



Stantec Consulting Services Inc.  
5 Dartmouth Drive Suite 200, Auburn NH 03032-3984

February 25, 2024  
File: 195113534

**Attention: Ms. Judith Szot, Chair**  
Candia Zoning Board  
74 High Street  
Candia, NH 03034

Dear Ms. Szot,

**Reference: Candia Tank Farm 5 High Street – ZBA Application Review#1  
Candia Tax Map 406 Lot 201, Zoning Board Case#24-01**

In accordance with the request of the Town of Candia, NH Land Use Office we have reviewed the following information, received by email on January 23, 2024, by Devine Millimet Attorneys at Law, for the referenced proposed Zoning Board Application:

- Application for Variance, Candia Tank Farm LLC, prepared by Devine Millimet Attorneys at Law and Fieldstone Land Consultants, PLLC, 79-page application and report, dated December 21, 2023

The project submission was reviewed for conformance with the Town of Candia Zoning Ordinances (Ordinances), as well as other applicable codes and standards, state and local rules and regulations and accepted engineering practices.

Based on our review of the submitted documents we offer the following comments for your consideration:

## **PROJECT DESCRIPTION**

The Application proposes the expansion of the existing fuel oil storage facility located at 5 High Street. The property is zoned as both Commercial (C) and Mixed Use (MX) zoning districts and was granted a variance for the existing fuel oil storage by the ZBA in 1992. The Application proposes to expand the existing facility by adding two (2) 30,000-gallon propane tanks, one (1) future 30,000-gallon propane tank, expansion of the fuel oil storage with additional fuel oil storage tanks and an accessory building for empty propane container storage.

1. The existing use on the subject parcel is a non-conforming legal use and is not permitted to be enlarged or extended, as specified in Ordinance 2.02B; the applicant is required to submit a waiver request, in addition to the waivers requests submitted with the application for Ordinance 2.02B to the ZBA for review and approval.
2. The Application proposes adding two (2) 30,000-gallon propane storage tanks and a future 30,000-gallon propane storage tank however, the ZBA waiver request should be limited to the proposed improvements, future improvements at a date to be determined, should be submitted under a

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Candia Tax Map 409 Lot 228**

separate future application and waiver request, if required. We defer to the Zoning Board on their determination on this matter.

3. The fire safety analysis that was performed and submitted with the Application was limited to the analysis of the proposed propane storage and is based on the requirements of NFPA 58 for flammable liquid storage, but no information is provided and no analysis has been submitted with the application regarding the proposed fuel oil tank storage to confirm conformance with NFPA 30. A fire safety analysis is required to be performed to confirm that sufficient fire protection and life safety measures are being proposed in as part of the Application for the fuel oil storage and the overall facility not just the proposed propane storage.
4. The Application proposes the installation of a 10,000-gallon fire cistern on the property but based on the requirement of NFPA for propane storage, however, the water supply of an onsite cistern is required to be based on the formula used by the NH State Fire Marshall's Office for the entire facility not just the proposed propane storage with a minimum supply consisting of a 30,000-gallon cistern, as specified in Regulation section 8.08.
5. The setback requirements between the existing / proposed fuel oil storage and the proposed propane storage tanks are based on the type of fuel oil stored, this information is required to be included in the fire analysis to confirm that adequate setback distances are provided between the two fuel types.
6. It is recommended that the fire safety analysis that is included as part of the Application be expanded to include the proposed alarm systems and that an analysis be performed regarding the potential extent of groundwater contamination in the event of a catastrophic failure of the existing and proposed fuel oil storage tanks and that provisions for proposed monitoring well installation be analyzed in conjunction with the proposed improvements.
7. The fire analysis references the existing adjacent fire pond, but no details have been submitted with the Application regarding the fire ponds capacity, condition, and confirmation that the volume capacity of the existing fire pond is sufficiently sized for the required sustained fire flows for the facility.
8. It is recommended that the fire analysis include the assessment of the adjacent properties and their associated uses to determine whether there is a potential risk for propane leak(s) mitigating to adjacent properties and an ignite from a potential ignition source.
9. The Application describes an allowable blast radius in the fire analysis for the proposed propane storage that is based on a vapor dispersion distance to low flammability level (LFL) and a 2-inch, 20-foot-long hose connection, which is based on a fueling truck connection; additional assessment should be performed and included in the fire analysis for the blast radius for a boiling liquid expanding vapor explosion (BLEVE) of the proposed propane storage tanks for review and for the record as part of the fire analysis and Application.
10. Form 6.7 of the fire analysis in the Application, indicates that guardrails will be provided for the proposed storage containers and the transfer station, but no details have been provided in the application for a proposed transfer station; the intent and all proposed improvements should be clearly listed in the Application.

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11. Form 6.7 of the fire analysis in the Application, indicates that no physical protection will be provided for the entry way into the facility; this is recommended to be reviewed and confirmed appropriate by the Town of Candia Emergency Management Director, Fire Chief and New Hampshire State Fire Marshall.
12. Form 8.2 of the fire analysis in the Application, describes the response times for local fire departments in adjacent communities but does not provide an assessment on whether the response times will allow for emergency protection measures to be implemented prior to potential impacts to adjacent properties. Additionally, given that the Candia Fire Department is a volunteer department, an analysis is also required to be performed regarding the response time for the Candia Fire Department and similarly whether that anticipated response time will allow for emergency protection measures to be implemented prior to potential impact to adjacent properties.
13. Table 9.1 of the fire analysis in the Application, describes suggested alternative methods for industrial and bulk propane storage that lack a water supply, but it is unclear if any of these measures are required or are being proposed in conjunction with the Application and the associated proposed improvements.
14. The Application describes six (6) legal criteria for authorizing a variance under RSA 674:33; based on the justifications described and the supporting information provided in the Application, we offer the following responses:
  - a. Variance criteria#1 the Application documents that: *the project poses no undue threat to health, safety, and the welfare of the public*, we take exception to this statement. Although proposed with mitigation measures, the proposed improvements pose an increased risk to both the environment and life safety to both the Town's municipal infrastructure and adjacent properties.
  - b. Variance criteria#2 the Application documents that: *'the spirit of the ordinance will be observed'*, but no documentation or analysis has been submitted with the Application to support this statement. Typically, the intent of a zoning ordinance restricting combustibles and flammable storage facilities from being located within the municipal zoning district is to minimize the potential environmental and life safety impacts within a more densely populated area, locations of municipal buildings, commercial businesses, and schools. We defer to the Board regarding the specific intent of this ordinance.
  - c. Variance criteria#3 the Application documents that: *'the applicant already operates a fuel oil storage facility at the property (...) and that the use already exists'*. However, The Application includes the proposed addition of a new and separate flammable and explosive fuel to the current use, exposing the Town and adjacent properties, and residents to this new proposed risk.
  - d. Variance criteria#4 the Application documents that: *'the proposed use will not diminish the values of the surrounding properties'*; however, no documentation or analysis has been provided with the Application to support this statement.

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- e. Variance criteria#5 the Application documents that: *the enforcement of the Ordinance results in an unnecessary hardship because the special condition of the property distinguishes it from other properties in the area*; we take exception to this statement because the Ordinance has established the same limitations to adjacent properties.

15. In addition to obtaining input from the Fire Chief it is recommended that a draft emergency response procedure and plan be developed and submitted with the Application for review, with input from the Town of Candia Emergency Management Director.

These comprise our comments at this time. We invite the Applicant to meet with us to discuss these comments. We reserve the right to make future comments based on proposed revisions and additional submissions.

If you have any questions or need any additional information, please feel free to contact us.

Respectfully,

**Stantec Consulting Services Inc.**



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**Bryan Ruoff** PE  
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Attachment: N/A

- c. Candia Zoning Board  
Amy Spencer, Town of Candia



Stantec Consulting Services Inc.  
5 Dartmouth Drive Suite 200, Auburn NH 03032-3984

March 26, 2024  
File: 195113534

**Attention: Ms. Judith Szot, Chair**  
Candia Zoning Board  
74 High Street  
Candia, NH 03034

Dear Ms. Szot,

**Reference: Candia Tank Farm 5 High Street – ZBA Application Review #2  
Candia Tax Map 406 Lot 201, Zoning Board Case#24-01**

In accordance with the request of the Town of Candia, NH Land Use Office we have reviewed the following information, received by email on January 23, 2024, by Devine Millimet Attorneys at Law, for the referenced proposed Zoning Board Application:

- Applicants Response to Stantec Review and ZBA Request, prepared by Devine Millimet Attorneys at Law and Fieldstone Land Consultants, PLLC, 95-page response, dated March 21, 2024 and received by email on the same day
- Letter to Christopher Swiniarski, Esp, RE Rick Wenzel Oil Company, Candia, NH, prepared by Dan Scanlon, JD, CCIM, dated March 26, 2024 and received by email on the same day

The project submission was reviewed for conformance with the Town of Candia Zoning Ordinances (Ordinances), as well as other applicable codes and standards, state and local rules and regulations and accepted engineering practices.

Comments from our February 25, 2024, review letter that have been addressed by the latest submitted revisions or additional information, have been removed, comments that remain unresolved or that require a decision by the Board are indicated in *italics* and new comments based on the additional information provided are indicated in **bold**.

Our latest comments are as follows:

**PROJECT DESCRIPTION**

The Application proposes the expansion of the existing fuel oil storage facility located at 5 High Street. The property is zoned as both Commercial (C) and Mixed Use (MX) zoning districts and was granted a variance for the existing fuel oil storage by the ZBA in 1992. The Application proposes to expand the existing facility by adding two (2) 30,000-gallon propane tanks, one (1) future 30,000-gallon propane tank, expansion of the fuel oil storage with additional fuel oil storage tanks and an accessory building for empty propane container storage.

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1. *The existing use on the subject parcel is a non-conforming legal use and is not permitted to be enlarged or extended, as specified in Ordinance 2.02B; the applicant is required to submit a waiver request, in addition to the waiver requests submitted with the application to Ordinance 2.02B to the ZBA for review and approval.*

**Comment not addressed; the Applicant responded that a revised Application was included in the resubmittal package, but a revised Application was not included in what was received for review.**

**Additionally, as part of the application, it is required to be confirmed that the proposed fuel storage tanks are located a minimum of 300-feet from all existing and permitted dwellings, as specified in Ordinance 5.02C, use c-7.**

9. *The Application describes an allowable blast radius in the fire analysis for the proposed propane storage that is based on a vapor dispersion distance to low flammability level (LFL) and a 2-inch, 20-foot-long hose connection, which is based on a fueling truck connection; additional assessment should be performed and included in the fire analysis for the blast radius for a boiling liquid expanding vapor explosion (BLEVE) of the proposed propane storage tanks for review and for the record as part of the fire analysis and Application.*

**Comment partially addressed, the response indicates that a BLEVE is not likely to occur and that if a propane storage tank fails, that the propane is released to the atmosphere creating propane vapor and that a pressure wave will be generated, and tank pieces can be propelled some distance.**

**In response to this, it is recommended that the risk and associated precautions and protections that will be incorporated to prevent tank failures be described as part of the application.**

14. *The Application describes six (6) legal criteria for authorizing a variance under RSA 674:33; based on the justifications described and the supporting information provided in the Application, we offer the following responses:*
  - a. *Variance criteria#1 the Application documents that: the project poses no undue threat to health, safety, and the welfare of the public, we take exception to this statement. Although proposed with mitigation measures, the proposed improvements pose an increased risk to both the environment and life safety to both the Town's municipal infrastructure and adjacent properties.*

**Comment not addressed; the Applicant responded that “given that (the proposed use) already exists as a use at the property”. Although the zoning use groups are both c-7, for both types of fuel storage proposed, the Application proposes both the expansion of the existing use to provide additional bulk storage of heating fuel and the proposed new use, to provide bulk storage of propane at the facility.**

- b. *Variance criteria#2 the Application documents that: ‘the spirit of the ordinance will be observed’, but no documentation or analysis has been submitted with the Application to support this statement. Typically, the intent of a zoning ordinance restricting combustible*

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*and flammable storage facilities from being located within the municipal zoning district is to minimize the potential environmental and life safety impacts within a more densely populated area, locations of municipal buildings, commercial businesses, and schools. We defer to the Board regarding the specific intent of this ordinance.*

**Comment not addressed; the Applicant responded that “given that (the proposed use) already exists as a use at the property”. Although the zoning use groups are both c-7, for both types of fuel storage proposed, the Application proposes both the expansion of the existing use to provide additional bulk storage of heating fuel and the proposed new use, to provide bulk storage of propane at the facility.**

- c. *Variance criteria#3 the Application documents that: ‘the applicant already operates a fuel oil storage facility at the property (...) and that the use already exists’. However, The Application includes the proposed addition of a new and separate flammable and explosive fuel to the current use, exposing the Town and adjacent properties, and residents to this new proposed risk.*

**Comment not addressed.**

- d. *Variance criteria#4 the Application documents that: ‘the proposed use will not diminish the values of the surrounding properties’; however, no documentation or analysis has been provided with the Application to support this statement.*

**Comment partially addressed, the Applicant has responded with a letter from a realtor, dated July 1, 2014, regarding property values and the impacts on property values due to neighboring tank farms.**

**Additionally, home sale prices for properties within the proximity of an existing fuel storage facility with comparisons of similar property sales within the same communities in Massachusetts have been provided. The submitted documentation is both outdated and is not relevant to the proposed location. A similar property value study and supporting documentation for areas in New Hampshire should be provided to confirm the statement being made regarding meeting these criteria.**

- e. *Variance criteria#5 the Application documents that: the enforcement of the Ordinance results in an unnecessary hardship because the special condition of the property distinguishes it from other properties in the area’; we take exception to this statement because the Ordinance has established the same limitations to adjacent properties.*

**Comment not addressed; the Applicant responded that “given that (the proposed use) already exists as a use at the property”. Although the zoning use groups are both c-7, for both types of fuel storage proposed, the Application proposes both the expansion of the existing use to provide additional bulk storage of heating fuel and the proposed new use, to provide bulk storage of propane at the facility.**

15. *In addition to obtaining input from the Fire Chief it is recommended that a draft emergency response procedure and plan be developed and submitted with the Application for review, with input from the Town of Candia Emergency Management Director.*

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**Comment not addressed, the Applicant has responded that an emergency response procedure will be developed, with input from the Fire Chief and Emergency Management Director.**

These comprise our comments at this time. We reserve the right to make future comments based on proposed revisions and additional submissions.

If you have any questions or need any additional information, please feel free to contact us.

Respectfully,

**Stantec Consulting Services Inc.**



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Attachment: N/A  
c. Amy Spencer, Town of Candia





## Town of Candia

Emergency Management Director

Robert Panit

Candia, New Hampshire 03034

(603) 483-8588

### **Items for concern:**

2- 30,000-gallon vessels w/potential for 3<sup>rd</sup>.

Storage of empty(?) household containers. Oil storage / fleet refueling.

Proximity to infrastructure, emergency response, training and experience, access, water supply, volatility of product storage, casualties.

**Infrastructure-** Fire response, Town office, EOC, Police, School, CYAA, other businesses.

**Training-** Number of personnel trained and competent to handle a worst-case scenario. Per analysis, FD may have a total of 31 personnel available. No estimate for initial response provided.

**Equipment-** Resources needed to handle unmanned large volume devices. FD may only have 1. Mutual aid is heavily relied upon. Other agencies may be sparsely staffed as well.

**Access-** Daily truck traffic, loading/ unloading, emergency vehicle access/ response.

**Water supply-** Adequate supply for a long duration operation, multiple supply points, safe distance.

**Volatility-** High hazard compressed gas, large quantity, multiple vessels and containers. BLEVE

**Casualties**- Immediate area to large area, evacuation zones depending on size of incident. Evacuations up to a mile or more. Manpower intensive.

All of these are considerations with regard to a worst-case scenario. Per ERG book, evacuation up to and including one mile may be indicated.

Emergency Response Guidebook 2020 edition- Propane= UN 1075, Page 115. Also, page 366, BLEVE

Tank size info: 46 ft. 9 7/8 in. x 131.7/8 in. dia.

250 psi @125 degrees F

Form 8.3 Page A-20 Table indicates flow rate and volume of water in GPM needed over 10 min. to cool containers. Proposed on site water supply is 10000 gal.

Analysis uses 250 feet to evaluate occupancies nearest the facility. ERG 2020 evacuation for

- Immediate precautionary measure is 330 feet in all directions.
- Large spill should be ½ mile.
- Fire 1 mile in all directions

This would include school, business and residential. You would also need to shelter people for a period of time. The Town's Emergency Shelter is the Moore School, which is well within the evacuation zones. Consider the resources required to make this happen.

Form 7.1-page A-17 indicates exposure from external neighboring facilities. At least two of the businesses utilize welding and cutting processes. An undetected leak could travel to a source of ignition. The form indicates that no hazard exists.

The above is also referenced on Form 4.3-page A-3. The 250-foot measurement is used to determine this data. Noted on this form that residential, Fire Dept., and school are listed as Facility neighbors. The Candia Town Office / EOC, Police station are not noted.

Major Power electrical junction point near the address.

Jan. 13, 24 Major fire at fuel depot in Epping.

If you think it can't happen here, guess again. Example: Farmington Maine Sept. 16, 2019. 1 Fire Capt. killed, 6 injured including a maintenance worker who remained in the hospital for months. Maine Fire Marshal's Office determined that drilling to install bollards 6 days earlier damaged the underground gas line which seeped gas, draining the 500-gallon tank. The tank was refilled. It was found to be empty again the following day. Di to the amount of damage no ignition source could be determined. This blast totally obliterated the factory building and damaged several surrounding businesses. (WMTW Maine news)

Consider the extensive aftermath. Hazmat incidents require extensive clean up after the incident. This includes ground seepage and water quality monitoring of streams and wells. Some of this may be from the product and the firefighting effort. Possible PFAS issues in wells. Must also consider terrorism target.

YouTube videos:

Horrifying BLEVE Explosions Around the World | Explosions Gone Wrong

Explosions rock Florida propane plant

