

# **CENTRAL GAS SITE PLAN**

SP# 08-23

## **STAFF REPORT**

February 28, 2024

(See January 24, 2024)

**SITE:** 77 Central Street, Map 182 / Lot 217

**ZONING:** Business (B)

**PURPOSE OF PLAN:** To depict the proposed layout for a gas station and convenience store with drive-through window and all associated site improvements.

### **PLAN UNDER REVIEW:**

Central Gas Site Plan, Non-Residential Site Plan, Map 182 Lot 217, 77 Central Street, Hudson, NH; prepared by: Keach-Nordstrom Associates, Inc. 10 Commerce Park North, Suite 3, Bedford, NH 03110; prepared for: Nottingham Square Corporation, 46 Lowell Road, Hudson, NH, 03051; consisting of 20 sheets and general notes 1-30 on Sheet 1 and notes 1-9 on Sheet 2; dated July 10, 2023; last revised February 14, 2024.

### **ATTACHMENTS:**

- 1) Civil Peer Review, prepared by Fuss & O'Neill, November 1, 2023 – Attachment “A”
- 2) Applicant Response to Peer Review, prepared by Keach-Nordstrom Associates, Inc. dated February 14, 2024 – Attachment “B”
- 3) VHB, Inc. Response Letter dated October 2, 2023 – Attachment “C”
- 4) Traffic Peer Review, prepared by Fuss & O'Neill on February 13, 2024 – Attachment “D”

### **APPLICATION TRACKING:**

- August 16, 2022 – Conceptual plan received.
- September 14, 2022 – Design Review meeting held.
- July 10, 2023 – Site plan application received
- October 31, 2023 – Revised site plan submitted
- November 29, 2023 – Hearing continued to December 27.
- December 27, 2023 – Public hearing scheduled, Deferred per the applicant’s request.
- January 24, 2024 – Application acceptance & hearing.
- February 28, 2024 – Public hearing scheduled.

### **COMMENTS & RECOMMENDATIONS:**

#### **BACKGROUND**

The site is approximately 2.9 acres and is located in the Business zone. The proposed site is currently five parcels. Map 182 Lots: 216, 217, 218-1, 218-2, and 219, which the applicant wishes to consolidate. Five buildings totaling 6,321 SF were on the site that were previously used as single-family residential homes, but have since been razed. The site is served by municipal water

and sewer. A small section on the southern end of the site is within the “A” or 100-year flood zone. There is a wetland on the southeast and southern edges of the site, along Map 190 Lots 185 and 186.

The applicant proposes building a 10-pump gas station with a 4,560 SF convenience store with drive-thru window. While not stated, staff presumes the drive-thru window would serve coffee and food. The Applicant has submitted a waiver request from the 100-foot buffer between commercial and residential uses required under §276-11.1(12)(c). Staff notes that the 100-foot buffer is shown on the site plan on the Central Street side, but it is not shown on the Lowell Road sign and should be added to the plans. The improvements that fall within this buffer are:

- the driveway curb cuts on Central Street and Lowell Road and,
- both proposed locations of the freestanding signs.

The site is proposed be accessed by two drives, a 20’ wide one-way entrance driveway to be constructed on Lowell road approximately 210’ from the intersection of Lowell Road and Central Street, and a 24.1’ wide two-way entrance on Central Street, approximately 600’ from the intersection of Central Street and Lowell Road. The proposal of two driveways requires a waiver from §193-10.G, for which a waiver request has been submitted. Further discussion below.

The Applicant previously presented this plan to the Planning Board under Design Review Phase in September 2022. In response to the feedback heard during that phase, the Applicant has included architectural renderings with this application.

#### **PEER REVIEW - CIVIL**

Fuss and O’Neill completed a first round of peer review on July 31, 2023 and a second round incorporating first round comments on November 1, 2023 (**Attachment A**). Keach-Nordstrom Associates, Inc. provided a response to the first round of comments on behalf of the applicant on September 18, 2023, and have addressed further comments in a letter dated February 14, 2024 (**Attachment B**). All comments have been remediated as of this time, with traffic handled in a separate letter.

#### **PEER REVIEW - TRAFFIC**

VHB prepared a response to traffic review letter on October 2, 2023 (**Attachment C**). Fuss and O’Neill completed a review of the response to comments letter on February 14, 2024, (**Attachment D**). The following comments were provided by Fuss and O’Neill for consideration by the town.

1. The applicant has noted that as the project progresses the traffic signal timings are proposed to be optimized in the field to accommodate the actual traffic volume demands at the intersection at that time. The applicant should coordinate this effort with the Town Engineer. Fuss & O’Neill will be available to review proposed optimized timings based on actual volume demands at that time if needed by the Town.
2. The applicant has noted that signal timings will be optimized in the field to accommodate traffic volume demands entering the intersection once the site is occupied. We continue to

be concerned about impacts to queues on Central Street westbound if timings are adjusted to relieve Lowell Road queues extending to Library Street. The applicant should work closely with the Town to evaluate optimum timings for this corridor.

3. The applicant has noted that the Central Street signalized intersections with Lowell Road and Library Street are not part of a coordinated system, but both intersections are operating with Gridsmart equipment. The applicant has also noted that the study area and parameters for the traffic study were developed in consultation with the Town. With impacts to the Library Street intersection noted, we recommend that coordination between the two intersections be evaluated for potential timing improvements through this corridor.

The Town Engineer has confirmed that timing changes and optimization for the lights on the intersections of Lowell and Central in conjunction with Central and Library will be implemented as required to service traffic on Lowell and Central Streets.

### **WAIVERS REQUESTED**

As noted above, the Applicant is seeking two waivers:

1. Waiver for Buffer between Commercial and Residential Uses, **§276-11.1B(12)(C)**, to not require a 100' buffer between commercial and residential uses. The Applicant states that due to the layout of the site, not granting a waiver would make the land virtually undevelopable for any non-residential uses.
2. Waiver for Driveway Design Criteria, **§193-10.G**, to allow for more than one driveway onto the proposed site. The Applicant states that denial would result in the site being less desirable for future customers, suppliers, and vendors, while also forcing traffic from Lowell Road through an already busy intersection to access the site, in addition to limiting access for responding emergency vehicles.

### **RECOMMENDATIONS**

Staff recommends deliberation and consideration of the waiver requests, and discussion of questions or additional information the Planning Board may seek.

### **DRAFT MOTIONS:**

### **WAIVER MOTIONS:**

1. I move to grant a waiver from **§ 276-11.1.B(12)(C)**, General Plan Requirements, to not require a 100' buffer between commercial and residential uses, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

2. I move to grant a waiver from **§ 193-10.G**, Driveway Design Criteria, to allow for more than one driveway onto the proposed site, based on the Board's discussion, the testimony of the

Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

**MOTION TO CONTINUE:**

I move to continue the site plan application for Central Gas Site Plan SP# 08-23, 77 Central Street, Hudson, NH / Non-Residential Site Plan, Map 182 / Lot 217, to date certain, \_\_\_\_\_, 2024.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

**MOTION TO APPROVE:**

I move to approve the site plan application for the Site Plan entitled: Central Gas Site Plan SP# 08-23, Map 182/Lot 217, 77 Central Street, Hudson, NH; prepared by: Keach-Nordstrom Associates, Inc. 10 Commerce Park North, Suite 3, Bedford, NH 03110; prepared for: Nottingham Square Corporation, 46 Lowell Road, Hudson, NH, 03051; consisting of 20 sheets and general Notes 1-36 on Sheet 1 and Notes 1-9 on Sheet 2; dated July 10, 2023; last revised February 14, 2024.; and:

That the Planning Board finds that this application complies with the Zoning Ordinances, and with the Land Use Regulations with consideration of the waivers granted; and for the reasons set forth in the written submissions, together with the testimony and factual representations made by the applicant during the public hearing;

Subject to, and revised per, the following stipulations:

1. All stipulations of approval shall be incorporated into the Development Agreement, which shall be recorded at the HCRD, together with the Plan.
2. A cost allocation procedure (CAP) amount of \$51,488.00 shall be paid prior to the issuance of a Certificate of Occupancy.
3. Prior to the issuance of a final certificate of occupancy, an L.L.S. Certified "As-Built" site plan shall be provided to the Town of Hudson Land Use Department, confirming that the site conforms to the Planning Board approved Site Plan.
4. Prior to the Planning Board endorsement of the Plan, it shall be subject to final administrative review by Town Planner and Town Engineer.
5. Prior to application for a building permit, the Applicant shall schedule a pre-construction meeting with the Town Engineer.
6. Construction activities involving the subject lot shall be limited to the hours between 7:00 A.M. and 7:00 P.M., Monday through Saturday. No exterior construction activities shall be allowed on Sundays.
7. Hours of refuse removal shall be exclusive to the hours between 7:00 A.M. and 7:00 P.M., Monday through Friday only.

8. Prior to the issuance of a final certificate of occupancy, a Spill Prevention Plan shall be provided to, and approved by, the Fire Marshall.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

**LOT MERGER APPLICATION FOR TAX ASSESSMENT AND LAND USE PURPOSES**

**TOWN OF HUDSON, NEW HAMPSHIRE**

The undersigned, Manuel Sousa - Nottingham Square Corporation (type or print name here) is / are the owner(s) of lots or parcels shown on the Town Tax Maps as follows:

Tax Map 182 Lot 216 Tax Map 182 Lot 218-2  
Tax Map 182 Lot 217 Tax Map 182 Lot 219  
Tax Map 182 Lot 218-1


The undersigned requests that the Town of Hudson Planning Board combine the above described parcels or lots into one parcel or one lot to be known as, Tax Map 182, Lot 217 for tax assessment, and land use purposes.

The undersigned acknowledges and agrees that the merged lots or parcels shall be shown as a single lot or single parcel on the Town Tax map and shall be one lot or one parcel for land use purposes. The Town of Hudson will assess the merged lots or merged parcels as a single lot or a single parcel.

If at any time the undersigned, or its heirs, legatees, successors and assigns of the undersigned wish to subdivide the merged lot or merged parcel, subdivision approval must be obtained from the Town of Hudson Planning Board under the Town of Hudson Subdivision of Land Regulations.

The undersigned agrees that the approval of this application shall be filed at the expense of the undersigned in the Hillsborough County Registry of Deeds.

Dated this 6 day of July, 2023.



\_\_\_\_\_  
LANDOWNER (SIGN HERE)

\_\_\_\_\_  
LANDOWNER (SIGN HERE)

  
(TYPE OR PRINT NAME)

\_\_\_\_\_  
(TYPE OR PRINT NAME)

This application for the merger of lots for tax assessment and land use purposes is approved by action of the Town of Hudson Planning Board. This application shall be recorded in the Hillsborough County Registry of Deeds.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(SIGN HERE)  
CHAIRPERSON  
HUDSON PLANNING BOARD

\_\_\_\_\_  
(TYPE OR PRINT NAME)



*Town of Hudson  
12 School Street  
Hudson, NH 03501*

## **SITE PLAN APPLICATION**

Revised May 19, 2023

The following information must be filed with the Planning Department *at the time of filing a site plan application*:

1. One (1) original completed application with original signatures, and one (1) copy.
2. Three (3) full plan sets (sheet size: 22" x 34").
3. One (1) original copy of the project narrative, and one (1) copy.
4. A list of direct abutters and a list of indirect abutters, and two (2) sets of mailing labels for abutter notifications.
5. All of the above application materials, including plans, shall also be submitted in electronic form as a PDF.
6. All plans shall be folded and all pertinent data shall be attached to the plans with an elastic band or other enclosure.

The following information is required to be filed with the Planning Department *no later than 10:00 A.M., Tuesday ONE WEEK prior to the scheduled Planning meeting. The purpose of these materials is hardcopy distribution to Planning Board members, not review. Any plan revisions that require staff review must be submitted no later than 10:00A.M., Tuesday TWO WEEKS prior to the scheduled Planning meeting. Depending on the complexity of changes, more time may be required for review. Please contact the Town Planner if you have any questions on this matter.*

1. Submission of fifteen (15) 11" X 17" plan sets, revised if applicable.
2. Submission of two (2) full plan sets (sheet size: 22" x 34"), if revised.
3. All of the above application materials, including plans, shall also be submitted in electronic form as a PDF.

*Note: Prior to filing an application, it is recommended to schedule an appointment with the Town Planner.*

**SITE PLAN APPLICATION**

Date of Application: July 10, 2023 Tax Map #: 182 Lot #: 217

Site Address: Lowell Road & Central Street

Name of Project: Central Gas

Zoning District: Business (B) General SP#: \_\_\_\_\_  
(For Town Use Only)

Z.B.A. Action: \_\_\_\_\_

**PROPERTY OWNER:**

**DEVELOPER:**

Name: Nottingham Square Corporation

\_\_\_\_\_

Address: 46 Lowell Road

\_\_\_\_\_

Address: Hudson, NH 03051

\_\_\_\_\_

Telephone # 603-880-7799

\_\_\_\_\_

Email: msousa@sousarealtynh.com

\_\_\_\_\_

**PROJECT ENGINEER:**

**SURVEYOR:**

Name: Paul Chisholm, PE - KNA

Anthony Basso, LLS - KNA

Address: 10 Commerce Park North, Suite 3

10 Commerce Park North, Suite 3

Address: Bedford, NH 03110

Bedford, NH 03110

Telephone # 603-627-2881

603-627-2881

Email: pchisholm@keachnordstrom.com

abasso@keachnordstrom.com

**PURPOSE OF PLAN:**

The purpose of the plan is to depict the proposed layout for a gas station and convenience store with drive thru window and all associated site improvements.

**(For Town Use Only)**

Routing Date: \_\_\_\_\_ Deadline Date: \_\_\_\_\_ Meeting Date: \_\_\_\_\_

\_\_\_\_\_ I have no comments \_\_\_\_\_ I have comments (attach to form)

\_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
(Initials)

Department: \_\_\_\_\_

Zoning: \_\_\_ Engineering: \_\_\_ Assessor: \_\_\_ Police: \_\_\_ Fire: \_\_\_ DPW: \_\_\_ Consultant: \_\_\_



**SITE DATA SHEET**

PLAN NAME: Central Gas

PLAN TYPE: SITE PLAN

LEGAL DESCRIPTION: MAP 182 LOT 217

DATE: July 10, 2023

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Location by Street: Lowell Road & Central Street

Zoning: Business (B)

Proposed Land Use: Gas Station/Convenience Store with Drive Thru

Existing Use: Residential

Surrounding Land Use(s): Commercial & Residential

Number of Lots Occupied: One (1) - Following Lot Merger

Existing Area Covered by Building: 6,321 SF

Existing Buildings to be removed: Five (5)

Proposed Area Covered by Building: 4,560 SF

Open Space Proposed: 62%

Open Space Required: 40%

Total Area: S.F.: 126,607 Acres: 2.90

Area in Wetland: 2,881 SF Area Steep Slopes: 10,899 SF

Required Lot Size: 30,000 SF

Existing Frontage: 982.2 FT

Required Frontage: 150 FT

Building Setbacks: Required\* Proposed

Front: 50 FT 72.7 FT

Side: 15 FT N/A

Rear: 15 FT 331.6 FT

**SITE DATA SHEET**  
(Continued)

Flood Zone Reference: 33011C0518D

Width of Driveways: 24 FT

Number of Curb Cuts: Two (2)

Proposed Parking Spaces: 41 Spaces

Required Parking Spaces: 41 Spaces

Basis of Required Parking (Use): Gas Pumps, Convenience Store, Drive Thru

Dates/Case #/Description/Stipulations  
of ZBA, Conservation Commission,  
NH Wetlands Board Actions: \_\_\_\_\_  
(Attach stipulations on separate sheet) \_\_\_\_\_  
\_\_\_\_\_

Waiver Requests

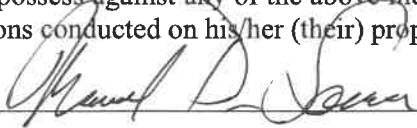
<i>Town Code Reference:</i>	<i>Regulation Description:</i>
<u>276-11.1(12)(c)</u>	<u>Drive Aisles within 100-ft Abutting Residential Property</u>
_____	_____
_____	_____
_____	_____

<b>(For Town Use Only)</b>
Data Sheets Checked By: _____ Date: _____

**SITE PLAN APPLICATION AUTHORIZATION**

I hereby apply for *Site Plan* Review and acknowledge I will comply with all of the Ordinances of the Town of Hudson, New Hampshire State Laws, as well as any stipulations of the Planning Board, in development and construction of this project. I understand that if any of the items listed under the *Site Plan* specifications or application form are incomplete, the application will be considered rejected.

Pursuant to RSA 674:1-IV, the owner(s) by the filing of this application as indicated above, hereby given permission for any member of the Hudson Planning Board, the Town Planner, the Town Engineer, and such agents or employees of the Town or other persons as the Planning Board may authorize, to enter upon the property which is the subject of this application at all reasonable times for the purpose of such examinations, surveys, tests and inspections as may be appropriate. The owner(s) release(s) any claim to or right he/she (they) may now or hereafter possess against any of the above individuals as a result of any examinations, surveys, tests and/or inspections conducted on his/her (their) property in connection with this applications.

Signature of Owner:  Date: 7/6/23

Print Name of Owner: Manuel Sousa

❖ If other than an individual, indicate name of organization and its principal owner, partners, or corporate officers.

Signature of Developer: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name of Developer: \_\_\_\_\_

❖ The developer/individual in charge must have control over all project work and be available to the Code Enforcement Officer/Building Inspector during the construction phase of the project. The individual in charge of the project must notify the Code Enforcement Officer/Building Inspector within two (2) working days of any change.

## WAIVER REQUEST FORM

Name of Subdivision/Site Plan: Central Gas

Street Address: Lowell Road & Central Street

I Manuel Sousa hereby request that the Planning Board  
 waive the requirements of item 276-11.1(12)(c) of the Hudson Land Use Regulations  
 in reference to a plan presented by Keach-Nordstrom Associates, Inc.  
 \_\_\_\_\_ (name of surveyor and engineer) dated July 10, 2023 for  
 property tax map(s) 182 and lot(s) 217 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

\_\_\_\_\_  
See Attached Waiver Request

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

\_\_\_\_\_  
See Attached Waiver Request

Signed:

Kathie Cooper  
 Applicant or Authorized Agent

**SCHEDULE OF FEES**

**A. REVIEW FEES:**

<b><u>1. Site Plan Use</u></b>	<b><u>Project Size/Fee</u></b>	
Multi-Family	\$105.00/unit for 3-50 units \$78.50/unit for each additional unit over 50	\$ <u>          -</u>
Commercial/Semi Public/Civic or Recreational 4,560 SF	\$157.00/1,000 sq. ft. for first 100,000 sq.ft. (bldg. area): \$78.50/1,000 sq.ft. thereafter.	\$ <u>  715.92</u>
Industrial	\$150.00/1,000 sq.ft for first 100,000 sq.ft. (bldg. area); \$78.50/1,000 sq.ft thereafter.	\$ <u>          -</u>
No Buildings	\$30.00 per 1,000 sq.ft. of proposed developed area	\$ <u>          -</u>

**CONSULTANT REVIEW FEE: (Separate Check)**

Total   2.90   acres @ \$600.00 per acre, or \$1,250.00,  
whichever is greater. \$   1,740.00

*This is an estimate for cost of consultant review. The fee is expected to cover the amount. A complex project may require additional funds. A simple project may result in a refund.*

**LEGAL FEE:**

The applicant shall be charged attorney costs billed to the Town for the Town's attorney review of any application plan set documents.

**B. POSTAGE:**

<u>  17  </u> Direct Abutters Applicant, Professionals, etc. as required by RSA 676:4.1.d @\$4.78 (or Current Certified Mail Rate)	\$ <u>  81.26</u>
<u>    8  </u> Indirect Abutters (property owners within 200 feet) @\$0.63 (or Current First Class Rate)	\$ <u>    5.04</u>

**C. TAX MAP UPDATING FEE: (FLAT FEE)** \$   275.00

**TOTAL** \$   2,817.22

Check #1: \$1,077.22 (Town)  
Check #2: \$1,740.00 (Review)

**SCHEDULE OF FEES**

(Continued)

(For Town Use)

AMOUNT RECEIVED: \$ _____	DATE RECEIVED: _____
RECEIPT NO.: _____	RECEIVED BY: _____

*NOTE: fees below apply only upon plan approval, not collected at time of application.*

**D. RECORDING:**

**\*\*\*The applicant shall be responsible for the recording of the approved plan, and all documents as required by an approval, at the Hillsborough County Registry of Deeds (HCRD), located at 19 Temple Street, Nashua, NH 03061. Additional fees associated with recording can be found at HCRD.\*\*\***

**E. COST ALLOCATION PROCEDURE AMOUNT CONTRIBUTION AND OTHER IMPACT FEE PAYMENTS:**

To be determined by the Planning Board at time of plan approval and shall be paid by the applicant at the time of submittal of the Certificate of Occupancy Permit requests.

**\*\*\*The applicant shall be responsible for all fees incurred by the town for processing and review of the applicant's application, plan and related materials.\*\*\***

July 10, 2023

Town of Hudson  
Planning Department  
12 School Street  
Hudson, New Hampshire 03051

Subject:     **Non-Residential Site Plan – Central Gas  
Tax Map 182; Lot 217  
Lowell Road & Central Street – Hudson, New Hampshire  
KNA Project No. 18-0612-3**

**Project Narrative**

The subject property, located at the corner of Lowell Road and Central Street, is referenced on Hudson Tax Map 182 as Lots 216, 217, 218-1, 218-2, and 219. These five (5) lots will be consolidated into a single parcel referenced as Tax Map 182 Lot 217 with a combined area of approximately 2.90 acres. The parcel is located entirely within the Business (B) Zoning District. It was developed with single family residential homes at the time of survey, but those have since been removed. The surrounding land uses include commercial, single family residential, and multi-family residential.

The applicant is proposing to construct a 10-pump gas station, a 4,560 square foot convenience store with drive thru window, and all associated site improvements. Access to the site will be provided via two (2) new 24-foot-wide driveways, one (1) on Lowell Road and one (1) on Central Street. The lot will be serviced by municipal water and sewer. Other site improvements include stormwater management provisions, paved parking areas, utility connections, landscaping, and lighting. No impacts to the wetlands or 50-ft wetland buffer are proposed.

July 10, 2023

Town of Hudson  
Planning Department  
12 School Street  
Hudson, New Hampshire 03051

Subject: **Waiver Request – Central Gas  
Tax Map 182; Lot 217  
Lowell Road & Central Street – Hudson, New Hampshire  
KNA Project No. 18-0612-3**

The Applicant is requesting a waiver from the following section of the Town of Hudson Site Plan Regulations: **Section 276-11.1(12)(c) 100-ft Buffer Between Commercial and Residential Uses**

Hardship reason(s) for granting this waiver:

Based on the location of the abutting residential uses, accessing the site would require a driveway to be located within the 100-ft buffer zone. By not allowing the Applicant to construct driveways, access to the property would be severely restricted making it virtually undevelopable for any non-residential use.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:

The spirit and intent of this regulation is to provide a 100-ft buffer between residential and non-residential uses. The majority of the developed areas fall outside this buffer zone, however, the entrance driveways to the site are located within the buffer which extends the full width of the Central Street frontage and a significant portion of the Lowell Road frontage. Based on the location of the abutting residential uses, any access driveway would be located within this buffer zone. The remainder of the site improvements do not need to be located within this buffer and are not proposed to be. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.





November 1, 2023

Mr. Brian Groth  
Town Planner  
Town of Hudson  
12 School Street  
Hudson, NH 03051

Re: Town of Hudson Planning Board Review  
Central Gas Site Plan, Lowell Road & Central Street  
Tax Map 182 Lot 217; Acct. #1350-550  
Reference No. 20030249.230

Dear Mr. Groth:

Fuss & O'Neill (F&O) has reviewed the second submission of the materials received on September 22, 2023, related to the above-referenced project. Authorization to proceed with this second review was received on October 19, 2023. A list of items reviewed is enclosed. The scope of our review is based on the Site Plan Review Codes, Stormwater Codes, Driveway Review Codes, Sewer Use Ordinance 77, Zoning Regulations, and criteria outlined in the CLD Consulting Engineers Proposal approved September 16, 2003, revised September 20, 2004, June 4, 2007, September 3, 2008, and October 2015.

The project consists of consolidating five lots, demolishing the existing buildings on those lots, and construction of a gas station with convenience store and coffee drive-thru. Proposed improvements to the site also include the construction of parking areas, landscaping, drainage, utilities, and other associated site improvements. The site is to be serviced by public water and sewer systems.

The following items have outstanding issues:

**1. Site Plan Review Codes (HR 275)**

- c. *Former Fuss & O'Neill Comment: HR 275-6.T. The applicant is not proposing any offsite improvements on the plan set other than driveway apron paving, sidewalk connections and utility connections.*

**Current Fuss & O'Neill Comment:** The applicant has revised the plan to include lane restriping of Central Street and widening along Lowell Road at the northbound approach to the site driveway. This widening includes relocating a portion of the sidewalk outside of the public right-of-way. The applicant should review the need for an easement for the sidewalk in this area.

- f. *Former Fuss & O'Neill Comment: HR 275-9.C.(11). The applicant has provided two handicap accessible parking spaces for the site which meets the minimum requirement. The applicant should provide more information as to where the entrance to the building is located to ensure it's not located within a handicap ramp tip down.*

50 Commercial Street  
Manchester, NH  
03101  
† 603.668.8223  
800.286.2469  
[www.fando.com](http://www.fando.com)  
  
California  
Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

Mr. Brian Groth  
November 1, 2023  
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**Current Fuss & O'Neill Comment:** The applicant has moved the handicap spaces to account for the building entrance and tip down location. We recommend that spot grades should be provided in this area to ensure it is constructed in compliance with ADA requirements.

## 2. Administrative Review Codes (HR 276)

- e. *Former Fuss & O'Neill Comment:* HR 276-11.1.B.(25). *The applicant has proposed parking spaces outside of the side setback area on the east side of the lot.*

**Current Fuss & O'Neill Comment:** We note that parking spaces within this setback area will require Planning Board approval.

## 3. Driveway Review Codes (HR 275-6.B/Chapter 193)

- a. *Former Fuss & O'Neill Comment:* HR 193.10.E. *The applicant provided sight distance information for both driveways on the plan set, which show adequate site distance for the speed limits of each road. However, the applicant should confirm that the "Right Lane for Right Turn" sign on Lowell Road will not impede sight distance looking south as the sight distance line goes right through this existing sign.*

**Current Fuss & O'Neill Comment:** The applicant has revised the Lowell Road driveway to be entrance only, therefore removing the potential sight distance conflict. The applicant has added signage to this driveway. The applicant should label the proposed signs and provide details for them in the plan set.

- c. **New Fuss & O'Neill Comment:** With the revised entrance only driveway from Lowell Road the turning movement from Lowell Road southbound into this driveway for emergency vehicles responding from the School Street fire station may be difficult. The applicant should confirm that this movement can be achieved for Hudson's fire vehicles or coordinate with the Fire Department to access the site only at the Central Street driveway.

## 4. Traffic (HR 275-9.B)

- a. *Former Fuss & O'Neill Comment:* HR 275-9.B. *The applicant has provided a Traffic Impact Study and Fuss & O'Neill's review will be provided separately.*

**Current Fuss & O'Neill Comment:** A separate traffic review letter was sent on September 11, 2023. No revised traffic information was provided as part of this review submission.

## 6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- b. *Former Fuss & O'Neill Comment:* HR 275-6.F. and 290-5.A.4. *The applicant should provide additional reasoning as to the omitted groundwater recharge, and review with the Town if this requires a waiver.*

**Current Fuss & O'Neill Comment:** We note the applicant has noted that NHDES does not allow infiltration in high-load projects. The applicant should review with the Town if a waiver is still required.

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- n. *Former Fuss & O'Neill Comment:* The applicant has not shown a piped connection from the gas pump canopy roof drains to the proposed drainage system, or that the canopy will drain via surface flows to catch basins. The applicant should confirm the intent for this stormwater flow and provide appropriate notes on the plans.

**Current Fuss & O'Neill Comment:** The applicant has stated that the design intent for canopy runoff is surface flows to catch basins. This may result in icing and other surface drainage issues. We recommend that roof drains/gutters be provided and these connect via subsurface piping to the drainage system to prevent such issues.

#### 8. Erosion Control/Wetland Impacts

- b. *Former Fuss & O'Neill Comment:* The applicant should clarify what type of perimeter control is used in which areas on the Erosion Control Plan. We note that the plan calls for silt fence but only a detail for silt socks is included. We recommend that silt sock be used within the wetland buffers to limit disturbance.

**Current Fuss & O'Neill Comment:** The applicant has revised the label on the Erosion Control Plan to show silt sock is intended. We recommend that the applicant revise the Erosion & Sediment Control Legend as it still calls for silt fence.

#### 9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

- a. **Former Fuss & O'Neill Comment:** HR 275-8.C.(7). The applicant has provided interior landscape parking lot calculations. We note that the site does not meet most of the requirements in the Regulation and that those requirements are intended for sites with multiple lanes of parking. We note that the only area that may be considered having multiple access lanes is the area around the pumps. The applicant should review with the Town if this portion of the Regulation applies to the site as designed.
- b. *Former Fuss & O'Neill Comment:* HR 275-8.C.(8). The applicant has proposed new landscaping areas along the site, but it does not appear to be dense enough to be considered screening. The site abuts many residential lots along Central Street and Lowell Road. The applicant should review the need for more dense vegetation.

**Current Fuss & O'Neill Comment:** The applicant has added more landscaping to the plan set. This landscaping is not going to provide traditional screening for the site but will break up the view of the site. The applicant has not provided landscaping that we would consider screening, such as a row of arborvitae. The Town should review the plan to see if additional screening is necessary.

The following items require Town evaluation or input:

#### 6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- g. *Former Fuss & O'Neill Comment:* HR 290-5.A.12. Given the proposed use of automotive fueling facilities, gas and other fluids will be present onsite. The applicant should coordinate with the Town for a spill prevention kit and general spill prevention plan that will be required. We note that there is a double grate catch basin adjacent to the underground tank pad that may need to be protected during filling operations.

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**Current Fuss & O'Neill Comment:** We recommend that the Town require a Spill Prevention Plan as a part of the conditions of approval.

The following items are resolved or have no further Fuss & O'Neill input:

### 1. Site Plan Review Codes (HR 275)

- a. *Former Fuss & O'Neill Comment:* Hudson Regulation (HR) 275-6.C. The site currently abuts sidewalks on Lowell Road and Central Street, and the applicant has proposed to revise and reconstruct portions of those sidewalks as part of the project.
- b. *Former Fuss & O'Neill Comment:* HR 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed building addition. The applicant has shown a proposed fire service connection to the building on the plan set. We note that there is one adjacent fire hydrant shown on Melendy Road, and there is another hydrant across Central Street between the driveways at #74 and #76 that is not shown on the plans.

**Current Fuss & O'Neill Comment:** The applicant has noted that fire protection provisions will be provided during the architectural design process. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment:* HR 275-8.C.(2)(g) and Zoning Ordinance (ZO) 334-15.A. The applicant has provided parking calculations on the plan set and noted that 41 parking spaces are required for the gas pump, convenience store and drive-thru uses and that 41 spaces are provided.
- e. *Former Fuss & O'Neill Comment:* HR 275-8.C.(6). The applicant has shown one loading area on the plan set, which meets the minimum requirement. We note that the dimensions proposed for the space are 12-feet by 40-feet and that the Regulation required a 60-foot length, unless it can be demonstrated that a particular loading space will be used for smaller trucks. The applicant should confirm the 40-foot length is adequate for all intended uses.

**Current Fuss & O'Neill Comment:** The applicant has confirmed that that 40-foot space is adequate for this building and project. No further Fuss & O'Neill comment.

- g. *Former Fuss & O'Neill Comment:* HR 275-9.F. The applicant did not provide copies of easements and deeds as part of the package received for review. No easements are shown on the Existing Conditions plan or the proposed plans.

**Current Fuss & O'Neill Comment:** The applicant has added an easement plan to the set and confirmed that no existing easements are located on the property. No further Fuss & O'Neill comment.

- h. *Former Fuss & O'Neill Comment:* HR 275-9.F. A portion of the monument, walkway, flag poles, and lighting on Town of Hudson lot 218 appear to be located within the applicant's lot. The applicant and Town should review the need for an easement for these existing features if one does not exist already.

**Current Fuss & O'Neill Comment:** The applicant has shown a proposed easement on the plan set. No further Fuss & O'Neill comment.

### 2. Administrative Review Codes (HR 276)

- a. *Former Fuss & O'Neill Comment:* HR 276-11.1.B.(6). The applicant should add the owner's signature to the plan set for the final approval copy.

**Current Fuss & O'Neill Comment:** The applicant has added a signature block to the plan set for the owner to sign the final plans. No further Fuss & O'Neill comment.

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- b. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(12)(c). The applicant has requested a waiver for the 100-foot setback from residential use or zoning. The applicant has proposed driveways, parking spaces and a drive thru bypass within this zone. The applicant should update note #15 on sheet #1 with the correct Regulation reference.*

Current Fuss & O'Neill Comment: The applicant has updated the waiver note on the plan set. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(17). We were unable to locate a benchmark on the plans.*

Current Fuss & O'Neill Comment: The applicant has added a benchmark to the Existing Conditions Plan. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(20). The applicant has not provided the size and height of the existing building on the plan set.*

Current Fuss & O'Neill Comment: The applicant has noted the existing building height maximums on the Lot Consolidation Plan. No further Fuss & O'Neill comment.

### **3. Driveway Review Codes (HR 275-6.B/Chapter 193)**

- b. *Former Fuss & O'Neill Comment: HR 193.10.G. The applicant has proposed two driveways for the site. One is located on Lowell Road and the other is on Central Street. The applicant should review the need for a waiver as the Regulations allow only one driveway per parcel.*

Current Fuss & O'Neill Comment: The applicant has requested a waiver to allow two driveways for the site. No further Fuss & O'Neill comment.

### **5. Utility Design/Conflicts**

- a. *Former Fuss & O'Neill Comment: HR 275-9.E. & 276-13. The applicant has proposed to cap the existing utility connections at the property line and install new connections for the site. We recommend that the applicant provide ties and GPS locations for these caps to the Town once this work is completed.*

Current Fuss & O'Neill Comment: The applicant has added a note to the plans with these requirements. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: HR 275-9.E. & 276-13. The water service will be connected to Melendy Road and the sewer service to Lowell Road. The size and type of the proposed water service piping is not shown on the plans. The applicant notes that the proposed water service is to be designed by others.*

- c. *Former Fuss & O'Neill Comment: HR 275-9.E & 276-13. The applicant should correct the reference to the Town of Bedford in the Typical Sewer Manhole detail note 3 on sheet 16.*

Current Fuss & O'Neill Comment: The applicant has revised the note. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: Hudson Engineering Technical Guidelines & Typical Details (ETGTD) Detail W-2. The Water Line Trench Detail on sheet 17 should indicate sand backfill to 6" above the pipe, not 1' minimum granular backfill as shown.*

Current Fuss & O'Neill Comment: The applicant has revised the detail as noted. No further Fuss & O'Neill comment.

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- e. *Former Fuss & O'Neill Comment: ETGTD Detail W-11. The applicant should show the proposed location of the valve for the water service on the plans and it should be located outside the property line at Melendy Road.*

Current Fuss & O'Neill Comment: The applicant has added a gate valve to the plan as recommended. No further Fuss & O'Neill comment.

- f. *Former Fuss & O'Neill Comment: HR 275-9.E. & 276-13. The applicant should correct the reference to Manchester Water Works in the Domestic Service Tapped Off Fire Service detail note 1 on sheet 17.*

Current Fuss & O'Neill Comment: The applicant has revised the detail reference. No further Fuss & O'Neill comment.

## 6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- a. *Former Fuss & O'Neill Comment: HR 275. The applicant should have the plans stamped by a wetlands scientist.*

Current Fuss & O'Neill Comment: The plans have been stamped by a Wetland Scientist. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: HR 275-9.A. & 275-9.A4. The applicant should provide the HydroCAD node listings for all storms noted within "Table 1: Peak Flow Discharge Rate" within the Stormwater Management Report, and the HydroCAD node listings for all storms required by 9.A.4.*

Current Fuss & O'Neill Comment: The applicant updated the report. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: HR 290-5.A.1. & 290-5.A.3. The applicant should provide language in the Drainage Analysis Report stating if and how low impact development (LID) strategies for stormwater runoff were evaluated for this project.*

Current Fuss & O'Neill Comment: The applicant has updated the report. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 290-5.A.12. The applicant should review the definition of a "High Load Area" within the NHDES AoT regulations and note if this will have any effect on the stormwater runoff leaving the site.*

Current Fuss & O'Neill Comment: The applicant has confirmed that the area is High Load and has provided treatment. No further Fuss & O'Neill comment.

- f. *Former Fuss & O'Neill Comment: HR 290-5.A.12. The applicant should include all onsite drainage features within the I&M Manual, including but not limited to catch basins, outlet structure, and pipes.*

Current Fuss & O'Neill Comment: The applicant has updated the I&M manual. No further Fuss & O'Neill comment.

- h. *Former Fuss & O'Neill Comment: HR 290-5.B.1.b. The applicant should provide support material or calculations showing the required 80% TSS and 50% TP pollutant removals.*

Current Fuss & O'Neill Comment: The applicant has updated the report. No further Fuss & O'Neill comment.

- i. *Former Fuss & O'Neill Comment: HR 290-5.B.2.a. The applicant should provide calculations showing the required treatment of at least 30% of the existing impervious cover and 50% of proposed additional impervious cover.*

Current Fuss & O'Neill Comment: The applicant notes treatment of 93% of the impervious area. No further Fuss & O'Neill comment.

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- j. *Former Fuss & O'Neill Comment: HR 290-6.A.13. The applicant should provide calculations within the Stormwater Management Report for HW#3.*  
Current Fuss & O'Neill Comment: The applicant updated the report. No further Fuss & O'Neill comment.
- k. *Former Fuss & O'Neill Comment: HR 290-7.A.6. The applicant should provide information as to how the stormwater system is designed to account for frozen ground conditions.*  
Current Fuss & O'Neill Comment: The applicant updated the report to account for frozen ground. No further Fuss & O'Neill comment.
- l. *Former Fuss & O'Neill Comment: HR 290-8.A.4. & 5. We note the requirement of the applicant to coordinate the need for a Bond or Escrow with the Town Engineer.*  
Current Fuss & O'Neill Comment: The applicant has noted the Bond requirement. No further Fuss & O'Neill comment.
- m. *Former Fuss & O'Neill Comment: ETGT 930.3. The applicant should coordinate the 12" outlet elevation between the Outlet Structure #141 Detail on plan sheet 15 and the HydroCAD outlet for Bioretention Pond 4P.*  
Current Fuss & O'Neill Comment: The applicant updated the report and detail sheet. No further Fuss & O'Neill comment.
- o. *Former Fuss & O'Neill Comment: The applicant will be required to comply with all provisions of the Town of Hudson's MS4 permit, including but not limited to annual reporting requirements, construction site stormwater runoff control, and record keeping requirements. The applicant has noted that the project has been designed to meet MS4 requirements.*  
Current Fuss & O'Neill Comment: The applicant has noted the requirement. No further Fuss & O'Neill comment.
- p. *Former Fuss & O'Neill Comment: Please note that this review was carried out in accordance with applicable regulations and standards in place in New Hampshire at this time. Note that conditions at the site, including average weather conditions, patterns and trends, and design storm characteristics, may change in the future. In addition, future changes in federal, state or local laws, rules or regulations, or in generally accepted scientific or industry information concerning environmental, atmospheric and geotechnical conditions and developments may affect the information and conclusions set forth in this review. In no way shall Fuss & O'Neill be liable for any of these changed conditions that may impact this review, regardless of the source of or reason for such changed conditions. Other than as described herein, no other investigation or analysis has been requested by the Client or performed by Fuss & O'Neill in preparing this review.*

## 7. Zoning (ZO 334)

- a. *Former Fuss & O'Neill Comment: ZO 334-17 & 334-21. The applicant has noted that the subject parcel is located within the Business (B) zoning district, and that the proposed automotive fuel station with general retail use is allowed within the district.*
- b. *Former Fuss & O'Neill Comment: ZO 334-35. The applicant has shown the wetlands and buffer area on the plan set. The applicant has proposed a small retaining wall which is as close as one foot to the buffer area in some areas. The applicant should confirm how the wall will be constructed within that limited space without disturbance of the buffer or the installed erosion controls.*

Current Fuss & O'Neill Comment: The applicant has provided clarification on the construction of the wall and has noted that the buffer limits will be marked in the field prior to the start of construction. No further Fuss & O'Neill comment.

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- c. *Former Fuss & O'Neill Comment: ZO 334-60. The applicant has not shown any sign information on the plan set but has noted that all signs are subject to approval by the Hudson Planning Board prior to installation.*

Current Fuss & O'Neill Comment: The applicant has added a sign location on the plan and noted that the sign design will be approved prior to installation. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: ZO 334-83 and HR 218-4.E. The applicant has noted that the site is partially located within a Flood Hazard Area and shown that area on the plans. The applicant has not proposed any development within this area.*

## 8. Erosion Control/Wetland Impacts

- a. *Former Fuss & O'Neill Comment: The applicant has noted that the Town of Hudson shall reserve the right to require any additional erosion control measures as needed.*

## 9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

- c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(14). The applicant has provided a lighting plan that shows photometric values of 0.2 footcandles or less at the lot property lines, and full cut-off fixtures are proposed. The applicant has noted that the site will be operational 24 hours per day 7 days per week.*
- d. *Former Fuss & O'Neill Comment: The applicant should review the snow storage areas shown on the plan set. Some locations appear to conflict with landscaping and could damage trees and shrubs.*

Current Fuss & O'Neill Comment: The applicant has revised the snow storage areas and added them to the Landscaping Plan for comparison. No further Fuss & O'Neill comment.

## 10. State and Local Permits (HR 275-9.G.)

- a. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant has listed required permits and their status on the plan set. The applicant did not include the permit for the underground storage tanks in this permit list.*

Current Fuss & O'Neill Comment: The applicant has added the requirement to the plan set. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant did not provide copies of any applicable Town, State or Federal approvals or permits already received in the review package.*

Current Fuss & O'Neill Comment: The applicant as stated that permits will be provided to the Town once they are received. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant did not include any details for the underground storage tanks or concrete pad. The plans note that the final design is to be by others.*

- d. *Former Fuss & O'Neill Comment: Additional local and state permitting may be required.*



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#### 11. Other

- a. *Former Fuss & O'Neill Comment: ETGTD Section 565.1.1. The applicant is reminded of Town of Hudson requirements for the importing of off-site fill materials for use in constructing this project. We could not locate a note regarding this requirement on the plans, and it is recommended that these requirements be stated for the Contractors attention.*

Current Fuss & O'Neill Comment: The applicant has noted this requirement on the plan set. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: The applicant has not included a detail for the proposed wood beam guardrail.*

Current Fuss & O'Neill Comment: The applicant has added a detail to the plan set. No further Fuss & O'Neill comment.

Please feel free to call if you have any questions.

Very truly yours,

Steven W. Reichert, P.E.

SWR:

Enclosure

cc: Town of Hudson Engineering Division – File  
Keach- Nordstrom Associates, Inc. – p.chisholm@keachnordstrom.com



February 14, 2024

Steven Reichert, PE  
Fuss & O'Neill  
50 Commercial Street, Unit 2S  
Manchester, NH 03101

**Subject: Town of Hudson Planning Board Review  
Central Gas Site Plan, Lowell Road & Central Street  
Tax Map 182, Lot 217  
KNA Project No. 18-0612-3**

Dear Mr. Reichert:

Our office is in receipt of a review letter, dated November 1, 2023. Based on the comments, we have made the required modifications and attached revisions for final review. A response to each comment has been provided below.

The following items have outstanding issues:

**1. Site Plan Review Codes (HR 275)**

- c. *Former Fuss & O'Neill Comment: HR 275-6.T. The applicant is not proposing any offsite improvements on the plan set other than driveway apron paving, sidewalk connections and utility connections.*

**Current Fuss & O'Neill Comment:** The applicant has revised the plan to include lane restriping of Central Street and widening along Lowell Road at the northbound approach to the site driveway. This widening includes relocating a portion of the sidewalk outside of the public right-of-way. The applicant should review the need for an easement for the sidewalk in this area.

*A sidewalk easement has been added to the plans as requested. Sheet 12 contains the metes and bounds.*

- f. *Former Fuss & O'Neill Comment: HR 275-9.C.(11). The applicant has provided two handicap accessible parking spaces for the site which meets the minimum requirement. The applicant should provide more information as to where the entrance to the building is located to ensure it's not located within a handicap ramp tip down.*

**Current Fuss & O'Neill Comment:** The applicant has moved the handicap spaces to account for the building entrance and tip down location. We recommend that spot grades should be provided in this area to ensure it is constructed in compliance with ADA requirements.

*Additional spot grades have been added to the ADA parking spaces as requested (see Sheet 6).*

2. Administrative Review Codes (HR 276)

- e. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(25). The applicant has proposed parking spaces outside of the side setback area on the east side of the lot.*

**Current Fuss & O'Neill Comment:** We note that parking spaces within this setback area will require Planning Board approval.

*The four parking spaces adjacent the eastern property line, which abuts Map 182 Lot 215, are not within the side setback and the aforementioned regulation does not apply.*

3. Driveway Review Codes (HR 275-6.B/Chapter 193)

- a. *Former Fuss & O'Neill Comment: HR 193.10.E. The applicant provided sight distance information for both driveways on the plan set, which show adequate site distance for the speed limits of each road. However, the applicant should confirm that the "Right Lane for Right Turn" sign on Lowell Road will not impede sight distance looking south as the sight distance line goes right through this existing sign.*

**Current Fuss & O'Neill Comment:** The applicant has revised the Lowell Road driveway to be entrance only, therefore removing the potential sight distance conflict. The applicant has added signage to this driveway. The applicant should label the proposed signs and provide details for them in the plan set.

*Appropriate signage and striping has been added where necessary according to current NHDOT regulations. The associated details have been added to Sheet 16.*

- c. **New Fuss & O'Neill Comment:** With the revised entrance only driveway from Lowell Road the turning movement from Lowell Road southbound into this driveway for emergency vehicles responding from the School Street fire station may be difficult. The applicant should confirm that this movement can be achieved for Hudson's fire vehicles or coordinate with the Fire Department to access the site only at the Central Street driveway.

*The Truck Turning Plan on Sheet 11 shows both a typical 3-axle ladder truck (Hudson's fire vehicle) and an oil tanker adequately accessing both driveways.*

4. Traffic (HR 275-9.B)

- a. *Former Fuss & O'Neill Comment: HR 275-9.B. The applicant has provided a Traffic Impact Study and Fuss & O'Neill's review will be provided separately.*

**Current Fuss & O'Neill Comment:** A separate traffic review letter was sent on September 11, 2023. No revised traffic information was provided as part of this review submission.

*A separate response letter from VHB was provided and reviewed in a previous submission. Additional comments were received from your office on February 13, which require coordination with the town. The project team will continue to work with town staff to resolve the outstanding comments.*

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- b. *Former Fuss & O'Neill Comment: HR 275-6.F. and 290-5.A.4. The applicant should provide additional reasoning as to the omitted groundwater recharge, and review with the Town if this requires a waiver.*

**Current Fuss & O'Neill Comment:** We note the applicant has noted that NHDES does not allow infiltration in high-load projects. The applicant should review with the Town if a waiver is still required.

*In accordance with Section 290-5.A.(4), which also references NHDES AoT regulations, the project will not create or contribute to water quality impairment. The proposed stormwater system features catch basins with oil and debris snouts as well as a lined bioretention system, which provides 99% removal of Total Suspended Solids and 65% removal of Total Phosphorous and Total Nitrogen. Additionally, a waiver would not be required from AoT regulations as infiltration is prohibited in high load areas (Env-Wq 1507.02(c)(1)(a)). As it has been demonstrated that the project will not create or contribute to water quality impairment and the town regulations specify compliance with AoT regulations, a waiver is not required.*

- n. *Former Fuss & O'Neill Comment: The applicant has not shown a piped connection from the gas pump canopy roof drains to the proposed drainage system, or that the canopy will drain via surface flows to catch basins. The applicant should confirm the intent for this stormwater flow and provide appropriate notes on the plans.*

**Current Fuss & O'Neill Comment:** The applicant has stated that the design intent for canopy runoff is surface flows to catch basins. This may result in icing and other surface drainage issues. We recommend that roof drains/gutters be provided and these connect via subsurface piping to the drainage system to prevent such issues.

*Roof drain tie-ins have been provided for the gas pump canopy as requested (see Sheet 6).*

8. Erosion Control/Wetland Impacts

- b. *Former Fuss & O'Neill Comment: The applicant should clarify what type of perimeter control is used in which areas on the Erosion Control Plan. We note that the plan calls for silt fence but only a detail for silt socks is included. We recommend that silt sock be used within the wetland buffers to limit disturbance.*

**Current Fuss & O'Neill Comment:** The applicant has revised the label on the Erosion Control Plan to show silt sock is intended. We recommend that the applicant revise the Erosion & Sediment Control Legend as it still calls for silt fence.

*The Erosion Control Legend has been updated accordingly (see Sheet 8).*

9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

- a. **Former Fuss & O'Neill Comment:** *HR 275-8.C.(7). The applicant has provided interior landscape parking lot calculations. We note that the site does not meet most of the requirements in the Regulation and that those requirements are intended for sites with multiple lanes of parking. We note that the only area that may be considered having multiple access lanes is the area around the pumps. The applicant should review with the Town if this portion of the Regulation applies to the site as-designed.*

*Adding interior landscaped islands around the gas pumps would be a detriment to the operation of the facility and ease of vehicular access throughout the site. The project as designed meets the spirit and intent of the regulation.*

- b. **Former Fuss & O'Neill Comment:** *HR 275-8.C.(8). The applicant has proposed new landscaping areas along the site, but it does not appear to be dense enough to be considered screening. The site abuts many residential lots along Central Street and Lowell Road. The applicant should review the need for more dense vegetation.*

**Current Fuss & O'Neill Comment:** The applicant has added more landscaping to the plan set. This landscaping is not going to provide traditional screening for the site but will break up the view of the site. The applicant has not provided landscaping that we would consider screening, such as a row of arborvitae. The Town should review the plan to see if additional screening is necessary.

*A row of arborvitaes has been added to the north of the proposed sidewalk through the site to provide updated screening for headlights shining from vehicles parked at the gas pumps (see Sheet 9).*

The following items require Town evaluation or input:

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- g. **Former Fuss & O'Neill Comment:** *HR 290-5.A.12. Given the proposed use of automotive fueling facilities, gas and other fluids will be present onsite. The applicant should coordinate with the Town for a spill prevention kit and general spill prevention plan that will be required. We note that there is a double grate catch basin adjacent to the underground tank pad that may need to be protected during filling operations.*

**Current Fuss & O'Neill Comment:** We recommend that the Town require a Spill Prevention Plan as a part of the conditions of approval.

*Note #36 on Sheet 1 has been added to this effect. Additionally, all catch basins are to be equipped with snout debris and oil water separators for additional protection (see Note #7 on Sheet 6) and the accompanying detail on Sheet 19.*

If you have any questions or comments, please reach out by phone at (603) 627-2881 or by email at [pmadsen@keachnordstrom.com](mailto:pmadsen@keachnordstrom.com).

Respectfully,



**Peter Madsen, EIT**  
Project Engineer  
Keach Nordstrom Associates, Inc.  
10 Commerce Park North, Suite 3  
Bedford, NH 03110



October 2, 2023

Ref: 52945.00

Brian Groth  
Hudson Town Planner  
12 School Street  
Hudson, NH 03051

Re: Response to Comments  
Proposed Lowell Road and Central Street Commercial Development  
Hudson, New Hampshire

Dear Mr. Groth:

VHB prepared a Traffic Impact Study dated June 30, 2023 to summarize the traffic evaluation for the proposed commercial development to be on the southeast corner of the Lowell Road and Central Street signalized intersection in Hudson, New Hampshire. The Town of Hudson's traffic consultant, Fuss & O'Neill, conducted a peer review of the traffic study and summarized comments in a September 11, 2023 letter. VHB has prepared this letter to address those review comments. VHB appreciates the opportunity to provide clarification on these items.

**Comment a.** *"The September 2022 GRIDSMAST system traffic data provided by the Town Engineer appears to be for during the week of Labor Day. Holidays would typically have an impact on traffic volumes and patterns. Is it anticipated that the level of traffic provided by the engineer is still at normal levels despite them being during the week of a holiday?"*

**Response:** The traffic counts used within the June 30, 2023 Traffic Impact Study were provided by the Hudson Town Engineer for Thursday, September 8, 2022, and for Saturday, September 10, 2022, during the week of Labor Day. To determine whether the traffic counts used within the traffic study are valid, a comparison was made with the traffic counts for the following week (i.e., Thursday, September 15, 2022, and Saturday, September 17, 2022). A summary is provided below and the detailed calculations and the September 15 and 18, 2022 traffic counts are attached to this letter.

- › Weekday AM Peak Hour:
  - Traffic Study = 1,739 vehicles per hour
  - September 15, 2022 = 1,679 vehicles per hour
  - The traffic study reflects higher traffic volumes for the intersection (60 vehicles per hour)
- › Weekday PM Peak Hour:
  - Traffic Study = 2,151 vehicles per hour
  - September 15, 2022 = 2,098 vehicles per hour
  - The traffic study reflects higher traffic volumes for the intersection (53 vehicles per hour)



Brian Groth  
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October 2, 2023  
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- › Saturday Midday Peak Hour:
  - Traffic Study = 1,815 vehicles per hour
  - September 17, 2022 = 1,765 vehicles per hour
  - The traffic study reflects higher traffic volumes for the intersection (50 vehicles per hour)

In conclusion, the traffic counts used within the traffic study during the week of Labor Day were higher than the following week in September 2022. Therefore, the traffic volumes evaluated within the traffic study may produce a conservative (worse case) analysis scenario.

**Comment b.** *"The study describes the Lowell Road site driveway as allowing right turn access only, and no trips are assigned exiting from this driveway in the trip generation distributions. However, the site plan shows the driveway proposed to be configured to allow trips to exit the site using this exit; the driveway has a proposed stop bar and stop sign shown on the plan. Can the intent of the access to the driveway be clarified? We suggest redistributing the appropriate trips to exit the site via the driveway if this is the intent of the site, or revising the site plan to remove these signage and striping features if exit from the driveway will be prohibited."*

**Response:** The proposed Lowell Road site access will be a right-turn in only driveway for Lowell Road northbound right turn vehicles. The site plans prepared by Keach-Nordstrom Associates, Inc. (KNA) have been updated accordingly and will be submitted under a separate cover.

**Comment c.** *"Similar to the comment above where no trips are assigned exiting the site from the driveway on Lowell Road, there are no trips assigned entering the site using the driveway on Lowell Road. It is stated that this driveway would be a right in/right out only, however the site plan does not show how that maneuver will be restricted. With the long queue lengths and long delay times on Central Street westbound, people will be tempted to use the driveway on Lowell Road as a cut through."*

**Response:** The proposed driveway on Lowell Road has been designed to accommodate northbound vehicles turning right into the site. With this design, motorists would not be permitted to travel from Central Street westbound, through the site, and onto Lowell Road southbound. The site plans prepared by KNA have been updated to reflect this design.

**Comment d.** *"While the intersection as a whole does not degrade significantly in terms of LOS or v/c ratios between 2023 No-Build and 2023 Build conditions, some approaches, particularly the Central St WB Left approach, are significantly impacted by the traffic generation and distribution of the proposed site. The applicant should clarify if any investigation into improvements or signal optimization was undergone for the 2023 Build year to mitigate the impacts to affected approaches."*

**Response:** The same traffic signal parameters were used to show a consistent comparison between the intersection operations without optimizing the timings during the different time periods (2022 Existing, 2023 No-Build, 2023 Build, 2033 No-Build, and 2033 Build). When preparing traffic studies for land development projects, traffic engineers follow municipal and NHDOT guidelines in which traffic counts are to be adjusted to reflect peak-month and pre-pandemic conditions, as well as applying a compounded annual growth rate no less than 1 percent and adding site trips associated with developments planned by others in the area to represent future traffic volumes. The





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traffic volumes evaluated within the traffic study may be higher than will be realized due to the incorporation of these adjustment factors.<sup>1</sup> As the project proceeds, the traffic signal timings are proposed to be optimized in the field to accommodate the actual traffic volume demands entering the intersection at that time.

**Comment e.** *"We agree with the calculations for the right turn lane warrant analysis for the Lowell Road driveway and also concur with the idea of the proposed roadway and signal timing improvements to mitigate site-related traffic impacts on the roadway network. However, while the 2033 AM peak hour improvements do help 95th percentile queues along Central Street westbound approach adjacent to the site driveway, the 95th percentile through queues of the southbound Central Street approach are lengthened to and beyond the road's signalized intersection with Library Street. It may be worth prioritizing the major road in this case. However, this would potentially lengthen the queues on Central Street."*

**Response:** Nashua Regional Planning Commission (NRPC) officials prepared the 2022-2023 Hudson Townwide Traffic Study that evaluated the long-term impacts of planned and potential future development within the community.<sup>2</sup> The Lowell Road and Central Street signalized intersection was included within that study and showed the 2022, 2030, and 2045 overall intersection operations to be LOS B during the weekday AM peak hour and LOS C during the weekday PM peak hour. As described in NRPC's study, the only improvements identified for this intersection was to consider implementing transportation demand management (TDM) strategies in reducing traffic volumes along Central Street and Lowell Road to maximize traveler choices (e.g., public transit, carpool/vanpool, remote work, flexible work hours, staggered schedules, etc.).

The Lowell Road and Central Street intersection results presented in the NRPC study show that the signalized intersection operates and is projected to operate with less delays than as modeled within VHB's June 30, 2023 Traffic Impact Study. As previously noted, the traffic study increased the traffic counts by a seasonal adjustment, pre-pandemic factors, and an overestimated growth rate in developing traffic volumes. Upon review of NRPC's Hudson Townwide Traffic Study, there is no detail of whether the traffic counts were adjusted in accordance with these methodologies. Therefore, the traffic volumes evaluated within VHB's traffic study may be higher than those presented within the NRPC study and thus produce worse operational results (longer delays and queues). After site occupancy, the traffic signal timings will be optimized in the field to accommodate the traffic volume demands entering the intersection.

---

<sup>1</sup> Applied a 5% seasonal adjustment to represent peak-month conditions; increased the weekday AM counts by 19.8%, the weekday PM counts by 8.2%, and the Saturday midday counts by 2.5% to represent pre-pandemic conditions; and utilized a 1% compounded annual growth rate when traffic volumes in the Southeast Growth Region experienced a 0.67% annual growth.

<sup>2</sup> [www.hudsonnh.gov/sites/default/files/fileattachments/planning\\_board/meeting/packets/52997/hudson\\_townwide\\_study\\_june\\_2023\\_nrpc.pdf](http://www.hudsonnh.gov/sites/default/files/fileattachments/planning_board/meeting/packets/52997/hudson_townwide_study_june_2023_nrpc.pdf)



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**Comment f.** *"On a similar note, are the Central Street at Lowell Road and Central Street at Library Street intersections coordinated, and if not, was coordinating the two intersections considered as part of the project?"*

**Response:** The study area and parameters for the traffic study were developed in consultation with the Hudson Town Engineer and Town Planner. Accordingly, the traffic impacts of the proposed development were evaluated at the Lowell Road and Central Street signalized intersection as well as at the proposed site driveway intersections. Based on field reconnaissance, the Central Street signalized intersections with Lowell Road and with Liberty Street are not part of a coordinated system. There appears to be a relatively even split of Central Street southbound vehicles approaching the Lowell Road intersection from Library Street westbound left turns and from Central Street southbound through movements. As a result, southbound coordination may not be beneficial. In addition, there appears to be a heavier northbound vehicle demand departing from the Lowell Road signalized intersection that turns right onto Library Street eastbound which receives a green signal indication throughout the vehicle cycle (Central Street northbound/southbound permissive phase and overlap with the Library Street westbound phase). Therefore, the coordination program would not be focused on processing the Central Street northbound right turn volume onto Library Street. At the time of the field visit, both traffic signals were found to have Gridsmart and equipment working in good condition. Improvements for the Town of Hudson to consider would be to upgrade the pedestrian facilities with detectable warning fields at the Lowell Road signalized intersection and the pedestrian crossing messaging at both signalized intersections (Walk and Don't Walk, countdowns).

**Comment g.** *"It is worth noting that many of the 95th queue lengths in the synchro report show a # sign, states 'queue may be longer'. These locations are not shown in the tables in the report."*

**Response:** The "#" notation is shown with the 2022 Existing weekday AM, weekday PM, and Saturday midday peak hour traffic volumes and continues with the future traffic volume conditions. As described within the Synchro Studio 11 User Guide, *"In practice, 95th percentile queue shown will rarely be exceeded and the queues shown with the # footnote are acceptable for the design of storage bays."*<sup>3</sup> Therefore, the footnote symbol listed on the intersection operational worksheets is not reflected within the table provided in the body of the report.

**Comment h.** *"Offsite improvement plans are not included with the site plan. Plans showing the additional lanes widening with proposed driveway control measures for the right in/right out would be helpful."*

**Response:** The proposed offsite improvements have been designed by KNA and have been submitted under a separate cover.

As stated within Fuss & O'Neill's traffic peer review letter, *"The procedures that the VHB report used are reasonable and appropriate."* Further, *"Overall, we recognize that the improvements proposed in the VHB study for the 2033 Build scenario bring the operational capacity and delays of the Central Street at Lowell Road intersection to align with those*

<sup>3</sup> Cubic ITS, Inc. Synchro Studio 11, Synchro plus SimTraffic and 3D Viewer, User Guide. 12 Dec. 2019.



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Ref: 52945.00  
October 2, 2023  
Page 5

*of the 2033 No-Build scenario, despite negative impacts to some individual approach delays and queue lengths." As supported throughout the Traffic Impact Study and as clarified within this letter, VHB evaluated the projected traffic impacts of the proposed development in accordance with Town of Hudson regulations, NHDOT guidelines, ITE methodologies, and standard traffic engineering practice. To offset overall site-related traffic impacts, the applicant remains committed to extending the Lowell Road northbound two-lane approach from Central Street southerly, extending the Central Street westbound two-lane approach from Lowell Road easterly, and optimizing the traffic signal timings.*

Sincerely,

VHB

A handwritten signature in blue ink that reads "Jason R. Plourde".

Jason R. Plourde, PE, PTP  
Transportation Systems Team Leader

cc: Manny Sousa – Sousa Realty & Development Co., Inc.  
Anthony Basso – Keach-Nordstrom Associates, Inc.

Attachments

## **Attachments**

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Peer Review Comment Letter

Traffic Counts

Traffic Count Comparison Worksheet



September 11, 2023

Mr. Brian Groth  
Town Planner  
Town of Hudson  
12 School Street  
Hudson, NH 03051

Re: Town of Hudson Planning Board Review  
Central Gas Site Plan, Lowell Road & Central Street – Traffic Study Review  
Tax Map 182 Lot 217; Acct. #1350-550  
Reference No. 20030249.230

Dear Mr. Groth:

**4. Traffic (HR 275-9.B)**

Fuss & O'Neill has reviewed the Traffic Impact Study prepared by Vanasse Hangen Brustlin, Inc. (VHB) dated June 30, 2023, for the proposed 10-vehicle fueling position gasoline station and 4,560 square foot (sf) convenience store with a drive-through coffee shop on the southeast corner of the Lowell Road and Central Street signalized intersection in Hudson, New Hampshire (Tax Map 182, Lot 217). The 4,560 sf building will be split into 3,760 sf of convenience store space and 800 sf of coffee shop space. The property is currently occupied by several residential buildings which will be razed as part of the project.

The procedures that the VHB report used are reasonable and appropriate. Other approved projects were properly taken into consideration when developing No-Build conditions and traffic volumes. Additionally, the ITE Trip Generation Manual, 11<sup>th</sup> edition data and chosen land uses for the proposed site are accurate. This data shows that the site is expected to generate 245 external trips during the weekday morning peak hour, 214 external trips during the weekday evening peak hour, and 270 external trips during the Saturday midday peak hour. These trips were then appropriately split up into pass-by trips and new trips using data and procedures from the ITE Trip Generation Handbook.

Upon review of the study and provided site plan, we have the following comments/questions:

- a. The September 2022 GRIDS<sup>SMART</sup> system traffic data provided by the Town Engineer appears to be for during the week of Labor Day. Holidays would typically have an impact on traffic volumes and patterns. Is it anticipated that the level of traffic provided by the engineer is still at normal levels despite them being during the week of a holiday?
- b. The study describes the Lowell Road site driveway as allowing right turn access only, and no trips are assigned exiting from this driveway in the trip generation distributions.

50 Commercial Street  
Manchester, NH  
03101  
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800.286.2469

[www.fando.com](http://www.fando.com)

California  
Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

Mr. Brian Groth  
September 11, 2023  
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However, the site plan shows the driveway proposed to be configured to allow trips to exit the site using this exit; the driveway has a proposed stop bar and stop sign shown on the plan. Can the intent of the access to the driveway be clarified? We suggest redistributing the appropriate trips to exit the site via the driveway if this is the intent of the site, or revising the site plan to remove these signage and striping features if exit from the driveway will be prohibited.

- c. Similar to the comment above where no trips are assigned exiting the site from the driveway on Lowell Road, there are no trips assigned entering the site using the driveway on Lowell Road. It is stated that this driveway would be a right in/right out only, however the site plan does not show how that maneuver will be restricted. With the long queue lengths and long delay times on Central Street westbound, people will be tempted to use the driveway on Lowell Road as a cut through.
- d. While the intersection as a whole does not degrade significantly in terms of LOS or v/c ratios between 2023 No-Build and 2023 Build conditions, some approaches, particularly the Central St WB Left approach, are significantly impacted by the traffic generation and distribution of the proposed site. The applicant should clarify if any investigation into improvements or signal optimization was undergone for the 2023 Build year to mitigate the impacts to affected approaches.
- e. We agree with the calculations for the right turn lane warrant analysis for the Lowell Road driveway and also concur with the idea of the proposed roadway and signal timing improvements to mitigate site-related traffic impacts on the roadway network. However, while the 2033 AM peak hour improvements do help 95<sup>th</sup> percentile queues along Central Street westbound approach adjacent to the site driveway, the 95<sup>th</sup> percentile through queues of the southbound Central Street approach are lengthened to and beyond the road's signalized intersection with Library Street. It may be worth prioritizing the major road in this case. However, this would potentially lengthen the queues on Central Street.
- f. On a similar note, are the Central Street at Lowell Road and Central Street at Library Street intersections coordinated, and if not, was coordinating the two intersections considered as part of the project?
- g. It is worth noting that many of the 95<sup>th</sup> queue lengths in the synchro report show a # sign, states "queue may be longer". These locations are not shown in the tables in the report.
- h. Offsite improvement plans are not included with the site plan. Plans showing the additional lanes widening with proposed driveway control measures for the right in/right out would be helpful.

Overall, we recognize that the improvements proposed in the VHB study for the 2033 Build scenario bring the operational capacity and delays of the Central Street at Lowell Road intersection to align with those of the 2033 No-Build scenario, despite negative impacts to some individual approach delays and queue lengths.

Mr. Brian Groth  
September 11, 2023  
Page 3 of 3

Regardless of the project being built or not, the intersection is expected to be operationally deficient during the weekday evening peak hour during both the 2023 and 2033 year, with v/c ratios over 1.00. The project does not significantly deteriorate the intersection further for either the 2023 Build Year or 2033 Build Year with improvements in place. Most of the traffic is pass-by with approximately 50+/- new trips, however the site does place more traffic trips on the already constrained Central Street westbound approach due to the driveway entrance.

Therefore, clarification of the comments and questions put forth above is needed to be able to agree with VHB's overall statement that the 10-vehicle fueling position gasoline station and 4,560 sf convenience store with a drive-through coffee shop will not have a significant impact on the adjacent roadway network.

Please feel free to call if you have any questions.

Very truly yours,

Steven W. Reichert, P.E.

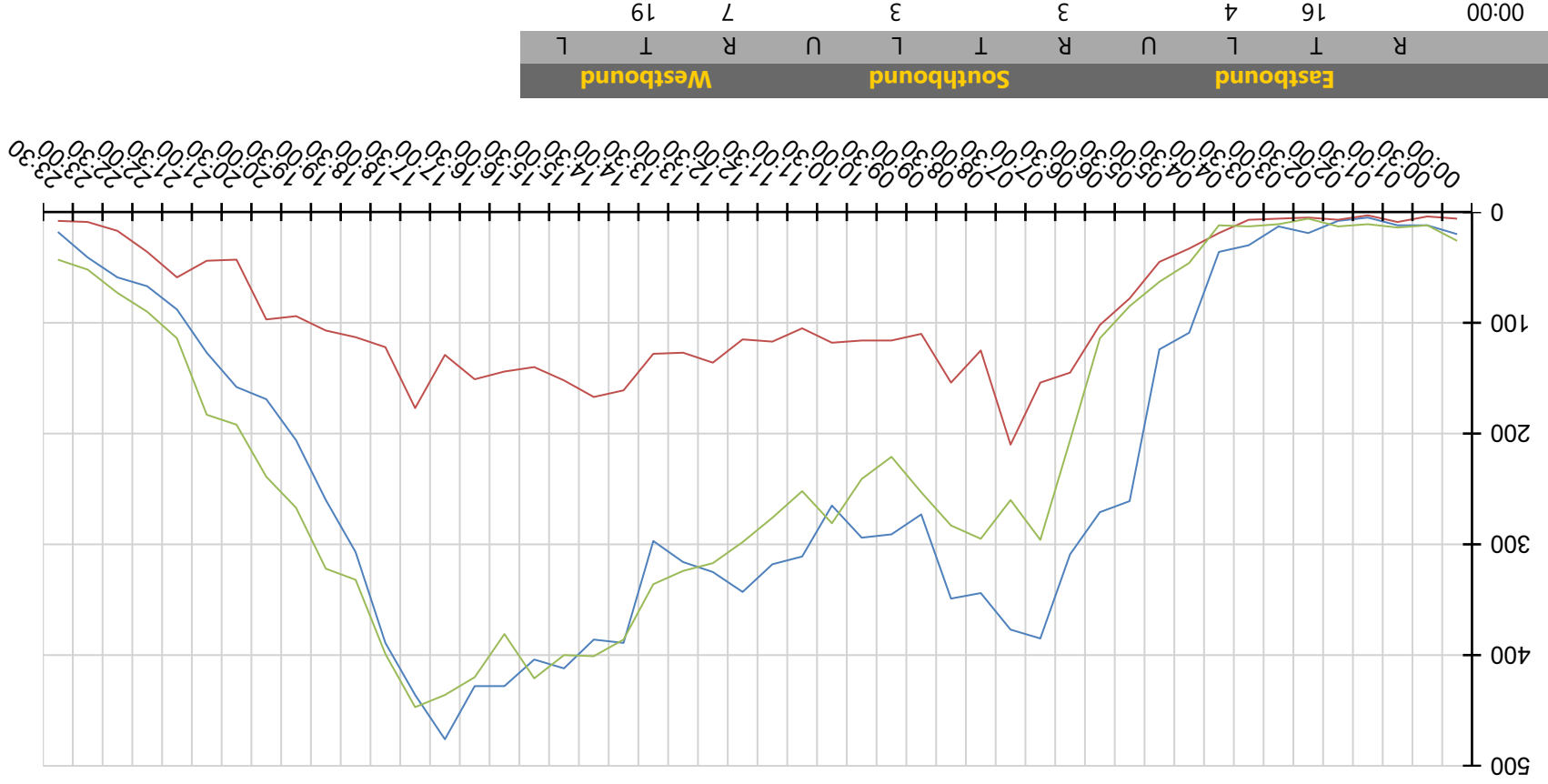
SWR:

Enclosure

cc: Town of Hudson Engineering Division – File  
Keach- Nordstrom Associates, Inc. – p.chisholm@keachnordstrom.com

	Right	Through	Left	Uturn	Total
Eastbound	3	9188	1772	2	10965
Southbound	1487	2	2777	4	4270
Westbound	1955	8206	2		10163
<b>Total</b>	<b>3445</b>	<b>17396</b>	<b>4551</b>	<b>6</b>	<b>25398</b>

## Turning Movement Counts



Direction	Turn	Count
Eastbound	R	16
Eastbound	T	4
Eastbound	L	3
Southbound	T	3
Southbound	L	7
Southbound	U	19
Westbound	T	3
Westbound	L	19



# GRIDSMART<sup>®</sup>

## Turning Movement Counts

**Intersection** Central & Lowell

**Date** 9/15/2022

	Eastbound				Southbound				Westbound		
	R	T	L	U	R	T	L	U	R	T	L
00:30		8	4				4		1	11	
01:00		9	3		3		6		3	11	
01:30		5			2		1		1	10	
02:00		6	2		2		5		2	11	
02:30		18	1		1		4		1	5	
03:00		12	1		1		5		3	8	
03:30		28	2				7		7	6	
04:00		33	3		2		17		3	9	
04:30		98	11		5		28		5	41	
05:00		123		1	11		34		17	46	
05:30		251	10		17		60	1	17	68	
06:00		256	15		22		79	1	18	96	
06:30		281	28		45		100		33	173	
07:00	1	310	74		57	1	96		61	235	
07:30		324	53		72	1	137		54	206	
08:00		315	29		37		88		56	239	
08:30		320	29		37		117		51	232	
09:00		246	27		29		81		41	212	
09:30		252	39		34		82		40	181	
10:00		259	35		33		82	1	49	192	
10:30		233	32		35		83		52	229	
11:00		270	41		25		80		52	200	
11:30		282	36		40		77		48	228	
12:00		298	45		41		74		85	213	
12:30		285	40		46		90		61	256	
13:00		274	42		42		85		68	256	



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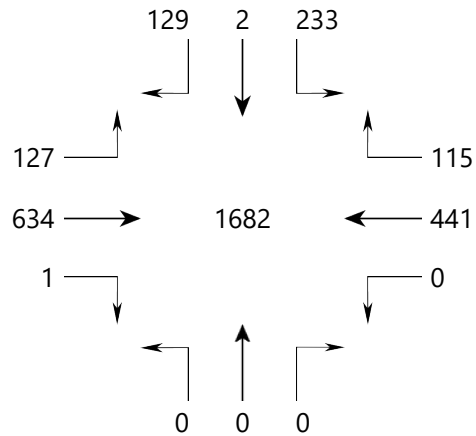
## Turning Movement Counts

Intersection Central & Lowell

Date 9/15/2022

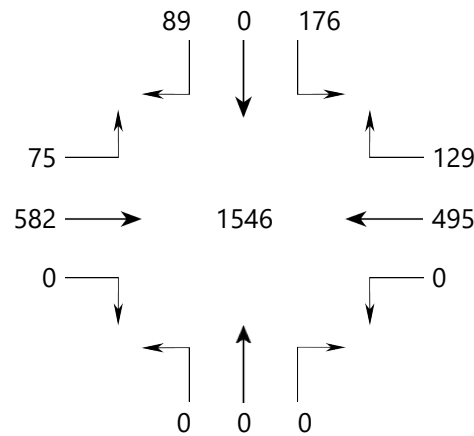
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FROM 07:00 TO 08:00



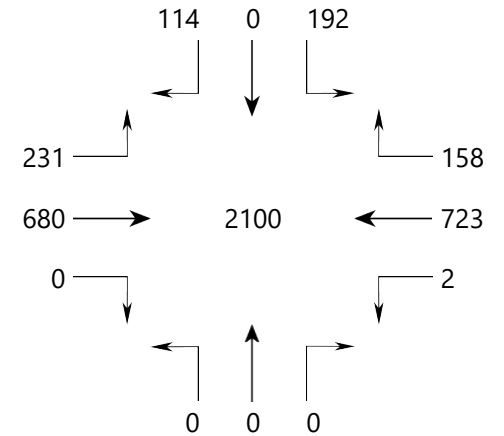
### MID-DAY PEAK HOUR VOLUME (11:00-14:00)

FROM 12:15 TO 13:15



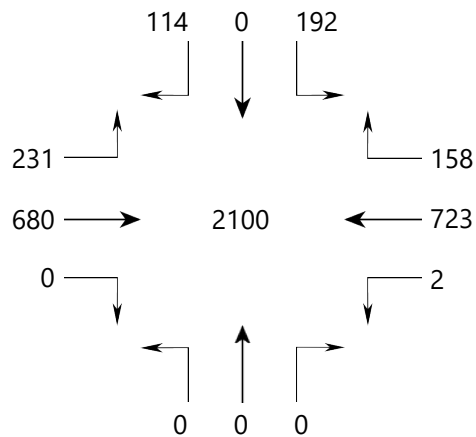
### PM PEAK HOUR VOLUME (14:15-23:45)

FROM 17:00 TO 18:00



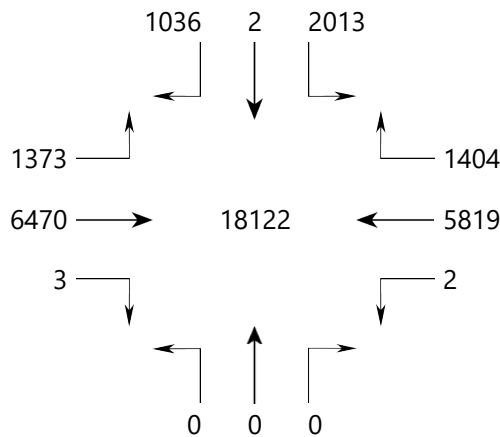
### OVERALL PEAK HOUR VOLUME

FROM 17:00 TO 18:00



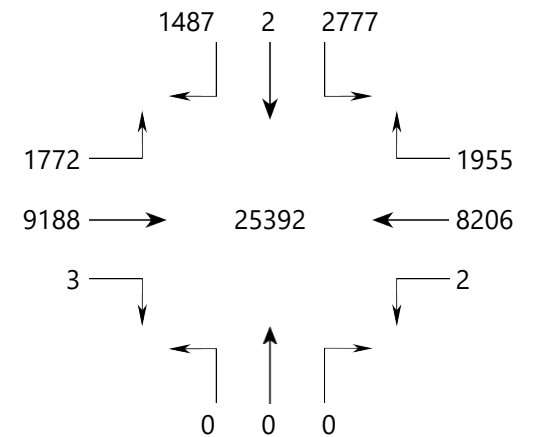
### DAYTIME TOTAL VOLUME

FROM 07:00 TO 18:00



### SELECTED TIME VOLUME

FROM 00:00 TO 23:59

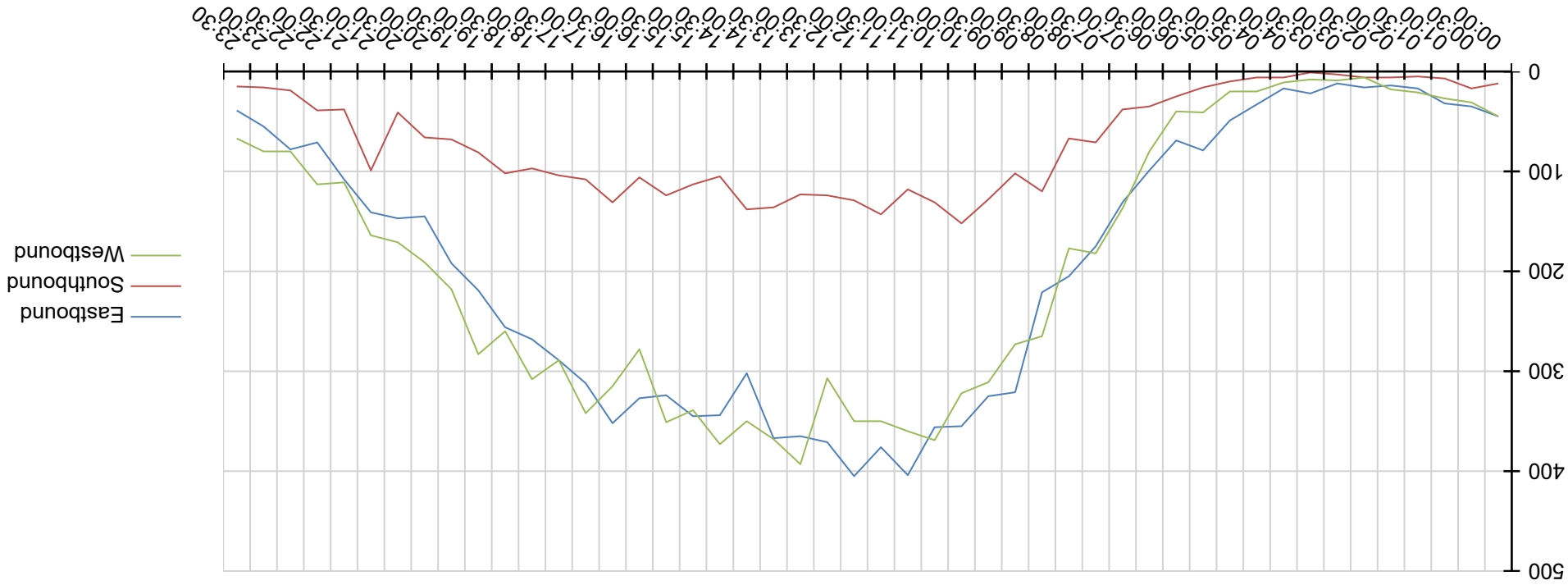


# Turning Movement Counts



Intersection Central & Lowell  
Date 9/17/2022

	Right	Through	Left	Uturn	Total
Eastbound	1	8106	1121	2	9230
Southbound	981	2364	2		3347
Westbound	1697	7525	1	1	9224
<b>Total</b>	<b>2679</b>	<b>15631</b>	<b>3486</b>	<b>5</b>	<b>21801</b>



00:00	39	6	4	8	5	40
R	T	L	U	R	L	U
Eastbound			Southbound			Westbound

# GRIDSMART<sup>®</sup>

## Turning Movement Counts

**Intersection** Central & Lowell

**Date** 9/17/2022

	Eastbound				Southbound			Westbound			
	R	T	L	U	R	L	U	R	T	L	U
00:30		31	4		5	12		2	29		
01:00		24	8		2	5		8	19		
01:30		15	2		2	3		5	16		
02:00		12	2			6			18		
02:30		15	1		1	5		1	5		
03:00		11	1		1	2		2	7		
03:30		21	1			1		1	7		
04:00		16	1		1	5		2	9		
04:30		31	2		1	5		5	15		
05:00		46	3			10		5	15		
05:30		75	4		5	11		9	32		
06:00		61	7	1	4	21		3	37		
06:30		90	9		7	28		16	64		
07:00		118	13		5	33		31	106		
07:30		158	17		16	55		24	158		
08:00		184	21		18	49		27	150		
08:30		202	19		31	88	1	35	230		
09:00		294	27		33	69		52	221		
09:30		275	50		41	87		50	261		
10:00		314	41		49	103		48	274		
10:30		318	38		44	87		79	290		
11:00		348	56		34	84		56	303	1	
11:30		335	41		33	110		66	284		
12:00		348	57		42	87		68	282		
12:30		321	50		42	82		63	243		1
13:00		320	44	1	39	83	1	73	320		

# Turning Movement Counts



Intersection Central & Lowell  
Date 9/17/2022

	Eastbound		Southbound		Westbound	
	T	L	L	U	R	U
13:30	336	31	30	106	67	301
14:00	264	38	32	106	64	286
14:30	294	50	24	81	60	313
15:00	294	51	25	88	57	282
15:30	288	36	37	87	76	275
16:00	291	36	29	77	57	221
16:30	315	37	53	78	69	246
17:00	260	52	31	77	67	275
17:30	246	43	23	81	56	233
18:00	232	35	31	66	57	251
18:30	221	35	33	69	52	208
19:00	193	26	31	50	59	224
19:30	176	16	24	44	45	173
20:00	130	15	16	50	29	162
20:30	131	16	14	27	36	135
21:00	123	18	47	52	32	132
21:30	88	20	17	21	21	90
22:00	62	9	7	32	25	88
22:30	63	15	5	14	8	72
23:00	45	10	5	11	13	67
23:30	32	7	7	8	11	56
<b>Total</b>	<b>1</b>	<b>8106</b>	<b>2</b>	<b>2364</b>	<b>2</b>	<b>7525</b>

# GRIDSMART®

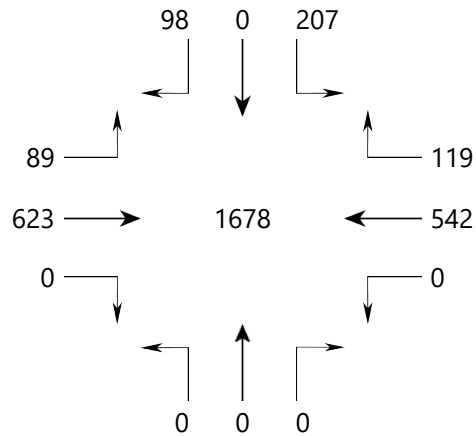
## Turning Movement Counts

Intersection Central & Lowell

Date 9/17/2022

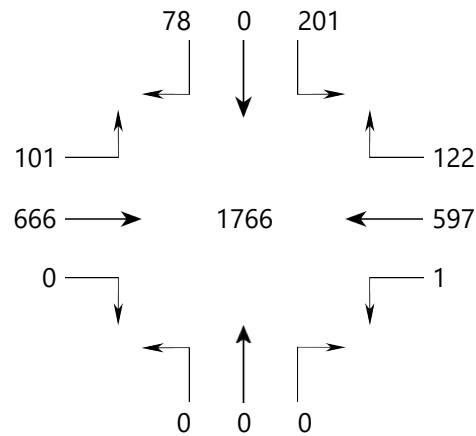
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FROM 09:45 TO 10:45



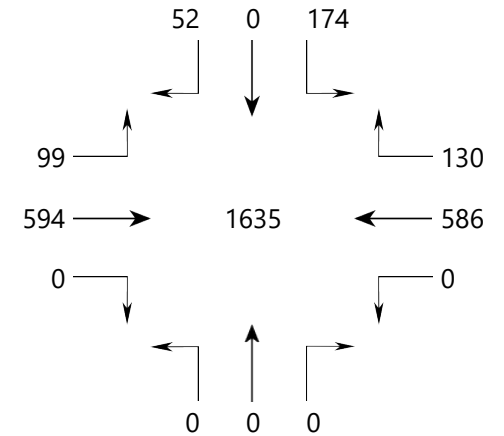
### MID-DAY PEAK HOUR VOLUME (11:00-14:00)

FROM 11:15 TO 12:15



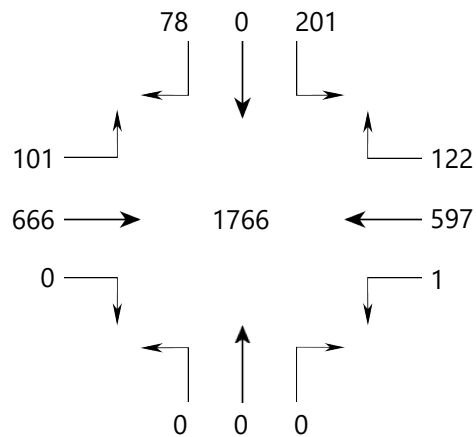
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FROM 14:15 TO 15:15



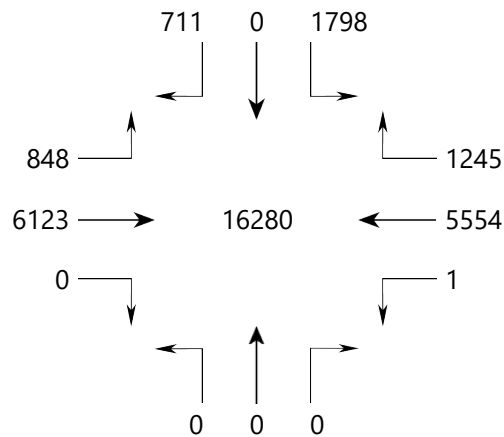
### OVERALL PEAK HOUR VOLUME

FROM 11:15 TO 12:15



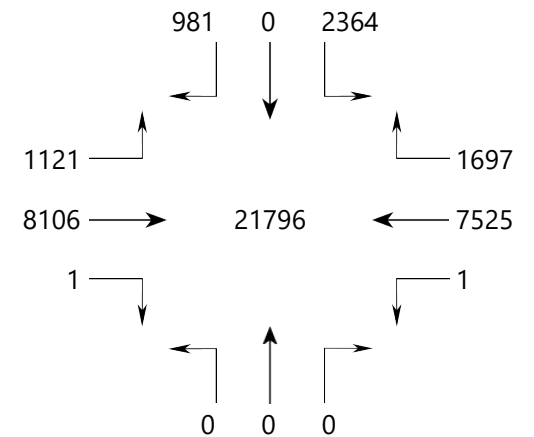
### DAYTIME TOTAL VOLUME

FROM 07:00 TO 18:00



### SELECTED TIME VOLUME

FROM 00:00 TO 23:59



Project Name: Lowell Rd & Central St  
 Project No: 52945.00  
 Location: Hudson, NH  
 Date: 9/28/2023

TRAFFIC COUNTS COMPARISON

INTERSECTION	MOVEMENT	2022 EXISTING VOLUMES - RAW COUNTS			2022 EXISTING VOLUMES - RAW COUNTS			2022 EXISTING VOLUME DIFFERENCES		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1. Lowell Road at Center St	WB L	241	209	207	233	192	201	8	17	6
	WB R	129	79	76	129	114	78	0	-35	-2
	NB T	443	781	613	441	723	597	2	58	16
	NB R	128	158	136	115	158	122	13	0	14
	SB L	133	252	113	127	231	101	6	21	12
	SB T	665	672	670	634	680	666	31	-8	4
		<b>1739</b>	<b>2151</b>	<b>1815</b>	<b>1679</b>	<b>2098</b>	<b>1765</b>	<b>60</b>	<b>53</b>	<b>50</b>
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
		9/8/22 (Thursday) & 9/10/22 (Saturday)			9/15/22 (Thursday) & 9/17/22 (Saturday)			Week of Labor Day - Following Week		
		AM Peak: 7:00-8:00 AM PM Peak: 4:45-5:45 PM			AM Peak: 7:00-8:00 AM PM Peak: 5:00-6:00 PM					
		SAT Peak: 11:30 AM-12:30 PM			SAT Peak: 11:15 AM-12:15 PM					





February 13, 2024

Mr. Jay Minkarah  
Interim Town Planner  
Town of Hudson  
12 School Street  
Hudson, NH 03051

Re: Town of Hudson Planning Board Review  
Central Gas Site Plan, Lowell Road & Central Street – Traffic Study Review  
Tax Map 182 Lot 217; Acct. #1350-550  
Reference No. 20030249.230

Dear Mr. Minkarah:

#### 4. Traffic (HR 275-9.B)

Fuss & O'Neill has reviewed the Response to Comments letter prepared by Vanasse Hangen Brustlin, Inc. (VHB) dated October 2, 2023, for the proposed 10-vehicle fueling position gasoline station and 4,560 square foot (sf) convenience store with a drive-through coffee shop on the southeast corner of the Lowell Road and Central Street signalized intersection in Hudson, New Hampshire (Tax Map 182, Lot 217).

The following items have outstanding issues and should be coordinated/evaluated with the Town by the applicant:

- d. *Previous Fuss & O'Neill Comment: While the intersection as a whole does not degrade significantly in terms of LOS or v/c ratios between 2023 No-Build and 2023 Build conditions, some approaches, particularly the Central St WB Left approach, are significantly impacted by the traffic generation and distribution of the proposed site. The applicant should clarify if any investigation into improvements or signal optimization was undergone for the 2023 Build year to mitigate the impacts to affected approaches.*

**Current Fuss & O'Neill Comment:** The applicant has noted that as the project progresses the traffic signal timings are proposed to be optimized in the field to accommodate the actual traffic volume demands at the intersection at that time. The applicant should coordinate this effort with the Town Engineer. Fuss & O'Neill will be available to review proposed optimized timings based on actual volume demands at that time if needed by the Town.

- e. *Previous Fuss & O'Neill Comment: We agree with the calculations for the right turn lane warrant analysis for the Lowell Road driveway and also concur with the idea of the proposed roadway and signal timing improvements to mitigate site-related traffic impacts on the roadway network. However, while the 2033 AM peak hour improvements do help 95<sup>th</sup> percentile queues along Central Street westbound*

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Massachusetts  
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Vermont

*approach adjacent to the site driveway, the 95<sup>th</sup> percentile through queues of the southbound Central Street approach are lengthened to and beyond the road's signalized intersection with Library Street. It may be worth prioritizing the major road in this case. However, this would potentially lengthen the queues on Central Street.*

**Current Fuss & O'Neill Comment:** The applicant has noted that signal timings will be optimized in the field to accommodate traffic volume demands entering the intersection once the site is occupied. We continue to be concerned about impacts to queues on Central Street westbound if timings are adjusted to relieve Lowell Road queues extending to Library Street. The applicant should work closely with the Town to evaluate optimum timings for this corridor.

- f. Previous Fuss & O'Neill Comment: On a similar note, are the Central Street at Lowell Road and Central Street at Library Street intersections coordinated, and if not, was coordinating the two intersections considered as part of the project?*

**Current Fuss & O'Neill Comment:** The applicant has noted that the Central Street signalized intersections with Lowell Road and Library Street are not part of a coordinated system, but both intersections are operating with Gridsmart equipment. The applicant has also noted that the study area and parameters for the traffic study were developed in consultation with the Town. With impacts to the Library Street intersection noted (see comment e above), we recommend that coordination between the two intersections be evaluated for potential timing improvements through this corridor.

The following items are resolved or have no further Fuss & O'Neill input:

- a. Previous Fuss & O'Neill Comment: The September 2022 GRIDS MART system traffic data provided by the Town Engineer appears to be for during the week of Labor Day. Holidays would typically have an impact on traffic volumes and patterns. Is it anticipated that the level of traffic provided by the engineer is still at normal levels despite them being during the week of a holiday?*

**Current Fuss & O'Neill Comment:** The applicant has provided a summary of traffic counts for the week after the dates originally included in the Traffic Study. Those counts indicate a lower volume of traffic than during the Labor Day holiday week, and therefore the volumes evaluated within the study provide a more conservative analysis scenario. No further Fuss & O'Neill comment.

- b. Previous Fuss & O'Neill Comment: The study describes the Lowell Road site driveway as allowing right turn access only, and no trips are assigned exiting from this driveway in the trip generation distributions. However, the site plan shows the driveway proposed to be configured to allow trips to exit the site using this exit; the driveway has a proposed stop bar and stop sign shown on the plan. Can the intent of the access to the driveway be clarified? We suggest redistributing the appropriate trips to exit the site via the driveway if this is the intent of the site, or revising the site plan to remove these signage and striping features if exit from the driveway will be prohibited.*

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Current Fuss & O'Neill Comment: The applicant has revised the plan so that right-out turns onto Lowell Road are no longer proposed. No further Fuss & O'Neill comment.

- c. *Previous Fuss & O'Neill Comment: Similar to the comment above where no trips are assigned exiting the site from the driveway on Lowell Road, there are no trips assigned entering the site using the driveway on Lowell Road. It is stated that this driveway would be a right in/ right out only, however the site plan does not show how that maneuver will be restricted. With the long queue lengths and long delay times on Central Street westbound, people will be tempted to use the driveway on Lowell Road as a cut through.*

Current Fuss & O'Neill Comment: The applicant has revised the plan so that right-out turns onto Lowell Road are no longer proposed. The Lowell Road driveway is entrance only and the gas station will not be able to be used as a cut through from Central Street to Lowell Road. No further Fuss & O'Neill comment.

- g. *Previous Fuss & O'Neill Comment: It is worth noting that many of the 95<sup>th</sup> queue lengths in the synchro report show a # sign, states "queue may be longer". These locations are not shown in the tables in the report.*

Current Fuss & O'Neill Comment: The applicant has noted that the '#' notation in the synchro report with the intersection operational worksheets is not reflected within the table provided in the body of the report (table 8). No further Fuss & O'Neill comment.

- h. *Previous Fuss & O'Neill Comment: Offsite improvement plans are not included with the site plan. Plans showing the additional lanes widening with proposed driveway control measures for the right in/ right out would be helpful.*

Current Fuss & O'Neill Comment: The applicant provided updated plans for the site as part of a separate site plan resubmittal package (revision dated October 25, 2023). Those plans provide more detail for the proposed off-site improvements. We note that the earlier proposed right-out onto Lowell Road is no longer part of the site plan design. No further Fuss & O'Neill comment.

Please feel free to call if you have any questions.

Very truly yours,

Steven W. Reichert, P.E.

SWR:

cc: Town of Hudson Engineering Division – File  
Keach- Nordstrom Associates, Inc. – p.chisholm@keachnordstrom.com