeter).



Letter response from NHDES regarding the 2016 Groundwater Monitoring Summary Report for Lot 120, dated April 11, 2017; and Groundwater Monitoring Data Transmittal (June 2017), Former Regis Lot 120 dated October 20, 2017, by StoneHill Environmental, Inc.

Email response from Samuele Quattrini regarding the June 2017 Data Transmittal for Lots 43 and 120, dated November 14, 2017.

Groundwater Management Permit Renewal Application, Former Regis Tannery – Lot 43, dated May 8, 2018, by StoneHill Environmental, Inc.

Groundwater Monitoring Data Transmittal (August 2018), Former Regis Tannery Property Lot 120, dated October 31, 2018, by StoneHill Environmental, Inc.

Letter response from NHDES regarding the GMP Renewal Application for Lot 43, dated January 25, 2019.

Water Well Receptor Survey, Former Regis Tannery Lot 43 and 120, dated February 1, 2019, by StoneHill Environmental.

Well Installation and Sampling Report, dated October 11, 2019, by StoneHill Environmental.

Groundwater Management Permit Renewal Application, Former Regis Tannery – Lot 120, dated October 29, 2019, by StoneHill Environmental, Inc.

Periodic Summary Report, dated January 8, 2020, by StoneHill Environmental.

Letter response from NHDES regarding the GMP Renewal Application for Lot 120, dated July 15, 2022.

Groundwater Monitoring Data Transmittal with Revised Figures (November 2022), dated December 28, 2022, by Tomforde Environmental Services, LLC.

AUR Self Certification (2022), dated January 19, 2023, by Tomforde Environmental Services, LLC.

Letter response from NHDES regarding the Town of Raymond Planning Board Questions regarding the Site, dated February 10, 2023.



Attachment B: Limitations



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

COMPLIANCE WITH CODES AND REGULATIONS

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.



SCREENING AND ANALYTICAL TESTING

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.
9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

INTERPRETATION OF DATA

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

ADDITIONAL INFORMATION

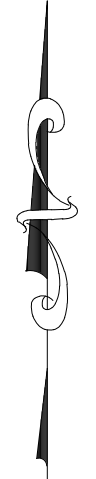
12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

ADDITIONAL SERVICES











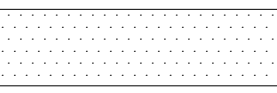

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

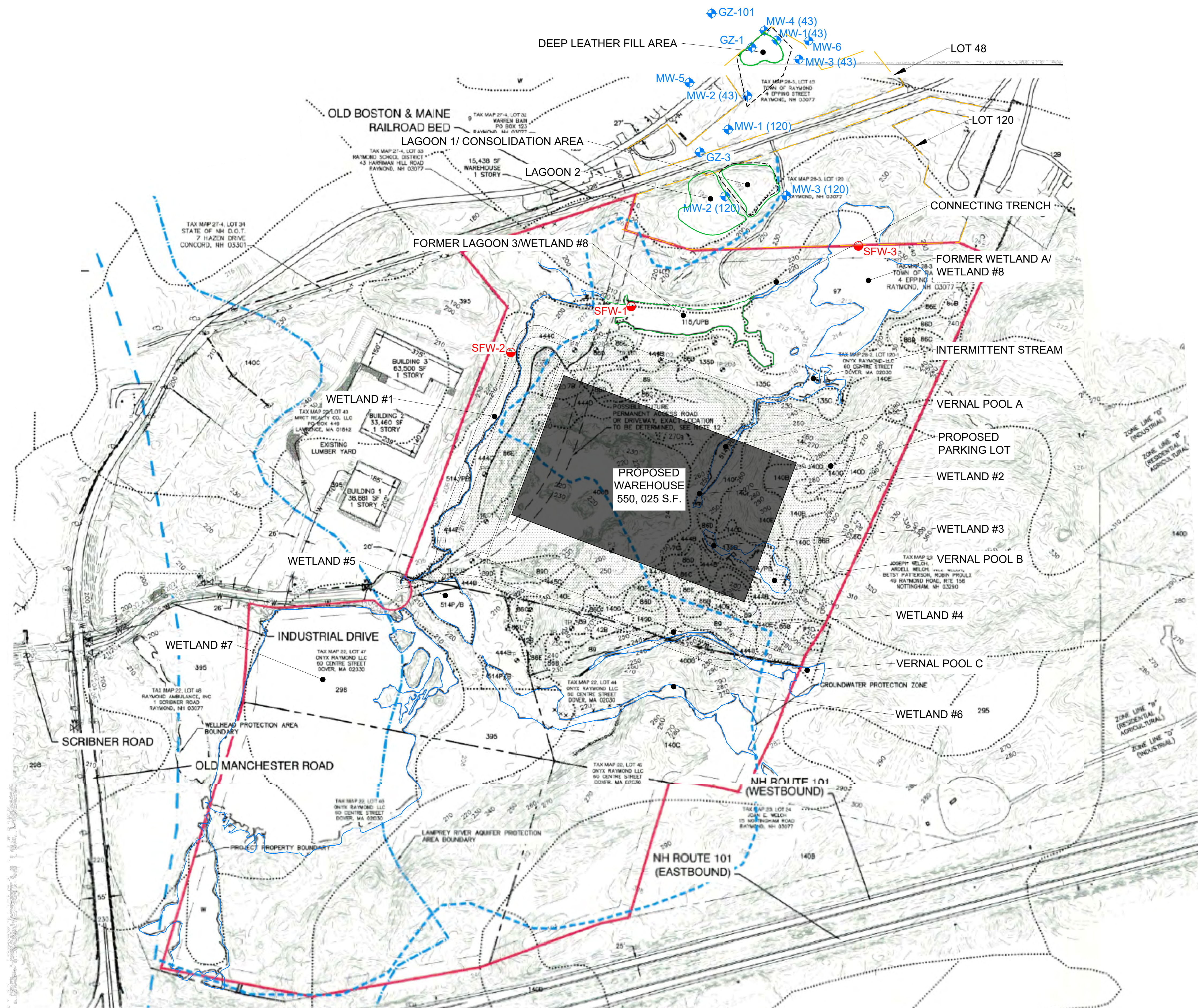


Attachment C: Figure 1 and Figure 2



LEGEND

-  SOIL BOUNDARY
-  WELLHEAD PROTECTION AREA
-  LAMPREY RIVER PROTECTION AREA
-  GROUNDWATER PROTECTION AREA
-  PROJECT PROPERTY BOUNDARY
-  PARCEL BOUNDARY
-  APPROXIMATE WETLAND BOUNDARY
-  REMEDIAL ACTION LAGOONS
-  GROUNDWATER MANAGEMENT ZONE
-  PROPOSED WAREHOUSE
-  PROPOSED PARKING LOT AND DRIVEWAY
-  MW-1 GROUNDWATER MONITORING WELLS
-  SFW-1 SURFACE WATER MONITORING WELLS



- NOTES:**
1. BASE PLAN SET WAS OBTAINED FROM JONES & BEACH ENGINEERS, INC. OF STRATHAM, NH TITLED "WAREHOUSE BUILDING "RAYMOND DISTRIBUTION" REVISIONS ON FEB. 11, 2023 AND "PROPOSED GRADING IMPACT PLAN" REVISIONS ON JUNE 30, 2022.
 2. MONITORING WELLS, GROUNDWATER CONTOURS, PFAS CONCENTRATIONS AND CHROMIUM CONCENTRATIONS WERE OBTAINED FROM FIGURE SET TITLED "FORMER REGIS TANNERY SITE", PREPARED BY STONEHILL ENVIRONMENTAL, INC.




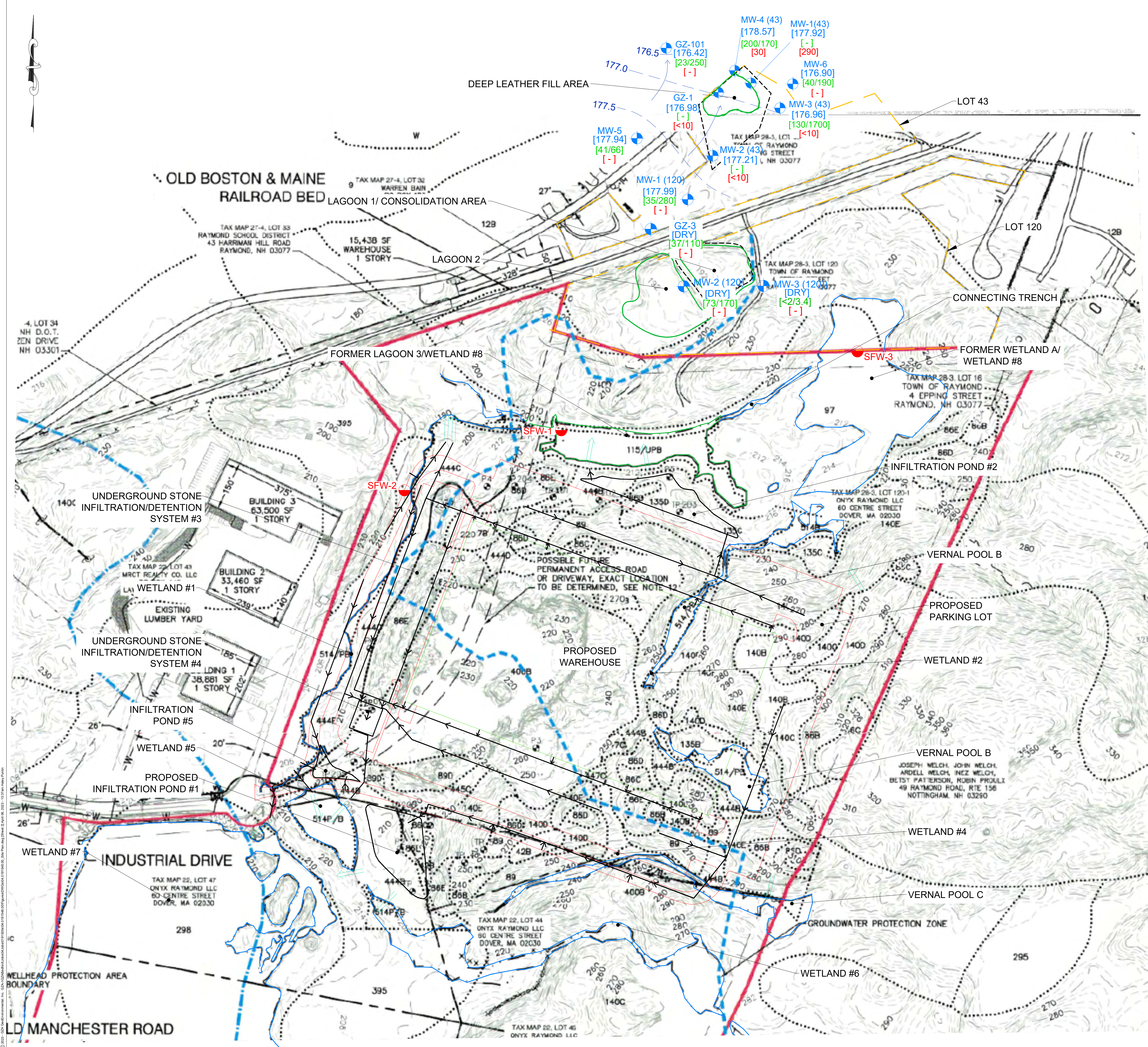
NO.	ISSUE/DESCRIPTION	BY	DATE

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**SITE DEVELOPMENT
INDUSTRIAL DRIVE,
RAYMOND, NEW HAMPSHIRE**

OVERALL SITE PLAN

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: ONYX PARTNERS LTD	
PROJ MGR: SL	DESIGNED BY: HLP	REVIEWED BY: MD	CHECKED BY: SL
DATE: MARCH 2023	DRAWN BY: HLP	PROJECT NO: 04.0191548.00	SCALE: 1" = 200'
			REVISION NO: -
DRAWING			1
SHEET NO. 2 OF 2			



- LEGEND**
- SOIL BOUNDARY
 - WELLHEAD PROTECTION AREA
 - LAMPREY RIVER PROTECTION AREA
 - GROUNDWATER PROTECTION AREA
 - PROJECT PROPERTY BOUNDARY
 - PARCEL BOUNDARY
 - APPROXIMATE WETLAND BOUNDARY
 - REMEDIAL ACTION LAGOON
 - GROUNDWATER MANAGEMENT ZONE
 - STORMWATER DRAINAGE SYSTEM WITH FLOW DIRECTION
 - OVERFLOW/EMERGENCY STORMWATER FLOW
 - GROUNDWATER ELEVATION CONTOURS (FEET)(SEPT. 11, 2020)
 - INFERRED GROUNDWATER FLOW DIRECTION
 - PROPOSED WAREHOUSE
 - PROPOSED PARKING LOT AND DRIVEWAY
 - MW-3
 - GROUNDWATER MONITORING WELL
 - GROUNDWATER ELEVATION (FEET) (SEPT. 11, 2020)
 - PFOA/PFAS CONCENTRATIONS (ng/L) (JULY 5, 2019)
 - <math>[<10</math>]
 - TOTAL CHROMIUM CONCENTRATION (ug/l) (SEPT. 11, 2020)
 - SFW-1
 - SURFACE WATER MONITORING WELL

NOTES:

1. BASE PLAN SET WAS OBTAINED FROM JONES & BEACH ENGINEERS, INC. OF STRATHAM, NH TITLED "WAREHOUSE BUILDING "RAYMOND DISTRIBUTION" REVISD ON FEB. 11, 2023 AND "PROPOSED GRADING IMPACT PLAN" REVISD ON JUNE 30, 2022.
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**SITE DEVELOPMENT
INDUSTRIAL DRIVE,
RAYMOND, NEW HAMPSHIRE**

ENLARGED SITE PLAN

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: ONYX PARTNERS LTD	
PROJ MGR: SL	DESIGNED BY: HLP	REVIEWED BY: MD	CHECKED BY: SL
DATE: MARCH 2023	DRAWN BY: HLP	PROJECT NO: 04.0191548.00	SCALE: 1" = 100'
			REVISION NO: -
			DRAWING 2
			SHEET NO. 2 OF 2

Ref: 9419

March 24, 2023

Mr. Brad Reed, Chair
Raymond Planning Board
4 Epping Street
Raymond, NH 03077

Re: Response to Planning Board Comments
Proposed Warehouse/Distribution Facility – Industrial Drive
Raymond, New Hampshire

Dear Chair Reed and Members of the Planning Board:

Vanasse & Associates, Inc. (VAI) is providing responses to the questions that were posed by the Planning Board at the March 2, 2023 public hearing for the proposed Warehouse/Distribution Facility to be located off Industrial Drive in Raymond, New Hampshire (hereafter referred to as the “Project”), concerning the November 1, 2022 *Intersection Improvements Study* (the “November 2022 Improvement Study”) that was prepared by VAI in support of the Project. Listed below is a summary of the questions that were asked by the members of the Planning Board followed by our response on behalf of the Applicant.

Question 1: *The size of the proposed warehouse building identified in Table 2 of the November 2022 Improvement Study (“Trip-Generation Summary”) does not match the Site Plans and should be reviewed, along with the associated trip-generation calculations.*

Response: The Site Plans and building program have been refined since the preparation of the November 2022 Improvement Study and now reflect the development of a 550,025 square foot (sf) warehouse building vs. 500,025 sf. As such, the trip-generation calculations for the Project have been updated to reflect the current building size and are presented in Table 2R.

As can be seen in Table 2R, the current development program for the Project is expected to generate 908 vehicle trips on an average weekday (two-way volume over the operational day of the Project, or 454 vehicles entering and 454 exiting), consisting of 587 passenger car trips and 330 truck trips. During the weekday morning peak-hour, the Project is expected to generate 90 vehicle trips (69 vehicles entering and 21 exiting), consisting of 79 passenger car trips and 11 truck trips. During the weekday evening peak-hour, the Project is expected to generate 92 vehicle trips (26 vehicles entering and 66 exiting), consisting of 75 passenger car trips and 17 truck trips.

In comparison to the development program that was assessed in the November 2022 Improvement Study, the refined development program generates 80 additional vehicle trips on an average weekday, including 30 additional truck trips, with 6 additional vehicle trips each during the weekday morning and evening peak hours, including 1 to 2 additional truck trips.

Table 2R
TRIP-GENERATION SUMMARY^a

Time Period/Direction	(A) Passenger Car Trips	(B) Truck Trips	(A+B) Vehicle Trips
<i>Average Weekday Daily:</i>			
Entering	289	165	454
<u>Exiting</u>	<u>289</u>	<u>165</u>	<u>454</u>
Total	578	330	908
<i>Weekday Morning Peak Hour:</i>			
Entering	63	6	69
<u>Exiting</u>	<u>16</u>	<u>5</u>	<u>21</u>
Total	79	11	90
<i>Weekday Evening Peak Hour:</i>			
Entering	17	9	26
<u>Exiting</u>	<u>58</u>	<u>8</u>	<u>66</u>
Total	75	17	92

^aBased on ITE LUC 150, *Warehousing* (550,025 sf).

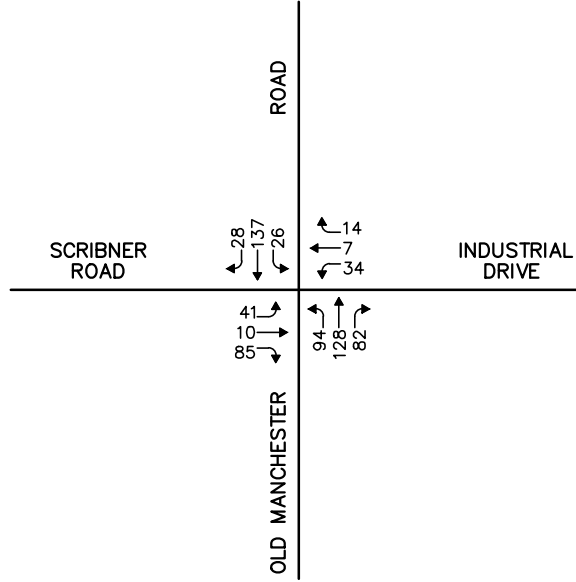
Updated figures depicting the trip-distribution patterns for passenger car and truck trips and the assignment of Project-related traffic to the study area intersection are attached. The updated 2022 Opening Year Build condition weekday morning and evening peak-month peak-hour traffic volumes are graphically depicted to Figure 4R, with the corresponding 2032 Build conditions peak-month peak-hour traffic volumes depicted on Figure 5R.

The 2022 Opening Year Build and 2032 Build condition traffic operations analyses have also been revised to reflect the updated traffic volumes for the Project, the results of which are summarized in Table 5R.

A review of Table 5R indicates that the reported operating conditions at the intersection of Old Manchester Road at Industrial Drive and Scribner Road as consistent with those that were reported in the November 2022 Improvement Study. As discussed therein, with the exception of the Industrial Drive approach during the weekday evening peak-hour under 2032 Build conditions, all movements at the intersection are predicted to operate at a level-of-service of LOS D or better, which is considered to represent “acceptable” operating conditions. The Applicant has committed to widening the Industrial Drive approach to the intersection to provide a left-turn lane and a through/right-turn lane as a condition of the approval of the Project subject to receipt of all necessary rights, permits and approvals. These improvements can be completed within the public right-of-way and do not require the acquisition of private property.



WEEKDAY MORNING PEAK HOUR (7:15 - 8:15 AM)



WEEKDAY EVENING PEAK HOUR (4:00 - 5:00 PM)

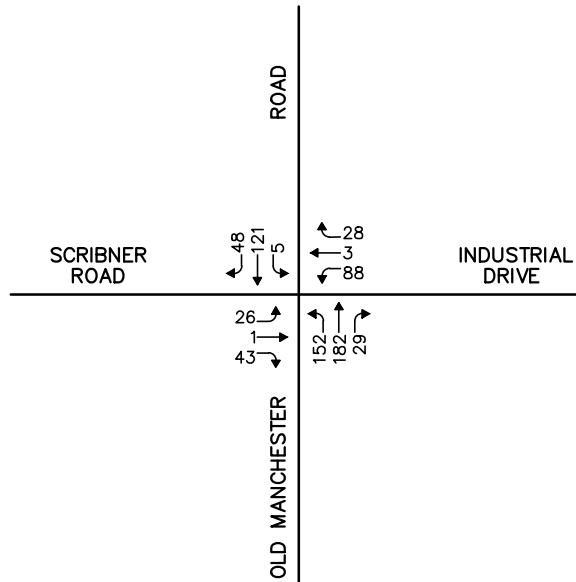
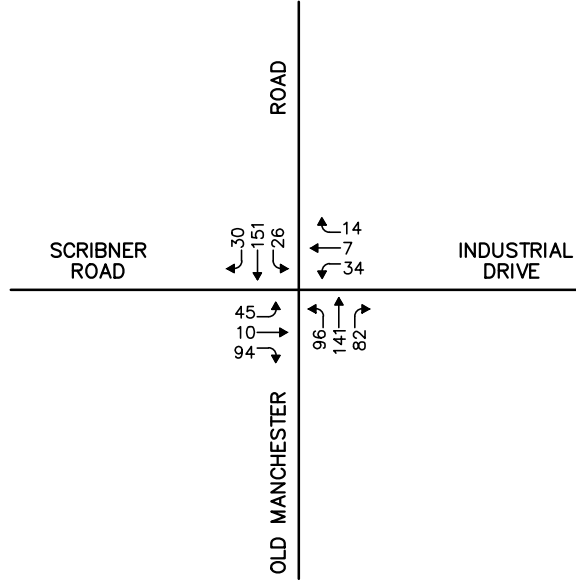


Figure 4R

2022 Opening Year
Peak-Month
Peak-Hour Traffic Volumes

WEEKDAY MORNING PEAK HOUR (7:15 - 8:15 AM)



WEEKDAY EVENING PEAK HOUR (4:00 - 5:00 PM)

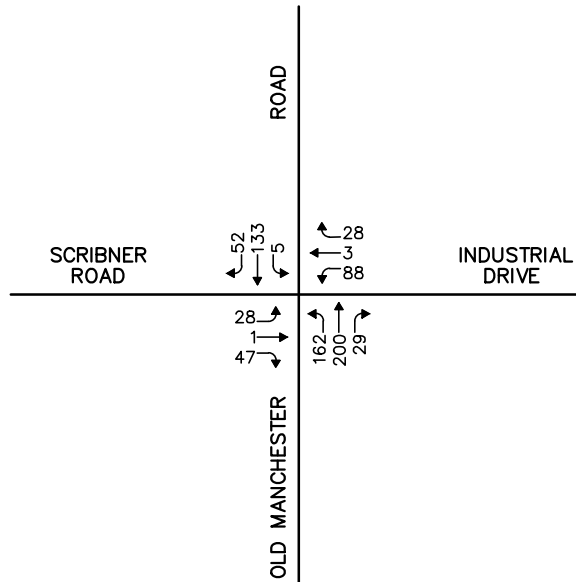


Figure 5R

2032 Build
Peak-Month
Peak-Hour Traffic Volumes

Questions 2: *Provide the location of other similar warehouses (preferably along the 101 corridor).*

Response: The only warehouse that VAI is aware of that has been constructed and is operational along the NH Route 101 corridor is the Walmart distribution facility, which is functionally different and much larger (1.1 million sf) than the proposed warehouse that is associated with the Project.

In connection with a proposal for a non-tenant defined warehouse project in Plaistow, New Hampshire, VAI collected peak period traffic volume data at a multitenant warehouse located in Amherst, New Hampshire, for comparison trip purposes. The subject warehouse is located at 1 Bon Terrain Drive and consists of a 395,920± sf warehouse building. The observed peak-hour trip rate (trips per 1,000 sf) for the Amherst warehouse building were found to be 0.15 trips/1,000 sf during the weekday morning peak-hour and 0.17 trips/1,000 sf during the weekday evening peak-hour, which is generally consistent with the trips rates identified by the ITE for a general warehouse facility, which are 0.17 trips/1,000 sf during the weekday morning peak-hour and 0.18 trips/1,000 sf during the weekday evening peak-hour. The observed peak-hour truck trip rates were also found to be comparable to the ITE data and range from 0.0 truck trips/1,000 sf to 0.3 truck trips/1,000 sf.

Question 3: *Confirm that the August 28, 2019, Traffic Impact and Access Study for the Mega-X convenience store and fueling facility that was referenced in the November 2022 Improvement Study accurately reflects the location of the facility that is currently under construction along Old Manchester Road.*

Response: A review of the *Traffic Impact and Access Study* that was prepared in support of the Mega-X convenience store and fueling facility¹ confirms that the facility location is in southwest quadrant of the Old Manchester Road/Scribner Road/Industrial Drive intersection. The subject study is attached.

Question 4: *Recommendations for pedestrian and bicycle access and safety for Raymond Pond should be provided.*

Response: As identified in the November 2022 Improvement Study, sidewalks are provided along both sides of Old Manchester Road south of Industrial Drive and along the west side to the north, and Old Manchester Road and Industrial Drive provide sufficient width to accommodate bicycle travel in a shared traveled-way configuration. In order to connect these facilities to Raymond Pond and to the extent so desirable by the Town and subject to receipt of all necessary rights, permits and approvals, the Applicant will provide a striped five (5)-foot shoulder along the south side of Industrial Drive that will extend from Old Manchester Road to the Project site to afford additional space outside of the vehicular traveled-way for pedestrians and bicyclists destined for Raymond Pond. In addition, marked crosswalks and Americans with Disabilities Act (ADA) compliant wheelchair ramps with accompanying pedestrian crossing warning signs will be provided at the Old Manchester Road/Scribner Road/Industrial Drive intersection.

¹*Traffic Impact and Access Study*; Proposed Mega-X Convenience Store (With Gas); Old Manchester Road; Raymond, New Hampshire; Tetra Tech; August 28, 2019.



Question 5: *Recommendations for parking for the users of Raymond Pond should be provided.*

Response: To the extent so desirable by the Town and subject to the availability of public right-of-way, the Applicant will construct a gravel parking area for up to five (5) vehicles proximate to the existing boat launch to accommodate parking for users of Raymond Pond.

Question 6: *Can a separate right-turn, deceleration lane be constructed on the Old Manchester Road northbound approach to Industrial Drive?*

Response: The existing public right-of-way along Old Manchester Road is 100 feet (ft) wide with the infrastructure (roadway, shoulders, sidewalks, etc.) centered within right-of-way and occupy approximately 55 feet. The roadway widening and realignment required to accommodate the northbound left-turn that will be constructed in connection with the Mega-X project will prevent the construction of a northbound right-turn or deceleration lane on the Old Manchester Road northbound approach to Industrial Drive within the public right-of-way. In order to facilitate truck turns from Old Manchester Road northbound, the corner radii on the southeast corner of the Old Manchester Road/Scribner Road/Industrial Drive intersection will be increased to accommodate the off-tracking of the rear wheels of the trailer so as to not require an excessive reduction speed for right turning trucks.

Question 7: *The “Keep Right” sign located on the nose of the raised median separating the directions of travel along Old Manchester Road at the Route 101 eastbound off-ramp should be reviewed and relocated as it has been struck on several occasions.*

Response: The Applicant will coordinate with the New Hampshire Department of Transportation (NHDOT) to relocate the subject sign.

Question 8: *Has the Town Zoning Ordinance that limits the weight limit of trucks to no more than 26,000 pounds gross vehicle weight been considered?*

Response: Section 283-18 *Schedule II: Truck over Certain Weights Excluded* of the Town of Raymond Zoning Ordinances states: “In accordance with the provisions of § 283-7, commercial heavy vehicles are hereby excluded from the following streets or parts of streets, except for the pickup and delivery of materials on such streets...”. The list of streets subject to this exclusion includes the entire length of Old Manchester Road. Given that trucks associated with the Project will be delivering and/or picking-up materials at a building that is accessed from Old Manchester Road, the truck weight exclusion of the Zoning Ordinance does not apply to the Project. As discussed with the Planning Board, the Applicant has agreed to restrict the truck access to the Project site to Old Manchester Road south of the Old Manchester Road/Scribner Road/Industrial Drive intersection.

Question 9: *How will the truck access restriction be enforced?*

Response: As stated above, the Applicant has agreed to restrict the truck access to the Project site to the segment of Old Manchester Road south of the Old Manchester Road/Scribner Road/Industrial Drive intersection. As such, truck turn restriction signs will be installed within the Project site to inform exiting truck drivers to use Old Manchester Road south to access NH Route 101 and of the “No Right Turn” restriction for trucks turning from Industrial Drive at the Old Manchester Road/Scribner Road/Industrial Drive intersection. Vendors and trucking companies serving the Project will be informed that



they are to arrive at the Project site from NH Route 101 and use the Old Manchester Road interchange. On-site management will also inform all exiting truck drivers of the “No Right Turn” restriction for exiting trucks at the Old Manchester Road/Scribner Road/Industrial Drive intersection. Directional signs will also be installed along Industrial Drive and at the Old Manchester Road/Scribner Road/Industrial Drive intersection directing motorists to use Old Manchester Road south to access NH Route 101.

To the extent so desired by the Town, the Applicant will conduct a post occupancy traffic monitoring program at the Old Manchester Road/Scribner Road/Industrial Drive intersection to demonstrate compliance with the truck access restriction. The monitoring program will include the collection of traffic volume data and turning movement counts at the intersection over a continuous 12-hour period (6:00 AM to 6:00 PM) on two (2) weekdays that will include the arrival and departure directions of trucks on the intersection approaches. The monitoring program will commence within 6-months of the issuance of a Certificate of Occupancy of the Project and be repeated annually for a two-year period thereafter. The results of the traffic monitoring program will be summarized in a report that will be submitted to the Planning Department and the Rockingham Planning Commission. To the extent that there is an observed violation of the truck access restriction by a truck that is associated with the Project, the Applicant (or subsequent owner) will undertake corrective actions to enforce the truck access restriction, which may include: increased or enhanced notice to drivers and vendors; additional on-site signs, including variable message signs for drivers exiting the site; and other appropriate measures.

We trust that this information is responsive to the questions that were raised at the March 2, 2023 Planning Board hearing. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/dcl

Attachments

cc: File



Table 5R
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2022 Existing				2022 Baseline				2022 Opening Year				2032 Horizon Year				2032 Build				2032 Build with Mitigation			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Old Manchester Road at Industrial Drive and Scribner Road																								
<i>Weekday Morning:</i>																								
Scribner Road EB LT/TH/RT	126	11.6	B	1	132	13.7	B	1	136	15.2	C	2	145	14.6	B	2	149	16.4	C	2	149	16.4	C	2
Industrial Drive WB LT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	34	30.1	D	1
Industrial Drive WB LT/TH/RT	34	14.4	B	1	34	18.2	C	1	55	23.7	C	1	34	19.5	C	1	55	26.1	D	1	--	--	--	--
Industrial Drive WB TH/RT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21	13.3	B	0
Old Manchester Road NB LT	--	--	--	--	94	7.9	A	1	94	7.9	A	1	96	8.0	A	1	96	8.0	A	1	96	8.0	A	1
Old Manchester Road NB LT/TH/RT	174	1.0	A	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Old Manchester Road NB TH/RT	--	--	--	--	160	0.0	A	0	210	0.0	A	0	173	0.0	A	0	223	0.0	A	0	223	0.0	A	0
Old Manchester Road SB LT/TH/RT	162	0.5	A	0	176	0.5	A	0	191	1.1	A	0	192	0.4	A	0	207	1.0	A	0	207	1.0	A	0
<i>Weekday Evening:</i>																								
Scribner Road EB LT/TH/RT	62	12.2	B	1	69	14.6	B	1	70	15.6	C	1	75	15.8	C	1	76	17.0	C	1	76	17.0	C	1
Industrial Drive WB LT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	88	43.4	E	3
Industrial Drive WB LT/TH/RT	53	16.5	C	1	53	20.4	C	1	119	33.3	D	3	53	22.9	C	1	119	41.9	E	4	--	--	--	--
Industrial Drive WB TH/RT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	31	10.9	B	0
Old Manchester Road NB LT	--	--	--	--	152	8.2	A	1	152	8.2	A	1	162	8.4	A	1	162	8.4	A	1	162	8.4	A	1
Old Manchester Road NB LT/TH/RT	280	2.8	A	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Old Manchester Road NB TH/RT	--	--	--	--	190	0.0	A	0	211	0.0	A	0	208	0.0	A	0	229	0.0	A	0	229	0.0	A	0
Old Manchester Road SB LT/TH/RT	154	0.0	A	0	170	0.0	A	0	174	0.2	A	0	186	0.0	A	0	190	0.2	A	0	190	0.2	A	0

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

ATTACHMENTS

MEGA-X TRAFFIC STUDY
TRIP GENERATION CALCULATIONS
CAPACITY ANALYSIS WORKSHEETS



MEGA-X TRAFFIC STUDY



Traffic Impact and Access Study

Proposed MEGA-X Convenience Store (With Gas)
Old Manchester Road
Raymond, New Hampshire

Submitted to:

MEGA-X, LLC
August 28, 2019

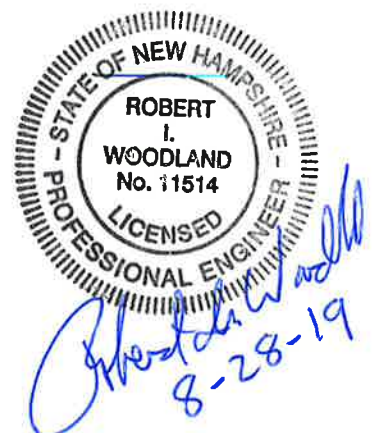


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- Appendix B Automatic Traffic Recorder Count Data
- Appendix C Turning Movement Count Data
- Appendix D Seasonal Adjustment Factor & Growth Rate
- Appendix E Crash Data
- Appendix F Traffic Projection Model
- Appendix G Background Projects
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- Appendix I Capacity Analysis Worksheets
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1.0 INTRODUCTION

Tetra Tech has reviewed the potential traffic impacts associated with the proposed 6,500 square foot MEGA-X convenience store (with gas) to be located on Old Manchester Road in Raymond, New Hampshire. This study was prepared in conformance with the Town of Raymond and the New Hampshire Department of Transportation (NHDOT) guidelines for the preparation of Traffic Impact Studies. The purpose of this study is to identify existing and projected traffic operational deficiencies in the vicinity of the project site and to determine what, if any, measures are needed to minimize potential project-related traffic impacts on the surrounding area roadways.

This assessment is based on a review of recent traffic volumes collected for this study, and the anticipated traffic generating characteristics of the proposed MEGA-X convenience store (with gas) and coffee shop (with drive trough). The study methodology was developed in consultation with representatives of the Town of Raymond. This study examines existing and projected traffic operations (both with and without the proposed development) at key intersections in the vicinity of the project site. This study provides a detailed analysis of traffic operations during the weekday morning and weekday evening commuter peak hours, when the combination of existing traffic on the surrounding area roadways and traffic increases associated with the proposed development would be greatest.

1.1 PROJECT DESCRIPTION

The project site is located along Old Manchester Road between NH 101 and Scribner Road in Raymond, New Hampshire (Tax Map 21 Lot 9-1) within the Town of Raymond's Commercial I Zone. The site consists of approximately 5.2+ acres of land located on the west side of NH 101 and the south side of Scribner Road and is currently vacant. The project site location in relation to the surrounding roadway network is shown in Figure 1.

The proposed project calls for the construction of a new 6,500 square foot (SF) facility which will include a 5,300 SF convenience market, a 1,200 SF coffee shop (With Drive-Through Window) and 18 fuel pumps (17 fueling positions). Access to the site will be provided by two proposed site driveways on the west side of Old Manchester Road and two proposed site driveways on the south side of Scribner Road. The westernmost driveway on Scribner Road will provide access for trucks, while the southernmost driveway along Old Manchester Road will provide egress for trucks.

As currently proposed, the hours of operations at the new facility would be 24 hours a day, seven days a week. The anticipated parking demands associated with the proposed development will be accommodated by a total of 65 on-site parking spaces (inclusive of 17 spaces provided at the pump islands). A copy of the proposed MEGA-X Site Plan is provided in Appendix A.

1.2 STUDY SCOPE AND METHODOLOGY

The following traffic study is based discussions with representatives the Town of Raymond. A Traffic Scoping Meeting for the project was held at the Raymond Town Offices on June 21, 2019. The purpose of traffic scoping meeting was to identify key aspects of the traffic study including the study area roadways and intersections and analysis scenarios to be reviewed, consideration of possible other area developments and background traffic growth, and analysis required to evaluate the potential project related traffic impacts.

**Traffic Impact and Access Study
Proposed MEGA-X Convenience Store (With Gas)
Old Manchester Road, Raymond, New Hampshire**

This study was conducted in three phases. The first phase involved an inventory of existing traffic conditions in the vicinity of the site. As part of the existing conditions assessment, peak period traffic counts were collected at key roadways and intersections in the vicinity of the site. Field visits were also conducted to inventory roadway and intersection geometries and traffic control and to observe the general operational characteristics for each of the study area intersections. Accident data for the most recent three-year period available (2014 to 2016) was also reviewed.

The second phase of the study builds upon the data collected in the first phase and establishes the framework for evaluating potential traffic impacts associated with the project. In this phase, the projected traffic demands associated with the proposed project were assessed along with future demands associated with general traffic growth and consideration of other planned developments that could influence traffic levels at the study area intersections. The 2019 existing peak hour traffic volumes were then projected to the design year 2020, the assumed opening year of the proposed project, and the year 2030, reflecting the opening year (plus ten years) condition. Independent of the proposed project, the future traffic volumes are assumed to include all existing traffic as well traffic increases resulting from general background traffic growth and other planned development projects in the vicinity of the site. The potential traffic increases associated with general background traffic growth unrelated to the proposed project were considered in the development of the 2020 No-Build and 2030 No-Build weekday commuter peak hour conditions. Traffic increases associated with the proposed MEGA-X convenience store (with gas) were then added to the No-Build traffic volumes to reflect the future 2020 Build (with Project) and 2030 Build (With Project) weekday commuter peak hour volumes.

In the third phase of this study, the existing and projected future traffic operations at each of the study intersections were analyzed to identify potential traffic operational deficiencies and, if needed, potential improvements to improve traffic flow.

2.0 EXISTING CONDITIONS

The effective evaluation of potential traffic impacts associated with the proposed development requires a thorough understanding of the existing traffic conditions on the roadways and intersections surrounding the project site. The existing conditions assessment consists of an inventory of the roadway and intersection geometries and traffic control devices, collection of daily and peak period traffic volumes, and field observation of the existing traffic operations. In addition, accident data was obtained from the New Hampshire Department of Transportation (NHDOT) to evaluate recent accident trends and to identify any existing traffic safety deficiencies. A summary of this information is presented below.

2.1 STUDY AREA INTERSECTIONS

The study area intersections chosen for this report were determined based on a review of the anticipated traffic generating characteristics of the proposed development and discussions with representatives the Town of Raymond. Based on the Traffic Scoping Meeting, the following study area intersections were identified for inclusion in the traffic study:

- Old Manchester Road at Lane Road/Batchelder Road
- Old Manchester Road at NH 101 Eastbound (EB) Ramps
- Old Manchester Road at NH 101 Westbound (WB) Ramps
- Old Manchester Road at Scribner Road/Industrial Drive

- Old Manchester Road at Raymond Fire/Police Department Driveway
- Scribner Road at Raymond Fire/Police Department Westerly Driveway
- Scribner Road at Raymond Fire/Police Department Easterly Driveway/Proposed Site Drive
- Scribner Road at Proposed Site Drive (Truck Access)
- Old Manchester Road at Proposed Northerly Site Driveway
- Old Manchester Road at Proposed Southerly Site Driveway (Truck Egress)

A brief description of the lane geometry and traffic control at each of the study area intersections is presented below.

Old Manchester Road at Lane Road/Batchelder Road

The Old Manchester Road and Lane Road/Batchelder Road intersection currently operates as a standard T-type intersection with STOP sign control provided on the Old Manchester Road southbound approach. The Lane Road eastbound and Batchelder Road westbound approaches each provide a single general-purpose lane and a paved shoulder. The Old Manchester Road southbound approach provides a single wide lane that serves both left and right turns with a narrow, paved shoulder. Sidewalks are provided on both sides of Old Manchester Road.

Old Manchester Road at NH 101 EB Ramps

The NH 101 EB ramps intersect Old Manchester Road to form a four-legged unsignalized intersection, approximately 280 feet north of the Lane Road/Batchelder Road intersection. The Old Manchester Road northbound approach provides a through lane with a channelized right-turn lane. The Old Manchester Road southbound approach provides an exclusive left-turn lane and a through lane. The NH 101 EB ramp approach provides a single lane which is driven as two separate (left-turn and right-turn) lanes and is under STOP sign control. The east leg of the intersection is comprised of a lane from Old Manchester Road southbound and the channelized right-turn lane from Old Manchester Road northbound which merge to one lane just east of the intersection. Paved shoulders of varying widths are provided along all approaches. Sidewalks are provided along both sides of Old Manchester Road.

Old Manchester Road at NH 101 WB Ramps

The NH 101 WB ramps intersect Old Manchester Road to form a four-legged unsignalized intersection, approximately 650 feet north of the NH 101 EB ramps intersection. The Old Manchester Road northbound approach provides an exclusive left-turn lane and a through lane. The Old Manchester Road southbound approach provides a through lane and a channelized right-turn lane. The NH 101 WB ramp approach provides a single lane which serves left and right turns and is under STOP sign control. The west leg of the intersection is comprised of a lane from Old Manchester Road northbound and the channelized right-turn lane from Old Manchester Road southbound which merge to one lane just west of the intersection. Paved shoulders of varying widths are provided along all approaches. Sidewalks are provided along both sides of Old Manchester Road.

Old Manchester Road at Scribner Road/Industrial Drive

Approximately 1,500 feet north of the NH 101 WB ramps, Scribner Road and Industrial Drive intersect Old Manchester Road to form a four-legged unsignalized intersection. The Old Manchester Road northbound and southbound approaches each provide a single, general purpose lane. The Scribner Road eastbound and Industrial Drive westbound approaches each provide a single, general purpose lane and are under

Traffic Impact and Access Study
Proposed MEGA-X Convenience Store (With Gas)
Old Manchester Road, Raymond, New Hampshire

STOP sign control. Paved shoulders of varying widths are provided along the Old Manchester Road and Scribner Road approaches.

Old Manchester Road at Raymond Fire/Police Department Driveway

Approximately 260 feet north of the Scribner Road/Industrial Drive intersection, the Raymond Fire/Police Department driveway intersects Old Manchester Road from the west to form a T-type, unsignalized intersection. The Old Manchester Road northbound and southbound approaches each provide a single, general purpose lane. The Fire/Police Department driveway eastbound approach provides a single lane and is implied to be under STOP control. Paved shoulders are provided along the Old Manchester Road approaches.

Scribner Road at Raymond Fire/Police Department Westerly Driveway

Approximately 380 feet west of the Old Manchester Road intersection, the Raymond Fire/Police Department driveway intersects Scribner Road from the north to form a T-type, unsignalized intersection. The Scribner Road eastbound and westbound approaches each provide a single, general purpose lane. The Fire/Police Department driveway southbound approach provides a single lane and is implied to be under STOP control. Narrow paved shoulders are provided along the Scribner Road approaches.

Scribner Road at Raymond Fire/Police Department Easterly Driveway/Proposed Site Driveway

Approximately 140 feet west of the Old Manchester Road intersection, the Raymond Fire/Police Department driveway intersects Scribner Road from the north and the site driveway is proposed to intersect from the south to form a four-legged, unsignalized intersection. The Scribner Road eastbound and westbound approaches each provide a single, general purpose lane. The Fire/Police Department driveway southbound approach provides a single lane and is implied to be under STOP control. The MEGA-X site driveway northbound approach is proposed to consist of a single lane to serve all movements and would be under STOP sign control. Narrow paved shoulders are provided along the Scribner Road approaches.

Scribner Road at Proposed Site Driveway (Truck Access)

Approximately 320 feet west of the Old Manchester Road intersection, the site driveway is proposed to intersect Scribner Road from the south to form a T-type, unsignalized intersection. The Scribner Road eastbound and westbound approaches each provide a single, general purpose lane. The MEGA-X site driveway is proposed to be 40 feet wide and allow for entering trucks only. All passenger cars would use the site driveway opposite the easterly Fire/Police Department driveway or the northerly site driveway along Old Manchester Road. Narrow paved shoulders are provided along the Scribner Road approaches.

Old Manchester Road at Proposed Northerly Site Driveway

Approximately 310 feet south of the Scribner Road intersection, the northerly site driveway is proposed to intersect Old Manchester Road from the west to form a T-type, unsignalized intersection. The Old Manchester Road northbound approach would be modified to provide an exclusive left-turn lane and a through lane. The Old Manchester Road southbound approach would provide a single, general purpose lane. The MEGA-X site driveway eastbound approach is proposed to consist of a single exit lane to serve left and right turns from the site and would be under STOP sign control. Paved shoulders are proposed to be provided along the Old Manchester Road approaches.

Old Manchester Road at Proposed Southerly Site Driveway (Truck Egress)

Approximately 580 feet south of the Scribner Road intersection, the southerly site driveway is proposed to intersect Old Manchester Road from the west to form a T-type, unsignalized intersection. The Old Manchester Road northbound and southbound approaches each provide a single, general purpose lane. The MEGA-X site driveway is proposed to be 30 feet wide and would allow for separate left- and right-turn lanes for trucks only, under STOP sign control. All passenger cars would use the site driveway to the north along Old Manchester Road or the easterly driveway along Scribner Road. Paved shoulders are provided along the Old Manchester Road approaches.

2.2 EXISTING TRAFFIC VOLUMES

Based on the Scoping Meeting for the project, daily and peak period traffic volumes were obtained for key locations throughout the study area. A brief discussion of this data is provided below.

2.2.1 Daily Traffic Volumes

Automatic Traffic Recorder (ATR) counts on Old Manchester Road, Scribner Road, and Industrial Drive were collected in June 2019 to establish daily and peak hour traffic volumes in the vicinity of the project site. The ATR data indicate that Old Manchester Road south of Scribner Road carries a total two-way traffic volume of approximately 4,520 vehicles per day (vpd) on an average weekday. The ATR data also collected travels speeds along the roadway, with an average travel speed 38 miles per hour (mph) northbound and 36 mph southbound, and an 85th percentile speed 42 mph in both directions. Scribner Road, west of Old Manchester Road carries a total two-way traffic volume of approximately 2,044 vpd on an average weekday. The average travel speed along Scribner Road was 34 mph eastbound and 36 mph westbound with an 85th percentile speed of 38 mph westbound and 40 mph eastbound. Industrial Avenue east of Old Manchester Road carries approximately 866 vpd. A more detailed summary of the ATR data is presented in Table 1. The ATR daily traffic volume and travel speed data is presented in Appendix B.

Table 1 Existing Weekday Traffic Volumes

Location	Daily (vpd) ¹	AM Peak Hour (vph) ²	AM Peak Hour Travel Split	PM Peak Hour (vph)	PM Peak Hour Travel Split
Old Manchester Road – south of Scribner Road	4,520	360	64% SB	431	59% NB
Scribner Road – west of Old Manchester Road	2,044	135	80% EB	245	67% WB
Industrial Drive – east of Old Manchester Road	866	68	73% EB	65	85% WB

Based on automatic traffic recorder counts collected on Wednesday, June 26, 2019 and Thursday, June 27, 2019.

¹vpd = vehicles per day

²vph = vehicles per hour

2.3 PEAK HOUR TRAFFIC VOLUMES

The weekday morning and evening commuter peak hour traffic volumes at the study area intersections were established based on new turning movement counts (TMCs) collected in June 2019, in addition to

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traffic volume counts from the Traffic Impact and Access Study for the Proposed Commercial Development by TEPP LLC, dated January 9, 2018. The December 2017 volumes from the TEPP report were grown by one percent per year to reflect the 2019 existing conditions. The TMCs are tabulated by 15-minute periods for the weekday morning (from 7:00 AM to 9:00 AM) and weekday evening (from 4:00 PM to 6:00 PM). The four highest consecutive 15-minute intervals during each of these count periods constitute the peak hours used as the basis of this traffic study. The intersection TMC data and traffic volume data from the TEPP report are provided in the Appendix C.

Seasonal Adjustments

To account for possible seasonal variations in the traffic volume data, Tetra Tech reviewed the most recent New Hampshire Department of Transportation (NHDOT) Seasonal Adjustment Factors. Based on Automatic Traffic Recorder (ATR) counts maintained by the New Hampshire Department of Transportation (NHDOT), the traffic data collected in the month of December do not reflect the peak month conditions for similar urban highways throughout New Hampshire. To provide a conservative assessment of the peak hour traffic operations, the December weekday morning and weekday evening peak hour volumes were adjusted by the seasonal peak month factors for NHDOT Group 4 (Urban Highways) to reflect the peak month conditions. Traffic data collected in June does not require an adjustment since June data typically represents peak conditions. The existing peak hour traffic counts collected in December were adjusted by the seasonal peak month factors of 1.15 for the weekday peak hours. The NHDOT seasonal adjustment and growth rate data is provided in the Appendix D. The 2019 Existing seasonally adjusted weekday morning and weekday evening peak hour traffic volumes are shown in Figures 2 and 3.

2.4 CRASH SUMMARY

Tetra Tech reviewed the NHDOT crash data for each of the study area intersections for the most recent three-year period available. This data includes complete yearly accident summaries for the years 2014, 2015, and 2016. A summary of the accident data is presented in Table 2.

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Table 2 Accident Summary (2014-2016)

	Old Manchester Road @				Scribner Road @		
	Lane Rd/ Batchelder Rd	NH 101 EB Ramps	NH 101 WB Ramps	Scribner Road	Fire/Police Driveway	Fire/ Police Drive West	Fire/Police Drive East
Year							
2014	0	0	0	2	0	0	0
2015	0	0	0	0	0	0	0
<u>2016</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	2	0	0	0
Type							
Angle	0	0	0	0	0	0	0
Rear-End	0	0	0	0	0	0	0
Head-On	0	0	0	0	0	0	0
Single Vehicle	0	0	0	1	0	0	0
Animal	0	0	0	0	0	0	0
Fixed Object	0	0	0	0	0	0	0
<u>Unknown</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	2	0	0	0
Severity							
Property Only	0	0	0	1	0	0	0
Personal Injury	0	0	0	1	0	0	0
<u>Fatality</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	2	0	0	0
Weather							
Clear	0	0	0	2	0	0	0
Cloudy/Rain	0	0	0	0	0	0	0
Snow/Ice	0	0	0	0	0	0	0
<u>Fog</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	2	0	0	0
Roadway Surface							
Dry	0	0	0	1	0	0	0
Wet	0	0	0	1	0	0	0
Snow/Slush/Ice	0	0	0	0	0	0	0
<u>Debris</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	2	0	0	0

Source: NHDOT Accident Records (2014-2016)

As shown in Table 2, the NHDOT crash data indicates that the intersection of Old Manchester Road and Scribner Road experienced the highest number of accidents of the study area intersections with a total of two crashes over the three-year period reviewed. There were no fatalities and only one reported crash involving personal injury.

All other study area intersections did not have any reported crashes from 2014 to 2016. There were some crashes along the mainline on NH 101, as well as one crash along Old Manchester Road to the north of NH 101. The number of reported accidents at these locations is not unusually high. A more detailed breakdown of the reported accidents at each of the study intersections is provided in Appendix E.

3.0 FUTURE TRAFFIC CONDITIONS

To determine future traffic demands on the study area roadways, the 2019 Existing weekday morning and weekday evening peak hour traffic volumes were projected to the year 2020, the anticipated opening year of the proposed project, and the year 2030, reflecting the opening year (plus ten years) condition. Independent of the proposed project, the future traffic volumes are assumed to include all existing traffic as well as traffic increases resulting from general background traffic growth and any other planned development projects in the vicinity of the site. The potential traffic increases associated with general background traffic growth and planned area developments unrelated to the proposed project were considered in the development of the 2020 No-Build and 2030 No-Build weekday commuter peak hour conditions. Traffic increases associated with the proposed MEGA-X convenience store (with gas) were then added to the 2020 No-Build and 2030 No-Build conditions to reflect the future 2020 Build (with Project) and 2030 Build (With Project) weekday commuter peak hour volumes.

The specific adjustments to the 2019 Existing peak hour traffic volumes to reflect the future 2020 and 2030 conditions are documented in the Traffic Projection Model provided in Appendix F. The following section of the report provides a detailed description of the development of the future weekday morning and weekday evening peak hour traffic projections.

3.1 PLANNED ROADWAY IMPROVEMENTS

Planned area roadway improvements can also impact future traffic conditions. However, based on input received at the Traffic Scoping meeting there are currently no planned roadway improvements (by others) which would impact future traffic operations at the study intersections. A discussion of potential roadway improvements to be implemented as part of the currently proposed MEGA-X development project is presented in subsequent sections of this report.

3.2 GENERAL BACKGROUND TRAFFIC GROWTH

Traffic growth is primarily a function of population growth, changes in motor vehicle usage, and expected land development in a region. A review of historical traffic volumes along Old Manchester Road just north of the study area indicates that it has seen minor traffic increases over recent years, growing from an average of 3,307 vehicles per day in 2015 to an average of 3,430 vehicles per day in 2018, an increase of approximately one percent per year. For the purposes of this report, an annual background traffic growth rate of 1.0 percent per year was applied to existing traffic volumes to account for non-site-specific traffic growth on the study area roadways.

Other planned area developments could also potentially result in increased traffic on the surrounding area roadways. Based on discussions with representatives of the Town of Raymond, there are two projects in the vicinity of the project site that should be included in the background for this project. The first project is a proposed senior housing development along Lane Road. Project trips from the CLD | Fuss & O'Neill Traffic Impact Assessment, dated April 2018 were added to the project study area. The second project is a proposed commercial subdivision at the southeast corner of the NH 107/Essex Drive intersection, one exit east of the Old Manchester Road exits along NH 101. It is assumed that approximately 10 percent of the commercial subdivision project trips would pass through the Old Manchester Road/Lane Road/Batchelder Road intersection.

For the purposes of this study, a 1.0 percent annual traffic growth rate was applied to the seasonally adjusted existing traffic volumes to account for general background traffic growth through the projected 2030 No-Build (Without Project) weekday morning and weekday evening commuter peak hour conditions. The historic traffic growth calculations are provided in Appendix D, while the relevant background development project information is included in Appendix G.

3.3 2020 NO-BUILD (WITHOUT PROJECT) PEAK HOUR TRAFFIC VOLUMES

The 2019 Existing weekday morning and weekday evening peak hour traffic volumes were grown by 1.0 percent per year (for the one year forecast period) to reflect the 2020 No-Build (Without Project) opening year base traffic volumes. The resulting 2020 No-Build (Without Project) weekday morning and weekday evening peak hour traffic volume networks are presented in Figures 4 and 5.

3.4 2030 NO-BUILD (WITHOUT PROJECT) PEAK HOUR TRAFFIC VOLUMES

The 2019 Existing weekday morning and weekday evening peak hour traffic volumes were grown by 1.0 percent per year (for the 11-year forecast period) to reflect the 2030 No-Build (Without Project) opening year plus ten traffic volumes. The resulting 2030 No-Build (Without Project) weekday morning and weekday evening peak hour traffic volume networks are presented in Figures 6 and 7.

3.5 SITE-GENERATED TRAFFIC

Vehicle trip generation estimates for the proposed MEGA-X convenience store (with gas) and Dunkin Donuts (with drive-through) facility were developed based on empirical data collected at a similar existing MEGA-X facility located at 1560 Hooksett Road in Hooksett, New Hampshire. The existing MEGA-X facility includes a 3,218 square foot (sf) convenience store and a 1,200 sf Dunkin Donuts (with drive-through) housed in a single building for a total of 4,418 square feet of development. The traffic data collection effort at the existing facility included gathering customer transaction data for each component of the development and corresponding driveway counts collected for a typical weekday on Wednesday, August 7, 2019.

Customer transaction data for the convenience store (with gas) included in-store customer counts for gas and convenience items and customer sales at the fueling pumps. Customer transaction data for the Dunkin Donuts (with drive-through) included in-store sales at the counter and customers at the drive-through window. The customer transaction data were then compared to the driveway counts to determine the

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amount of shared trips between the convenience/gas and the Dunkin Donuts customers at the existing facility.

Vehicle trip generation estimates for the proposed 6,500 gross square foot MEGA-X facility were then determined by factoring the observed vehicle trip generation data for the existing 4,418 SF MEGA-X facility to account for the larger proposed 6,500 square foot facility. As currently proposed, approximately 5,300 square feet in the proposed facility would be allocated to the convenience store (with gas) use, with the remaining 1,200 sf allocated for the proposed Dunkin Donuts (with drive-through) use. The vehicle trip generation estimates for the proposed facility were then factored to account for the anticipated shared trips between the convenience store, gas and Dunkin Donuts customers.

The customer transaction data, driveway counts, shared trip calculations for the existing MEGA-X facility and detailed trip generation calculations for the proposed MEGA-X facility is provided in Appendix H. The resulting vehicle trip generations estimates for the proposed facility are presented in Table 3.

Table 3 Project Trip Generation Summary

Time Period	Convenience Market with Gas Pumps ¹	Coffee Shop with Drive-Through ²	Combined ³	Shared Trips ⁴	Total Project Trips ⁵
Weekday Daily					
Enter	1,953	543	2,496	-563	1,933
Exit	<u>1,953</u>	<u>543</u>	<u>2,496</u>	<u>-563</u>	1,933
Total	3,906	1,086	4,992	-1,126	3,866
Weekday Morning Peak Hour					
Enter	112	93	205	-30	175
Exit	<u>112</u>	<u>93</u>	<u>205</u>	<u>-30</u>	175
Total	224	186	410	-60	350
Weekday Evening Peak Hour					
Enter	166	16	182	-39	143
Exit	<u>166</u>	<u>16</u>	<u>182</u>	<u>-39</u>	143
Total	332	32	364	-78	286

¹Based on empirical data from Hooksett MEGA-X, 3,218 SF, proposed 5,300 sf in Raymond

²Based on empirical data from Hooksett Dunkin' Donuts, 1,200 SF, proposed 1,200 sf in Raymond

³Total trips for both uses.

⁴Based on empirical data from Hooksett MEGA-X/Dunkin' Donuts site (transaction data compared to trip data)

⁵Combined trips minus shared trips between uses, external trips experienced at the site driveways.

3.5.1 Pass-by/Diverted Trips

Not all of the external traffic generated at the site driveways will represent new traffic to the surrounding roadway system. It is anticipated that the majority of the traffic generated by the proposed convenience store (with gas) and coffee shop (with drive-through) will be drawn from existing traffic already traveling past the site. These trips are referred to as impulse or "Pass-By" or "Diverted" trips and will not result in increased traffic on all of the surrounding roadways. The ITE data suggests that between 63 and 66 percent

of the vehicle trips generated by convenience stores (with gas) and 89 percent of vehicle trips generated by coffee shops (with drive-through) would be pass-by or diverted trips drawn from existing traffic already traveling on the adjacent area roadways. A summary of the new and pass-by vehicle trips associated with the proposed development are presented in Table 4.

Table 4 Site Trip Generation Summary – New and Pass-by Trips

Time Period	Convenience Store with Gas Pumps			Coffee Shop with Drive-Through		
	External Trips	Pass-by Trips ¹	New Trips	External Trips	Pass-by Trips ²	New Trips
Weekday Daily						
Enter	1,390	903	487	543	483	60
<u>Exit</u>	<u>1,390</u>	<u>903</u>	<u>487</u>	<u>543</u>	<u>483</u>	<u>60</u>
<i>Total</i>	2,780	1,806	974	1,086	966	120
Weekday Morning Peak Hour						
Enter	82	52	30	93	83	10
<u>Exit</u>	<u>82</u>	<u>52</u>	<u>30</u>	<u>93</u>	<u>83</u>	<u>10</u>
<i>Total</i>	164	104	60	186	166	20
Weekday Evening Peak Hour						
Enter	127	84	43	16	14	2
<u>Exit</u>	<u>127</u>	<u>84</u>	<u>43</u>	<u>16</u>	<u>14</u>	<u>2</u>
<i>Total</i>	254	168	86	32	28	4

1. Assumes a Pass-By trip rate of 63%, 66% and 65% for the weekday morning and weekday evening peak hours and weekday daily conditions, respectively based on data presented in the Institute of Transportation Engineers' publication Trip Generation Handbook, 3rd Edition for ITE Land Use 853 (Convenience Market with Gasoline Pumps).
2. Assumes a pass-by trip rate of 89% for all time periods based on data presented in the Institute of Transportation Engineers' publication Trip Generation, Handbook, 3rd Edition for ITE Land Use 938 (Coffee/Donut Shop with Drive-Through Window and No Indoor Seating).

Combining the totals for each component of the development, the proposed MEGA-X project is expected to generate a total of 350 external vehicles trips (175 entering trips and 175 exiting trips) during the weekday morning peak hour and 286 external vehicle trips (143 entering trips and 143 exiting trips) during the weekday evening peak hour. Accounting for pass-by trips, the project would generate 80 new vehicle trips (40 entering trips and 40 exiting trips) during the weekday morning peak hour and 90 new trips (45 entering trips and 45 exiting trips) during the weekday evening peak hour. The remaining trips would be pass-by trips drawn from existing traffic already traveling on the area roadways or diverted trips drawn from the highway.

3.6 PROJECT TRIP DISTRIBUTION PATTERNS

Project trip distribution patterns were developed separately for the primary (new) project trips and pass-by/diverted project trips.

3.6.1 Primary (New) Trip Distribution Patterns

Vehicle trip distribution patterns for new project vehicle trips were developed based on a review of the existing volumes entering and exiting the study area via Scribner Road, Old Manchester Road, Lane Road, and Batchelder Road. The trip distribution to/from the east was split evenly between Batchelder Road and NH 101 since travel time to/from the site via those two routes is similar from points east. The resulting new project trip distribution patterns are summarized in Table 5.

Table 5 New Project Distribution Patterns

Roadway/Direction	Percent Project Trips
Batchelder Road - East	10%
NH 101 - East	10%
Lane Road - West	25%
Scribner Road - West	20%
<u>Old Manchester Road - North</u>	<u>35%</u>
TOTAL	100%

The project trip distribution patterns (shown in Table 5 and on Figure 8) were then used to distribute the new project trips at the site driveways and surrounding study area intersections. The new project trip assignments at each of the study intersections for the weekday morning and weekday evening peak hours are shown in Figures 9 and 10.

3.6.2 Pass-by/Diverted Trip Distribution Patterns

The pass-by/diverted project trip distribution patterns were developed based on the observed eastbound and westbound travel splits along Scribner Road, northbound and southbound travel along Old Manchester Road, and eastbound and westbound travel along NH 101 in the vicinity of Exit 4. For the purpose of this study, all of the pass-by trips associated with the proposed project were assumed to be drawn from Scribner Road and Old Manchester and diverted trips from NH 101. The pass-by/diverted (passenger car) project trip distribution for the weekday morning and weekday evening peak hours are shown in Figure 11. The pass-by/diverted (passenger car) project trip assignments at each of the study intersections for the weekday morning and weekday evening peak hours are shown in Figures 12 and 13.

Truck trips will be distributed slightly differently since trucks will only enter at the western driveway along Scribner Road and exit at the southern driveway along Old Manchester Road. The assumed truck trip distribution patterns are shown in Figure 14, while the project truck trips are shown in Figures 15 and 16 for the weekday morning and evening peak hours, respectively.

3.7 2020 BUILD (WITH PROJECT) PEAK HOUR TRAFFIC VOLUMES

The new and pass-by project-related vehicle trips (shown in Figures 9, 10, 12, 13, 15, and 16) were then added to the 2020 No-Build (Without Project) traffic volume networks to reflect the 2020 Build (With Project) peak hour volumes. The resulting 2020 Build (With Project) weekday morning and evening peak hour traffic volumes are presented in Figures 17 and 18 for the weekday morning and evening peak hours, respectively.

3.8 2030 BUILD (WITH PROJECT) PEAK HOUR TRAFFIC VOLUMES

The new and pass-by project-related vehicle trips (shown in Figures 9, 10, 12, 13, 15, and 16) were then added to the 2030 No-Build (Without Project) traffic volume networks to reflect the 2030 Build (With Project) peak hour conditions. The resulting 2030 Build (With Project) weekday morning and evening peak hour traffic volumes are presented in Figures 19 and 20.

4.0 TRAFFIC OPERATIONS ANALYSIS

In previous sections of this report, the quantity (volume) of traffic on the study area roadways was described. The following section describes the quality of traffic flow at the study area intersections for the given traffic demands. As a basis for this assessment, intersection capacity analyses were conducted at each study area intersection for the 2019 Existing, 2020 No-Build (Without Project), 2020 Build (With Project), 2030 No-Build (Without Project) and 2030 Build (With Project) weekday morning and weekday evening peak hour traffic conditions using the Synchro 9 Intersection Capacity Software. A discussion of the evaluation criteria and a summary of the results of the intersection capacity analyses are presented below.

4.1 LEVEL OF SERVICE CRITERIA

Level-of-service (LOS) is a term used to describe the quality of traffic flow on roadway or intersection. It is an aggregate measure of travel delay, driver convenience and safety based on a comparison of a roadway facility's capacity relative to the traffic demands. Operating levels of service are reported on a scale of A to F, with A representing the best operating conditions (with little or no vehicle delay) and F representing the worst operating conditions (with long delays). The level-of-service criteria for unsignalized intersections are presented in Table 6.

Table 6 Unsignalized Intersection Level-of-Service Criteria

Level of Service ¹	Average Delay per Vehicle (Seconds)
A	≤10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	>50.0

Source: Transportation Research Board Highway Capacity Manual, HCM 2010

¹If the v/c is greater than 1.0, than the level-of-service designation is LOS F, regardless of delays

4.2 INTERSECTION CAPACITY ANALYSIS RESULTS

The results of the intersection capacity analyses are summarized in Tables 7 and 8. The intersection capacity analysis worksheets are provided in Appendix I of this report. A brief discussion of the results of the intersection capacity analyses is presented in the following section of this report.

Table 7 Unsignalized Intersection Capacity Analysis Summary – Weekday AM Peak Hour

Intersection	Movement	2019 Existing				2020 No-Build				2020 Build				2030 No-Build				2030 Build			
		v/c ¹	Delay ²	LOS ³	95 th Q ⁴	v/c	Delay	LOS	95 th Q	v/c	Delay	LOS	95 th Q	v/c	Delay	LOS	95 th Q	v/c	Delay	LOS	95 th Q
Old Manchester Road & Lane Road/ Batchelder Road	EB L	0.16	8.0	A	0.6	0.17	8.0	A	0.6	0.18	8.1	A	0.7	0.19	8.2	A	0.7	0.20	8.2	A	0.8
	SB Ln1	0.16	12.1	B	0.5	0.17	12.5	B	0.6	0.20	12.9	B	0.7	0.20	13.4	B	0.8	0.24	13.9	B	0.9
Old Manchester Road & NH 101 EB Ramps	EB Ln1	0.20	14.3	B	0.7	0.21	14.6	B	0.8	0.47	24.0	C	2.4	0.25	16.0	C	1.0	0.54	28.4	D	3.0
	EB Ln2	0.02	8.7	A	0.1	0.02	8.7	A	0.1	0.03	8.8	A	0.1	0.03	8.8	A	0.1	0.03	8.8	A	0.1
	SB L	0.08	8.0	A	0.3	0.08	8.0	A	0.3	0.14	8.2	A	0.5	0.09	8.1	A	0.3	0.15	8.3	A	0.5
Old Manchester Road & NH 101 WB Ramps	NB L	0.09	7.7	A	0.3	0.09	7.8	A	0.3	0.09	8.0	A	0.3	0.10	7.8	A	0.3	0.11	8.1	A	0.4
	WB Ln1	0.10	11.2	B	0.3	0.10	11.3	B	0.3	0.22	12.4	B	0.8	0.12	11.9	B	0.4	0.25	13.1	B	1.0
Old Manchester Road & Scribner Road/ Industrial Drive	NB L	0.02	7.7	A	0.1	0.02	7.7	A	0.1	0.08	8.0	A	0.3	0.03	7.7	A	0.1	0.08	8.0	A	0.3
	EB Ln1	0.18	10.7	B	0.6	0.18	10.8	B	0.7	0.22	12.0	B	0.8	0.21	11.2	B	0.8	0.25	12.6	B	1.0
	WB Ln1	0.05	15.3	C	0.2	0.05	15.5	C	0.2	0.07	19.8	C	0.2	0.07	16.9	C	0.2	0.09	21.9	C	0.3
	SB L	0.01	7.7	A	0.0	0.01	7.7	A	0.0	0.01	7.7	A	0.0	0.01	7.8	A	0.0	0.01	7.8	A	0.0
Old Manchester Road & Fire Dept. Drive	NB L	0.00	7.6	A	0.0	0.00	7.6	A	0.0	0.00	7.7	A	0.0	0.00	7.7	A	0.0	0.00	7.7	A	0.0
	EB Ln1	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0
Scribner Road & Fire Dept. Drive	EB L	0.00	7.3	A	0.0	0.00	7.3	A	0.0	0.00	7.3	A	0.0	0.00	7.3	A	0.0	0.00	7.3	A	0.0
	SB Ln1	0.00	9.4	A	0.0	0.00	9.4	A	0.0	0.01	9.6	A	0.0	0.01	9.6	A	0.0	0.01	9.7	A	0.0
Scribner Road & Police Dept. Drive/Site Drive	NB Ln1	-	-	-	-	-	-	-	-	0.03	10.3	B	0.1	-	-	-	-	0.03	10.4	B	0.1
	EB L	0.00	7.3	A	0.0	0.00	7.3	A	0.0	0.00	7.3	A	0.0	0.00	7.3	A	0.0	0.00	7.3	A	0.0
	WB L	-	-	-	-	-	-	-	-	0.05	7.6	A	0.2	-	-	-	-	0.05	7.7	A	0.2
	SB Ln1	0.01	9.5	A	0.0	0.01	9.5	A	0.0	0.01	11.3	B	0.0	0.00	9.6	A	0.0	0.01	11.5	B	0.0
Scribner Road & Truck Access Site Drive	WB Ln1	-	-	-	-	-	-	-	0.01	8.6	A	0.0	-	-	-	-	0.01	8.7	A	0.0	
Old Manchester Road & North Site Drive	NB L	-	-	-	-	-	-	-	-	0.06	8.1	A	0.2	-	-	-	-	0.06	8.2	A	0.2
	EB Ln1	-	-	-	-	-	-	-	-	0.24	12.1	B	0.9	-	-	-	-	0.25	12.6	B	1.0
Old Manchester Road & South Site Drive	EB Ln1	-	-	-	-	-	-	-	-	0.03	13.2	B	0.1	-	-	-	-	0.03	13.6	B	0.1

¹v/c = Volume to capacity ratio ²Delay = Average delay per vehicle (seconds) ³LOS = Level of Service ⁴95th percentile queue (vehicles)

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Proposed MEGA-X Convenience Store (With Gas)
Old Manchester Road, Raymond, New Hampshire

Table 8 Unsignalized Intersection Capacity Analysis Summary – Weekday PM Peak Hour

Intersection	Movement	2019 Existing				2020 No-Build				2020 Build				2030 No-Build				2030 Build			
		v/c ¹	Delay ²	LOS ³	95 th Q ⁴	v/c	Delay	LOS	95 th Q	v/c	Delay	LOS	95 th Q	v/c	Delay	LOS	95 th Q	v/c	Delay	LOS	95 th Q
Old Manchester Road & Lane Road/ Batchelder Road	EB L	0.06	7.5	A	0.2	0.07	7.6	A	0.2	0.08	7.6	A	0.3	0.08	7.6	A	0.3	0.09	7.7	A	0.3
	SB Ln1	0.43	12.4	B	2.1	0.46	13.0	B	2.4	0.49	13.8	B	2.7	0.52	14.3	B	3.0	0.55	15.3	C	3.4
Old Manchester Road & NH 101 EB Ramps	EB Ln1	0.26	13.7	B	1.0	0.27	14.0	B	1.1	0.44	19.5	C	2.2	0.32	15.3	C	1.4	0.51	22.5	C	2.8
	EB Ln2	0.12	10.1	B	0.4	0.13	10.2	B	0.4	0.13	10.3	B	0.4	0.14	10.4	B	0.5	0.15	10.6	B	0.5
	SB L	0.04	7.5	A	0.1	0.04	7.5	A	0.1	0.08	7.6	A	0.2	0.05	7.5	A	0.1	0.08	7.7	A	0.3
Old Manchester Road & NH 101 WB Ramps	NB L	0.01	7.6	A	0.0	0.01	7.6	A	0.0	0.01	7.8	A	0.0	0.02	7.7	A	0.0	0.02	7.8	A	0.0
	WB Ln1	0.31	12.8	B	1.3	0.32	13.1	B	1.4	0.43	15.6	C	2.2	0.37	14.2	B	1.7	0.49	17.4	C	2.7
Old Manchester Road & Scribner Road/ Industrial Drive	NB L	0.08	8.0	A	0.3	0.08	8.0	A	0.3	0.13	8.3	A	0.4	0.09	8.1	A	0.3	0.14	8.4	A	0.5
	EB Ln1	0.19	13.0	B	0.7	0.20	13.1	B	0.7	0.25	15.6	C	1.0	0.23	14.2	B	0.9	0.30	17.3	C	1.3
	WB Ln1	0.02	12.7	B	0.1	0.02	12.9	B	0.1	0.02	14.6	B	0.1	0.02	13.8	B	0.1	0.02	15.7	C	0.1
	SB L	0.00	7.6	A	0.0	0.00	7.6	A	0.0	0.00	7.6	A	0.0	0.00	7.6	A	0.0	0.00	7.7	A	0.0
Old Manchester Road & Fire Dept. Drive	NB L	0.00	7.8	A	0.0	0.00	7.9	A	0.0	0.00	7.9	A	0.0	0.00	7.9	A	0.0	0.00	8.0	A	0.0
	EB Ln1	0.01	11.2	B	0.0	0.01	11.2	B	0.0	0.01	11.5	B	0.0	0.01	11.6	B	0.0	0.01	11.9	B	0.0
Scribner Road & Police Dept. Drive	EB L	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0
	SB Ln1	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0
Scribner Road & Fire Dept. Drive/Site Drive	NB Ln1	-	-	-	-	-	-	-	-	0.04	11.1	B	0.1	-	-	-	-	0.04	11.3	B	0.1
	EB L	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0	0.00	0.0	A	0.0
	WB L	-	-	-	-	-	-	-	-	0.05	7.6	A	0.2	-	-	-	-	0.05	7.6	A	0.2
	SB Ln1	0.00	12.0	B	0.0	0.00	12.0	B	0.0	0.00	15.3	C	0.0	0.00	12.4	B	0.0	0.00	15.9	C	0.0
Scribner Road & Truck Access Site Drive	WB Ln1	-	-	-	-	-	-	-	-	0.00	8.5	A	0.0	-	-	-	-	0.00	8.6	A	0.0
Old Manchester Road & North Site Drive	NB L	-	-	-	-	-	-	-	-	0.05	8.0	A	0.2	-	-	-	-	0.05	8.1	A	0.2
	EB Ln1	-	-	-	-	-	-	-	-	0.20	11.8	B	0.7	-	-	-	-	0.21	12.2	B	0.8
Old Manchester Road & South Site Drive	EB Ln1	-	-	-	-	-	-	-	-	0.01	12.5	B	0.0	-	-	-	-	0.01	12.8	B	0.0

¹v/c = Volume to capacity ratio ²Delay = Average delay per vehicle (seconds) ³LOS = Level of Service ⁴95th percentile queue (vehicles)

As shown in Tables 7 and 8, the capacity analysis indicates that the critical movements from the side streets at each of the study area intersections are projected to operate at acceptable Level of Service (LOS) D or better through the projected 2030 Build (With Project) conditions. The proposed site driveways are projected to operate at LOS B or better with minimal delays for the critical exiting movements from the site driveways during the weekday morning and evening commuter peak hour conditions through the projected 2030 Build conditions. A more detailed discussion of the results of the capacity analysis and potential measures to reduce the delays experienced at the northerly site driveway along Old Manchester Road and at the intersection of Old Manchester Road at Scribner Road/Industrial Drive is provided below.

5.0 LEFT-TURN LANE WARRANT ANALYSIS

Tetra Tech conducted left-turn lane warrants for the projected traffic volumes at the intersection of Old Manchester Road and Scribner Road/Industrial Drive and at the proposed site driveways on Old Manchester Road and Scribner Road to determine if a separate left-turn lane should be provided. The left-turn lane warrant analysis indicates that the amount of left-turning traffic at the site driveways on Scribner Road fall well below the minimum traffic volume thresholds for consideration of a separate left-turn lane. Consequently, no left-turn lane treatments are proposed at either of the proposed site driveways on Scribner Road. Along Old Manchester Road, a left-turn lane is warranted at the northern site driveway under 2020 and 2030 Build conditions. In addition, a left-turn lane analysis was performed for the Old Manchester Road northbound approach to Scribner Road since the project is expected to add volume to that movement. A separate left-turn lane is warranted at the intersection. The left-turn lane warrant analyses are presented in Appendix J.

6.0 PROPOSED ROADWAY IMPROVEMENTS

As described in the previous section of the report, separate left-turn lanes are warranted on Old Manchester Road for the northbound through traffic traveling past the site at the northerly site driveway and at the intersection of Old Manchester Road and Scribner Road/Industrial Drive. As part of the proposed project, it is recommended that Old Manchester Road be restriped to provide separate left-turn lanes at both of these intersections. The proposed roadway improvements at the intersections of Old Manchester Road and Scribner Road/Industrial Drive and the northerly site drive are illustrated on the site plan included in Appendix A. The capacity analysis worksheets for the mitigated conditions are included in Appendix I.

Upon implementation of the proposed roadway improvements, the anticipated traffic increases associated with the proposed development can be accommodated at the site driveways and on the surrounding area roadways with no significant impact on the future traffic operations in the vicinity of the site.

7.0 CONCLUSIONS

Tetra Tech has reviewed the potential traffic impacts associated with the proposed 6,500 square foot MEGA-X convenience store (with gas) to be located on Old Manchester Road in Raymond, New Hampshire. This study provides a detailed analysis of traffic operations during the weekday morning and weekday evening commuter peak hours, when the combination of existing traffic on the surrounding area roadways and traffic increases associated with the proposed development would be greatest. Intersection turning movement counts at the Old Manchester Road at Scribner Road/Industrial Drive intersection

Traffic Impact and Access Study
Proposed MEGA-X Convenience Store (With Gas)
Old Manchester Road, Raymond, New Hampshire

indicate the weekday morning peak hour occurred from 7:15 to 8:15 AM and the weekday evening peak hour occurred from 5:00 to 6:00 PM.

The proposed MEGA-X project is expected to generate a total of 350 vehicles trips (175 entering trips and 175 exiting trips) during the weekday morning peak hour and 286 vehicle trips (143 entering trips and 143 exiting trips) during the weekday evening peak hour. However, the majority of vehicles trips associated with the proposed project will be drawn from existing traffic already traveling on the area roadways. Accounting for pass-by and diverted trips, the proposed project is expected to generate 80 new vehicle trips (40 entering trips and 40 exiting trips) during the weekday morning peak hour and 90 new trips (45 entering trips and 45 exiting trips) during the weekday evening peak hour.

To quantify potential traffic impacts associated with the proposed development, intersection capacity analyses were conducted for the study area intersection for the 2019 Existing, 2020 No-Build (Without Project), 2020 Build (With Project), 2030 No-Build (Without Project) and 2030 Build (With Project) weekday morning and weekday evening peak hour traffic conditions.

The capacity analysis indicates that the critical movements from the side streets at each of the study area intersections are projected to operate at acceptable Level of Service (LOS) D or better through the projected 2030 Build (With Project) conditions. The proposed site driveways are projected to operate at LOS B or better with minimal delays for the critical exiting movements from the site driveways during the weekday morning and evening commuter peak hour conditions through the projected 2030 Build conditions. This indicates that the proposed project site driveways can accommodate the projected traffic increases at the site driveways with minimal delays for the critical exiting movements to and from the project site.

As part of the proposed project, it is recommended that Old Manchester Road be restriped to provide separate left-turn lanes on Old Manchester Road northbound at Scribner Road and the northerly site driveway. Upon implementation of the proposed roadway improvements, the anticipated traffic increases associated with the proposed development can be accommodated at the site driveways and on the surrounding area roadways with no significant impact on the future traffic operations in the vicinity of the site.

The final design and construction of the proposed roadway improvements will be coordinated with appropriate representatives of the Town of Raymond for modifications to the Old Manchester Road at Scribner Road/Industrial Drive intersection, as well as the northerly site driveway on Old Manchester Road.



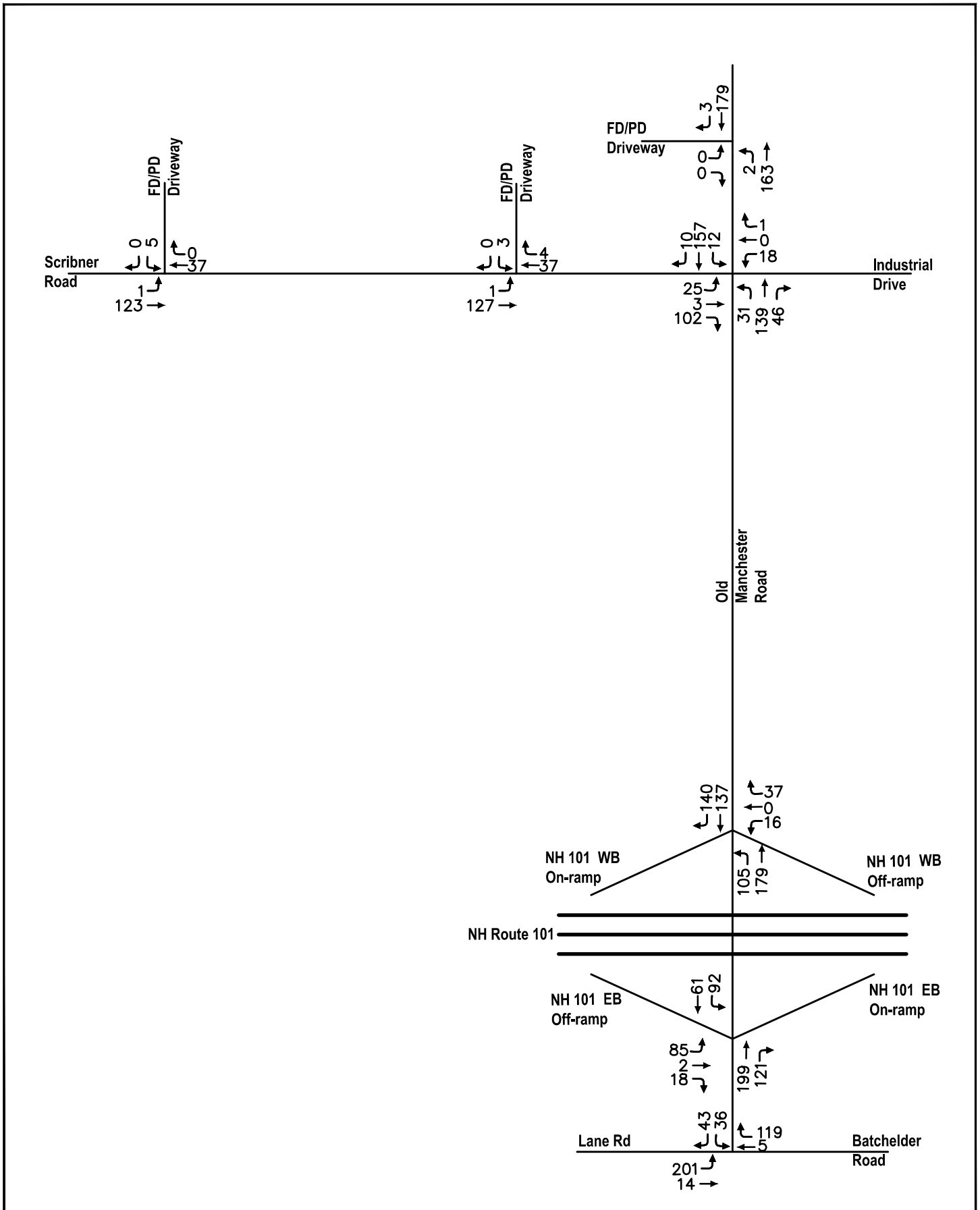
Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Study Area Intersections

**FIGURE
1**



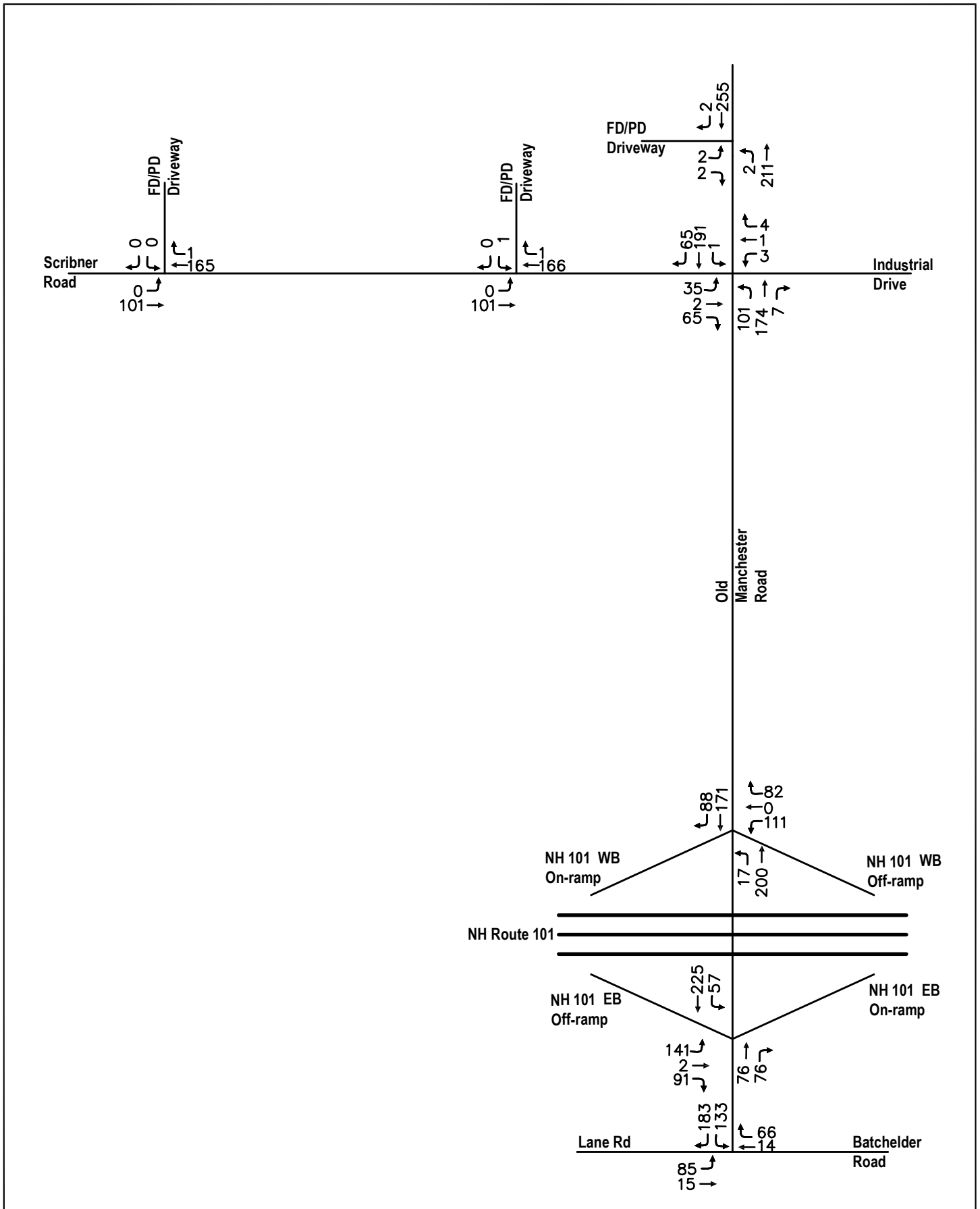
NOT TO SCALE



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

2019 Existing Weekday
 Morning Peak Hour
 Traffic Volumes

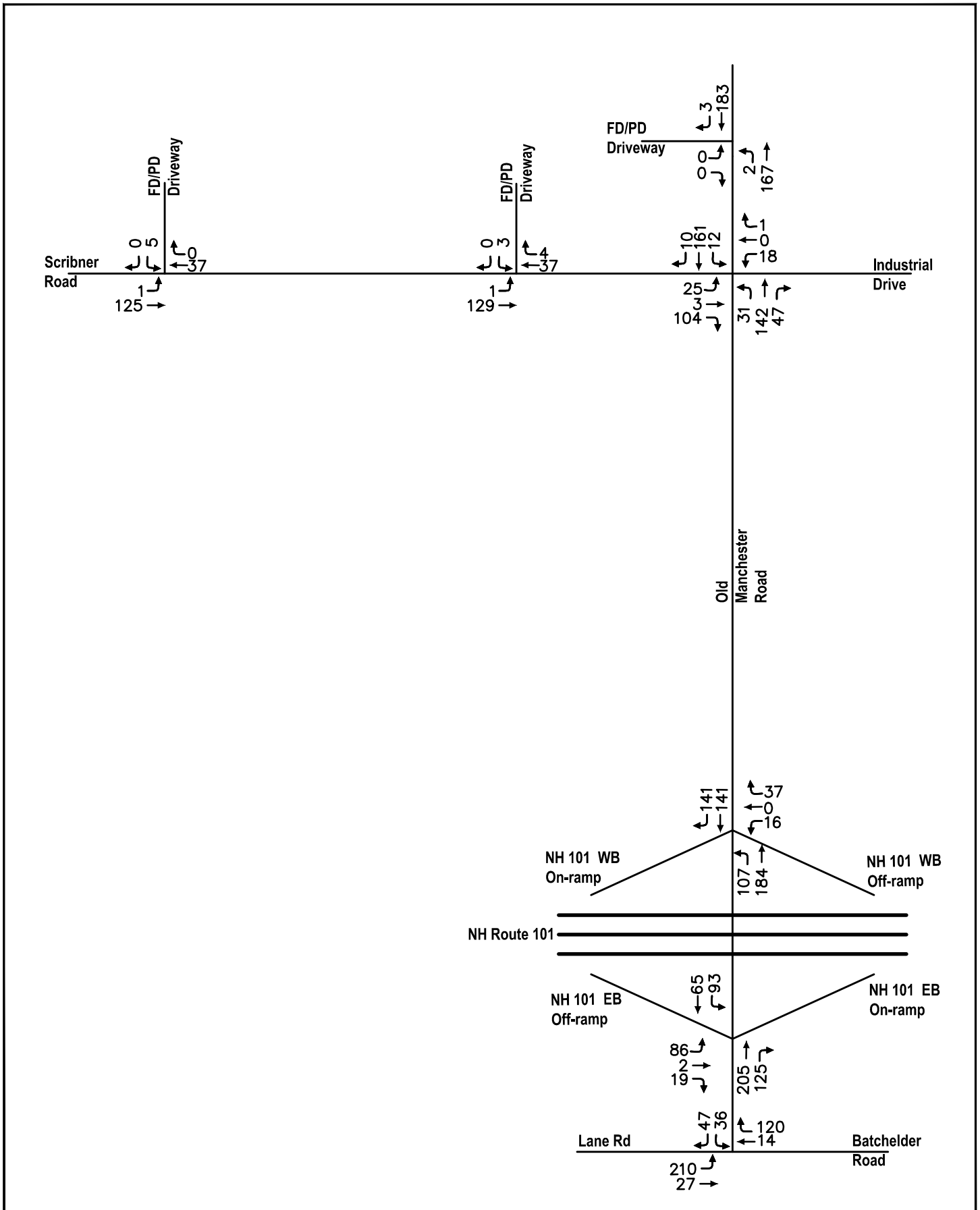
FIGURE
 2



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

2019 Existing Weekday
 Evening Peak Hour
 Traffic Volumes

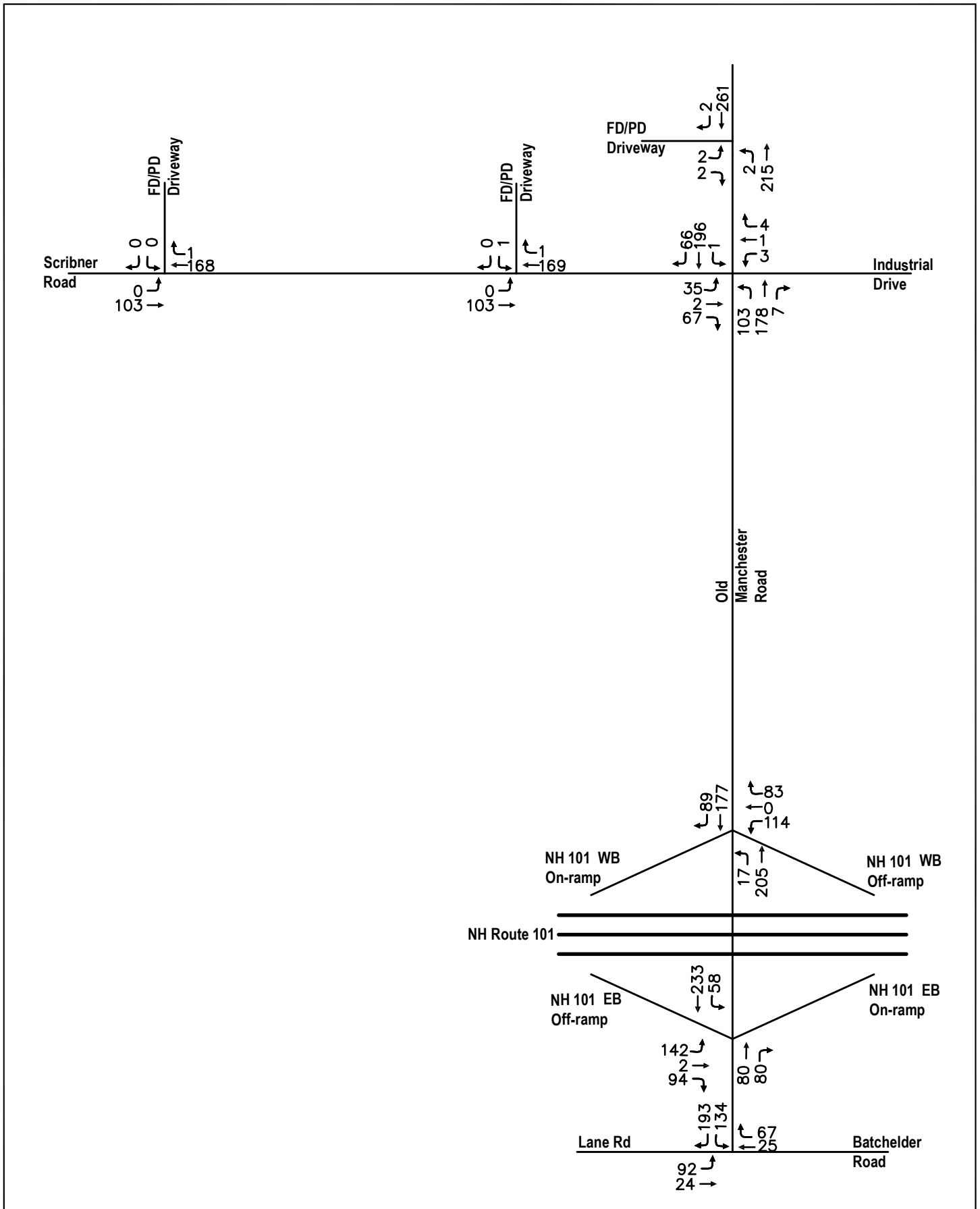
FIGURE
 3



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

2020 No-Build
 Morning Peak Hour
 Traffic Volumes

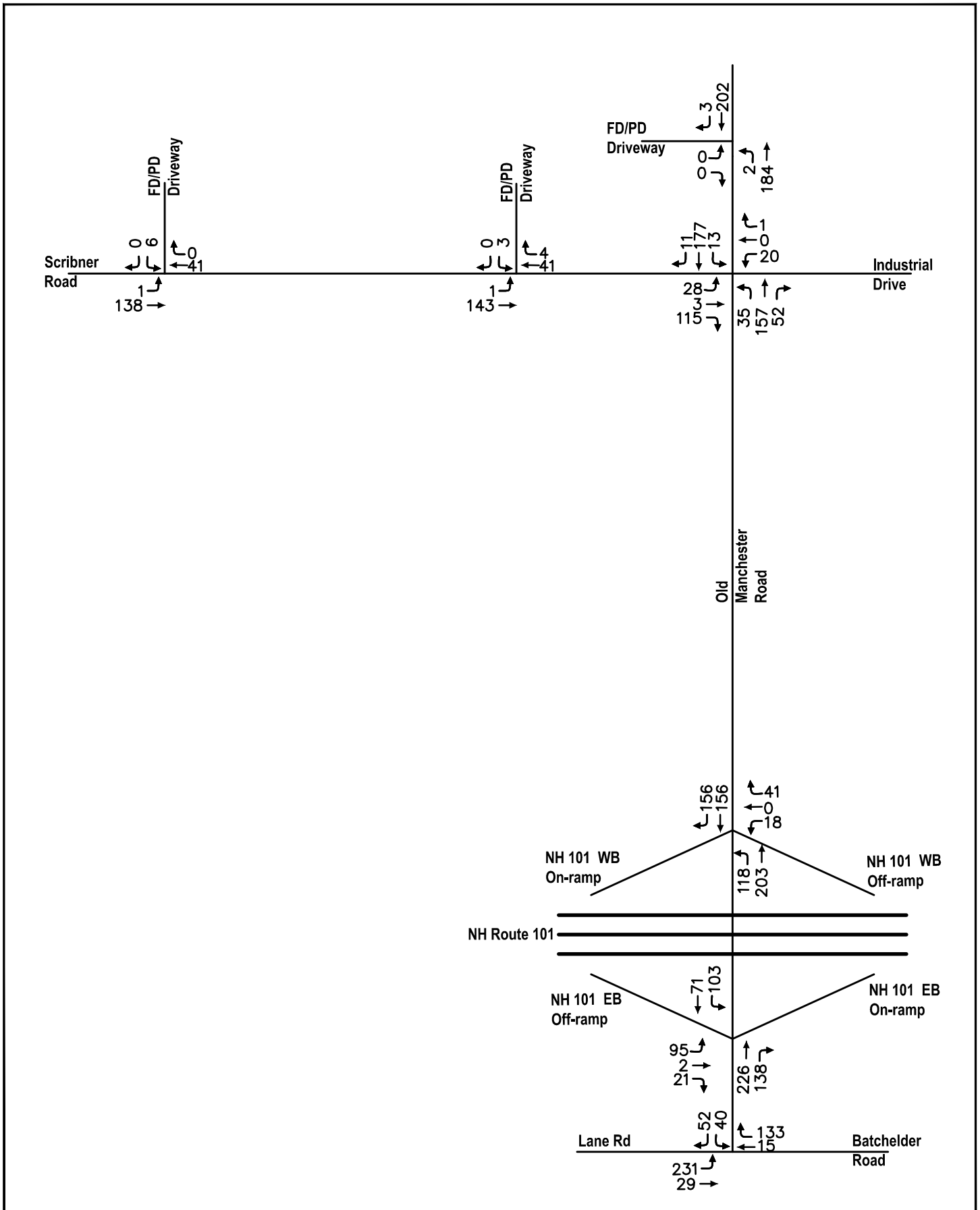
FIGURE
 4



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

2020 No-Build
 Evening Peak Hour
 Traffic Volumes

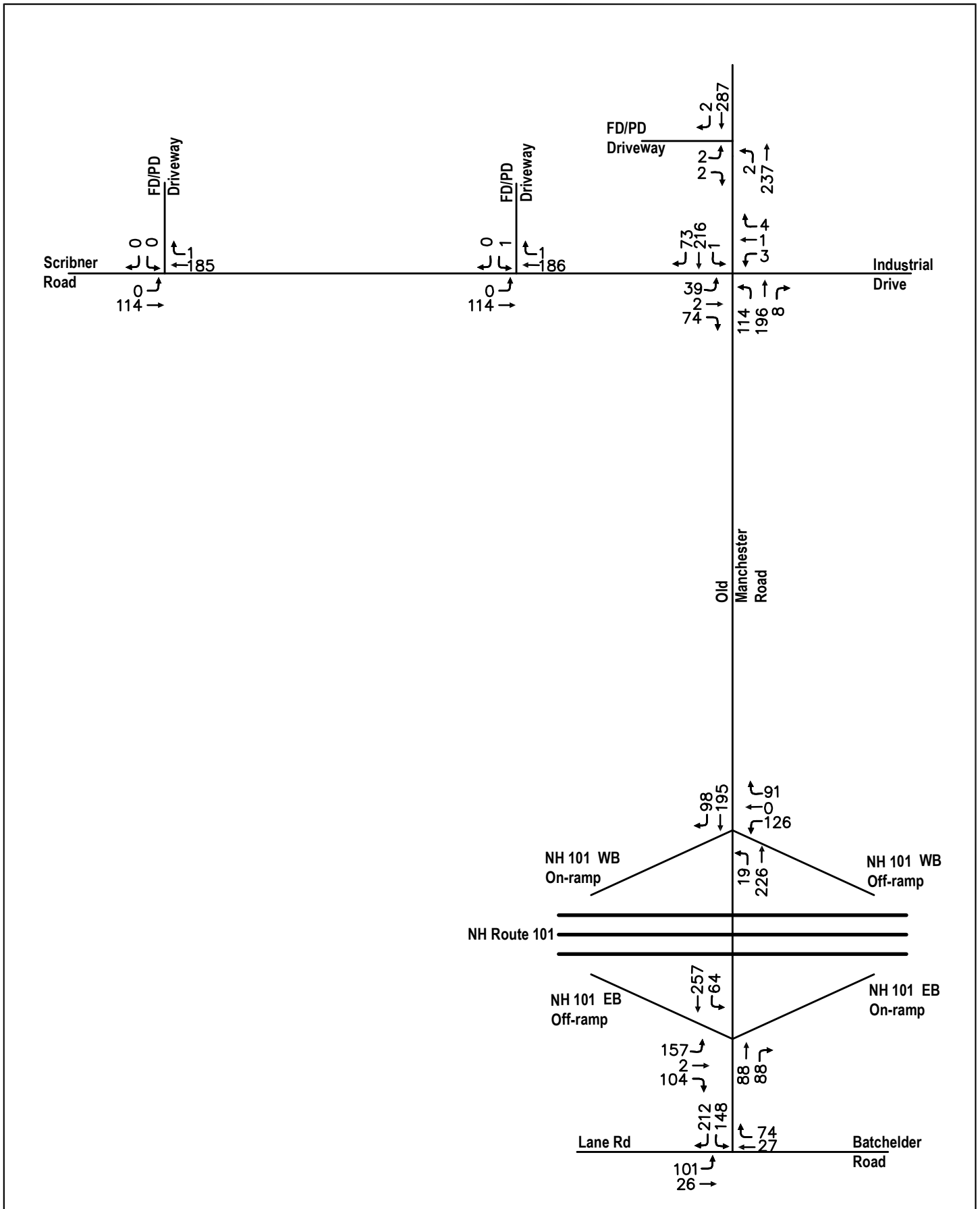
FIGURE
5



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

2030 No-Build
 Morning Peak Hour
 Traffic Volumes

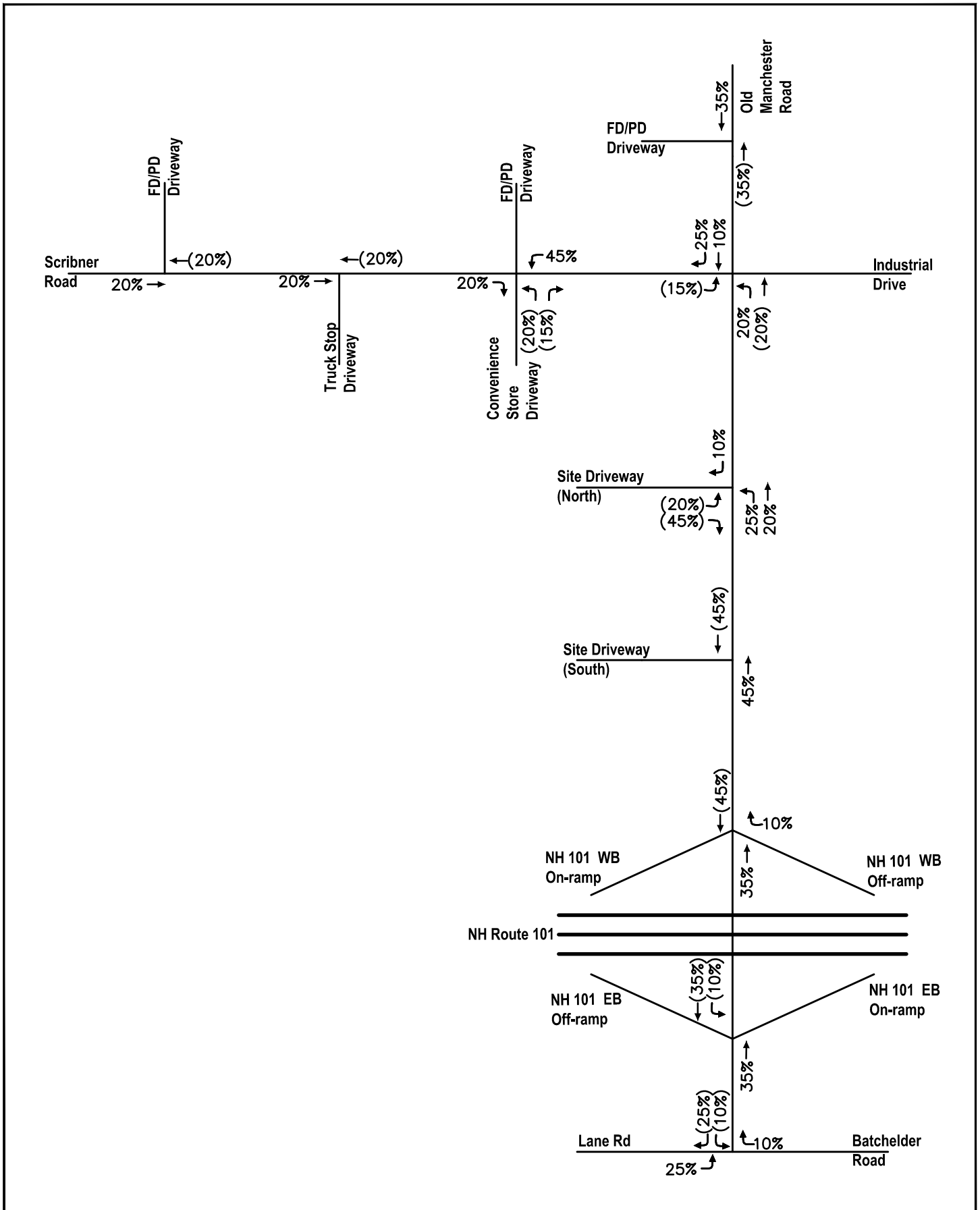
FIGURE
 6



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

2030 No-Build
 Evening Peak Hour
 Traffic Volumes

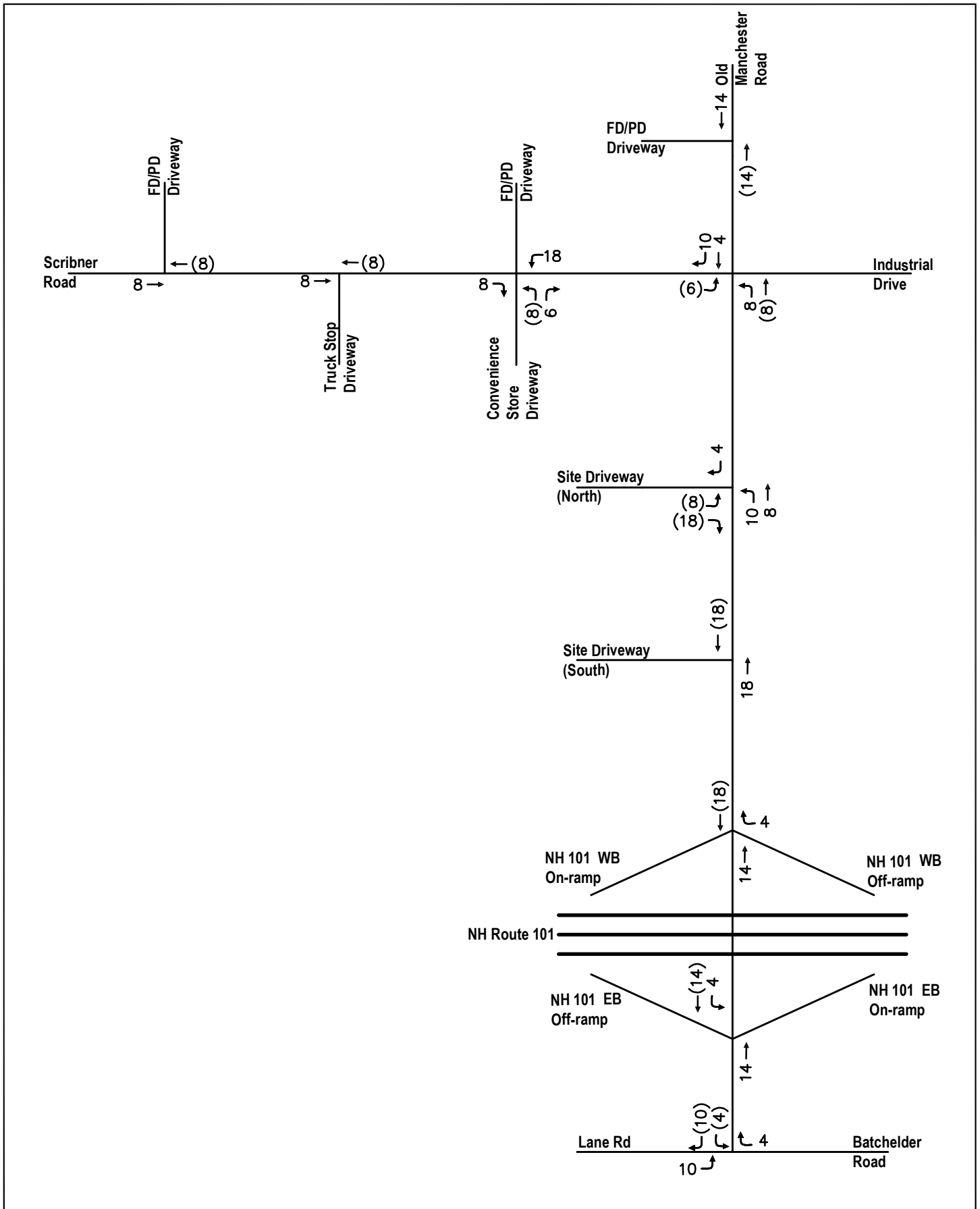
FIGURE
 7



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Trip Distribution
 Primary (New) Trips

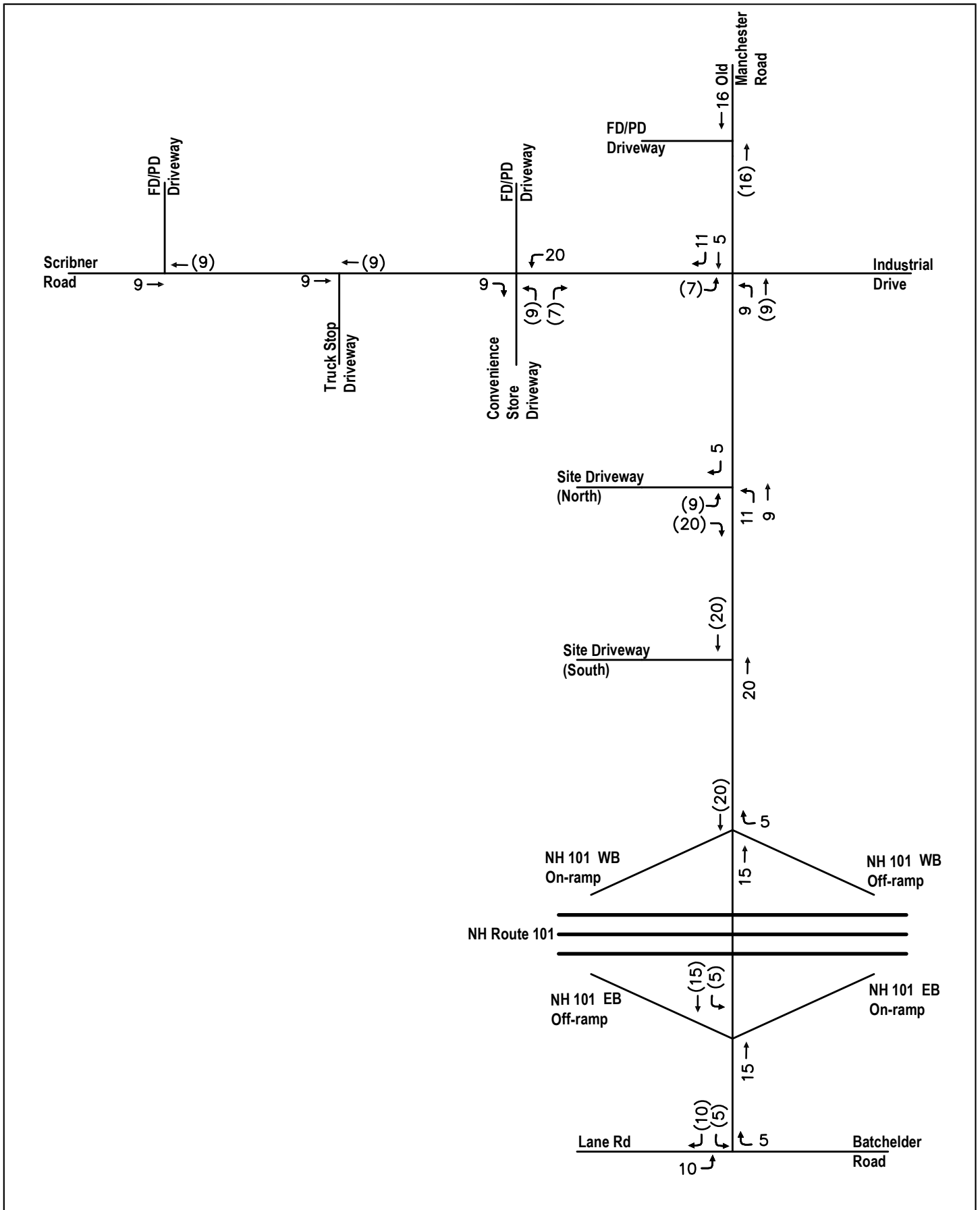
FIGURE
 8



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Primary Site Trips
 Morning Peak Hour

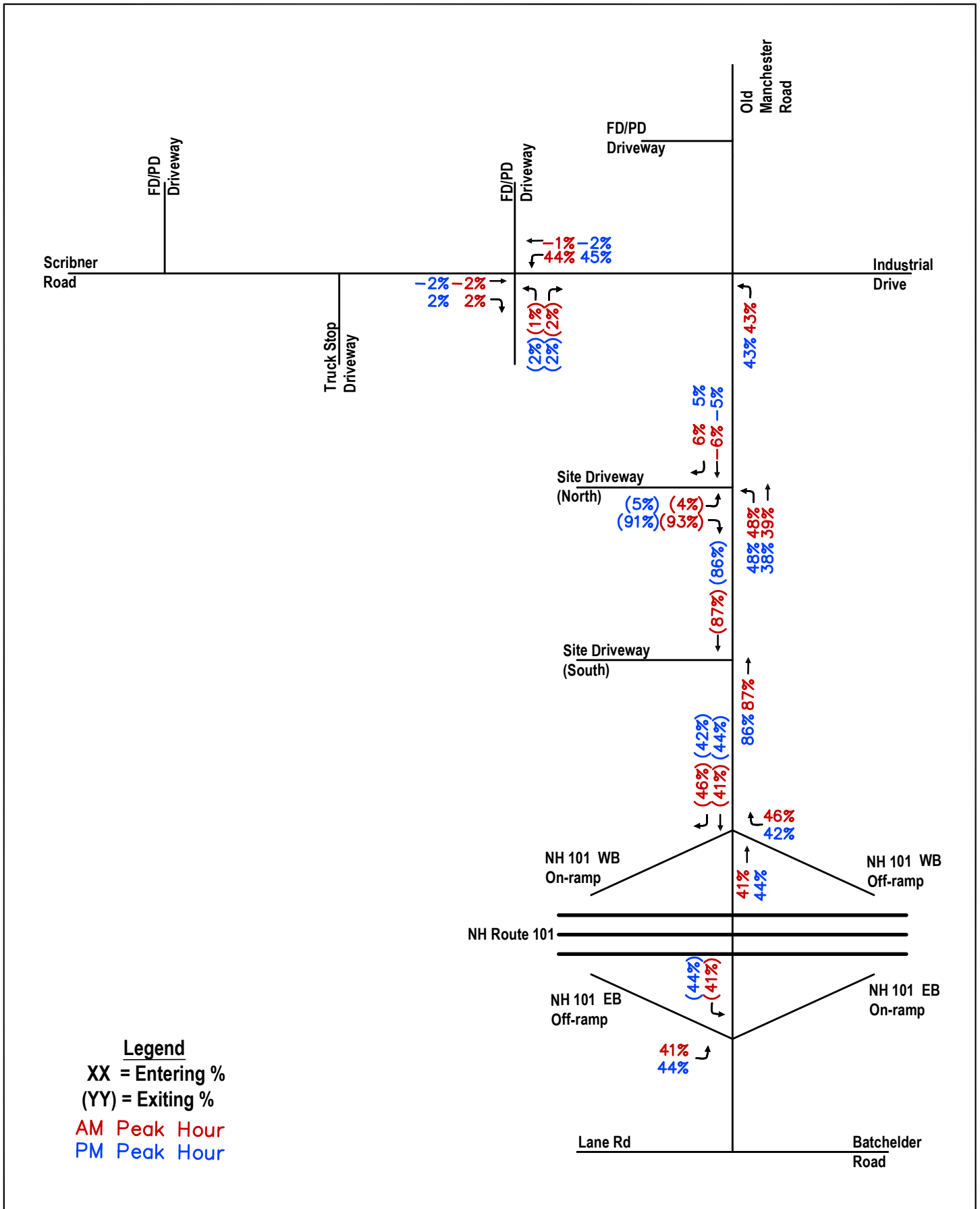
FIGURE
 9



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Primary Site Trips
 Evening Peak Hour

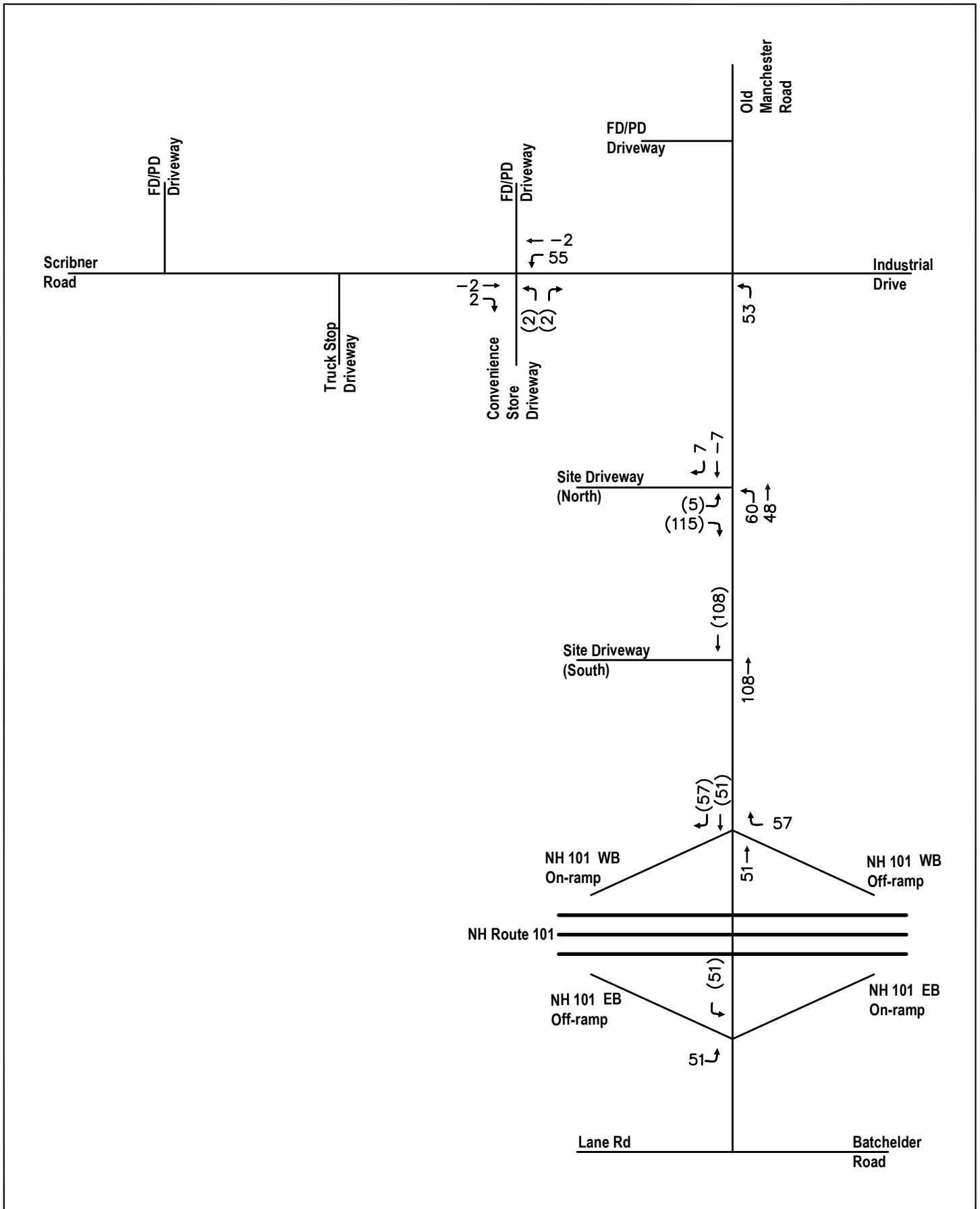
FIGURE
 10



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Trip Distribution
 Pass-by (Car) Trips

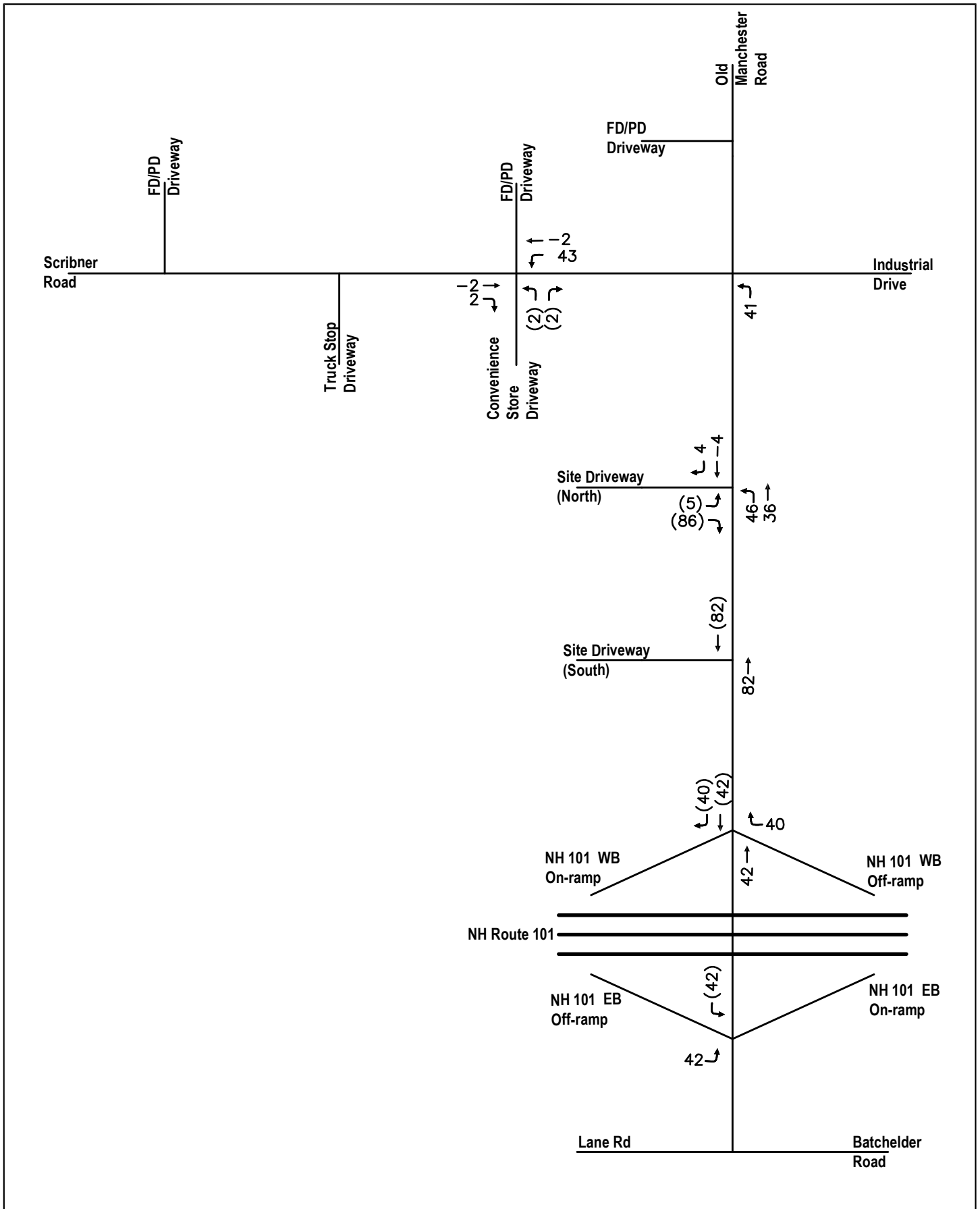
FIGURE
 11



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Pass-by (Car) Site Trips
 Morning Peak Hour

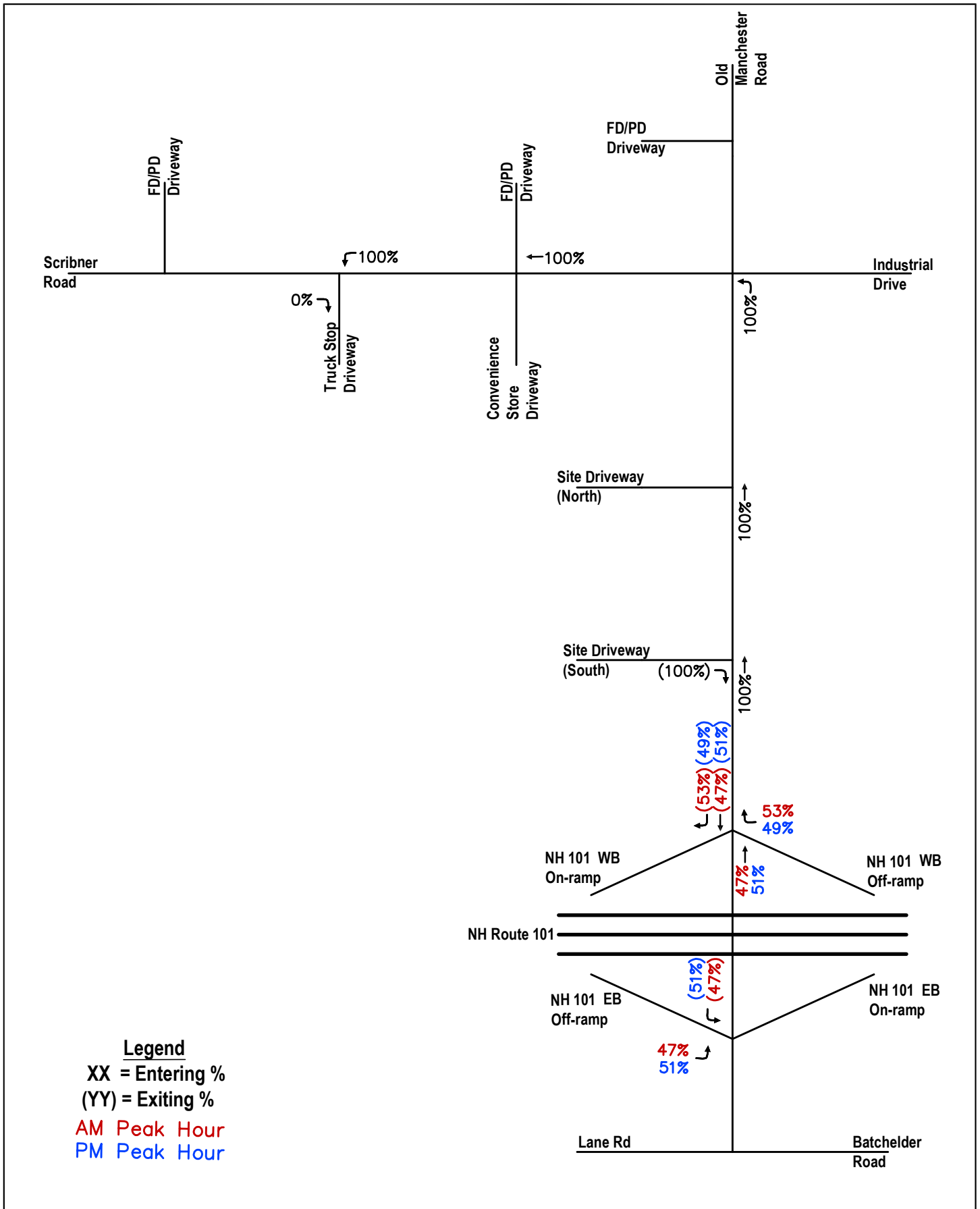
FIGURE
 12



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Pass-by (Car) Site Trips
 Evening Peak Hour

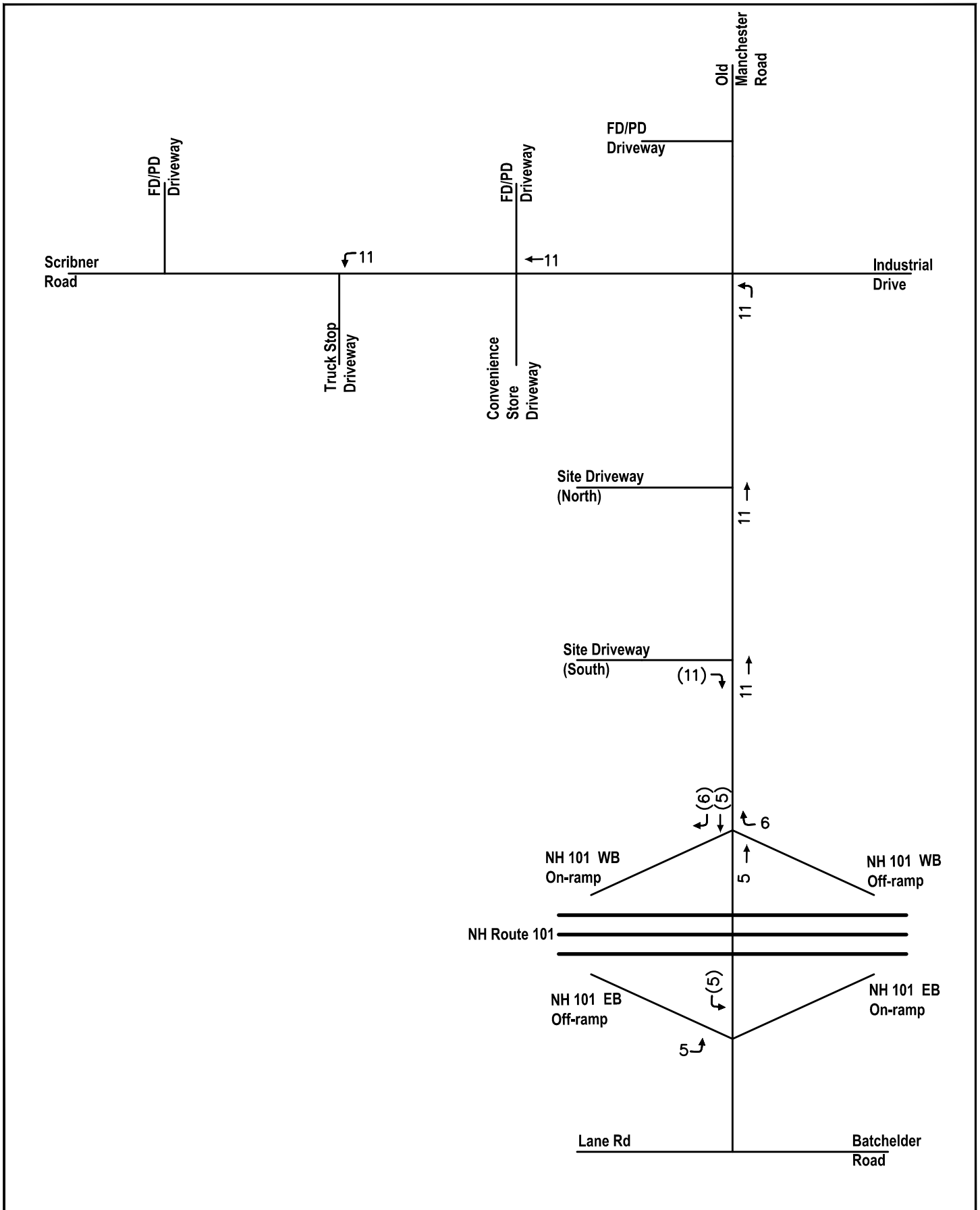
FIGURE
 13



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

**Trip Distribution
 Passby (Truck) Trips**

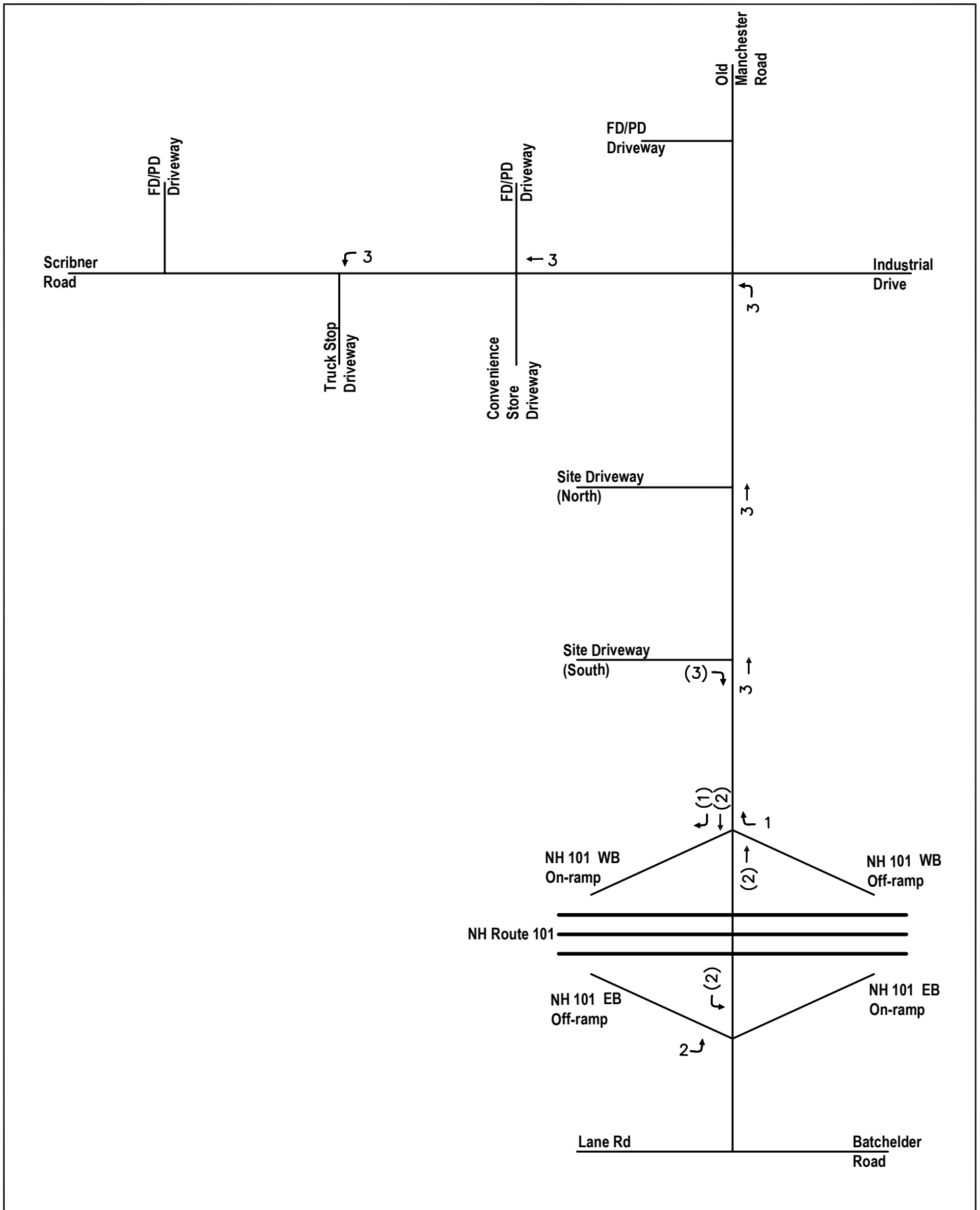
**FIGURE
 14**



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Pass-by (Truck) Site Trips
 Morning Peak Hour

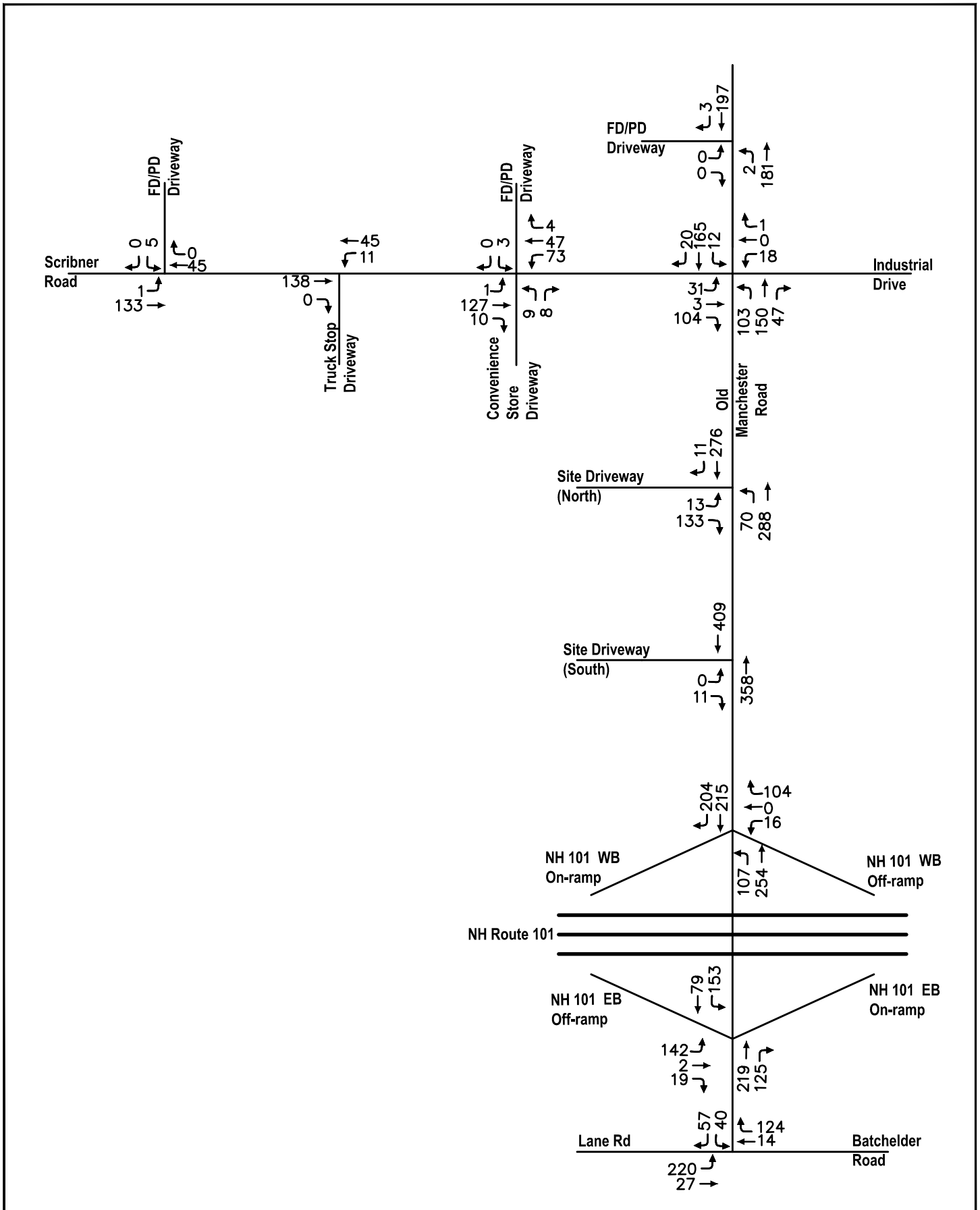
FIGURE
 15



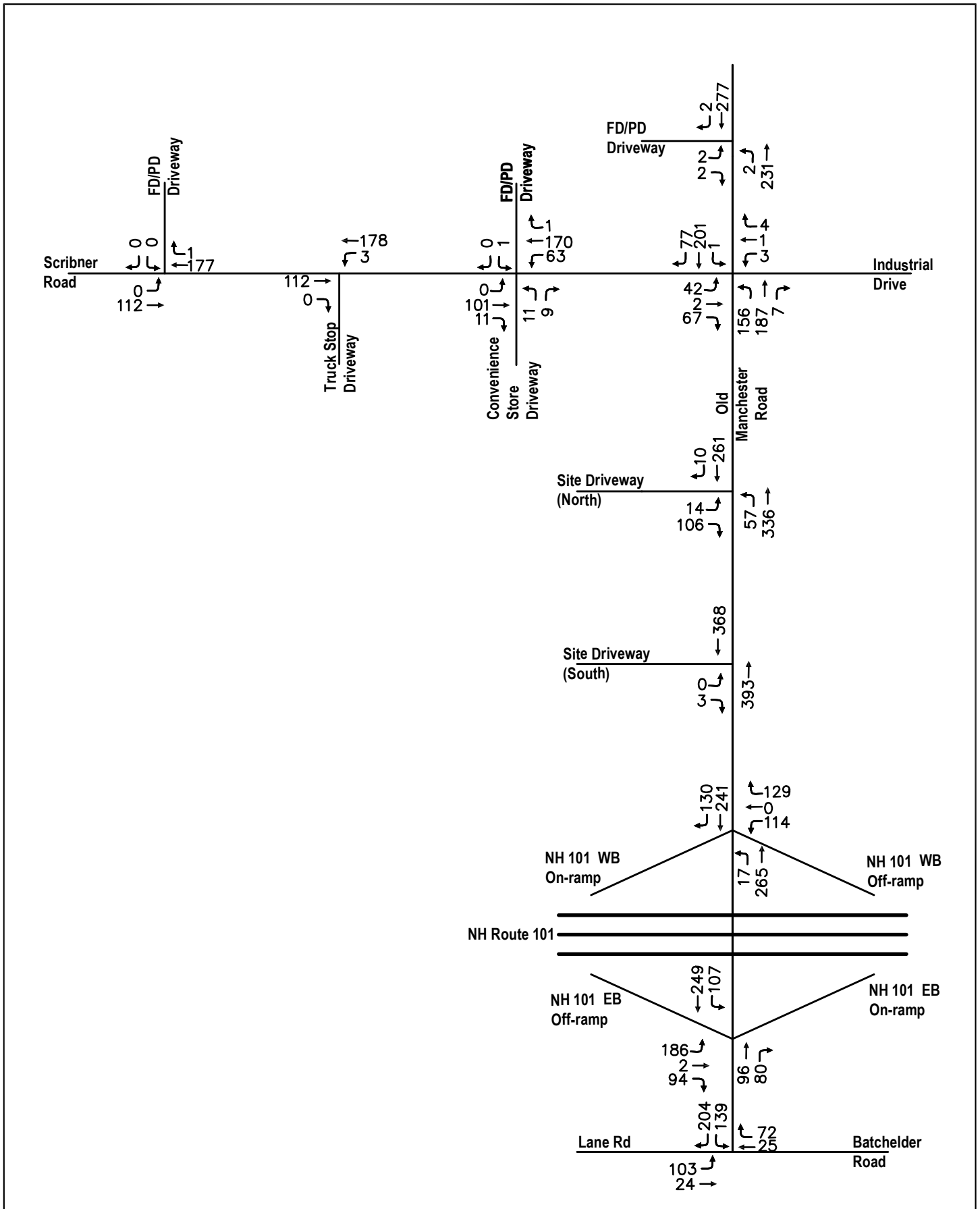
Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

Pass-by (Truck) Site Trips
 Evening Peak Hour

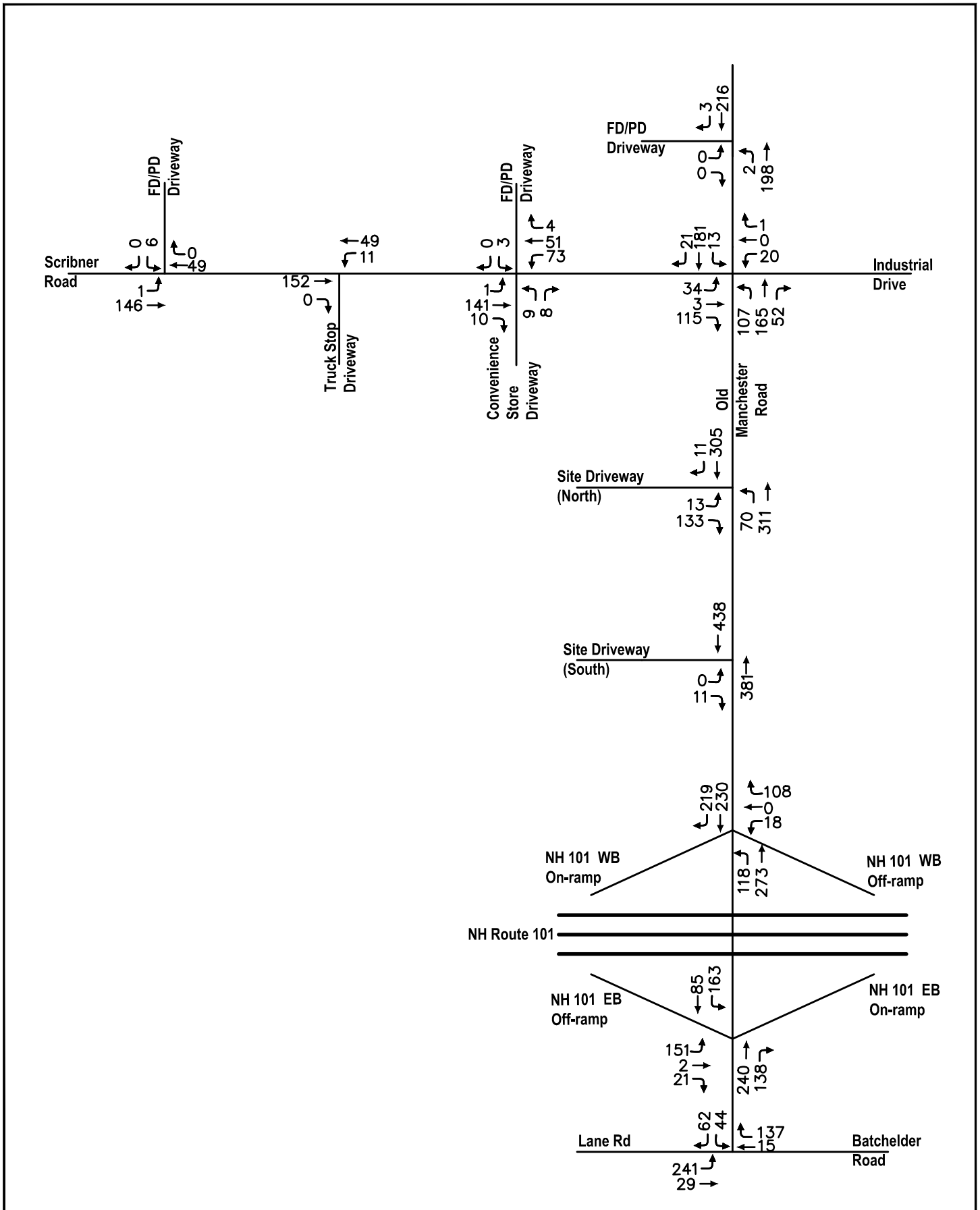
FIGURE
 16



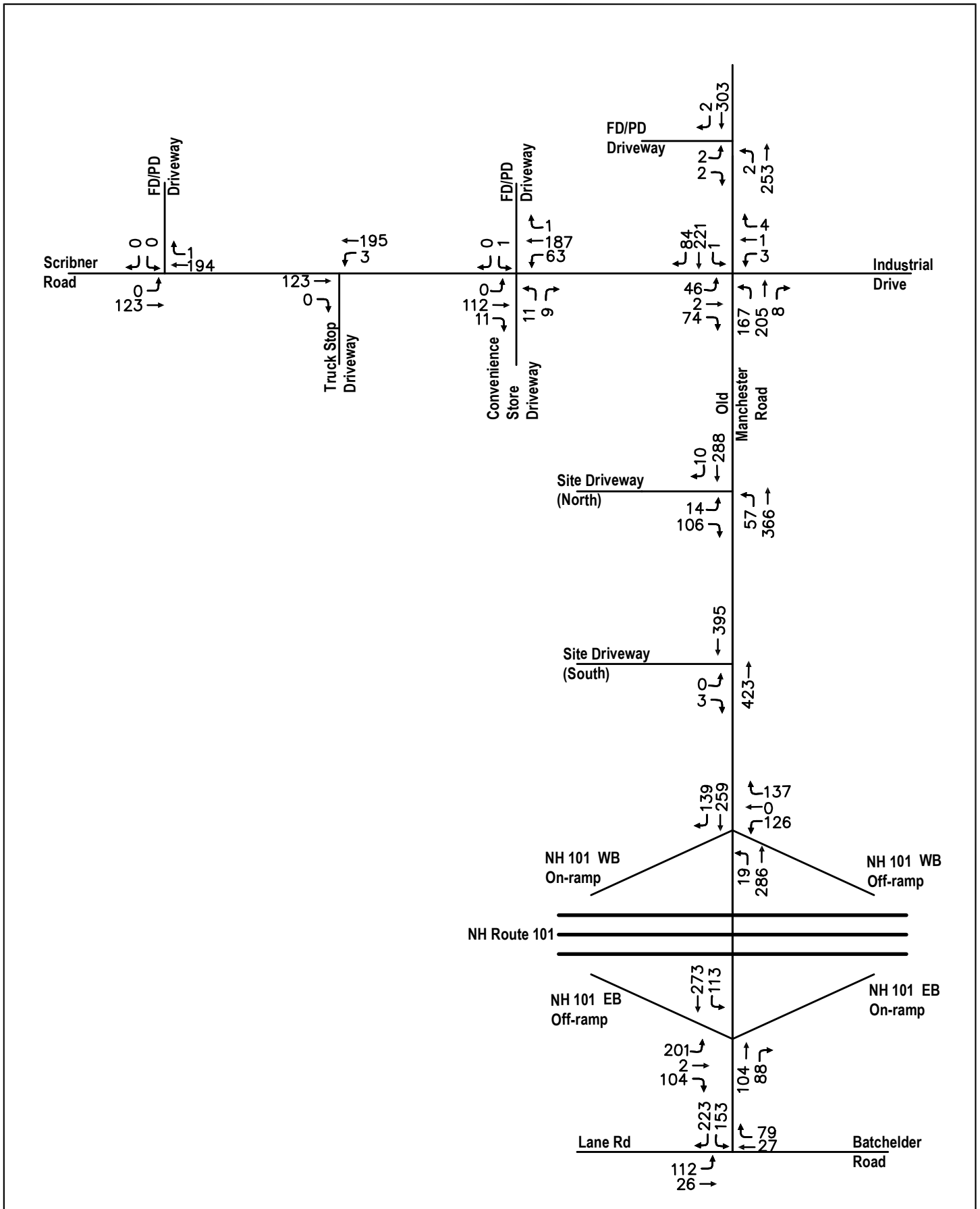
Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire



Proposed Mixed-Use Commercial Development
 Old Manchester Road
 Raymond, New Hampshire

TRIP GENERATION CALCULATIONS



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DATA SOURCE:

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SEARCH BY LAND USE CODE:

150

LAND USE GROUP:

(100-199) Industrial

LAND USE :

150 - Warehousing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday

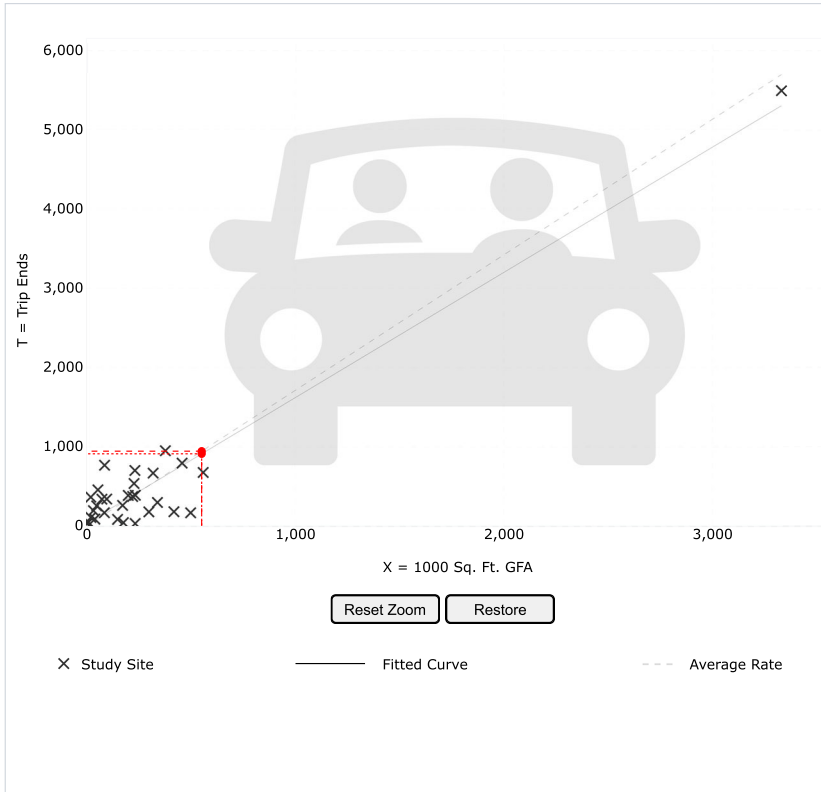
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

550.03 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:	Warehousing (150) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Weekday
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	31
Avg. 1000 Sq. Ft. GFA:	292
Average Rate:	1.71
Range of Rates:	0.15 - 16.93
Standard Deviation:	1.48
Fitted Curve Equation:	$T = 1.58(X) + 38.29$
R²:	0.92
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 941 (Total), 470 (Entry), 471 (Exit) Fitted Curve: 907 (Total), 454 (Entry), 453 (Exit)

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DATA SOURCE:

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SEARCH BY LAND USE CODE:

150

LAND USE GROUP:

(100-199) Industrial

LAND USE:

150 - Warehousing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

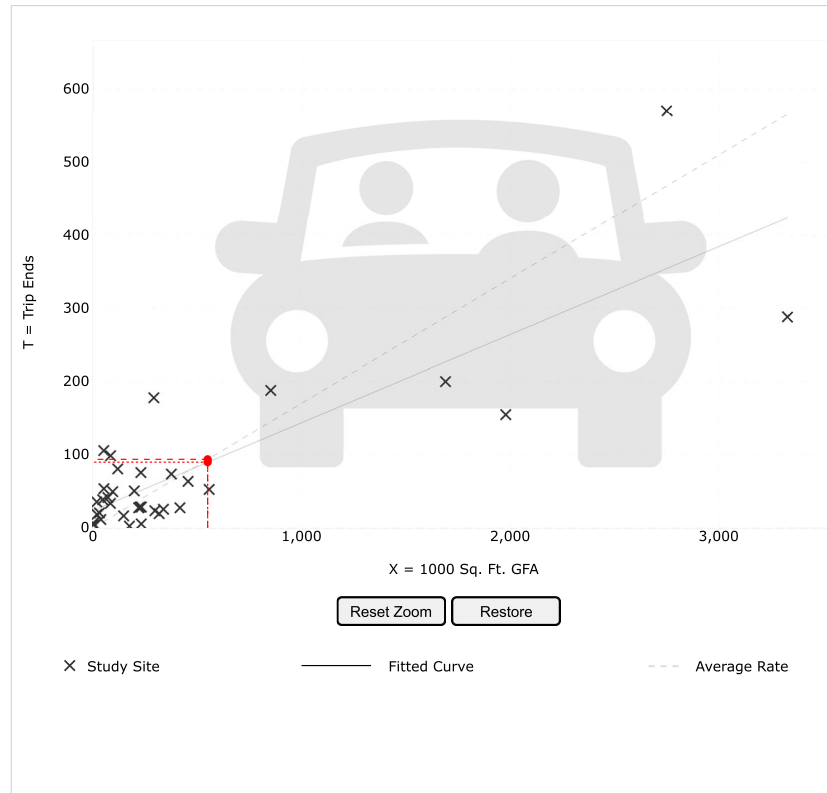
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

550.03 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
 Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
 Warehousing (150) [Click for Description and Data Plots](#)

Independent Variable:
 1000 Sq. Ft. GFA

Time Period:
 Weekday
 Peak Hour of Adjacent Street Traffic
 One Hour Between 7 and 9 a.m.

Setting/Location:
 General Urban/Suburban

Trip Type:
 Vehicle

Number of Studies:
 36

Avg. 1000 Sq. Ft. GFA:
 448

Average Rate:
 0.17

Range of Rates:
 0.02 - 1.93

Standard Deviation:
 0.19

Fitted Curve Equation:
 $T = 0.12(X) + 23.62$

R²:
 0.69

Directional Distribution:
 77% entering, 23% exiting

Calculated Trip Ends:
 Average Rate: 94 (Total), 72 (Entry), 22 (Exit)
 Fitted Curve: 90 (Total), 69 (Entry), 21 (Exit)

Graph Look Up



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Graph Look Up

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Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

150

LAND USE GROUP:

(100-199) Industrial

LAND USE :

150 - Warehousing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

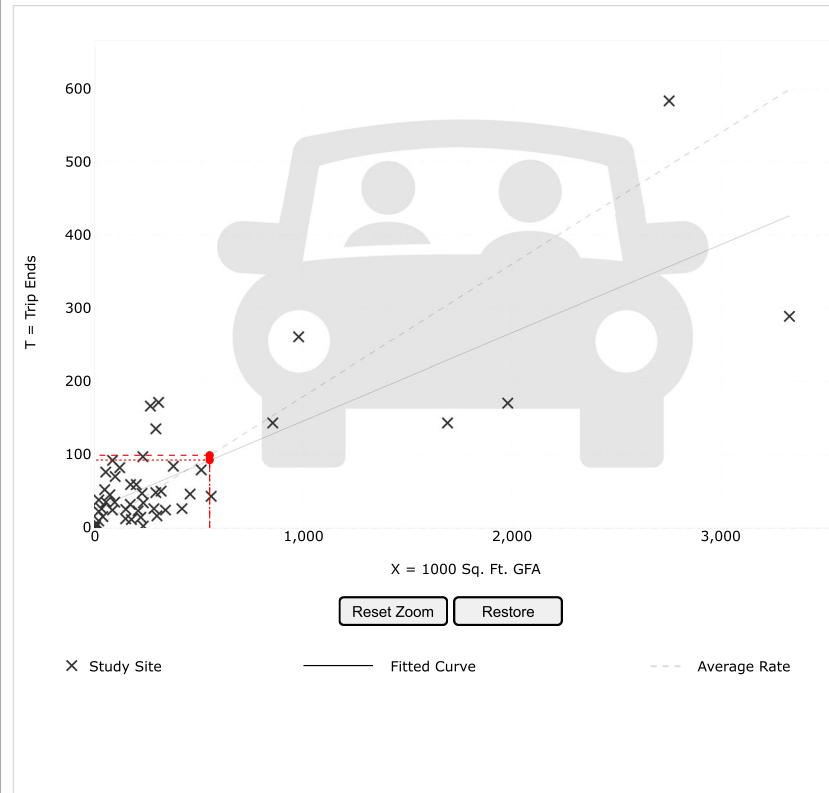
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

550.03 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:
Warehousing (150) [Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
49

Avg. 1000 Sq. Ft. GFA:
400

Average Rate:
0.18

Range of Rates:
0.01 - 1.80

Standard Deviation:
0.18

Fitted Curve Equation:
 $T = 0.12(X) + 26.48$

R²:
0.65

Directional Distribution:
28% entering, 72% exiting

Calculated Trip Ends:
Average Rate: 99 (Total), 28 (Entry), 71 (Exit)
Fitted Curve: 92 (Total), 26 (Entry), 66 (Exit)

Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

150

LAND USE GROUP:

(100-199) Industrial

LAND USE :

150 - Warehousing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday

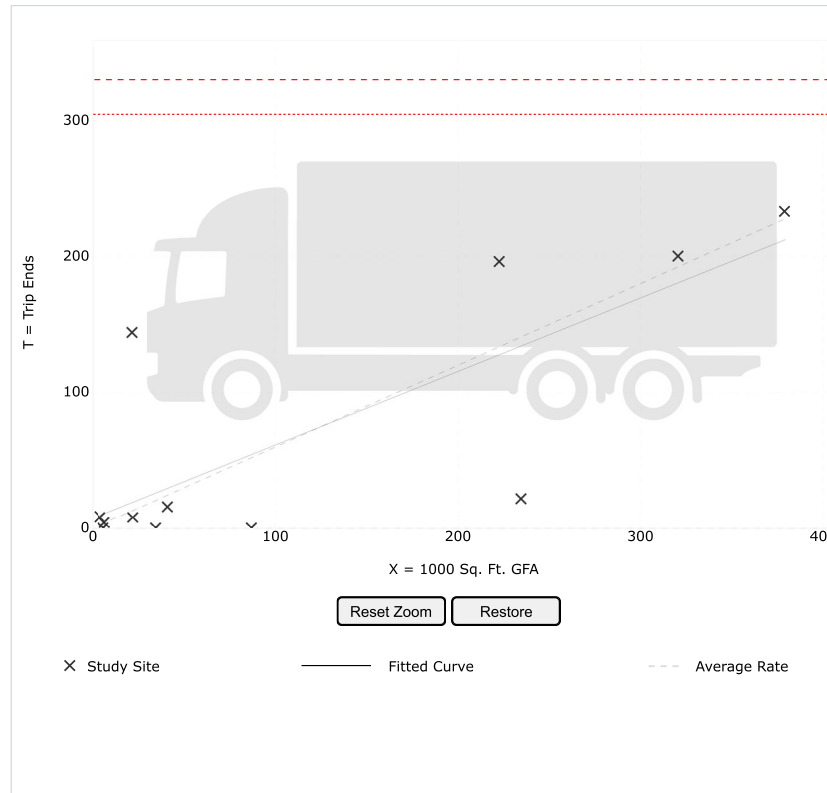
TRIP TYPE:

Truck

ENTER IV VALUE TO CALCULATE TRIPS:

550.03 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:	Warehousing (150) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Weekday
Setting/Location:	General Urban/Suburban
Trip Type:	Truck
Number of Studies:	12
Avg. 1000 Sq. Ft. GFA:	115
Average Rate:	0.60
Range of Rates:	0.00 - 6.66
Standard Deviation:	0.86
Fitted Curve Equation:	$T = 0.54(X) + 7.47$
R²:	0.61
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 330 (Total), 165 (Entry), 165 (Exit) Fitted Curve: 304 (Total), 152 (Entry), 152 (Exit)

Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

150

LAND USE GROUP:

(100-199) Industrial

LAND USE :

150 - Warehousing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

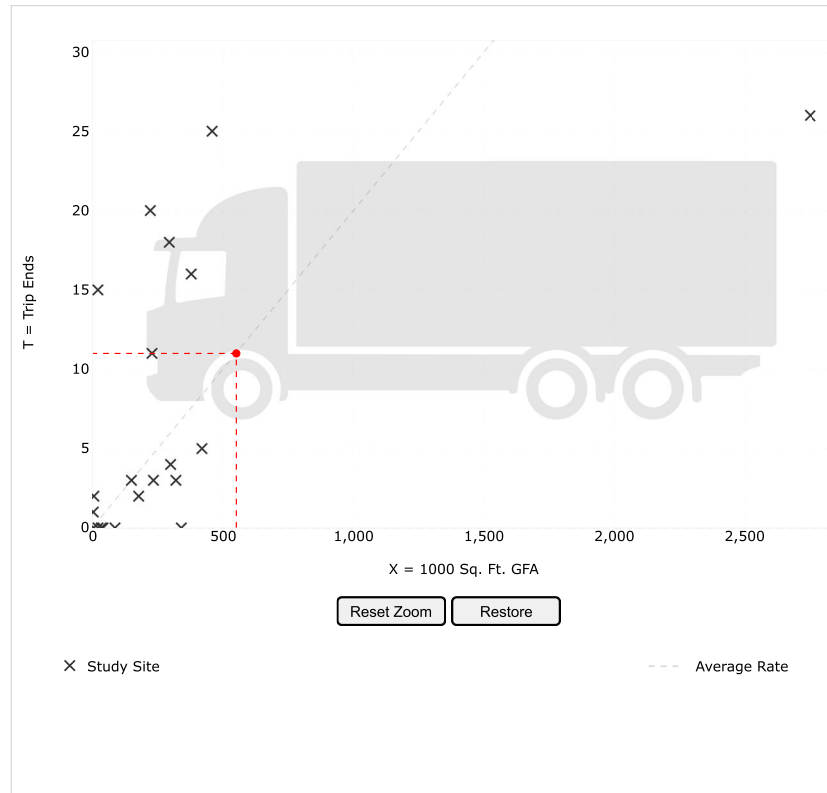
TRIP TYPE:

Truck

ENTER IV VALUE TO CALCULATE TRIPS:

550.03 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:	Warehousing (150) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 7 and 9 a.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Truck
Number of Studies:	21
Avg. 1000 Sq. Ft. GFA:	309
Average Rate:	0.02
Range of Rates:	0.00 - 0.69
Standard Deviation:	0.05
Fitted Curve Equation:	Not Given
R²:	****
Directional Distribution:	52% entering, 48% exiting
Calculated Trip Ends:	Average Rate: 11 (Total), 6 (Entry), 5 (Exit)

Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

150

LAND USE GROUP:

(100-199) Industrial

LAND USE :

150 - Warehousing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

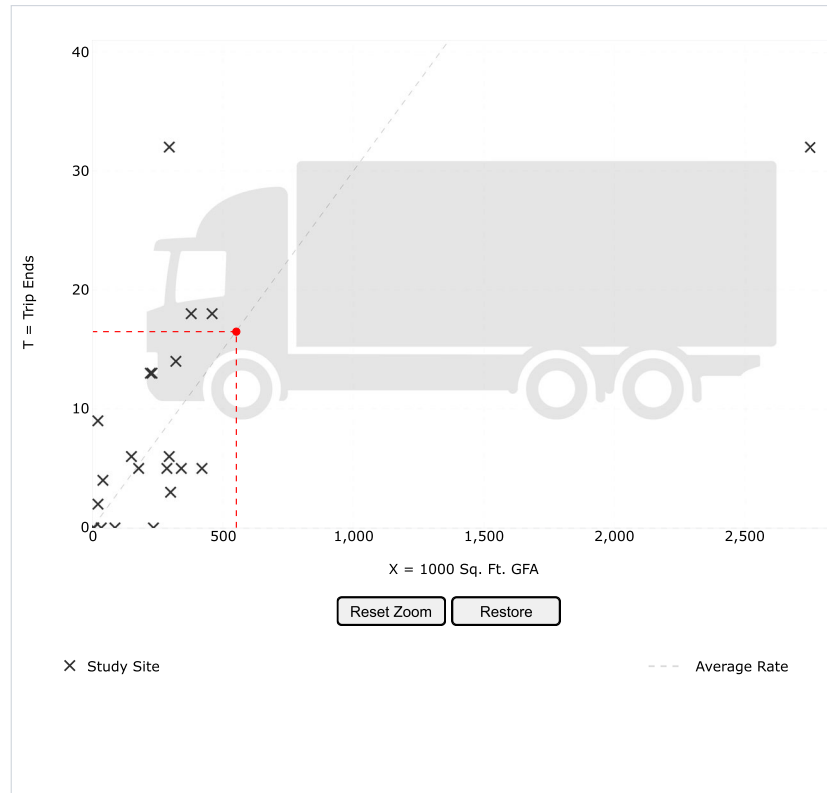
TRIP TYPE:

Truck

ENTER IV VALUE TO CALCULATE TRIPS:

550.03 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Warehousing (150) [Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Truck

Number of Studies:
23

Avg. 1000 Sq. Ft. GFA:
308

Average Rate:
0.03

Range of Rates:
0.00 - 0.42

Standard Deviation:
0.03

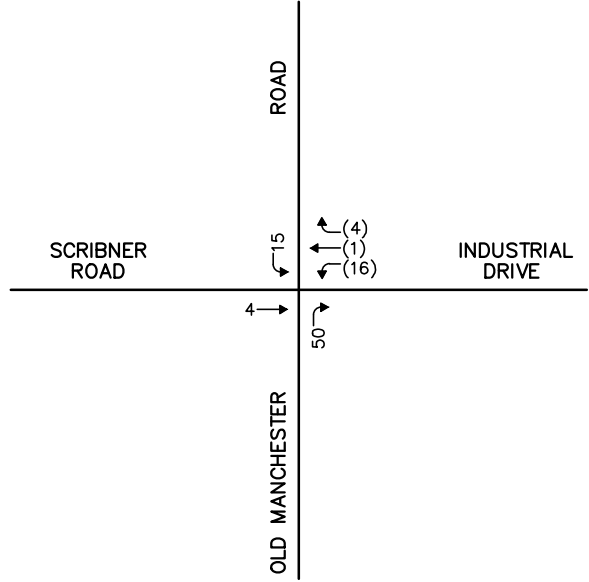
Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
52% entering, 48% exiting

Calculated Trip Ends:
Average Rate: 17 (Total), 9 (Entry), 8 (Exit)

WEEKDAY MORNING PEAK HOUR (7:15 - 8:15 AM)



WEEKDAY EVENING PEAK HOUR (4:00 - 5:00 PM)

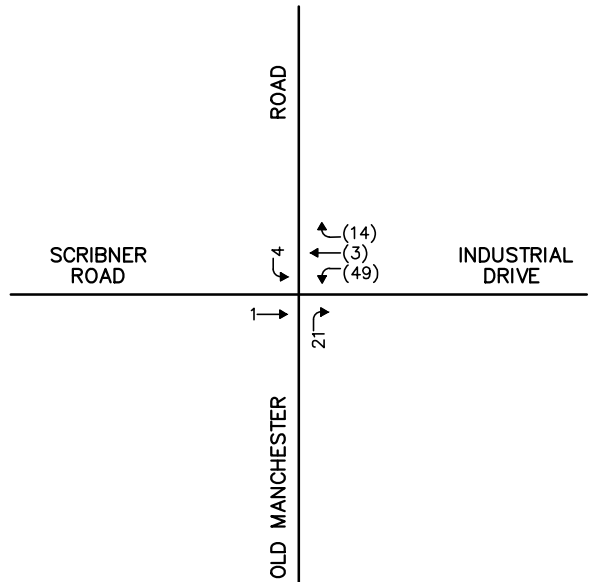


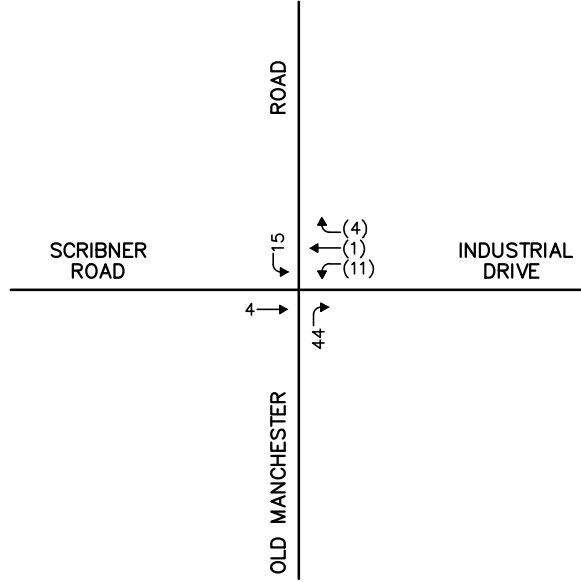
Figure A-2R



Project-Generated Peak-Hour Traffic Volumes

R:\9419\9419NT2.dwg, 3/6/2023 11:46:25 AM

WEEKDAY MORNING PEAK HOUR (7:15 - 8:15 AM)



WEEKDAY EVENING PEAK HOUR (4:00 - 5:00 PM)

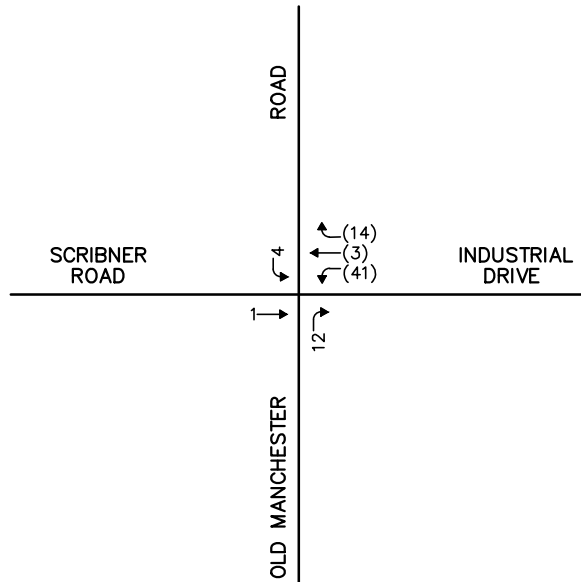
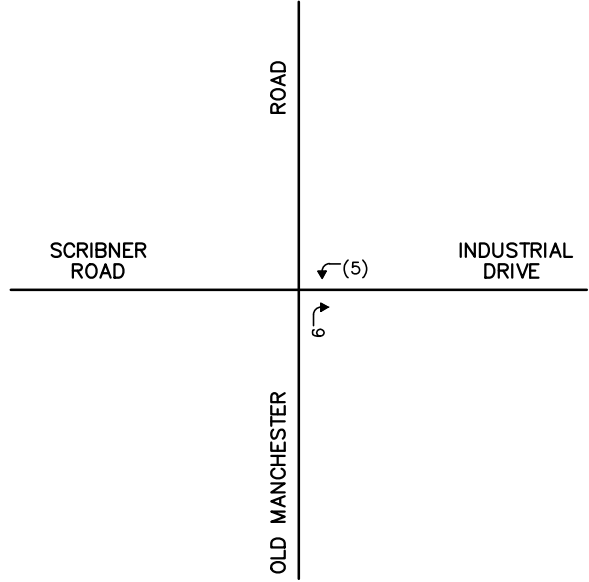


Figure A-4R

Project-Generated
Peak-Hour Passenger Car Trips

WEEKDAY MORNING PEAK HOUR (7:15 - 8:15 AM)



WEEKDAY EVENING PEAK HOUR (4:00 - 5:00 PM)

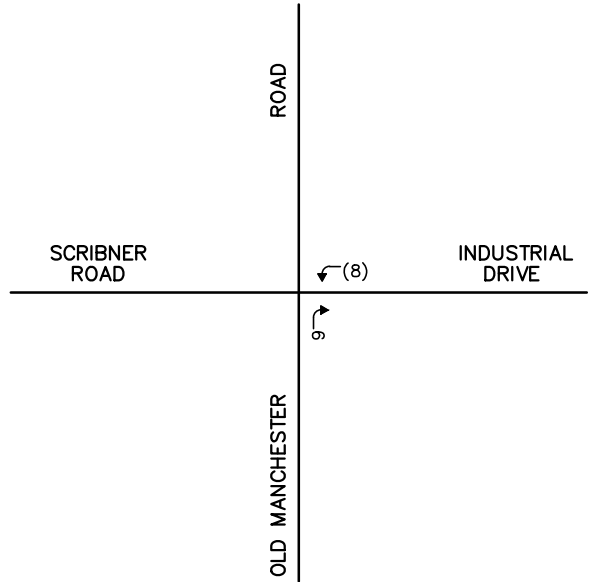


Figure A-5R



Project-Generated
Peak-Hour Truck Trips

CAPACITY ANALYSIS WORKSHEETS



2022 Opening Year Weekday Morning Peak Hour
 1: Old Manchester Road & Scribner Road/Industrial Drive

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	41	10	85	34	7	14	94	128	82	26	137	28
Future Vol, veh/h	41	10	85	34	7	14	94	128	82	26	137	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	75	75	75	91	91	91	76	76	76
Heavy Vehicles, %	0	60	0	75	80	11	5	2	28	10	0	0
Mvmt Flow	50	12	104	45	9	19	103	141	90	34	180	37

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	673	704	199	717	677	186	217	0	0	231	0	0
Stage 1	267	267	-	392	392	-	-	-	-	-	-	-
Stage 2	406	437	-	325	285	-	-	-	-	-	-	-
Critical Hdwy	7.1	7.1	6.2	7.85	7.3	6.31	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	6.1	-	6.85	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6.1	-	6.85	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.54	3.3	4.175	4.72	3.399	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	372	298	847	266	292	834	1335	-	-	1291	-	-
Stage 1	743	594	-	509	491	-	-	-	-	-	-	-
Stage 2	626	492	-	558	555	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	326	267	847	207	261	834	1335	-	-	1291	-	-
Mov Cap-2 Maneuver	326	267	-	207	261	-	-	-	-	-	-	-
Stage 1	686	576	-	470	453	-	-	-	-	-	-	-
Stage 2	553	454	-	465	538	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.2		23.7		2.4		1.1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1335	-	-	516	265	1291	-	-
HCM Lane V/C Ratio	0.077	-	-	0.321	0.277	0.026	-	-
HCM Control Delay (s)	7.9	-	-	15.2	23.7	7.9	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.4	1.1	0.1	-	-

2022 Opening Year Weekday Evening Peak Hour
 1: Old Manchester Road & Scribner Road/Industrial Drive

Intersection												
Int Delay, s/veh	8.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	26	1	43	88	3	28	152	182	29	5	121	48
Future Vol, veh/h	26	1	43	88	3	28	152	182	29	5	121	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	71	71	71	92	92	92	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0	1	0	43	0	3	0
Mvmt Flow	32	1	52	124	4	39	165	198	32	9	209	83

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	835	829	251	839	854	214	292	0	0	230	0	0
Stage 1	269	269	-	544	544	-	-	-	-	-	-	-
Stage 2	566	560	-	295	310	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	289	308	793	288	298	831	1275	-	-	1350	-	-
Stage 1	741	690	-	527	522	-	-	-	-	-	-	-
Stage 2	513	514	-	718	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	243	266	793	240	257	831	1275	-	-	1350	-	-
Mov Cap-2 Maneuver	243	266	-	240	257	-	-	-	-	-	-	-
Stage 1	645	684	-	459	455	-	-	-	-	-	-	-
Stage 2	421	448	-	664	658	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	33.3	3.5	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1275	-	-	424	289	1350	-	-
HCM Lane V/C Ratio	0.13	-	-	0.201	0.58	0.006	-	-
HCM Control Delay (s)	8.2	-	-	15.6	33.3	7.7	0	-
HCM Lane LOS	A	-	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.7	3.4	0	-	-

2032 Build Weekday Morning Peak Hour
 1: Old Manchester Road & Scribner Road/Industrial Drive

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	45	10	94	34	7	14	96	141	82	26	151	30
Future Vol, veh/h	45	10	94	34	7	14	96	141	82	26	151	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	75	75	75	91	91	91	76	76	76
Heavy Vehicles, %	0	60	0	75	80	11	5	2	28	10	0	0
Mvmt Flow	55	12	115	45	9	19	105	155	90	34	199	39

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	711	742	219	760	716	200	238	0	0	245	0	0
Stage 1	287	287	-	410	410	-	-	-	-	-	-	-
Stage 2	424	455	-	350	306	-	-	-	-	-	-	-
Critical Hdwy	7.1	7.1	6.2	7.85	7.3	6.31	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	6.1	-	6.85	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6.1	-	6.85	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.54	3.3	4.175	4.72	3.399	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	351	283	826	247	275	819	1311	-	-	1276	-	-
Stage 1	725	581	-	497	481	-	-	-	-	-	-	-
Stage 2	612	482	-	539	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	305	252	826	188	245	819	1311	-	-	1276	-	-
Mov Cap-2 Maneuver	305	252	-	188	245	-	-	-	-	-	-	-
Stage 1	667	563	-	457	443	-	-	-	-	-	-	-
Stage 2	539	443	-	440	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	26.1	2.4	1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1311	-	-	495	243	1276	-	-
HCM Lane V/C Ratio	0.08	-	-	0.367	0.302	0.027	-	-
HCM Control Delay (s)	8	-	-	16.4	26.1	7.9	0	-
HCM Lane LOS	A	-	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.7	1.2	0.1	-	-

2032 Build Weekday Evening Peak Hour
 1: Old Manchester Road & Scribner Road/Industrial Drive

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	28	1	47	88	3	28	162	200	29	5	133	52
Future Vol, veh/h	28	1	47	88	3	28	162	200	29	5	133	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	71	71	71	92	92	92	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0	1	0	43	0	3	0
Mvmt Flow	34	1	57	124	4	39	176	217	32	9	229	90

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	899	893	274	906	922	233	319	0	0	249	0	0
Stage 1	292	292	-	585	585	-	-	-	-	-	-	-
Stage 2	607	601	-	321	337	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	262	283	770	259	272	811	1247	-	-	1328	-	-
Stage 1	720	675	-	501	501	-	-	-	-	-	-	-
Stage 2	487	493	-	695	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	218	241	770	212	232	811	1247	-	-	1328	-	-
Mov Cap-2 Maneuver	218	241	-	212	232	-	-	-	-	-	-	-
Stage 1	618	670	-	430	430	-	-	-	-	-	-	-
Stage 2	394	423	-	637	640	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	41.9	3.5	0.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1247	-	-	393	257	1328	-	-
HCM Lane V/C Ratio	0.141	-	-	0.236	0.652	0.006	-	-
HCM Control Delay (s)	8.4	-	-	17	41.9	7.7	0	-
HCM Lane LOS	A	-	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.9	4.1	0	-	-

2032 Mitigated Weekday Morning Peak Hour
 1: Old Manchester Road & Scribner Road/Industrial Drive

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕			↕	
Traffic Vol, veh/h	45	10	94	34	7	14	96	141	82	26	151	30
Future Vol, veh/h	45	10	94	34	7	14	96	141	82	26	151	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	75	75	75	91	91	91	76	76	76
Heavy Vehicles, %	0	60	0	75	80	11	5	2	28	10	0	0
Mvmt Flow	55	12	115	45	9	19	105	155	90	34	199	39

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	711	742	219	760	716	200	238	0	0	245	0	0
Stage 1	287	287	-	410	410	-	-	-	-	-	-	-
Stage 2	424	455	-	350	306	-	-	-	-	-	-	-
Critical Hdwy	7.1	7.1	6.2	7.85	7.3	6.31	4.15	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	6.1	-	6.85	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6.1	-	6.85	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.54	3.3	4.175	4.72	3.399	2.245	-	-	2.29	-	-
Pot Cap-1 Maneuver	351	283	826	247	275	819	1311	-	-	1276	-	-
Stage 1	725	581	-	497	481	-	-	-	-	-	-	-
Stage 2	612	482	-	539	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	305	252	826	188	245	819	1311	-	-	1276	-	-
Mov Cap-2 Maneuver	305	252	-	188	245	-	-	-	-	-	-	-
Stage 1	667	563	-	457	443	-	-	-	-	-	-	-
Stage 2	539	443	-	440	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	23.7	2.4	1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1311	-	-	495	188	460	1276	-	-
HCM Lane V/C Ratio	0.08	-	-	0.367	0.241	0.061	0.027	-	-
HCM Control Delay (s)	8	-	-	16.4	30.1	13.3	7.9	0	-
HCM Lane LOS	A	-	-	C	D	B	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.7	0.9	0.2	0.1	-	-

2032 Mitigated Weekday Evening Peak Hour
 1: Old Manchester Road & Scribner Road/Industrial Drive

Intersection												
Int Delay, s/veh	8.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕			↕	
Traffic Vol, veh/h	28	1	47	88	3	28	162	200	29	5	133	52
Future Vol, veh/h	28	1	47	88	3	28	162	200	29	5	133	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	71	71	71	92	92	92	58	58	58
Heavy Vehicles, %	0	0	0	0	0	0	1	0	43	0	3	0
Mvmt Flow	34	1	57	124	4	39	176	217	32	9	229	90

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	899	893	274	906	922	233	319	0	0	249	0	0
Stage 1	292	292	-	585	585	-	-	-	-	-	-	-
Stage 2	607	601	-	321	337	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	262	283	770	259	272	811	1247	-	-	1328	-	-
Stage 1	720	675	-	501	501	-	-	-	-	-	-	-
Stage 2	487	493	-	695	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	218	241	770	212	232	811	1247	-	-	1328	-	-
Mov Cap-2 Maneuver	218	241	-	212	232	-	-	-	-	-	-	-
Stage 1	618	670	-	430	430	-	-	-	-	-	-	-
Stage 2	394	423	-	637	640	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	34.9	3.5	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1247	-	-	393	212	653	1328	-	-
HCM Lane V/C Ratio	0.141	-	-	0.236	0.585	0.067	0.006	-	-
HCM Control Delay (s)	8.4	-	-	17	43.4	10.9	7.7	0	-
HCM Lane LOS	A	-	-	C	E	B	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.9	3.3	0.2	0	-	-

TRAFFIC QUESTION -DAN ROY

ANSWER PROVIDED - DUBOIS & KING

Jones and Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219 Stratham, NH 03885

Addressed to Onyx Partners, LTD.
Industrial Drive
Raymond, NH
Application # 2022-008

Dear Sirs,

I want to first commend you for your parking design, required # of docks and the number of additional trailer spaces based on the traffic study and docks.

I obtained ITE Trip Generation Manual Edition #10 and the ITE Parking Generation Manual 5th edition, as well as other parking and docking standards from other, public source. I have attached copies of each of these documents to this email.

First, I wanted to go over the parking spaces, auxiliary trailer parking spaces and dock calculations to ensure I truly understand where the numbers are coming from.

1. From the "How many docks do I need" article, the 3rd formula in the article:

#trucks/day x 2.5 load/unload X 1.5 safety

300 x 2.5 x 1.5 = 80 docks assuming a 4 ½ load unload time, then depart or pickup another trailer.

Assumes either 1 unload or 1 load while waiting, then departing site

2.5 hour cycle

300 X 5.0 x 1.5 = 160 docks assuming the trailer remains in dock while unloading, then loading

5 hour cycle

Since you are proposing 158 docks, I would assume that trailers arriving will unload, then reload for a cycle of 5.0 hours before departing the site for the typical truck. Very close to the 160 calculated above.

2. ITE Common Trip Generation Rates 10th edition for Warehouse (150)

$0.19 \times 550 = 104$ truck trips/day versus 150 in or out during a single weekday in your plans.

3. Salt lake City Parking guidance

Based on facility sf/1000

2 spaces/1000 sf for first 10K sf + 0.5×550 = parking spaces required

$2 \times 10k + 0.5 \times 550$

$20 + 275 = 295$ versus 326 car spaces on your proposal. **Office area** parking to be calculated separately and in addition to this calculation. Is the variance of $326 - 295 = 29$ spaces attributable to the office parking needs?

4. # of employees

Operating hours 7 am-9 pm = 14 hrs/day, which should translate to 2 shifts with 1 hour overlap, somewhere between 1 pm and 3 pm, non-peak hours on Old Manchester Road.

You calculated worst case parking spaces based on overlap of employees so:

employees = 0.5×326 parking spaces = 163 employees

5. 244 trailer spaces versus 158 docks suggests many docks will detach and leave immediately after unloading. The empty trailer, or the loaded trailer, will be parked in one of the auxiliary trailer parking spaces awaiting a future pickup, perhaps as much as 3 days later.

6. Using fitted curve on page 4 of Warehousing (150 Peak period parking demand/1000 sf, the formula $P = 0.40(X) - 2.3$, where $X = 1000$ sf in facility

$P = 0.40(550) - 2.3 = 217$ versus 244 proposed trailer auxiliary spaces. Very close.

I did not execute the formula to calculate employees due to the use of logs and antilogs in the formula.

Questions on the calculations:

1. are there assumptions beyond the basic assumptions that would cause your calculated numbers to differ from the ITE basic application (#2 above) I understand the desktop version of ITE Common Trip Generation Guide allows for customizing some inputs to fine tune to your requirements. Are you able to share what those additional inputs might be and why you decided to make a modification to the basic formula?
2. From the Salt lake City parking recommendations, Is the variance of $326 - 295 = 29$ spaces attributable to the office parking needs?
3. Referring to the Parking Generation Manual for Land Use :150 Warehousing, Additional Data at bottom of page 1 , there are two formulas; one for average parking demand for trucks—
 - A. $0.11 / 1000$ sf = $0.11 \times 550 = 60$ truck spaces. I am assuming this demand is to park an unloaded trailer in the auxiliary space area! The demand may vary from the $0.11/100$ sf average rate anywhere from 0.04 to 0.25. Using worst case estimate:
 $0.25/1000$ sf = $0.25 \times 550 = 137$ spaces. You have 244 planned. Do you anticipate trailers being moved there and staying there for more than 1 week before being picked up?

B. Alternative calculation is $0.6 \text{ spaces}/1000 \text{ sf} = 0.6 \times 550 = 330$ spaces for employee parking versus the 326 parking spaces you propose.



April 4 ,2023

Ms. Christina McCarthy
Raymond Community Development
4 Epping Street
Raymond, New Hampshire 03077

Subject: Letters to Jones & Beach and Bohler (re. traffic study questions)

Dear Ms. McCarthy:

As requested, DuBois & King has reviewed your email and attachments sent Monday, April 3, 2023 and offer the following responses. In regards to the comment in the email thread regarding consultants deviating from the standard and referencing the ITE Trip Generation Manual and the ITE Parking Generation Manual, we would like to point out that some of the discussion items in the two letters to Bohler and Jones & Beach (J&B) are not items that are specifically called out in these reference manuals. For example, we are unfamiliar with the "How many docks do I need?" article and do not believe this to be part of these manuals, nor are the Salt Lake City parking regulations. It is understandable that the Town would like Traffic Impact Studies to be consistent with each other. However, project specifics are always slightly different and the application of the manuals are interpretive in nature

The projected daily vehicle and truck traffic trip generation estimates were compared using the ITE Trip Generation Manual 10th and 11th editions. The difference between the two manuals for the daily trip generation were determined to be minimal, and the estimates for truck traffic trip generation between the two manuals is the same between the two.

Daily Truck Traffic

- The "Traffic Study discussion" section of the letter to Bohler references 60 truck trips per day. This number should be 120 truck trips / day. Table 3, Trip Generation Summary, of the September 2022 TIS by Bohler suggests an estimated 120 truck trips / day (60 entering and 60 exiting). This number correlates to both the 10th and 11th editions of the ITE Trip Generation Manual.
- There are two methodologies for calculating the trip generation rates in the ITE Trip Generation Manual. These include the "average rate" and "fitted curve". Typically, both methods result in similar results, however there are some instances where they do yield significant differences (amount of variation depends on the data points and how well they will follow a "best fit" curve). The trucks per day of the Bohler study reflect the average rate methodology (vs 115 using the fitted curve methodology). The trucks per day of the J&B study (300) reflect the fitted curve methodology (vs 330 using the average rate methodology). Technically, the fitted curve methodology results in 304 truck trips per day for Beach & Jones. The R-squared coefficient of the fitted curve for daily truck traffic is less than 0.75, therefore it is acceptable for J&B to use the average rate, but make this comment as it shows that Bohler used the

more conservative of the two methods for estimating daily truck traffic.

Number of Docks

- It is not clear what the source of the “How many docks do I need” referenced in the letter to J&B is, therefore we cannot comment on whether it is an appropriate way to estimate the number of docks. However, based on the comment in the above section, the number of docks estimated by this equation (truck trips per day * 2.5 * 1.5 / 24) would be double what is calculated in the letter to Bohler (due to the number of daily truck traffic discrepancy in the letter vs. Bohler report). Therefore, we believe that the numbers estimated in the J&B letter for estimating “How many docks do I need?” should be 19 and 38 (Bohler number of 40 is close to the latter of these two).
- The letter to Jones and Beach references what appears to be the same “How many docks do I need” article, however the calculations for the number of docks for J&B differs from the calculations for the number of docks for Bohler. The calculations show $300 * 2.5 * 1.5 = 80$ docks and $300 * 5 * 1.5 = 160$ docks, whereas in Bohler the equation included a division by 24. As noted above, we do not have a copy of the “How many docks do I need”, but using the Bohler equation for J&B would give results of 47 docks or 94 docks (as opposed to the 80 or 160 calculated in the memo). Therefore, assuming the equation in the Bohler letter is correct, it appears that the 158 docks in the J&B site should be closer to 94.
- As noted above, we do not have a copy of the “How many docks do I need?” article so we cannot comment on whether this is the appropriate tool to estimate. Therefore, we recommend the Town request how these numbers were calculated from each consultant.

Auxiliary Truck Parking Spaces

- The email suggests that the Bohler site does not propose any auxiliary truck parking spaces and the J&B site proposes 244. The letter to Bohler does reference auxiliary trailer parking in the “Traffic Study discussion” session, but it is unclear how many of these spaces there are.
- Based on the input provided, there are 244 auxiliary truck parking spaces. Based on the letter to J&B and the Parking Generation Manual, it does appear that this number is high (244 proposed spaces as opposed to 22 – 137 (0.04 to 0.25 per 1000 sf per ITE Parking Generation Manual, with average of 0.11, or 60 spaces as suggested by your letter). We suggest reaching out to the consultant to determine how this number was estimated and whether there are anticipated to be trailers parked there for longer periods of time.

Number of Parking Spaces

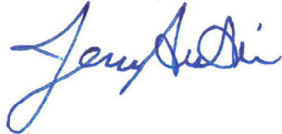
- Parking spaces will be used by more than just employees. The letter to Bohler asked if 111 entering and 111 exiting trips means they expect 111 employees each needing a parking space. Parking spaces can be used by visitors, deliveries, and others that may not work at the site (though a majority will be used by employees). Some Cities and Towns have specific parking regulations, and if not then the ITE Parking Generation Manual or other guidelines can be used to guide consultants on the number of parking spaces to provide. Based on the ITE Parking Generation Manual 5th Edition the average parking rate per 1,000 sf is anticipated to be 0.39. Therefore, using this source the parking demand for Bohler and Beach & Jones sites would be 78 and 215 spaces (your email suggests 210 and 326, respectively for employee parking spaces; in addition, J&B indicated potentially another 29 for office staff – though it is unclear if those 29 are included in the employee parking spaces number, as “office staff” are “employees”). We suggest the consultants provide documentation for how they calculated the number of parking spaces needed. The letters suggest potential calculations based off number of employees, number of shifts, non-local parking guidance from Salt Lake City, etc. However, we suggest the consultants be given the

opportunity to provide their assumptions and methodologies to the Town to review.

- The letter to Bohler asks about meal-related trips for employees. When ITE or other guidelines for trips and parking are developed, these sort of trips would be factored into the “rates” or “equations” for trips and parking needs. They would also include other trips not related to employees coming to/from the site at the beginning and end of the work day such as mail or other deliveries, clientele (if applicable), utility related trips, etc.
- The letter to J&B references parking recommendations from Salt Lake City. We recommend the ITE Parking Generation Manual be used for estimating parking demand in lieu of utilizing a non-local regulation from a City in Utah. The scale of parking needs in an urban area in a City the size of Salt Lake City may not be applicable to Raymond NH.

If you have any questions or comments, please do not hesitate to contact us.

Very truly yours,
DuBOIS & KING, Inc.



Jenny Austin, P.E.
Project Engineer

Cemetery Advisory Committee

Christina McCarthy

From: Kera Goldsmith <Kera.Goldsmith@gmail.com>
Sent: Wednesday, April 5, 2023 7:43 PM
To: Jim McLeod
Cc: Christina McCarthy; Amy P
Subject: Re: Planning Board Meeting 4/6 "Board Member Updates"

Hello Jim,

The Cemetery Advisory Committee was established as an advisory committee to the Board of Selectmen in 2021, however, the committee did not officially convene until July 2022 when representation from the Board of Selectmen, Planning Board and Historic District Committee were designated.

The committee is comprised of 4 members of the public as well as a primary and alternate member from the Board of Selectmen, Planning Board and Historic District Committee each.

Our objectives are to provide recommendations to our Town Manager, Public Works Director and Selectmen for improvements to our Cemeteries. Our focus over the past year included researching and ultimately recommending to the board the re-establishment of Cemetery Trustees, which resulted in a Warrant Article being placed on the 2023 Ballot. The Warrant Article did pass, so over the course of the next 11 months we will be looking to define the role of the Cemetery Trustees, educate the public and solicit members of the community to run for office in 2024 along with continuing to make recommendations for improvements to our public cemeteries.

Hope this helps to provide the board with some additional insight. If there are any questions please don't hesitate to ask!

Thank you,
Kera

On Wed, Apr 5, 2023 at 6:48 PM Jim McLeod <jimrpb@gmail.com> wrote:

Kera,

Thank you for the email. This will have to be distributed through the planning office. I am new to this and was wondering if you might add a sentence or two about the appointment, I know it would be helpful to me and Christina can get it out to the PB .

Thanks again for the heads-up !

Jim

On Wed, Apr 5, 2023 at 5:19 PM Kera Goldsmith <Kera.Goldsmith@gmail.com> wrote:

Christina & Jim,
Please share this email with all members of the Planning Board, their email information is not available on the town's website.

Please ensure that a representative from the Planning Board is designated to the Cemetery Advisory Committee, per our charter. The CAC typically meets the 1st Wednesday of the month at 7pm; however, our next meeting will be held on Wednesday, April 12th at 7pm.

Previously this seat was filled by Kevin Woods, who is no longer a member of the Planning Board.

Thank you and we look forward to welcoming a new representative.
Kera - CAC Secretary

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1 Planning Board Minutes
2 April 6, 2023 @ 7:00 PM
3 Media Center Raymond High School
4 45 Harriman Hill Road, Raymond, NH 03077
5

6 Planning Board Members Present:

7 Patricia Bridgeo
8 Scott Campbell (Selectmen ex officio)
9 Jim McLeod
10 Gretchen Gott
11 Dee Luszcz
12 Don Roy (Alternate) (Seated)
13 Bob McDonald
14

15 Planning Board Members Absent:

16 Dave Rice
17

18 Staff Present:

19 Madeleine Dilonno - Circuit Rider Planner, RPC
20

21 Also Present:

22 Tom Quarles (Counsel for the Board)
23

24 **Pledge of Allegiance:** Recited by all in attendance.
25

26 **Meeting called to order:**

27 The meeting started at approximately 7:02 pm.
28

29 **Election of Officers:**
30

31 **Motion:**

32 **Ms. Gott made a motion to go into non-meeting with counsel.**

33 **Mr. McLeod seconded the motion for discussion.**
34

35 **Discussion:**

36 **Mr. Quarles explained that Ms. Bridgeo remains a member of the Planning**
37 **Board regardless of the Selectmen's election and because there is no**
38 **Chairman, she is still acting Chairman and procedurally the board should**
39 **elect a new set of officers.**
40

41 **Ms. Gott respectfully disagreed. Ms. Gott commented that it appears that**
42 **there are two members of the selectboard present and that is what she is**
43 **concerned about. Ms. Gott felt that it would be more prudent to wait to vote**
44 **for new officers.**
45

46 **Mr. Quarles stated that Ms. Bridgeo is a current standing member of the**
47 **Planning Board and the acting Chair, and Mr. Campbell is the selectmen's**
48 **ex officio and there is no overlap of officers.**

49
50 **A roll call vote was taken.**

51 **Mrs. Gott – Yes**
52 **Mr. McLeod – No**
53 **Mrs. Luszcz – No**
54 **Mr. Roy – No**
55 **Mr. Campbell – No**
56 **Mr. McDonald – No**
57 **Ms. Bridgeo – No**

58
59 **Mr. Roy is seated as an alternate.**

60
61 **The motion failed with a vote of 1 in favor, 6 opposed and 0 abstentions.**

62
63 **Ms. Gott recused herself from the election of officers at approximately 7:07 pm.**

64
65 **Ms. Dilonno explained that since there is no Town Planner, she would facilitate the**
66 **nominations for a new chairman.**

67
68 **Mr. Campbell nominated Mrs. Dee Luszcz for Chairman.**

69 **Mr. McLeod seconded the nomination.**

70 **Mrs. Luszcz accepted the nomination.**

71 **A roll call vote was taken.**

72 **Mr. McLeod – Aye**
73 **Mrs. Luszcz – Aye**
74 **Mr. Roy – Aye**
75 **Mr. Campbell – Aye**
76 **Mr. McDonald – Aye**
77 **Ms. Bridgeo – Aye**

78 **Mrs. Luszcz is the new Chairman of the Planning Board with a unanimous vote.**

79
80 **Ms. Dilonno turned the meeting over to Mrs. Luszcz as Chairman to elect the Vice**
81 **chair and secretary.**

82
83 **Mr. McDonald nominated Mr. Jim McLeod for Vice Chair.**

84 **Mr. Campbell seconded the nomination.**

85 **Mr. McLeod accepted the nomination.**

86 **A roll call vote was taken.**

87 **Ms. Bridgeo – Aye**
88 **Mr. McDonald – Aye**
89 **Mr. Campbell – Aye**
90 **Mr. Roy – Aye**
91 **Mrs. Luszcz – Aye**

92 **Mr. McLeod – Aye**
93 **Mr. McLeod is the new vice Chairman of the Planning Board with a unanimous**
94 **vote.**

95
96 **Ms. Bridgeo nominated Mr. Bob McDonald for secretary.**
97 **Mr. McLeod seconded the nomination.**
98 **Mr. McDonald accepted the nomination.**
99 **A roll call vote was taken.**

100 **Ms. Bridgeo – Aye**
101 **Mr. McDonald – Aye**
102 **Mr. Campbell – Aye**
103 **Mr. Roy – Aye**
104 **Mrs. Luszcz – Aye**
105 **Mr. McLeod – Aye**

106 **Mr. McDonald is the new secretary of the Planning Board with a unanimous vote.**

107
108 Mr. McLeod suggested appointing someone to the Cemetery Committee because Kevin
109 Woods is no longer a member of the Board.

110
111 Mrs. Luszcz stated that they should wait until Mr. Rice is present to make that
112 appointment.

113
114 Ms. Gott returned to the meeting at approximately 7:14pm at the conclusion of the
115 voting.

116
117 **Public Hearing:**

118
119 **Motion:**
120 **Mr. McLeod made a motion to go into a non-meeting with Legal counsel to**
121 **discuss the continuance of application 2022-009.**
122 **Mr. Campbell seconded the motion.**
123 **A roll call vote was taken.**

124 **Ms. Bridgeo – Yes**
125 **Mr. McDonald – Yes**
126 **Mr. Campbell – Yes**
127 **Mr. Roy – Yes**
128 **Mrs. Luszcz – Yes**
129 **Mr. McLeod – Yes**
130 **Ms. Gott – Yes**

131 **The motion passed with a vote of 7 in favor, 0 opposed and 0 abstentions.**

132
133 The Board adjourned for non-meeting at approximately 7:15pm and resumed at
134 approximately 8:43 pm.

135
136 Mrs. Luszcz stated that they have had a request for a continuance of application
137 2022-009 to Thursday, May 4, 2023.

138 Greg DiBona with Bohler Engineers introduced himself.

139

140 **Motion:**

141 **Mr. McLeod made a motion to continue application 2022-009 until May 4,**
142 **2023.**

143 **Ms. Bridgeo seconded the motion for discussion.**

144

145 **Discussion:**

146 **Mr. McLeod read the two letters that are in question (See attached).**

147 **The first letter is dated April 6, 2023, from Justin L. Pasay.**

148 **Mr. McLeod also read the letter that they are referencing from Mr. McLeod**
149 **dated April 5, 2023.**

150 **Mr. McLeod stated that in consultation with the Board's Legal**
151 **representation it makes sense to give the applicant an opportunity to**
152 **respond to his letter.**

153 **Ms. Bridgeo stated that they need the applicant to address the issues that**
154 **are outstanding and that the Dubois and King request on the traffic**
155 **information needs to be added to that.**

156

157 **Mr. McLeod amended his motion to the date of June 1, 2023, because it is**
158 **the first clear meeting time.**

159

160 **Ms. Bridgeo seconded the amendment.**

161

162 **Mr. McDonald stated that the applicant was going to provide the Board with**
163 **an Alteration of Terrain application and the Army Corps of Engineer**
164 **application and any other state application that needs to be before this**
165 **Board.**

166

167 **A roll call vote was taken.**

168 **Ms. Gott – Yes**

169 **Mr. McLeod – Yes**

170 **Mrs. Luszcz – Yes**

171 **Mr. Roy – Yes**

172 **Mr. Campbell – Yes**

173 **Mr. McDonald – Yes**

174 **Ms. Bridgeo – Yes**

175

176 **The motion passed with a vote of 7 in favor, 0 opposed and 0 abstentions.**

177

178

179

180

181

182

183

184 **Public Hearing:**

185
186 Application #2022-015: A Lot Line Adjustment has been submitted by Joseph Coronati
187 of Jones and Beach Engineers, Inc. on behalf of Tuck Realty Corp. The applicant is
188 proposing to adjust some lot lines between Tax Map 23 Lot 25 located on Main Street in
189 Raymond NH in Zone D and Tax Map 23 Lot 29 located at 109a Main Street in
190 Raymond NH in Zone B for an overall exchange of .88 acres between the two lots.

191
192 Attorney Tom Quarles left the meeting at approximately 8:58 pm.

193
194 Maddie Dilonno read the abutter's list.

195
196 Ms. Gott noted that she has fewer and different names than were listed in the abutter's
197 list.

198
199 Ms. Gott disclosed that she has worked with a lot of people on the list, but it will not
200 affect her decision making.

201 Ms. Bridgeo also disclosed that she has worked with people on the list.

202 Mr. McLeod further disclosed that he knows one of the abutters and served with him on
203 the water planning committee but can remain impartial.

204 Mrs. Luszcz and Mr. McDonald also disclosed that they know people on the list.

205

206 **Motion:**

207 **Ms. Bridgeo made a motion to accept the application as complete as**
208 **presented by the Planner.**

209 **Mr. Campbell seconded the motion.**

210

211 **Discussion:**

212

213 **Ms. Bridgeo had concerns about the differences in the drawings.**

214 **Mr. Coronati explained that the 2-6-2023 is the correct drawing.**

215

216 **Ms. Bridgeo stated that she has no new information from December 1,**
217 **2022. It has representation of lot 25 and lot 29.**

218 **Ms. Bridgeo further explained that there were discrepancies with the**
219 **paperwork including the deeds and signatures. The letter from Rockingham**
220 **Planning says it is lots 24, 25, 28, and 29. The drawing that they were given**
221 **says that it is lots 24, 25, 28 and 29. The deeds and paperwork they have**
222 **one that is for Wayne and Kathleen Welch. There is a piece of paper from**
223 **Josephine Welch that has no witness signing off on the paper. Paul Welch**
224 **is dated 2-8-23 it is notarized but has no witness. Terry Welch's was also**
225 **not witnessed. Tucker Realty used an out of state notary. Is it recognized in**
226 **New Hampshire? The last authorization has no witness signature for lot 25,**
227 **no Ardella Welch signature and no date and no notarization.**

228

229 **Ms. Gott seemed to think that she was deceased.**

230 **Mrs. Luszczyk stated that in the letter of authorization from Betsy Peterson**
231 **there is no witness, no signature, and no date and is signed by Henry**
232 **Peterson.**

233
234 **Mr. McLeod was concerned that the signatures don't seem to be bound to a**
235 **document.**

236
237 **Ms. Bridgeo said that lot 29 is complete but lot 28 is not.**

238
239 **Mr. McLeod said that they need the letters of authorization and the current**
240 **deeds. The letter of authorization need to be in some form so that if**
241 **someone dropped it on the floor, they know that they go together.**

242
243 **Mr. McDonald would like to see the setbacks added to the plan as stated in**
244 **15-2-4, the 50-foot buffers between the residential and the industrial zone.**

245
246 **A vote was taken to see if application 2022-015 is complete enough for**
247 **jurisdiction.**

248
249 **Ms. Bridgeo – No**
250 **Mr. McDonald – No**
251 **Mr. Campbell – No**
252 **Mr. Roy – No**
253 **Mrs. Luszczyk – No**
254 **Mr. McLeod – No**
255 **Ms. Gott – Abstain**

256
257 **The motion that the application is not complete enough for jurisdiction did not**
258 **pass with a vote of 0 in favor, 6 opposed and 1 abstention.**

259
260 **Ms. Gott abstained because she felt she was not prepared and did not have the**
261 **information that she needed to make a decision.**

262
263 **Mrs. Luszczyk stated that the reason the application is not complete for jurisdiction is that**
264 **they do not have all the Deeds, they don't have complete letters of authorization and**
265 **they don't have proper signatures.**

266
267 **Motion:**
268 **Mr. McLeod made a motion to allow the applicant to present to the Board.**
269 **Mr. McDonald seconded the motion.**

270
271 **A roll call vote was taken.**
272 **Ms. Gott – Yes**
273 **Mr. McLeod – Yes**
274 **Mrs. Luszczyk – Yes**
275 **Mr. Roy – Yes**

276 **Mr. Campbell – Yes**
277 **Mr. McDonald – Yes**
278 **Ms. Bridgeo – Yes**

280 **The motion passed with a vote of 7 in favor, 0 opposed and 0 abstentions.**

281
282 Mr. Coronati presented the plan saying that it a lot line adjustment between many of the
283 owners of the land owned by the Welch's. The property owned by Wayne Welch would
284 be deeded to the main parcel, which is lot 25 in exchange for a two-acre parcel called
285 parcel A to be added to his land. The zone lines do not change. The gravel driveway
286 that is owned by lot 25 will be deeding part of the driveway to Wayne Welch and the
287 other part to Paul and Terrie Welch. They will have the easements that they need. As
288 part of this they are merging lot 24 with lot 25.

289
290 **Motion:**

291 **Mr. McLeod made a motion to continue application 2022-015 to June 15,**
292 **2023, at 7pm At Raymond High School Media Center, 45 Harriman Hill**
293 **Road.**

294 **Mr. McDonald seconded the motion.**

295
296 **A roll call vote was taken.**

297 **Ms. Bridgeo – Yes**
298 **Mr. McDonald – Yes**
299 **Mr. Campbell – Yes**
300 **Mr. Roy – Yes**
301 **Mrs. Luszcz – Yes**
302 **Mr. McLeod – Yes**
303 **Ms. Gott – Yes**

304
305 **The motion passed with a vote of 7 in favor, 0 opposed and 0 abstentions.**

306
307 **Approval of Minutes:**

308
309 **Motion:**

310 **Mr. McLeod made a motion to table the minutes for March 23, 2023 until the**
311 **next meeting.**

312 **Mr. McDonald seconded the motion.**

313 **A roll call vote was taken.**

314 **Ms. Gott – Yes**
315 **Mr. McLeod – Yes**
316 **Mrs. Luszcz – Yes**
317 **Mr. Roy – Yes**
318 **Mr. Campbell – Yes**
319 **Mr. McDonald – Yes**
320 **Ms. Bridgeo – Yes**

321 **The motion passed with a vote of 7 in favor, 0 opposed and 0 abstentions.**

322 **Public Comment:**

323 None

324

325 **Staff Updates:**

326

327 Maddie Dilonno said she is working on the zoning ordinance and putting in the warrant
328 article that had passed. She will have printouts for the next meeting.

329 • She will also be sending around some amendments to the site plan regs about
330 upping the number of plan sets that are required to be submitted.

331 • The Board needs to schedule its training with legal.

332 • The Board also needs to fill a vacancy.

333 • RPC Source Water Protection Grant was approved, and Maddie will be putting
334 together a subcommittee soon.

335

336 **Board Member Updates:**

337

338 Mr. McLeod thanked the public for voting yes on all the Zoning Amendments.

339

340 Mr. Roy said the Board needs to become more educated about the warehouse business
341 and he would like to schedule a training session.

342

343 Ms. Bridgeo said that they need to do some updating for the rules and procedures to
344 make sure the things that they have talked about are actually put in there and
345 documented.

346

347 Mr. Roy commented that the rules and procedures that are online are all red lined from
348 2019 and asked that it be updated.

349

350 **Adjournment:**

351

352 **Motion:**

353 **Mr. McLeod made a motion to adjourn.**

354 **Mr. Campbell seconded the motion.**

355 **A roll call vote was taken.**

356 **Ms. Gott – Yes**

357 **Mr. McLeod – Yes**

358 **Mrs. Luszcz – Yes**

359 **Mr. Roy – Yes**

360 **Mr. Campbell – Yes**

361 **Mr. McDonald – Yes**

362 **Ms. Bridgeo – Yes**

363 **The motion passed with a vote of 7 in favor, 0 opposed and 0 abstentions.**

364

365 Mrs. Luszcz adjourned the meeting at approximately 9:56pm.

366

367 The video of this meeting is to be preserved as part of the permanent and official
368 record.

369
370 Respectfully submitted,

371
372 Jill A. Vadeboncoeur

373
374 **Attachments:**

- 375
- Letter dated April 6, 2023, from Justin L. Pasay.
 - Letter dated April 5, 2023, from Mr. McLeod.
- 376
377

DRAFT



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NICHOLAS R. AESCHLIMAN

6 April 2022

Patricia Bridgeo, Chair
Raymond Planning Board
4 Epping Street
Raymond, NH 03077

Re: Application #2022-009

Dear Chair Bridgeo and Board Members:

Earlier today we received a letter dated from Board Member Jim McLeod dated 5 April 2023. This letter raises unfortunate and unfounded accusations about the Applicant and its representatives. To properly address these allegations, we request a continuance to the next Board meeting which we understand will be Thursday, 4 May 2023 at 7:00 PM. The Applicant hereby formally waives application of the 65-day rule to that date.

Very truly yours,
DONAHUE, TUCKER & CIANDELLA, PLLC

Justin L. Pasay
JLP/lh

cc: Jewett Construction (email only)
Bohler (email only)
Gove Environmental (email only)

DONAHUE, TUCKER & CIANDELLA, PLLC
16 Acadia Lane, P.O. Box 630, Exeter, NH 03833
111 Maplewood Avenue, Suite D, Portsmouth, NH 03801
Towle House, Unit 2, 164 NH Route 25, Meredith, NH 03253
83 Clinton Street, Concord, NH 03301

From the desk of James M. McLeod



4/5/2023

RE: Application # 2022-009

Raymond Planning Board (RPB),

On 12/8/22 Justin Pasay of Donahue, Tucker & Ciandella (DTC), as representative of Jewett Construction, sent a letter to this board that stated that their application was complete under Town of Raymond's (TOR) land use regulations and NH law. They also made a statement regarding vestment of the application which was never part of any motion by the board. Additionally, after much exposition on the completeness of their application and with several RSA's, case references, and a superfluous and deceptive admonishment that determinations" must legally be made in good faith", the following statement was definitively made.

"In this case, the Application is complete for acceptance by the Planning Board in accordance with Article III, Section 3.03, Article IV and Article V of the Town's Site Plan Review Regulations."

This grave misrepresentation apparently intended to conceal the contamination discovered on site by John Turner Consulting (JTC) over a year ago. These legally required disclosures were never made.

Article 5 of the SPR states in part 5.06 Groundwater Protection -02

"Site plan applications which involve property contaminated by hazardous or toxic materials (as defined by RSA 339-A: 2) shall disclose such information as part of the application."

The Applicant had abundant opportunities for disclosure to multiple parties over the course of the past year and a half. The deception by omission continued even when the RPB made available to the Applicant a letter from former Fire Chief Pratt informing the board of a gas station that had been sited there during a previous use.

The applicant could have advised that they would provide the Phase I and II Environmental Assessments that were done on the site in 2021, instead, essential information was withheld in an apparent effort to conceal the site contamination from the board and the other 3rd party reviewers, town committees, and commissions, and appear to have been concealing this information for over a year.

The applicant has been reticent to provide application data for permits for other agencies, at this point, in addition to the 100+ clerical and administrative errors scattered throughout the submission, one could infer the real reason behind the dilatory responses was to intentionally hide the unfavorable information contained in the JTC Phase I and II EA's that discovered Lead contamination. The report listed one test sample at more than twice the level that would require remediation and another at more than 15 times the NHDES Env-Or 600 - Table 600-2 Soil Remediation Standards (400MG/kg). This is in addition to explorations with ground penetration radar and other methods to locate the very tanks we were led to believe they applicant was unaware of. The truth is the Applicant knew about the tank issues and three other environmental concerns including the NHDES SRS exceedances for lead for over a year and made a conscience decision to suppress the information in an effort to deceive the TOR and its agents and avoid discovery by the authorities that would be required by law to take action based on the reports.

As I have been advised by NH Municipal Association Counsel Jonathan E. Cowal, Esq.:
I state for the record - I have lost trust in the representation of this application and no longer presume them to be credible. If Justin Pasay also knew about these reports then he has been making false statements in writing and false testimony to the RPB and should be reported to the Board of Bar Overseers. Further, I am under obligation to my oath to make this misrepresentation known to the RPB.

This should not be inferred to mean there are no other issues with this application on a purely technical front but no productive discourse can be held with an applicant that has been so egregiously untruthful to the RPB.

Thank you for your valuable time, be well.

Jim McLeod

Raymond Plannig Board, member