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Application for Variance

Candia Tank Farm, LLC

5 High Street, Candia, NH

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Filed by:

CHRISTOPHER A. SWINIARSKI
Admitted in NH and MA

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111 Amherst Street
Manchester, NH 03105

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cswiniarski@devinemillimet.com

APPENDIX 1: C

TOWN OF CANDIA
ZONING BOARD OF ADJUSTMENT

APPLICATION FOR APPEAL

FEES: \$75.00-filing +\$150-public notice +abutters
Abutters fees: \$8.33 per abutter*

OFFICE USE ONLY

CASE #
MAP LOT
TOTAL FEES PAID
HEARING DATE
REC'D BY DATE

APPLICANT: Candia Tank Farm, LLC c/o Devine Millimet, 111 Amherst Street, Manchester, NH 03110
(name) (address) (phone)

EMAIL: cswniarski@devinemillimet.com

OWNER: Candia Tank Farm, LLC 6 Hillside Avenue, Amherst, NH 603-673-9554
(name) (address) (phone)

LOCATION OF PROPERTY: Tax Map 406 Lot 201 5 High Street
(Tax Map/Lot number & address)

HAS THIS PROPERTY BEEN BEFORE A LAND USE BOARD PREVIOUSLY? Yes [X] No _
If yes, identify which Land Use Board(s), Case No. (s) of decision.

Zoning Board, Case No. 305

THE UNDERSIGNED HEREBY REQUESTS:

ARTICLE SECTION

[] Appeal from an administrative decision from

[] A special exception as provided in

[X] A variance to waive terms as stated in

V Section 5.02 (c-7)

[] Other _____

TO PERMIT THE FOLLOWING:

To permit expansion of the currently permitted fuel oil storage facility in phases as follows, all as shown in greater detail on plan submitted herewith at Tab 3:

- 1. Fuel oil storage tanks
2. 30,000 gallon propane storage tank
3. Two 30,000 gallon propane storage tanks
4. Accessory building

[Handwritten Signature]

Signature

December 21, 2023
Date

December 21, 2023

Town of Candia
Zoning Board of Adjustment (the "Board")
74 High Street
Candia, NH 03034

RE: VARIANCE REQUEST – ARTICLE V SECTION 5.02 (C-7) 5 HIGH STREET (MAP
406 LOT 201)

Introduction

Candia Tank Farm, LLC and its operational affiliate Rick Wenzel Oil Company (collectively, the "Applicant") are seeking a variance from the Town of Candia Zoning Ordinance (the "Ordinance"), Section 5.02: Table of Use Regulations (c-7) to allow for expansion of the heating oil fuel storage facility located at 5 High Street (Map 406 Lot 201 (the "Property")). The Property consists of 4.82 acres currently used as a fuel oil storage facility permitted by, among other things, a historic variance from 1992. It is in both the Commercial (C) and Mixed-Use (MX) zoning districts. A historic single family house is also located on the Property near High Street, segregated from the operations that are the subject of this Application. The materials submitted with this narrative and application (collectively, the "Application") describe the Applicant's proposal to expand the current facility on the Property in phases to provide for (1) addition fuel oil storage tanks as shown on the plan included herewith at Tab 3 (the "Plan"), (2) a 30,000 gallon propane storage tank, (3) Two 30,000 gallon propane storage tanks, and (4) an accessory building (collectively, the "Project").

Legal Criteria for Granting a Variance under RSA 674:33

1. Granting the variance will not be contrary to the public interest.

Under New Hampshire law, for a variance to be contrary to the public interest, it must "unduly and to a marked degree" violate the Ordinance's basic zoning objectives. Chester Rod & Gun Club v. Town of Chester, 152 NH 577, 581 (2005). Additionally, the Supreme Court has held that to determine whether the

ordinance's basic zoning objectives would be violated, the Board must ascertain whether the variance would "alter the essential character of the locality" or "threaten the public health, safety, and welfare." Malachy Glen v. Town of Chichester, 155 N.H. 105, 106 (2007).

The Project does not in any way violate the Ordinance's basic zoning objectives. The "Land Use & Planning Strategy" designated in the Master Plan for the area in which the Project is located calls for "increased economic growth and development for the town" and a Highway Corridor Overlay District for the Rt. 27 corridor with incentives to encourage new commerce, services and businesses serving town residents (See 2017-2027 Master Plan, page 29). The Project precisely meets these goals by expanding an existing business that serves residents of Candia and other towns in New Hampshire.

The Project also poses no undue threat to the health, safety, and welfare of the public, being designed to the strictest standards of the industry as described in the Fire Safety Analysis included herewith as Tab 4. That analysis has been developed in consultation with the Chief of the Town of Candia's Fire Department, and the Applicant remains committed to addressing any concerns the fire department may have.

Further, the Project would not alter the essential character of the neighborhood, given that it already exists as a use at the Property. This existing use is compatible with the area which also hosts a variety of commercial uses. Because the Project both meets the economic objectives of the Master Plan and is designed to meet the strictest safety standards described in the Fire Safety Analysis, the Project cannot reasonably be found to be contrary to the public interest.

2. The spirit of the ordinance will be observed.

The New Hampshire Supreme Court has held that determination of whether variance is contrary to the public interest is largely similar to determining whether the spirit of the Ordinance is observed. Chester Rod & Gun Club v. Town of Chester, 152 NH 577, 581 (2005). This is because the spirit of the Ordinance is of course to generally promote the public interest.

In the case at hand, the spirit of the ordinance is observed because the proposed expansion of use is consistent with the current use, compatible with the surrounding uses, and promotes the basic zoning objectives as described in criteria number 1 above. The use has been in existence since 1992 without detriment and provides needed services for the community while maintaining positive economic

growth and development for the community consistent with the Town of Candia's objectives.

3. Substantial justice would be done.

The guiding rule on determining substantial justice is weighing the loss to Applicant in strictly applying the Ordinance versus the gain to the general public in such strict application of the Ordinance. *Harborside Associates, L.P. v. Parade Residence Hotel, LLC*, 162 N.H. 508, 515 (2011).

In the case before this Board, the Applicant already operates a fuel oil storage facility at the Property, a use which has existed for more than 30 years. The Applicant is simply seeking to expand its operations consistent with the expansion of demand by the residents of the community, and consistent with the objectives of the Master Plan to expand this corridor for local businesses. Conversely, there is no appreciable benefit to the general public in denying the variance sought. The use already exists and has so existed for more than three decades, and the request is simply to expand that use in conformity with modern demands of community residents and modern standards. Denying the variance sought is detrimental to the general public, not beneficial. There is simply no ascertainable public interest in denying the variance.

4. The proposed use will not diminish the values of surrounding properties.

Reviewing the materials included with this Application only lead to a conclusion that the values of surrounding properties will likely be enhanced by the Project. The use already exists and the surrounding properties consist of a mixed array of compatible commercial uses including auto body repair and mechanic services, and trailer and snow equipment rental. The proposed expansion will be located to the rear of the site virtually imperceptible from the street and will only serve to enhance this commercial corridor of Candia.

5. Special conditions exist such that literal enforcement of the ordinance results in unnecessary hardship.

The fifth prong of the variance test requires the Board to determine whether an unnecessary hardship to the Applicant results from literal enforcement of the Ordinance. RSA 674:33 provides two distinct and alternative means by which the Applicant can demonstrate unnecessary hardship, we address the most appropriate means below.

(A) For purposes of this subparagraph, "unnecessary hardship" means that, owing to special conditions of the property that distinguish it from other properties in the area:

(i) No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property; and

(ii) The proposed use is a reasonable one.

As applied to this Application, there is no fair and substantial relationship between the purpose of the Ordinance provision as it relates to the Property. The Property is unique because (1) it sits at the intersection of major routes in Candia, (2) has ample space to conduct a business use that will not be visible from a public right of way, and (3) already conducts the use which the applicant seeks to expand.

There is no fair and substantial relationship between the general public Ordinance provision prohibiting this use, because the use has existed for more than thirty years without detriment. As such, the use is evidenced in real life as one that is reasonable.

Summary

The Project proposes to expand a use that has existed successfully in Candia for more than thirty (30) years. That expansion is the result of an increase in demand by the residents of Candia and the surrounding community for the service that the Applicant provides (home heating fuel). Just as the demand for the Applicant's service has grown, so has the Master Plan of the Town of Candia, which seeks to expand local businesses such as the Applicant's, in this Route 27 corridor. Therefore, because the Project clearly meets the variance criteria of RSA 674:33, the Applicant respectfully requests that this Board grant the variance sought and such other relief in its jurisdictions as may be necessary to complete the proposal set forth on the Plans. Thank you.

Sincerely,



Christopher Swiniarski
Attorney for Rick Wenzel Oil and Candia
Tank Farm, LLC

Scan to add my contact information:

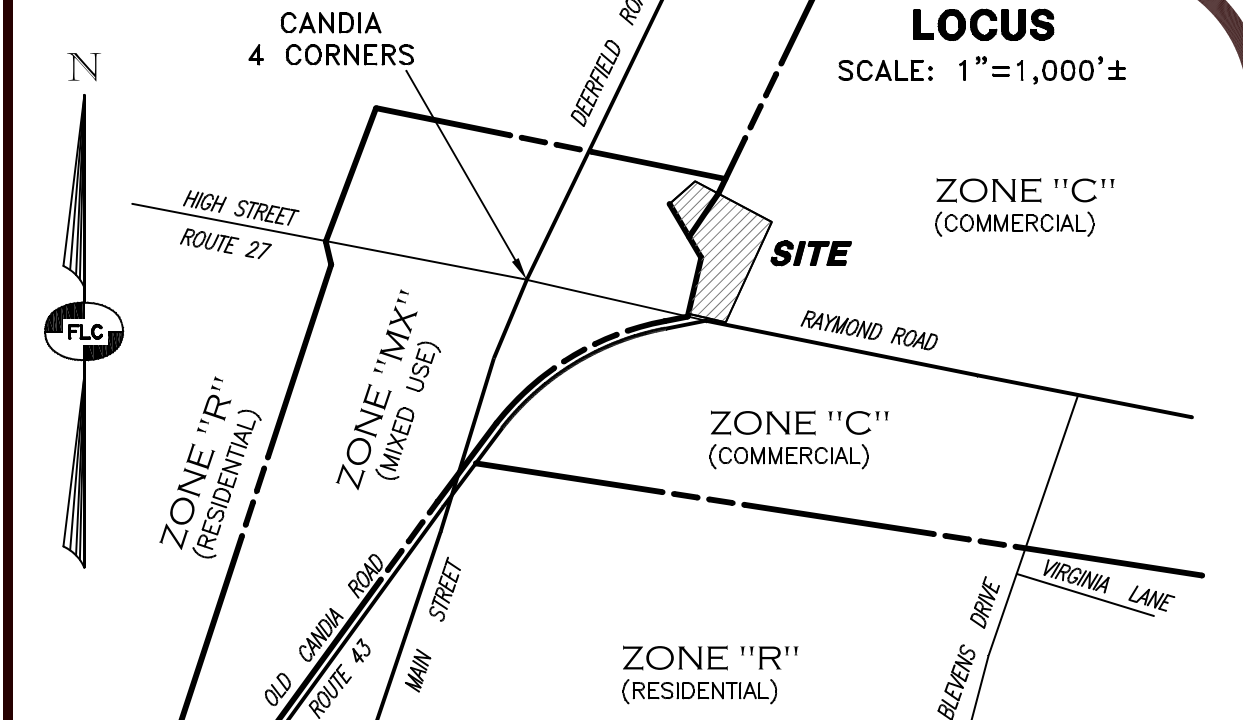


REFERENCE PLANS:

1. "PROPOSED SUBDIVISION PLAN OF LAND - OF - HAROLD J. PRATT - 35 LAKESIDE DRIVE - MANCHESTER, N.H. - LOCATED IN - CANDIA, N.H.", SCALE 1"=100', DATED JULY 1978, BY YOUNG, CAMPBELL & CATE, INC. RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN #0-8251.
2. "PLAN PREPARED - FROM - PLAN OF & DEED OF - FLETCHER PERKINS - CANDIA, N.H.", SCALE 1"=100', DATED FEBRUARY 1979, BY YOUNG, CAMPBELL & CATE, INC. RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN #C-8598.
3. "PROPOSED SUBDIVISION PLAN OF LAND - OF - HAROLD J. PRATT - 35 LAKESIDE DRIVE - MANCHESTER, N.H. - LOCATED IN - CANDIA, N.H.", SCALE 1"=100', DATED JULY 1980, BY YOUNG, CAMPBELL & CATE, INC. RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN #0-9685.

LEGEND:

- | | | | |
|--|--------------------------|--|-----------------------------|
| | RIGHT-OF-WAY LINE | | IRON PIPE FOUND |
| | BOUNDARY LINE | | IRON PIPE PER REF. PLAN |
| | ABUTTING LOT LINE | | DRILL HOLE FOUND |
| | BUILDING SETBACK LINE | | DRILL HOLE PER REF. PLAN |
| | ZONING DISTRICT LINE | | UTILITY POLE, GUY & LIGHT |
| | EDGE OF PAVED ROAD | | WELL |
| | EDGE OF GRAVEL ROAD | | SEPTIC VENT |
| | STONE WALL | | PROPANE TANKS |
| | EDGE OF TREE LINE | | MONITORING WELL |
| | EDGE OF WETLANDS | | SINGLE SIGN POST |
| | WETLANDS BUFFER LINE | | LARGE ROCK 6'x7'x5'H. |
| | EXISTING EASEMENT LINE | | LARGE TREES |
| | PROPOSED EASEMENT LINE | | CULVERT OR DRAIN LINE |
| | 10' CONTOUR INTERVAL | | SEWER LINE |
| | 2' CONTOUR INTERVAL | | OVERHEAD UTILITY LINE |
| | WHITE PVC STOCKADE FENCE | | UNDERGROUND UTILITY LINE |
| | THE COURSE LINE | | EXISTING BUILDING/STRUCTURE |
| | FORMER TRACT LINE | | |
| | TAX MAP & LOT NUMBER | | |



NOTES:

1. OWNER OF RECORD FOR EXISTING TAX MAP 406 LOT 201 IS CANDIA TANK FARM, LLC, 6 HILLSIDE AVENUE, AMHERST, NH 03031. THE DEED REFERENCE FOR THE LOT ARE BK.5154 PG.2080 DATED OCTOBER 14, 2010 IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXPANSION OF THE EXISTING BULK FUEL STORAGE FACILITY WITH ASSOCIATED SITE IMPROVEMENTS OVER TAX MAP LOT 406-201.
3. THE TOTAL AREA OF TAX MAP LOT 406-201 IS 4.777ACRES OR 208,092 SQ.FT. WITH 200.00 FT. OF FRONTAGE ALONG HIGH STREET.
4. CURRENT ZONING FOR THE LOT IS THE COMMERCIAL DISTRICT (C) AND THE MIXED USE DISTRICT (MU). ZONING REQUIREMENTS FOR BOTH THE COMMERCIAL DISTRICT AND THE MIXED USE DISTRICT ARE:
 - MIN. LOT SIZE: 2 ACRES
 - MIN. FRONTAGE & LOT WIDTH: 200 FT.
 - MIN. FRONT SETBACK: 50 FT.
 - MIN. SIDE & REAR SETBACK: 25 FT.
 - MAX. BUILDING HEIGHT: 35 FT. OR 2.5 STORIES
5. THERE IS A 75 FT. WETLANDS BUFFER FROM DELINEATED VERY POORLY DRAINED SOILS AND A 50 FT. WETLANDS BUFFER FROM POORLY DRAINED SOILS.
6. THE BOUNDARY INFORMATION SHOWN FOR LOT 406-201 IS BASED ON THE REFERENCE PLANS CITED HEREON TOGETHER WITH A PRECISE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF OCTOBER 2022.
7. HORIZONTAL ORIENTATION IS BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM. VERTICAL DATUM IS NAVD88. BOTH ARE BASED ON FIELD GPS OBSERVATIONS THAT WERE UPLOADED TO AND CALCULATED BY THE NOAA ONLINE POSITIONING USER SERVICE (OPUS).
8. THE SURFACE FEATURES AND SITE TOPOGRAPHY SHOWN ARE THE RESULT OF AN ON-SITE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF OCTOBER 2022 TOGETHER WITH THE REFERENCE PLANS CITED HEREON.
9. BUILDINGS, ROADS, STREETS AND DRIVEWAYS WERE LOCATED WITHIN 100' OF THE SUBJECT PARCEL IN ACCORDANCE WITH THE TOWN OF CANDIA SITE PLAN REVIEW REGULATIONS 4.04c.
10. JURISDICTIONAL WETLANDS SHOWN HEREON WERE DELINEATED BY CHRISTOPHER A. GUIDA, C.W.S. FROM THIS OFFICE IN OCTOBER 2022 AND ARE IN ACCORDANCE WITH THE "CORPUS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, DATED JANUARY 1987".
11. THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE 100-YEAR FLOOD HAZARD AREA AS DETERMINED FROM THE FLOOD INSURANCE STUDY (FIRM), ROCKINGHAM COUNTY, TOWN OF CANDIA, NEW HAMPSHIRE, COMMUNITY NO. 330126, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33015C0160 E, DATED: 05/17/2005.
12. THE SUBJECT PARCEL DOES NOT LIE WITHIN THE GROUNDWATER PROTECTION DISTRICT PER SECTION 11.04 OF THE TOWN OF CANDIA ZONING REGULATIONS.
13. THE SITE IS CURRENTLY SERVED BY OVERHEAD UTILITIES WITH AN INDIVIDUAL ON-SITE WELL AND SEPTIC SYSTEM. PROPANE GAS IS PROVIDED BY INDIVIDUAL ON-SITE TANKS.
14. THE UNDERGROUND UTILITIES SHOWN HEREON WERE COMPILED IN PART FROM PLANS OF RECORD AND FIELD LOCATION. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
15. FUEL STORAGE FACILITIES SHALL NOT BE LOCATED NEARER THAN 300 FEET TO ANY EXISTING OR PERMITTED DWELLING.

REV.	DATE	DESCRIPTION	C/O	DR	CK

CONCEPT PLAN
TAX MAP 406 LOT 201
(5 HIGH STREET)
CANDIA, NEW HAMPSHIRE 03034
 PREPARED FOR:
RICK WENZEL OIL COMPANY
 5 HIGH STREET, CANDIA, NH 03034
 LAND OF:
CANDIA TANK FARM, LLC
 6 HILLSIDE AVENUE, AMHERST, NH 03031

SCALE: 1"=50' FEBRUARY 28, 2022

Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

FIELDSTONE
LAND CONSULTANTS, PLLC
 206 Elm Street, Milford, NH 03055
 45 Roxbury Street, Keene, NH 03431
 Phone: (603) 672-5456 Fax: (603) 413-5456
 www.FieldstoneLandConsultants.com

HIGH STREET
 VARIABLE WIDTH R.O.W.
 PAVED - 16'± WIDE

- SIGN LEGEND:**
- S1="HIGH STREET" & "Y" INTERSECTION SYMBOL
 - S2="27 EAST"
 - S3="27 WEST"
 - S4="SPEED LIMIT 35"
 - S5="JUNG 43"
 - S6="LIGHT AHEAD"
 - S7="STOP"
 - S8="27 WEST/NORTH 43"
 - S9="TO SOUTH 43"

A.K.A. N. H. ROUTE OLD 101
 & SOUTH SIDE ROAD
 N.H.D.O.T. HWY. PROJECT NO. 51112
 FED. AID PROJECT NO. 115 (3)
 MARCH 9, 1940

409-197
BRANCH
BROOK HOLDINGS, LLC
 P.O. BOX 202
 CANDIA, NH 03034
 BK 5274 PG 2995 12/10/11
 (65 RAYMOND ROAD)

409-197-1
BRANCH
BROOK HOLDINGS, LLC
 P.O. BOX 202
 CANDIA, NH 03034
 BK 5114 PG 1358 5/28/10
 (71 RAYMOND ROAD)

409-196
RALPH H. DARRAH, SR.
& LINDA ROLLINS
 P.O. BOX 318
 CANDIA, NH 03034
 BK 3525 PG 519 12/1/00
 (83 RAYMOND ROAD)

406-200
BRANCH
BROOK HOLDINGS, LLC
 P.O. BOX 202
 CANDIA, NH 03034
 BK 5688 PG 1777 1/29/16
 (13 HIGH STREET)

406-196
MICHAEL HICKEY
 P.O. BOX 173 23 DEERFIELD ROAD
 CANDIA, NH 03034
 BK 3302 PG 2317 6/15/98
 (23 DEERFIELD ROAD)

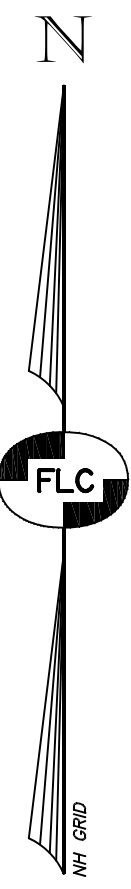
406-195
RAYMOND &
KIMBERLEY MARINEAU
 39 DEERFIELD ROAD
 CANDIA, NH 03034
 BK 3561 PG 888 3/19/01
 (39 DEERFIELD ROAD)

406-194
ROBIN L. LALIBERTE
 43 DEERFIELD ROAD
 CANDIA, NH 03034
 BK 5371 PG 2113 10/26/12
 (43 DEERFIELD ROAD)

406-191
RICHARD GODDARD
 67 SCOBIE POND ROAD
 DERRY, NH 03038
 (DEERFIELD ROAD)

406-201
4.777 ACRES
 208,092 SQ.FT.
 FRONTAGE=200.00'

406-202
IT'S ABOUT TIME, LLC
 P.O. BOX 31
 CANDIA, NH 03034
 BK 6298 PG 123 6/29/21
 (80 RAYMOND ROAD)



FIRE SAFETY ANALYSIS

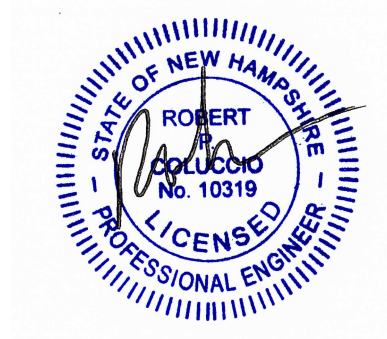
LP-GAS DISTRIBUTION FACILITY

Location:

**Rick Wenzel Oil Co., Inc.
5 High Street
Candia, NH**

Date:

November 5, 2023



WEB ENGINEERING ASSOCIATES, INC.

PO Box 710, North Scituate, Ma 02060

Phone: 781-844-8323

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Fire Safety Analysis

Rick Wenzel Oil Co., LLC

5 High Street

Candia, NH

A. Introduction

The propane industry has a long history of safe operations. With the requirement in the 1976 edition of NFPA 58 to retrofit propane facilities with emergency shutoff valves in transfer lines, the safety of propane facilities greatly improved. A 1999 analysis conducted by the National Fire Protection Association of propane fire damage and casualty data during the period between 1980 and 1999 indicated that propane storage facility operations in the US had become very safe. The number of reported fires at propane bulk storage facilities showed steady decline over that period.

Additional redundant emergency and internal valving requirements entered the code in early 2000, requiring that additional safeties be incorporated into all new facilities and any existing facilities by 2011. As the nation transitions to cleaner fuels, the number of propane facilities in the northeast has increased significantly. However, the incidences of fires involving large propane tanks does not reflect the increased number of facilities.

B. Basis of the Fire Safety Analysis

According to the 2014 edition of the Fire Safety Analysis Manual for LP-Gas Storage Facilities developed by NFPA and NPGA, a Fire Safety Analysis (FSA) is a self-conducted audit of the safety features of a bulk storage LP-Gas facility. It is also conducted with the purpose of assessing the means to minimize the potential for inadvertent propane releases from storage containers and during transfer operations, as well as means to address incidents, should they occur.

More specifically, an FSA addresses the following:

1. Effectiveness of product control measures;
2. Local conditions of hazard within the facility;
3. Exposure to off-site properties and populations;
4. The impact of neighboring activities to the facility;
5. Requirements for and availability of adequate water supply;
6. Full compliance with code requirements; and,
7. Evaluation of the capabilities of local emergency response.

C. Facility Description

Rick Wenzel Oil proposes to install and operate a propane distribution facility at 5 High Street, Candia, New Hampshire. The facility will consist of two 30,000-gallon ASME vessels, with a potential for a third 30,000-gallon vessel in the future. The bulk propane facility will conform to NFPA 58 - 2014 edition. The vessels will be enclosed inside a chain link fence with traffic protection.

Operations will include transport truck offloading and household delivery truck loading of propane, as well as storage of empty household containers. Other activities at the site, which are unrelated to this fire safety analysis, include bulk petroleum storage and fleet vehicle refueling.

D. Site Description

The site covers an area of approximately 4.8 acres. The propane tanks will be located in the rear of the property, more than 50 feet from the nearest buildable lot line. They will be located over 500 feet from the edge of 5 High Street, 56 feet from a proposed onsite oil storage facility, and over 250 feet from a proposed office/warehouse.

The nearest abutting residential buildings are 400 feet to the east. The Candia Fire Department is located approximately 600 feet to the east. The Henry W. Moore School is located over 700 feet to the east. The area to the northwest is currently wooded. The site plan is provided in Appendix A. An ariel view is provided in Appendices B.

E. Propane Properties

Before addressing the engineering/administrative controls and firefighting capabilities outlined in the FSA Manual forms, it is important to understand the properties of propane.

Appendix C includes the Safety Data Sheet (SDS) for propane. Each employee should be aware of the content of the SDS.

Propane is a chemical with well-understood and extensively documented properties and experience. Hazards are easily understood and therefore very preventable through engineering and administrative controls.

Propane is a gas at normal temperatures and pressures. It is liquefied by storing it in closed, pressurized container vessels. Propane vessels are fabricated under the strict design and testing requirements of the most current ASME Boiler and Pressure Vessel Code (ASME Section VIII). This code has been in existence since the 1880s and has been revised to include improvements periodically since then.

According to NFPA 58, Table B-1.2(a), commercial propane when heated to a temperature of 105 degrees Fahrenheit will produce a pressure of 233 pounds per square inch. NFPA 58 sets the current minimum design pressure for an ASME tank at 250 pounds per square inch. In addition, NFPA 58 sets the maximum filling capacity of large tanks to 80% to avoid overfilling.

F. FSA FORMAT

This FSA is based on the above referenced 2014 Fire Safety Analysis Manual. It was developed by systematically completing the forms in Chapter 4 through 9 of the Fire Safety Analysis Manual. The completed forms are included in Appendix D of this FSA.

The forms address conformance with NFPA 58 with respect to property line setbacks, emergency and safety valving, redundancy, and failsafe design. It also includes a systematic analysis of various hazard distances and occupancies, fire department capabilities, and available water sources for firefighting. Explanations associated with each form are provided below.

G. Contact Information, Storage Vessels, and General Site Information - Forms 4.1, 4.2, and 4.3

Forms 4.1, 4.2, and 4.3 contain general information about the facility. Form 4.1 provides facility management and contact information. Form 4.2 provides an inventory of propane storage vessels to be installed at the facility. As mentioned above, the propane storage facility will consist of two 30,000-gallon propane vessels, with space for a future third 30,000-gallon propane vessel. Consumer vessels, which are generally empty of liquid propane, will be stored on site. Form 4.3 provides specific information about the site, such as site address, geographic coordinates, information about site access roads and entrances, and the manner in which propane is transferred at the site.

H. Release Control Appurtenances – Form 5.4

As shown on Form 5.4 and the schematic, the vessels are designed with all product release control appurtenances required by NFPA 58. The following list provides information on all safety equipment and administrative controls associated with the proposed propane storage facility. The specific layout of the equipment described below is shown on a piping schematic in Appendix E.

Propane Vessels: Each propane vessel is monitored for inventory, pressure, and temperature. Propane vessels have been factory tested to a pressure of 375 PSI (150% of the MAWP) in accordance with ASME Section VIII.

Container Pressure Relief Valves: Container pressure relief valves are a type of pressure relief device designed to open under a certain pressure to prevent over-pressurization. These valves are located in the vapor space of the container. Propane vessels have three separate relief valves for redundancy. Each device is 2" in diameter and set to open at the maximum pressure of the propane vessel. The relief devices are sized in accordance with NFPA 58 – 2014 edition.

Internal Valves: The storage vessel's liquid and vapor inlet/outlet openings are fitted with internal valves. An internal valve is a container's primary shutoff valve. The valve seat and seat disc remain inside the container so that damage to parts exterior to the container or mating flange does not prevent effective sealing of the vessel.

The internal valve has the following features: (1) they are designed for remote closure; (2) they shutoff automatic when the flow through the valve exceeds its rated maximum flow capacity (such as a leak) or when pump actuation differential pressure drops to a predetermined point, and (3) a mechanism that would close the valve in the event of a fire.

Internal valves are held open using the pressure of a compressed inert gas such as nitrogen. Pressure to the internal valve is held using a three-way valve shutoff switch. When the remote shutoff switch is activated, the compressed gas is released through the vent port of the switch, which in turn closes the valve. If the tubing associated with the nitrogen gas leaks or breaks, the pressure releases and the internal valve closes.

Emergency Shut Off Valves: Emergency shutoff valves (ESVs) are installed on each leg of the piping system. Similar to the internal valves, the ESVs are held open using nitrogen gas. The ESVs are redundant to the internal valves described above.

ESVs are located at the unloading and loading points of transfer. The operator manually opens the respective ESV as part of the transfer procedure. The nitrogen gas is released when the remote shutoff switch is activated (or if the tubing fails). This in turn closes the valve.

Emergency Shutoff Switches: EAs mentioned above, emergency shutoff switches are connected to the internal valves and ESVs pneumatically via inert compressed gas (typically nitrogen). Relative to the internal valve, a shutoff switch must be located between 25 and 100 feet of the transfer point. Relative to the ESVs, the shutoff switch must be located 25 to 100 feet from the ESV. Shutoff switches are configured to close all internal valves and ESVs simultaneously. The Candia Fire Department should be made aware of their locations through outreach and signage.

Excess Flow Valves: An excess flow valve (EFV) is a mechanical device designed to close when the liquid or vapor passing through it exceeds a prescribed flow rate. It serves as a redundant release prevention measure in the event of damage to external piping or hoses. Every piping run has an EFV, whether it is an integral part of the internal valve or part of a combination of valves as mandated by NFPA 58.

Positive Shutoff Valves: A manually operated shutoff valve is used to control the flow of propane in and out of the storage vessels and provide additional controls or security. Positive shutoff valves may be used in conjunction with EFVs as mandated by NFPA 58. Shutoff valves are used as redundant measures and to facilitate repairs to piping.

Traffic Protection: The facility will be surrounded with traffic protection in the form of guard rails and/or traffic bollards and fencing.

Property Setbacks The vessels and equipment will be located in accordance with the setbacks required by NFPA 58 - 2014 edition with respect to adjoining property lines, buildings, and oil storage, other uses.

Administrative Controls: In addition, aggressive training and inspection of transfer hoses and piping will be implemented. Daily inspections will be conducted at the facility to assure that hoses, hose connections, transfer piping, safety operations, emergency shutoff systems, etc. will be maintained in a functioning and safe condition.

I. Liquid Transfer Lines Into Container - Form 5.5

As shown on Form 5.5 and the schematic, the facility is designed to meet all NFPA 58 requirements with respect to liquid transfer lines into containers. A back check valve is also located adjacent to the transfer hose connection on the liquid fill line. A breakaway station is provided at all hose connections designed to leave piping and valves intact, should a transport truck or bobtail drive off while still connected to the transfer hose.

J. Liquid Transfer Lines Withdrawal from Container - Form 5.6

As shown on Form 5.6 and the schematic, the facility is designed to meet all NFPA 58 requirements with respect to liquid withdrawal lines from containers. Liquid withdrawal lines will have emergency shutoff valves located within 20 feet of the transfer hose connection. The emergency valve operators will have thermal activation (fire) and a fusible link. Emergency valve shutoff stations will be located at the emergency valve and between 25 feet and 100 feet of the emergency valve. A breakaway station is provided at all hose connections designed to leave piping and valves intact, should a transport truck or bobtail drive off while still connected to the vessels.

K. Vapor Transfer Lines - Form 5.7

As shown on Form 5.7 and the schematic, the facility is designed to meet all NFPA 58 requirements with respect to vapor transfer lines. Vapor lines will have emergency shutoff valves located within 20 feet of the hose connection. The emergency valve operators will have thermal activation (fire) and a fusible link. Manual shutoff stations will be located at the emergency valve and between 25 feet and 100 feet of the emergency valve. A breakaway station is provided at all hose connections designed to leave piping and valves intact, should a transport truck or bobtail drive off while still connected to the vessels.

L. Evaluation of Redundant Fail-Safe Design - Form 5.8

As shown on Form 5.8 and the schematic, the facility was designed with redundant, fail-safe equipment. Specifically, all liquid and vapor lines entering or exiting the containers were designed with pneumatically operated internal and back check valves with integral excess flow protection and positive shutoff valves located adjacent to the valve. In addition, emergency valve operators contain fusible links for closure during a fire. Cargo tank connections will be provided with all of the requirements of paragraph 6.12 of NFPA 58, 2014 edition. All internal and emergency valves will be manually operated via multiple shut down stations located adjacent to and between 25 and 100 feet of the transfer station. Emergency valve shutdown stations will be labeled.

M. Principal Protection Measures - Form 6.1

Proper lighting will be installed for dawn and dusk operations and emergency deliveries that will illuminate the propane vessels, valves and safety equipment. Traffic protection is provided around the vessels and transfer connections. All piping and equipment will be aboveground to prevent corrosion. These results are shown on Form 6.1 and the site plan.

N. Ignition Source Control Assessment - Form 6.2

The propane vessels and equipment will be located over a bed of crushed stone. Combustible materials such as weeds and tall grasses will be managed within 10 feet of the propane vessels. No NFPA 30 or 30A containers will be located within 20 feet of the propane vessels. Electrical equipment will meet NFPA 58 and NEC hazardous use requirements. There will be no open flame equipment permitted in the vicinity of the propane vessels. Vehicle engines and other ignition sources will be shut down during transfer operations and smoking will not be permitted in the vicinity of the propane vessels. An approved portable dry chemical fire extinguisher with a capacity of at least 20 pounds and having a BC rating will be provided at the propane vessels. These results are shown on Form 6.2.

O. Separation Distances from Propane Tank - Form 6.3

The propane vessels will be located 50 feet or more from the nearest property lines north and east of the propane vessels, and more than 500 feet from the edge of 5 High Street. The propane vessels will be located more than 50 feet from the nearest occupied building on the property and 400 or more feet from the nearest residential dwelling (See Form 6.3).

P. Separation Distances from Points of Transfer - Form 6.4

NFPA 58 requires transfer connections to be 10 feet from any public way, 25 feet from any adjoining property line, and 25 feet from any building on the property. The transfer connections will be located adjacent to the propane tanks. The actual separation distances exceed the NFPA 58 required separations. (See Form 6.4).

Q. Protection Against Vehicular Impact - Form 6.7

Protection against vehicular impact will be provided around the propane vessels and transfer stations. These results are shown on Form 6.7 and the schematic.

R. Occupancy Types Surrounding the Facility - Form 7.1

From Table 7.1, the likely release model chosen for this Fire Safety Analysis is Model #6 (release of the entire inventory in a 2-inch x 20-foot transfer hose). For Model #6, Table 7.1 provides the following propane hazard distances:

- Vapor dispersion distance to the lower flammability limit - 195 feet.

- Explosion hazard distance - 90 feet
- Fire ball radiation distance - 40 feet

The Fire Safety Analysis Manual states that ignition of a dispersing vapor occurs "in extremely rare cases, and only when the physical conditions are conducive, with partial or full confinement of the propane-air mixture of proper concentration, and its ignition".

The wind speed used in the calculation is approximately 3.4 miles per hour. Lower wind speeds diminish the distance that the vapors travel. Higher wind speeds actually reduce concentrations due to dilution and dispersion. Using the otherwise conservative data provided in Model #6, an evaluation of applicable occupancy is presented below.

Institutional, Assembly, and Educational Occupancies

Form 7.1 contains a list of occupancies of concern. They include Institutional, Assembly, and Educational occupancies. The form expands upon each occupancy with examples.

The buildings in the surrounding area are located on High Street (Route 27) and Route 43. The only qualifying occupancy is the Henry W. Moore School (educational occupancy), which is located well outside any of the hazard distances discussed above. No offsite buildings or residential dwellings will be located within the hazard distances discussed above.

S. Exposure To and from External Hazards - Form 7.1 and 7.2

The nearest exposure to the facility from the external sources are listed in Table 7.2 (See Form 7.2).

T. Fire Department Response & Accessibility - Form 8.1 and 8.2

Chief Dane Young, Candia Fire Chief, provided information regarding fire department response and accessibility. Based on information provided by Chief Young on October 18, 2023, the Candia Fire Department is an all-volunteer fire department. It has 11 Level I fire fighters and 20 Level II fire fighters.

Because the Candia Fire Department is an all-volunteer department, response times and the number of responding individuals are highly variable. They therefore depend on assistance from neighboring mutual aid fire departments, which include Hooksett, Raymond, Chester, Deerfield and Auburn. All mutual aid fire departments will be notified on first alarm. Because Hooksett is manned 24 hours a day and they are the closest fire department to the site, they are likely to be involved in any emergency events at the facility. Details are shown on Forms 8.1 and 8.2.

U. Water Flow Requirements - Form 8.3

Fires at propane bulk plants can impact vessel integrity and should therefore be controlled. The fires generally involve vegetation or structures in the vicinity of a propane tank are generally

controlled using water. In addition, protecting propane tanks from nearby fires involves cooling the propane vessels with a water hose stream. The NPGA Fire Safety Analysis manual provides formulas for calculating water flowrate requirements that are based on the number of propane vessels and their individual surface areas. It adds additional flow for other requirements, such as fire fighter protection.

Form 8.3 states to only include a maximum of three vessels in a given group. Because a future third tank could be installed, this section was evaluated with three vessels. The required water flow rate required to cool three 30,000-gallon vessels was calculated on Form 8.3. The results show that a flow rate of 750 gallons per minute is required. The total water volume required in 10 minutes is 7,500 gallons.

V. Available Water Capacity and Accessibility - Form 8.4

The Town of Candia does not have a pressurized water supply. Water is supplied from a static water source located on Route 27, approximately 1,700 feet to the east of the facility. The hose connection is located in a clearing alongside the pond across from the town offices (See Appendix F).

To facilitate an emergency response at the site, Chief Young requested a water cistern be installed with its own hose connection at the entrance to the property. A 10,000-gallon cistern will be installed. This size exceeds the required water volume calculated above (7,500 gallons). This quantity will provide additional water that the fire department could use for other emergency purposes in the area.

If required, the department has two apparatuses that could be used to shuttle water and apply a hose stream to the tanks or fill the cistern. They contain 1,000 gallons of water each and can provide flow rates of 1,250 and 1,500 gallons per minute respectively. These flowrates are more than adequate to provide the 750 gallon per minute hose stream calculated on Form 8.3. They also have a tanker truck that has 3,500 gallons of water. This information is shown on Form 8.4.

W. Evaluation Summary - Forms 9.1 through 9.7

The Fire Safety Analysis Manual provides design alternatives for consideration in the event that an applicable off-site facility is located within a hazard distance associated with Table 7.1. These design alternatives include redundant and fail safe product control measures.

It is shown in this section that there are no applicable offsite facilities within any of the above hazardous distances. The nearest offsite residential dwelling is outside the hazardous distances as well.

Regardless, the facility will be designed with redundant and fail-safe product control measures as demonstrated in Form 9.4. Rick Wenzel Oil will conduct training sessions with personnel with respect to safety awareness and hose evaluation. An aggressive inspection schedule will be instituted at the facility, including daily monitoring and monthly inspections.

APPENDIX A

SITE PLAN

REFERENCE PLANS:

1. "PROPOSED SUBDIVISION PLAN OF LAND - OF - HAROLD J. PRATT - 35 LAKESIDE DRIVE - MANCHESTER, N.H. - LOCATED IN - CANDIA, N.H.", SCALE 1"=100', DATED JULY 1978, BY YOUNG, CAMPBELL & CATE, INC. RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN #0-8251.
2. "PLAN PREPARED - FROM - PLAN OF & DEED OF - FLETCHER PERKINS - CANDIA, N.H.", SCALE 1"=100', DATED FEBRUARY 1979, BY YOUNG, CAMPBELL & CATE, INC. RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN #C-8598.
3. "PROPOSED SUBDIVISION PLAN OF LAND - OF - HAROLD J. PRATT - 35 LAKESIDE DRIVE - MANCHESTER, N.H. - LOCATED IN - CANDIA, N.H.", SCALE 1"=100', DATED JULY 1980, BY YOUNG, CAMPBELL & CATE, INC. RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN #0-9885.

LEGEND:

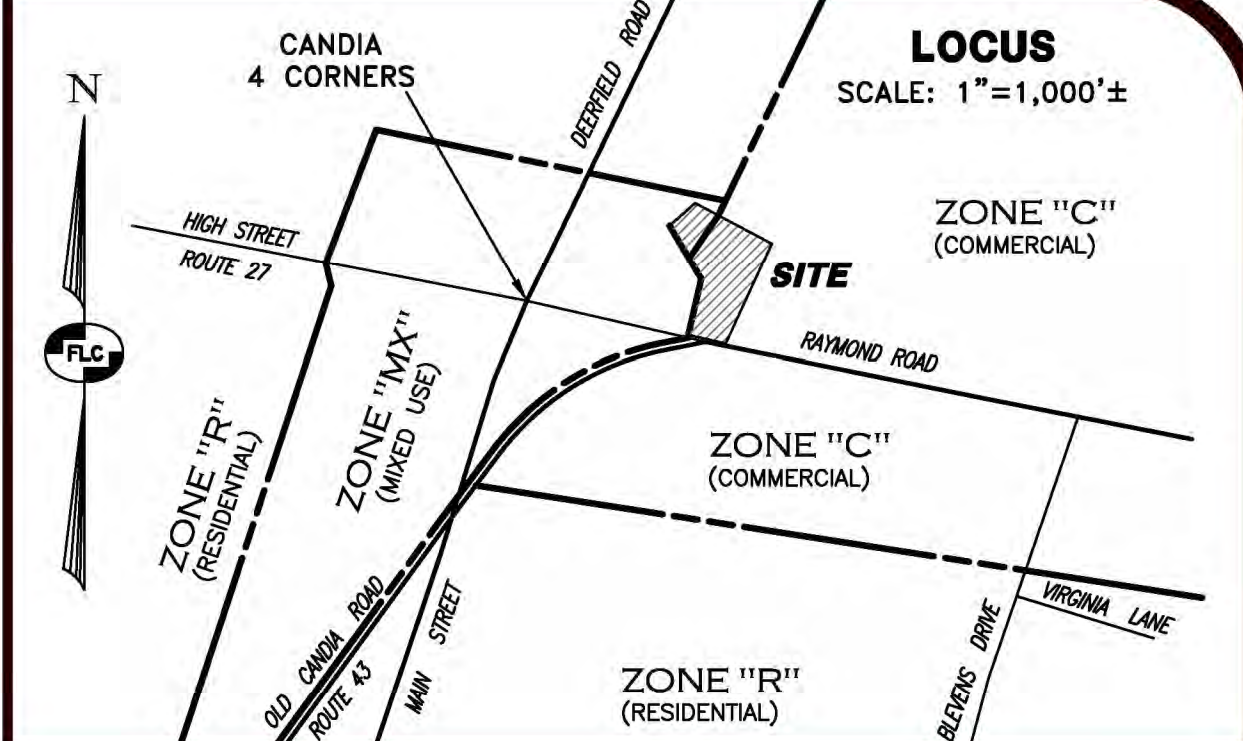
- | | | | |
|-----|--------------------------|-------------|-----------------------------|
| — | RIGHT-OF-WAY LINE | ○ L/PPE(F) | IRON PIPE FOUND |
| — | BOUNDARY LINE | ○ L/PPE(F') | IRON PIPE PER REF. PLAN |
| --- | ABUTTING LOT LINE | ○ D.H.(F) | DRILL HOLE FOUND |
| --- | BUILDING SETBACK LINE | ○ D.H.(F') | DRILL HOLE PER REF. PLAN |
| --- | ZONING DISTRICT LINE | ○ | UTILITY POLE, GUY & LIGHT |
| --- | EDGE OF PAVED ROAD | ○ | WELL |
| --- | EDGE OF GRAVEL ROAD | ○ | SEPTIC VENT |
| --- | STONE WALL | ○ | PROPAANE TANKS |
| --- | EDGE OF TREE LINE | ○ | MONITORING WELL |
| --- | EDGE OF WETLANDS | ○ | SINGLE SIGN POST |
| --- | WETLANDS BUFFER LINE | ○ | LARGE ROCK 6'x7'x5'H. |
| --- | EXISTING EASEMENT LINE | ○ | LARGE TREES |
| --- | PROPOSED EASEMENT LINE | ○ | |
| --- | 10' CONTOUR INTERVAL | --- | CULVERT OR DRAIN LINE |
| --- | 2' CONTOUR INTERVAL | --- | SEWER LINE |
| --- | WHITE PVC STOCKADE FENCE | --- | OVERHEAD UTILITY LINE |
| --- | THE COURSE LINE | --- | UNDERGROUND UTILITY LINE |
| --- | FORMER TRACT LINE | --- | EXISTING BUILDING/STRUCTURE |
| --- | TAX MAP & LOT NUMBER | --- | |

406-201

HIGH STREET
VARIABLE WIDTH R.O.W.
PAVED - 16'± WIDE

SIGN LEGEND:
S1="HIGH STREET" & "Y" INTERSECTION SYMBOL
S2="27 EAST"
S3="27 WEST"
S4="SPEED LIMIT 35"
S5="AHEAD 43"
S6="LIGHT AHEAD"
S7="STOP"
S8="27 WEST/NORTH 43"
S9="70 SOUTH 43"

A.K.A. N. H. ROUTE OLD 101
& SOUTH SIDE ROAD
N.H.D.O.T. HWY. PROJECT NO. 51112
FED. AID PROJECT NO. 115 (3)
MARCH 9, 1940



NOTES:

1. OWNER OF RECORD FOR EXISTING TAX MAP 406 LOT 201 IS CANDIA TANK FARM, LLC, 6 HILLSIDE AVENUE, AMHERST, NH 03031. THE DEED REFERENCE FOR THE LOT ARE BK.5154 PG.2080 DATED OCTOBER 14, 2010 IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXPANSION OF THE EXISTING BULK FUEL STORAGE FACILITY WITH ASSOCIATED SITE IMPROVEMENTS OVER TAX MAP LOT 406-201.
3. THE TOTAL AREA OF TAX MAP LOT 406-201 IS 4.777ACRES OR 208,092 SQ.FT. WITH 200.00 FT. OF FRONTAGE ALONG HIGH STREET.
4. CURRENT ZONING FOR THE LOT IS THE COMMERCIAL DISTRICT (C) AND THE MIXED USE DISTRICT (MU). ZONING REQUIREMENTS FOR BOTH THE COMMERCIAL DISTRICT AND THE MIXED USE DISTRICT ARE:
- MIN. LOT SIZE: 2 ACRES
- MIN. FRONTAGE & LOT WIDTH: 200 FT.
- MIN. FRONT SETBACK: 50 FT.
- MIN. SIDE & REAR SETBACK: 25 FT.
- MAX. BUILDING HEIGHT: 35 FT. OR 2.5 STOREYS
5. THERE IS A 75 FT. WETLANDS BUFFER FROM DELINEATED VERY POORLY DRAINED SOILS AND A 50 FT. WETLANDS BUFFER FROM POORLY DRAINED SOILS.
6. THE BOUNDARY INFORMATION SHOWN FOR LOT 406-201 IS BASED ON THE REFERENCE PLANS CITED HEREON TOGETHER WITH A PRECISE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF OCTOBER 2022.
7. HORIZONTAL ORIENTATION IS BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM. VERTICAL DATUM IS NAVD83. BOTH ARE BASED ON FIELD GPS OBSERVATIONS THAT WERE UPLOADED TO AND CALCULATED BY THE NOAA ONLINE POSITIONING USER SERVICE (OPUS).
8. THE SURFACE FEATURES AND SITE TOPOGRAPHY SHOWN ARE THE RESULT OF AN ON-SITE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF OCTOBER 2022 TOGETHER WITH THE REFERENCE PLANS CITED HEREON.
9. BUILDINGS, ROADS, STREETS AND DRIVEWAYS WERE LOCATED WITHIN 100' OF THE SUBJECT PARCEL IN ACCORDANCE WITH THE TOWN OF CANDIA SITE PLAN REVIEW REGULATIONS 4.04c.
10. JURISDICTIONAL WETLANDS SHOWN HEREON WERE DELINEATED BY CHRISTOPHER A. GUIDA, C.W.S. FROM THIS OFFICE IN OCTOBER 2022 AND ARE IN ACCORDANCE WITH THE "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, DATED JANUARY 1987".
11. THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE 100-YEAR FLOOD HAZARD AREA AS DETERMINED FROM THE FLOOD INSURANCE STUDY (FIRM), ROCKINGHAM COUNTY, TOWN OF CANDIA, NEW HAMPSHIRE COMMUNITY NO. 330126, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33015C0160 E, DATED: 05/17/2005.
12. THE SUBJECT PARCEL DOES NOT LIE WITHIN THE GROUNDWATER PROTECTION DISTRICT PER SECTION 11.04 OF THE TOWN OF CANDIA ZONING REGULATIONS.
13. THE SITE IS CURRENTLY SERVICED BY OVERHEAD UTILITIES WITH AN INDIVIDUAL ON-SITE WELL AND SEPTIC SYSTEM. PROPAANE GAS IS PROVIDED BY INDIVIDUAL ON-SITE TANKS.
14. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM PLANS OF RECORD AND FIELD LOCATION. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
15. FUEL STORAGE FACILITIES SHALL NOT BE LOCATED NEARER THAN 300 FEET TO ANY EXISTING OR PERMITTED DWELLING.

REV.	DATE	DESCRIPTION	C/O	DR	CK

CONCEPT PLAN
TAX MAP 406 LOT 201
(5 HIGH STREET)
CANDIA, NEW HAMPSHIRE 03034
 PREPARED FOR:
RICK WENZEL OIL COMPANY
 5 HIGH STREET, CANDIA, NH 03034
 LAND OF:
CANDIA TANK FARM, LLC
 6 HILLSIDE AVENUE, AMHERST, NH 03031

SCALE: 1"=50' FEBRUARY 28, 2022

Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

206 Elm Street, Milford, NH 03055
 45 Roxbury Street, Keene, NH 03431
 Phone: (603) 672-5456 Fax: (603) 413-5456
 www.FieldstoneLandConsultants.com

APPENDIX B

AERIAL VIEW

Rick Wenzel Oil Co.

5 High Street, Candia, NH

Legend

HENRY W MOORE
SCHOOL

CANDIA FIRE DEPARTMENT

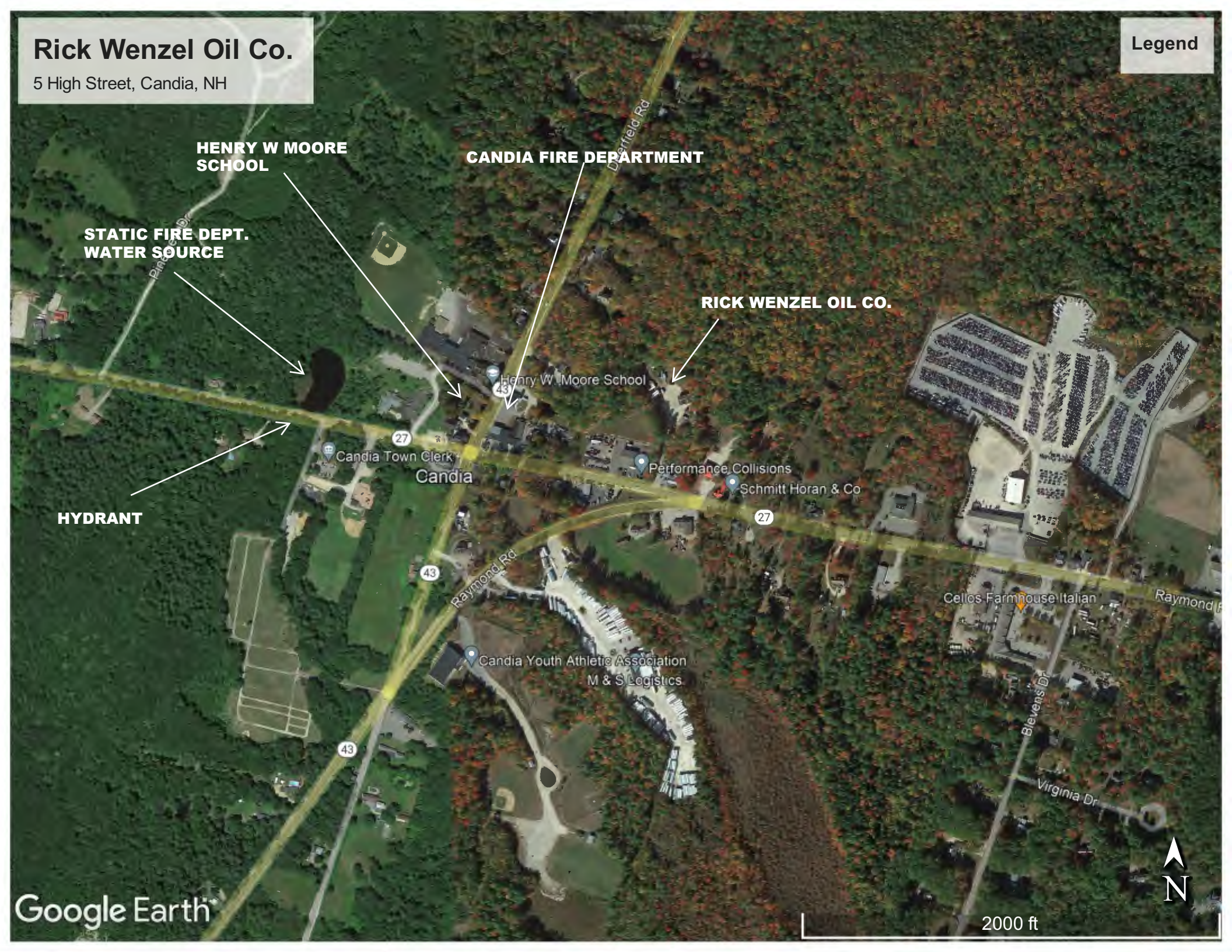
STATIC FIRE DEPT.
WATER SOURCE

RICK WENZEL OIL CO.

HYDRANT

Google Earth

2000 ft



APPENDIX C

PROPANE SAFETY DATA SHEET (SDS)

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200), Health Canada HPR (SOR/2015-17), and Mexico NOM-018-STPS-2015



SECTION 1: Identification

Product Identifier: **Propane**

Other means of identification: Commercial Propane(All); EGP; Export Grade Propane; HD5 Propane; LP-Gas; Liquefied Petroleum Gas; Odorized Propane; Propane (Unstened); Propane Commercial; Propane Motor Fuel; Propane for Process; Stened Propane; Unodorized Propane

Code: **169570**

Issue date: 01-Jul-2020

Relevant identified uses: Fuel
Chemical
Chemical feedstock

Uses advised against: All others

24 Hour Emergency Phone Number: CHEMTREC Global +1 703 527 3887
CHEMTREC United States 1-800-424-9300
CHEMTREC Mexico 01-800-681-9531

Manufacturer/Supplier: Phillips 66 Company
P.O. Box 421959
Houston, Texas 77242-1959

SDS Information: Phone: 800-762-0942
Email: SDS@P66.com
URL: www.phillips66.com/SDS

SECTION 2: Hazard identification

Classified Hazards

H220 - Flammable gases -- Category 1
H280 -- Gases under pressure -- Liquefied gas
Simple asphyxiant

Hazards Not Otherwise Classified (HNOC)

PHNOC: None known

HHNOC: None known

Label elements



DANGER

H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation



P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking; P243 - Take precautionary measures against static discharge; P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely; P381 - Eliminate all ignition sources if safe to do so; P410 + P403 - Protect from sunlight. Store in a well-ventilated place

SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration ¹
Propane	74-98-6	80-100
Propene	115-07-1	<20
Ethane	74-84-0	<6
Butane	106-97-8	<5
Isobutane	75-28-5	<2.5

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

HD-5 COMPOSITION: Propane >90%, Propylene <5%

Odorized products contain small quantities (<0.1%) ethyl mercaptan as an olfactory indicator.

SECTION 4: First aid measures

Eye Contact: For contact with the liquefied gas, remove contact lenses if present and easy to do, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin Contact: Liquefied gases may cause cryogenic burns or injury. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

Ingestion: This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Most important symptoms and effects, both acute and delayed: Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), rapid breathing, cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

SECTION 5: Firefighting measures

NFPA 704: National Fire Protection Association

Health: 2 Flammability: 4 Instability: 0



0 = minimal hazard
1 = slight hazard
2 = moderate hazard
3 = severe hazard
4 = extreme hazard

Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: Extremely flammable. Contents under pressure. This material can be ignited by heat,

sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe) Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Drains can be plugged and valves made inoperable by the formation of ice if rapid evaporation of large quantities of the liquefied gas occurs. Do not allow run-off from fire fighting to enter drains or water courses – may cause explosion hazard in drains and may reignite.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

Special protective actions for fire-fighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. If this cannot be done, allow fire to burn. Move undamaged containers from immediate hazard area if it can be done safely. Stay away from ends of container. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Extremely flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur. Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop and contain spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

SECTION 7: Handling and storage

Precautions for safe handling: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Extremely Flammable. Contents under pressure Gas can accumulate in confined spaces and limit oxygen available for breathing. Use only with adequate ventilation The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Cold burns may occur during filling operations. Containers and delivery lines may become cold enough to present cold burn hazard.

Propane and odorant are heavier than air and will collect and pool along the ground or floor. Odorant, therefore, may not be detectable above the location of propane storage or service (for example, odorant in propane released or leaked into the basement of a dwelling may not be detected above the basement).

WARNING - The intensity of the odorant may fade over prolonged storage or in the presence of rust, when placed initially in new or freshly-cleaned storage vessels, or when exposed to masonry.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Avoid exposing any part of a compressed-gas cylinder to temperatures above 125F(51.6C). Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits				
Chemical Name	ACGIH	OSHA	Mexico	Phillips 66
Propane	---	TWA-8hr: 1000 ppm TWA-8hr: 1800 mg/m ³	TWA-8hr: 1000 ppm (VLE-PPT)	---
Propene	TWA-8hr: 500 ppm	---	TWA-8hr: 500 ppm (VLE-PPT)	---
Butane	STEL: 1000 ppm Butane, isomers	---	TWA-8hr: 1000 ppm (VLE-PPT)	---
Isobutane	STEL: 1000 ppm Butane, isomers	---	TWA-8hr: 1000 ppm (VLE-PPT)	---

State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Biological occupational exposure limits

None.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

Respiratory Protection: A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Colorless
Physical form of product:	Liquefied Gas
Odor:	No distinct odor (or skunk, rotten egg or garlic if odorant added)
Odor threshold:	No data
pH:	Not applicable

Melting / freezing point: -309 °F / -189 °C
Initial boiling point and boiling range: -44 °F / -42 °C
Flash point: -156 °F / -104 °C
Method: Tag Closed Cup (TCC), ASTM D56
Evaporation Rate (nBuAc=1): >1
Flammability (solid, gas): Extremely Flammable
Upper Explosive Limits (vol % in air): No data
Lower Explosive Limits (vol % in air): 2.1
Vapor pressure: 208 psia (Reid VP) @ 100°F / 37.8°C
Vapor density: >1 (air = 1)
Relative density: 0.50-0.51 @ 60°F (15.6°C) (water = 1)
Solubility(ies): Negligible
Partition coefficient n-octanol /water (log KOW): No data
Autoignition temperature: 842 °F / 450 °C
Decomposition temperature: No data
Viscosity: N/D
Molecular weight: No data

Other information
Particle Size: No data
Pour point: No data
Percent volatile: 100%
Bulk density: No data

SECTION 10: Stability and reactivity

Reactivity: Not chemically reactive.
Chemical stability: Stable under normal ambient and anticipated conditions of use.
Possibility of Hazardous Reactions: Hazardous reactions not anticipated.
Conditions to Avoid: Avoid all possible sources of ignition. Heat will increase pressure in the storage tank.
Incompatible Materials: Avoid contact with acids, aluminum chloride, chlorine, chlorine dioxide, halogens and oxidizing agents.
Hazardous Decomposition Products: Not anticipated under normal conditions of use.

SECTION 11: Toxicological information

Information on Toxicological Effects

Substance / Mixture			
Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Unlikely to be harmful	Simple Asphyxiant. May displace oxygen and cause rapid suffocation. See section 4 for more information.	>20,000 ppm (gas, estimated)
Dermal	Skin absorption is not anticipated		Not applicable
Oral	Ingestion is not anticipated		Not applicable

Likely Routes of Exposure: Inhalation, eye contact, skin contact

Aspiration Hazard: Not applicable

Skin Corrosion/Irritation: Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).

Serious Eye Damage/Irritation: Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

Skin Sensitization: Skin contact is not anticipated.

Respiratory Sensitization: Not expected to be a respiratory sensitizer.

Specific Target Organ Toxicity (Single Exposure): Not expected to cause organ effects from single exposure.

Specific Target Organ Toxicity (Repeated Exposure): Not expected to cause organ effects from repeated exposure.

Carcinogenicity: Not expected to cause cancer.

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Reproductive Toxicity: Not expected to cause reproductive toxicity.

Other Comments: High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus.

The odorant, ethyl mercaptan, can be irritating to the eyes, skin and respiratory tract. At high concentrations, a person can temporarily lose the ability to smell ethyl mercaptan. In addition, some individuals may have an impaired sense of smell, which inhibits the detection of the odorant.

Information on Toxicological Effects of Components

Propane

Reproductive Toxicity: No adverse reproductive or developmental effects were observed in rats exposed to propane; no observed adverse effect level = 12,000 ppm.

Target Organ(s): No systemic or neurotoxic effects were noted in rats exposed to concentrations of propane as high as 12,000 ppm for 28 days.

Butane

Reproductive Toxicity: No adverse reproductive or developmental effects were observed in rats exposed to butane; no observed adverse effect level = 12,000 ppm.

Target Organ(s): No systemic or neurotoxic effects were noted in rats exposed to concentrations of butane as high as 9,000 ppm for 28 days.

Isobutane

Reproductive Toxicity: No adverse developmental effects were observed in rats exposed to concentrations of isobutane as high as 9000 ppm. Fertility and mating indices may have been affected at 9000 ppm but no effects were observed at 3000 ppm (NOAEL).

Target Organ(s): No systemic or neurotoxic effects were noted in rats exposed to concentrations of isobutane as high as 9,000 ppm for 28 days.

SECTION 12: Ecological information

GHS Classification: No classified hazards

Toxicity: Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment.

Persistence and Degradability: The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process. Hydrogen sulfide, if present in refinery gas streams, will be rapidly oxidized in water and insoluble sulfides precipitated from water when metallic radicals are present.

Bioaccumulative Potential: Since the log Kow values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.

Mobility in Soil: Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found. In air, these hydrocarbons undergo photodegradation by reaction with hydroxyl radicals with half-lives ranging from 3.2 days for n-butane to 7 days for propane.

Other adverse effects: None anticipated.

SECTION 13: Disposal considerations

This material is a gas and would not typically be managed as a waste.

SECTION 14: Transport information

UN Number: UN1978

UN proper shipping name: Propane,

Transport hazard class(es): 2.1

Packing Group: None

Environmental Hazard(s): This product does not meet the DOT/UN/IMDG/IMO criteria of a marine pollutant

Special precautions for user: For domestic transportation only, UN1075 may be substituted for the UN number shown as long as the substitution is consistent on package markings, shipping papers, and emergency response information. See 49 CFR 172.102 Special Provision 19.

Containers of NON-ODORIZED liquefied petroleum gas must be marked either NON-ODORIZED or NOT ODORIZED as of September 30, 2006. [49 CFR 172.301(f), 326(d), 330(c) and 338(e)]

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds)

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CERCLA/SARA - Section 313 and 40 CFR 372

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:


Chemical Name	Concentration ¹	de minimis
Propene	<20	1.0%

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

EPA (CERCLA) Reportable Quantity (in pounds)

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

California Proposition 65

 **WARNING:** Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm are created by the combustion of propane. For more information go to www.P65Warnings.ca.gov.

International Inventories

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

SECTION 16: Other information

Issue date	Previous Issue Date:	SDS Number	Status:
01-Jul-2020	18-Jul-2017	169570	FINAL

Revised Sections or Basis for Revision:

Periodic review and update

Mexican NOM-018-STPS-2015:

The information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

Precautionary Statements:

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P243 - Take precautionary measures against static discharge

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely

P381 - Eliminate all ignition sources if safe to do so

P410 + P403 - Protect from sunlight. Store in a well-ventilated place

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; HPR = Hazardous Products Regulations; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Appendix D
FSA Manual Forms

Form 4.1 Initial Data on the LP-Gas Facility

A	B	C
Item #	Information Item	Data
1	Name of the LP-Gas Plant Owner or Operator	Rick Wenzel Oil Co., LLC
2	Contact Name:	Jeffrey Wenzel
3	Contact Telephone	(603) 488-2017
4	Contact Email Address	info@rickwenzeloil.com
5	Mailing Address	Street 1: 231 N. Amherst Road
		Street 2:
		City, State, Zip: Bedford NH 03110

Form 4.2 Facility Storage Capacity^{1,2,3}

A	B	C	D
#	Individual Container Water Capacity (wc) (gallons)	Number of containers	Total Water Capacity (wc) of each container size (gallons)
1	120 (empty)	0	0
	1,000 (empty)	0	0
	2000	0	0
	4,000	0	0
	10,000	0	0
	18,000	0	0
	30,000	3	90,000
	60,000	0	0
	Other:	0	0
	Other:		0
	Other:		0
Other:		0	
2	Aggregate Water Capacity		90,000

- Notes:**
- (1) Column D = Column B x Column C.
 - (2) Parked bobtails, transports and tank cars should not be considered for aggregate capacity calculations.
 - (3) Do not consider containers that are not connected for use.
 - (4) *For the purpose of this manual, "Aggregate Water Capacity" means any group of single ASME storage containers separated from each other by distances less than those stated in the aboveground containers column of Table 6.3.1.*

If the aggregate water capacity of the LP-Gas Facility is less than or equal to 4,000 gallon (w.c.), no further assessment is required.

YOU CAN STOP HERE.

**Form 4.3
Additional Information on the LP-Gas Facility**

<input type="checkbox"/> Existing Facility; Built to NFPA 58 Edition <u>2014</u>	<input checked="" type="checkbox"/> Proposed Facility
a) Name of the Facility (if applicable): Rick Wenzel Oil Co. _____	
b) Type of LP-Gas Facility:	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Bulk Plant
c) Facility is located in:	<input type="checkbox"/> City Industrial Zone <input checked="" type="checkbox"/> Suburban Area <input type="checkbox"/> Rural Area <input type="checkbox"/> City Commercial Zone
d) Facility neighbors [§] : (Check all that apply)	<input type="checkbox"/> Agri Fields <input checked="" type="checkbox"/> Commercial Blds. <input checked="" type="checkbox"/> Flammable Liquids Storage <input type="checkbox"/> Industrial Activity (metal fabrication, cutting and welding, etc.) <input type="checkbox"/> Manufacturing <input checked="" type="checkbox"/> Residential, Fire Dept, School
e) Geographic Location of Facility/Address:	<u>43° 03'44" N, 71° 17' 06" W</u> 5 High Street, Candia, NH
f) Landmarks, if any:	_____
g) LP-Gas liquid supply by: (Check all that apply)	<input checked="" type="checkbox"/> Bobtail <input checked="" type="checkbox"/> Truck Transport <input type="checkbox"/> Rail Tank Car <input type="checkbox"/> Pipeline
h) LP-Gas Distribution by: Plant (Check all that apply):	<input checked="" type="checkbox"/> Liquid Piping <input checked="" type="checkbox"/> Truck Transport <input checked="" type="checkbox"/> Vapor Piping <input checked="" type="checkbox"/> Bobtail <input type="checkbox"/> Dispensing or Vehicle Liquid Fueling
i) Number of Vehicle Entrances:	<input checked="" type="checkbox"/> One <input type="checkbox"/> Two <input type="checkbox"/> More than two
j) Type of Access Roads to the Facility: (One check per line)	<input type="checkbox"/> Rural <input checked="" type="checkbox"/> City or Town <input checked="" type="checkbox"/> Highway Entrance 1: <input type="checkbox"/> Dirt road <input checked="" type="checkbox"/> Mixed Gravel <input checked="" type="checkbox"/> Paved Entrance 2: <input type="checkbox"/> Dirt road <input type="checkbox"/> Gravel road <input type="checkbox"/> Paved
k) Staff presence:	<input type="checkbox"/> Not staffed <input type="checkbox"/> Only during transfer operations <input type="checkbox"/> Staffed always (24/7) <input checked="" type="checkbox"/> Only during business hours <input type="checkbox"/> Other (Explain) _____
l) Location and distances to Assembly, Educational or Institutional Occupancies surrounding the Facility, if any, within 250 ft from the Facility boundary in the direction of the assets. NONE	
n) Overview plot plan of the Facility attached?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

§ All properties either abutting the LP-Gas Facility or within 250 feet of the container or transfer point nearest to Facility boundary.

Form 5.4

Compliance with Code Requirements for Appurtenances on Containers Having a Water Capacity Greater Than 4,000 Gallons Used in Bulk Plants and Industrial Plants

A	B	C	D	E		F	G
Container #	LP-Gas inlet to and outlet from the container**		Enter Configuration Number	Total Number of Product Control Appurtenances		Installed on the container	NFPA 58 Section Reference (2014 edition)
				Required by NFPA 58 (2014 edition)			
1	Vapor	Inlet	5-2 Conf 3	2		2	See §5.7.4.2 and Table 5.7.4.2
		Outlet	5-3 Conf 2	2		2	
	Liquid	Inlet	5-4 Conf 2	4		4	
		Outlet	5-6 Conf 1	4		4	
2	Vapor	Inlet	5-2 Conf 3	2		2	
		Outlet	5-3 Conf 2	2		2	
	Liquid	Inlet	5-4 Conf 2	4		4	
		Outlet	5-6 Conf 1	4		4	
3	Vapor	Inlet	5-2 Conf 3	2		2	
		Outlet	5-3 Conf 2	2		2	
	Liquid	Inlet	5-4 Conf 2	4		4	
		Outlet	5-6 Conf 1	4		4	
4	Vapor	Inlet					
		Outlet					
	Liquid	Inlet					
		Outlet					

** If the container does not provide an opening for the specific function listed, enter 0 (zero) in columns E and F corresponding to that row.

If in Form 5.4 any one of the numbers in column F is less than the number in Column E of the corresponding row, these items must be addressed and brought into compliance with the specific edition of NFPA 58 that the Facility was constructed to.

Note: Container appurtenances shown are illustrative of product control equipment only. See NFPA 58 for all container appurtenances required. Illustrations are not intended to be used for system design purposes.

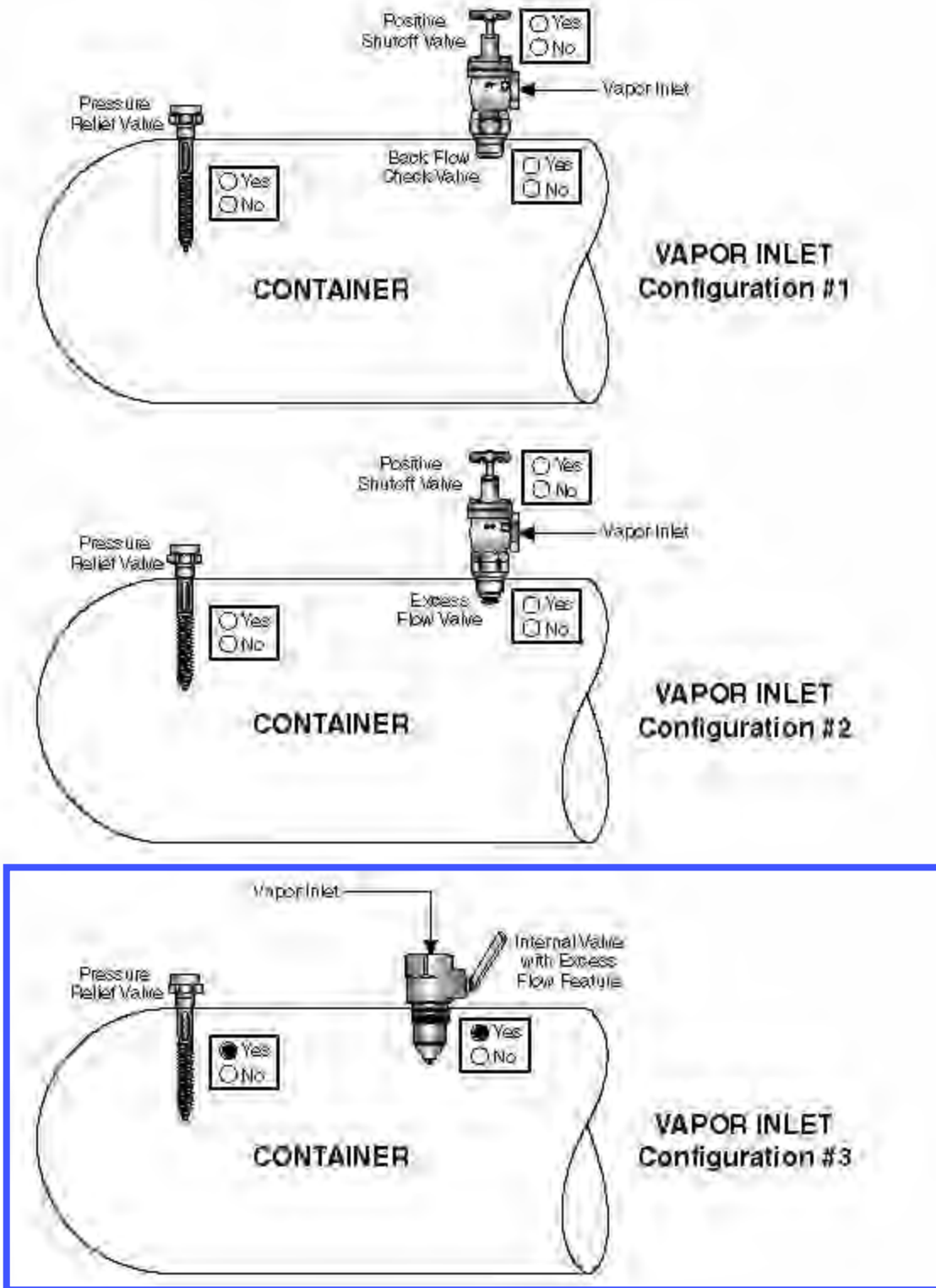


Figure 5-2: Vapor Inlet Appurtenances on Containers of Water Capacity Greater Than 4,000 Gallons

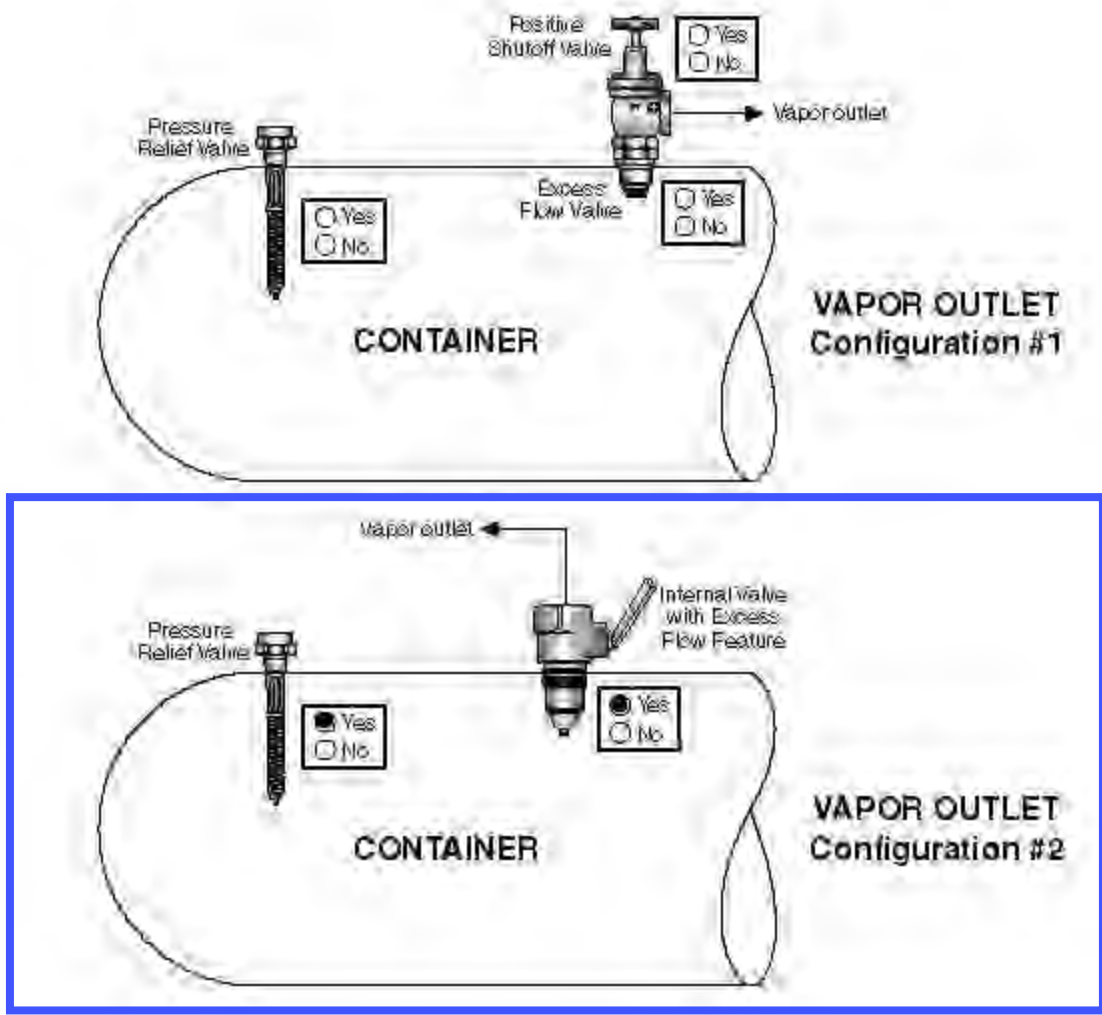


Figure 5-3: Vapor Outlet Appurtenances on Containers of Water Capacity Greater Than 4,000 Gallons

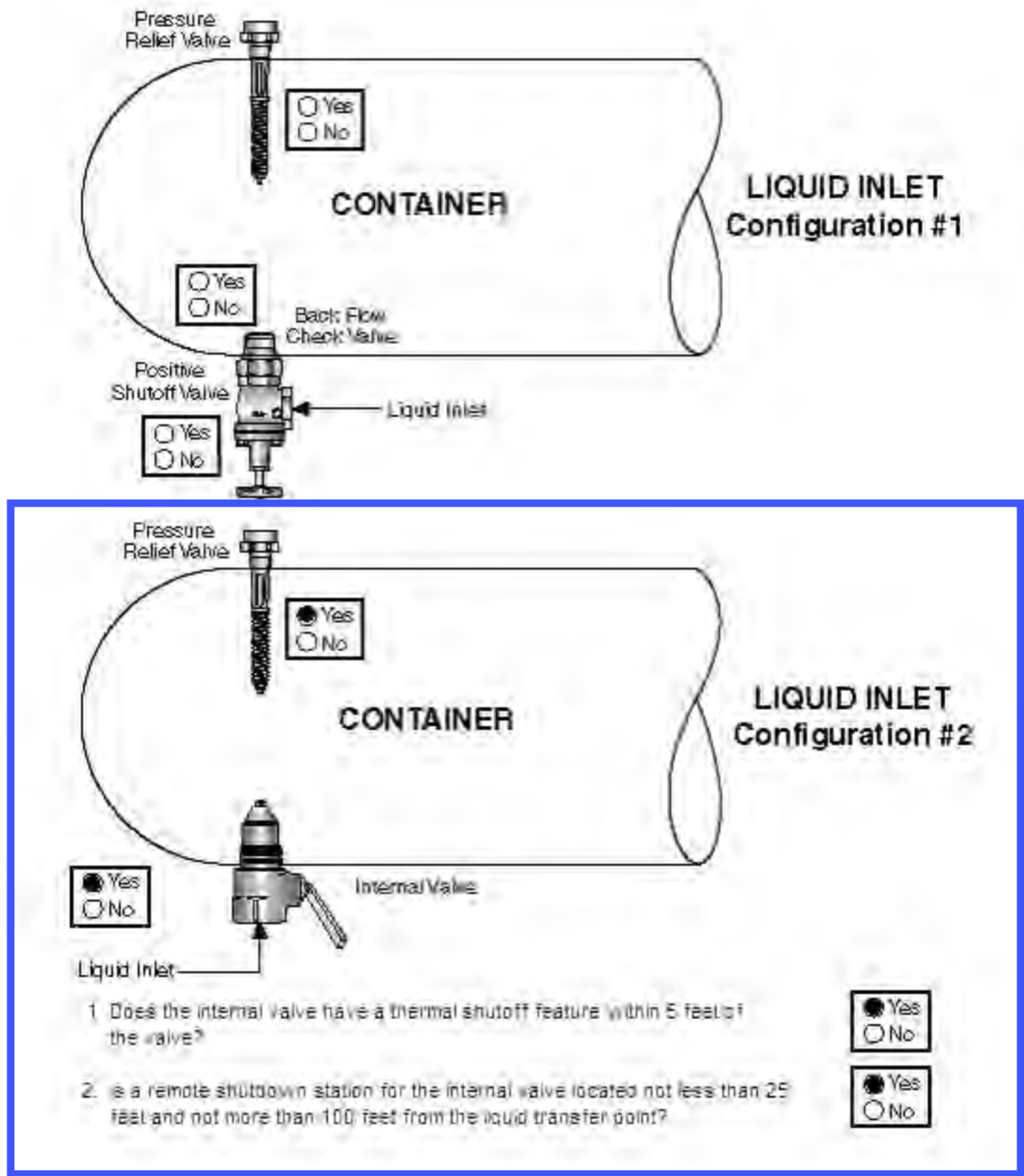


Figure 5-4 Liquid Inlet Valves on Containers With Water Capacity Greater Than 4,000 Gallons in New Installations

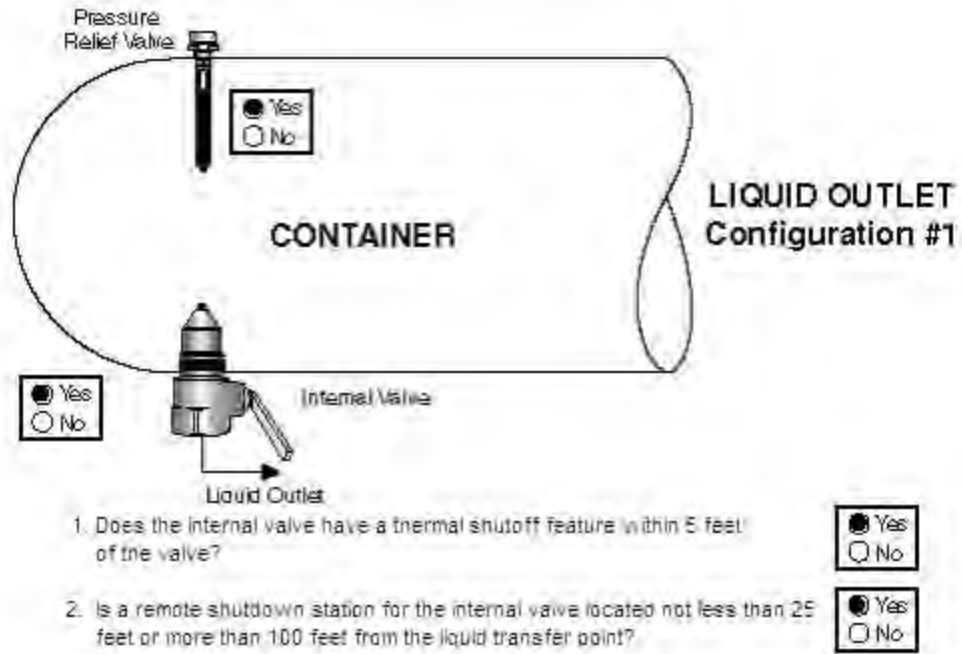


Figure 5-6: Liquid Outlet Valves on Containers with Water Capacity Greater Than 4,000 Gallons in New Installations

Form 5.5
Requirements for Transfer Lines of 1½-inch Diameter or Larger,
Liquid-into-Containers

A Item #	B Appurtenance (Either No. 1 or No. 2)**	C Appurtenance Provided with the Feature	D Installed in the Facility?		E NFPA 58 Section Reference (2014 edition)
			Yes	No	
1	Emergency Shutoff Valve (ESV) (Ref § 6.12)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	X		6.12.2
		Automatic shutoff through thermal (fire) actuation with melting point of thermal element < 250 °F	X		6.12.6
		Temperature sensitive element (fusible link) installed within 5 ft from the nearest end of the hose or swivel type piping connected to liquid transfer line,	X		6.12.6
		Manual shutoff feature provided at ESV installed location.	X		6.12.10 (1)
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV.	X		6.12.10 (2)
		An ESV is installed on each leg of a multi leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of size 1½ inch in diameter or larger on the other side.	X		6.12.5 6.19.2.6 (1)
		Breakaway stanchion is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	X		6.12.8
			Yes	No	
2	Back flow Check Valve (BCK)**	Installed downstream of the hose or swivel-type connection	X		6.12.8
		BCK is designed for this specific application.	X		6.12.4
		A BCK is installed on each leg of a multi leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of 1½ inch in diameter or larger on the other side.	NA	NA	6.12.5
		Breakaway stanchion is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	X		6.12.8

** In lieu of an emergency shutoff valve, the backflow check valve (BCK) is only permitted when flow is only into the container and shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with a combustible material (6.12.3, 6.12.4).

Form 5.6
Requirements for Transfer Lines of 1½-inch Diameter or Larger,
Liquid Withdrawal From Containers

A Item #	B Appurtenance	C Appurtenance Provided with the Feature	D Installed in the Facility?		E NFPA 58 Section Reference (2014 Edition)
			Yes	No	
1	Emergency Shutoff Valve (ESV) (Ref § 6.12.1)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	X		6.12.2
		Automatic shutoff through thermal (fire) actuation with melting point of thermal element < 250 °F	X		6.12.6
		Temperature sensitive element installed within 5 ft from the nearest end of the hose or swivel type piping connected to liquid transfer line.	X		6.12.6
		Manual shutoff feature provided at ESV installed location.	X		6.12.10 (1)
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV.	X		6.12.10 (2)
		An ESV is installed on each leg of a multi leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of 1½ inch in diameter or larger on the other side.	NA	NA	6.12.5 6.18.2.6 (1)
		Breakaway stanchion is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	NA	NA	6.12.8
		Number of ESV's in liquid withdrawal service	3		

Note: If more than one ESV is installed in the Facility, use one Form 5.6 for each ESV.

Form 5.7
Requirements for Vapor Transfer Lines 1¼-inch Diameter or Larger

A Item #	B Appurtenance	C Appurtenance Provided with the Feature	D Installed in the Facility?		F NFPA 58 Section Reference (2014 edition)
			Yes	No	
1	Emergency Shutoff Valve (ESV)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	X		6.12.2
		Automatic shutoff through thermal (fire) actuation with melting point of thermal element < 250 °F	X		6.12.6
		Temperature sensitive element installed within 5 ft from the nearest end of the hose or swivel type piping connected to liquid transfer line,	X		6.12.6
		Manual shutoff feature provided at E SV installed location.	X		6.12.10(1)
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV.	X		6.12.10(2)
		An ESV is installed on each leg of a multi leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of 1-1/4 inch in diameter or larger on the other side.	NA		6.12.5 6.19.2.6 (1)
		Breakaway stanchion is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	X		6.12.8
2	Back flow Check Valve (BCK)**	Installed downstream of the hose or swivel-type connection	NA	NA	6.12.8
		BCK is designed for this specific application.	NA	NA	6.12.3 and 6.12.4
		A BCK is installed on each leg of a multi leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of 1-1/4 inch in diameter or larger on the other side.	NA	NA	6.12.5
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	NA	NA	6.12.8

** In lieu of an emergency shutoff valve, the backflow check valve (BCK) is only permitted when flow is only into the container and it shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with a combustible material (6.12.3, 6.12.4).

If a checkmark is made in the “No” column of any one of Form 5.5, Form 5.6 or Form 5.7, then these items must be addressed and brought into compliance with the specific edition of NFPA 58 that the Facility was constructed to.

If the LP-Gas Facility is designed using ALTERNATE PROVISIONS for the installation of ASME CONTAINERS, then continue the analysis below. Otherwise skip Forms 5.8 and 5.9 and go to Chapter 6.

Form 5.8
Evaluation of Redundant and Fail-Safe Design

A #	B Description		C Features	D Installed in the Facility?		F NFPA 58 Section Reference (2014 edition)
				Yes	No	
1	Container Sizes for which the appurtenances are provided		Appurtenances and Redundant Fail-Safe equipment are provided for <u>each</u> container	X		6.28.4
2	Liquid or Vapor withdrawal (1-1/4 in. or larger)		Internal Valve with integral excess flow valve or excess flow protection	X		6.28.4.1
			Positive Shutoff Valve installed as close as possible to the Internal Valve	X		6.28.4.1
3	Liquid or Vapor Inlet		Internal Valve with integral excess flow valve or excess flow protection or Back Flow Check valve	X		6.28.4.1
			Positive Shutoff Valve installed as close as possible to the Internal Valve or the back flow check valve	X		6.28.4.1
4	Railcar Transfer	Flow Into or Out of Railroad tank car	Approved emergency shutoff valves installed in the transfer hose or the swivel-type piping at the tank car end	NA	NA	6.19.2.6(1) and 6.28.4.1
		Flow Only into railroad tank car	Approved emergency shutoff valve or backflow check valve installed in the transfer hose or the swivel-type piping at the tank car end	NA	NA	6.19.2.6 (2) and 6.28.4.1
5	Cargo Tank Transfer		Protection provided in accordance with 6.28.4.1	X		6.28.4.1
6	Automatic closure of all primary valves (IV & ESV) in an Emergency		Actuated by Fire Detection	X		6.28.4.2
			Actuated by a hose pull-away due to vehicle motion	X		6.28.4.2
7	Manually operated remote shutdown of IV and ESV		Remote shutdown station within 15 ft of the point of transfer?	X		6.28.4.3(A)
			Another remote shutdown station between 25 ft and 100 ft of the transfer point?	X		6.28.4.3(B)
			Shutdown stations will shut down electrical power supply, if any, to the transfer equipment and primary valves?	X		6.28.4.3
			Signs complying with the requirements of 6.28.4.3 (C) provided?	X		6.28.4.3 (C)

Note: If the Facility does not have a rail terminal, enter “NA” in both the “Yes” Column and the “No” Column in item 4 of this Form in the railroad tank car row. Similar option is also available if there is no cargo tank vehicle transfer station.

If the LP-Gas Facility is provided with LOW EMISSION TRANSFER EQUIPMENT, then complete Form 5.9 below. Otherwise skip section 5.3.2 and go to Chapter 6.

**Form 5.9
Evaluation of Low Emission Transfer Equipment**

A I T E M #	B Description	C Features		D Installed in the Facility?		F NFPA 58 Section Reference (2014 Edition)
				Yes	No	
1	Site Identified as Low Emission Transfer	Signs or other postings in area		NA	NA	6.28.5.2
2	Transfer into Cylinders or ASME Containers on Vehicles	Delivery Nozzle and Filler Valve- Max. Liquid Release after transfer of 4 cc.	Fixed Maximum Liquid Level Gage not used during transfer operations	NA	NA	6.28.5.3 (A, B)
3	Transfer into Stationary ASME Containers. Delivery valve and nozzle combination	During product transfer or post transfer uncoupling of the hose, liquid product volume released to the atmosphere	does not exceed 4 cc (0.24 in ³) from a hose of nominal size 1 in or smaller	NA	NA	6.28.5.4(A)
4	Transfer into Stationary ASME Containers Maximum filling limit	Do containers of less than 2,001 gal (w.c.) have an overfilling prevention device or another approved device?		NA	NA	6.28.5.4 (F)
		Do containers of greater than 2,000 gal (w.c.) have a float gage or other non-venting device?		NA	NA	6.28.5.4 (E)
5	Transfer into Stationary ASME Containers Fixed Maximum Liquid Level gage	Not used during routine transfers, but used to calibrate other non-venting liquid level gages in the container		NA	NA	6.28.5.4 (C,D)

Note: If the Facility does not have a particular feature described in the form, enter “NA” in both the “Yes” and “No” Columns corresponding to the row in item 2.

If separation distance reductions are intended, checkmarks made in the “No” column of either Form 5.8 or Form 5.9 must be addressed and brought into compliance with the specific edition of NFPA 58 that the Facility was constructed to.

Form 6.1
Evaluation of Physical Protection and Other Measures

A #	B Item	C Features	D Installed in the Facility?		E NFPA 58 Section Reference (2014 Edition)
			Yes	No	
1	Lighting‡	Provide lighting to illuminate storage containers, container being loaded, control valves, and other equipment	X		6.19.5
2	Vehicle impact protection	Protection against vehicular (traffic) impacts on containers, transfer piping and other appurtenances is designed and provided commensurate with the size of vehicles and type of traffic in the Facility. (Example protection systems include but not limited to (1) Guard rails, (2) Steel bollards or crash posts, (3) Raised sidewalks.	X		
3	Protection against corrosion	Provide protection against corrosion where piping is in contact with supports or corrosion causing substances.	X		6.9.3.11
Complete only 4A or 4B					
4A	Perimeter Fence	Is an industrial type or chain link fence of at least 6 ft high or equivalent protection provided to enclose (all around) container appurtenances, pumping equipment, loading and unloading and container filling facilities?	X		6.19.4.2(C)
		Are at least two means of emergency accesses (gates) from the enclosure provided? NOTE: Write “N.A.” (not applicable) if (i) The area enclosed is less than 100 ft ² , or (ii) The point of transfer is within 3 ft of the gate, or containers are not filled within the enclosure	X		6.19.4.2 (A)
		Is a clearance of, at least, 3 feet all around to allow emergency access to the required means of egress been provided?	X		6.19.4.2 (B)
	Guard Service	If a guard service is provided, does this service cover the LP-Gas plant and are the guard personnel provided with appropriate LP-Gas related training, per section 4.4 of NFPA 58?	NA	NA	6.19.4.3
4B	Lock-in-Place devices	Are Lock-in-Place devices provided to prevent unauthorized use or Facility of any container appurtenance, system valves, equipment in lieu of the fence requirements above?	NA	NA	6.19.4.2 (C)

Note: Fill only items 1, 2, 3, and 4A or 4B. Indicate with “NA” when not filling the “Yes” or “No” column.

‡ Indicate with “NA” if the Facility is not operated at night.

Form 6.2
Assessment of Sources of Ignition and Adjacent Combustible Materials

A	B	C	D	E
#	Sources of Ignition and Requirements Pertaining to Adjacent Combustible Materials	Is the Facility compliant?		NFPA 58 Section Reference (2014 Edition)
		Yes	No	
1	Are combustible materials, weeds and tall grass not closer than 10 ft. from each container?	X		6.4.4.3
2	Is a distance at least 20 ft. provided between containers and tanks containing flammable liquids with flash point less than 200 °F (ex., gasoline, diesel)?	X		6.4.4.6
3	Are electrical equipment and wiring installed per Code requirements?	X		6.23.2
4	Is open flame equipment located and used according to Code?	X		6.23.3.4
5	Are ignition control procedures and requirements during liquid transfer Facility's complied with.?	X		7.2.3.2
6	Is an approved, portable, dry chemical fire extinguisher of minimum capacity 18 lbs. and having a B:C rating provided in the Facility?	X		6.27.4.2
7	Is an approved, portable, dry chemical fire extinguisher of minimum capacity 18 lbs. and having a B:C rating provided on each truck or trailer used to transport portable containers?	X		9.3.5
8	Is the prohibition on smoking within the Facility premises strictly enforced?	X		7.2.3.2 (B) & 9.4.10

Note: Insert "NA" in both "Yes" and "No" columns of any items that are not applicable.

Form 6.3

Separation Distances from Containers to Buildings, Property Lines that can be Built upon, Inter-container Distances, and Aboveground Flammable or Combustible Storage Tanks

A #	B Container Size Range in gal (W.C.)	C Separation Between a property line, important building or other property and the <u>nearest</u> container which is	D Minimum Distance (ft)	E Is the Facility compliant?		G NFPA 58 Section Reference (2014 Edition)
				Yes	No	
1	501 through 2,000	Above Ground	25	NA	NA	6.3.3 and Table 6.3.1.1
		Underground or Mounded	10	NA	NA	
		Between containers	3	NA	NA	
2	2,001 through 30,000	Above Ground	50	X		
		Underground or Mounded	10	NA	NA	
		Between containers	5	X		
3	30,001 through 70,000	Above Ground	75	NA	NA	
		Underground or Mounded	50	NA	NA	
		Between containers	¼ sum of diameters of adjacent containers	NA	NA	
4	70,001 through 90,000	Above Ground	100	NA	NA	
		Underground or Mounded	50	NA	NA	
		Between containers	¼ sum of diameters of adjacent containers	NA	NA	
5	All sizes greater than 125 gal	Separation distance between a LP-Gas container and an above ground storage tank containing flammable or combustible liquids of flash points below 200 °F.	20	X		6.4.4.6

Note: If any of the container sizes indicated in the above form are not present in the Facility, then enter “NA” in both “Yes” and “No” Columns.

If the LP-Gas plant is provided with every one of the redundant and fail-safe product control-design equipment indicated in Form 5.8, then the minimum distance in column D of Form 6.3 can be reduced to 10 feet for underground and mounded containers of water capacity 2,001 gal to 30,000 gal.

Form 6.4

Separation Distances between Points of Transfer and other Exposures

A #	B Type of Exposure within or outside the Facility boundary		C Check if exposure is present	D Minimum Distance (ft)	E Is the Facility compliant?		G NFPA 58 Section Reference (2014 Edition)
					Yes	No	
1	Buildings, mobile homes, recreational vehicles, and modular homes with fire-resistive walls		<input type="checkbox"/>	10	NA	NA	Section 6.5.2.1 Table 6.5.2.1
2	Buildings with other than fire resistive walls		<input checked="" type="checkbox"/>	25	X		
3	Building wall openings or pits at or below the level of the point of transfer		<input checked="" type="checkbox"/>	25	NA	NA	
4	Line of adjoining property that can be built upon		<input checked="" type="checkbox"/>	25	X		
5	Outdoor places of public assembly, including school yards, athletic fields, and playgrounds		<input type="checkbox"/>	50	NA	NA	
6	Public ways, including public streets, highways, thoroughfares, and sidewalks	From points of transfer in LP-Gas dispensing stations and at vehicle fuel dispensers.	<input checked="" type="checkbox"/>	10	X		
		From other points of transfer	<input checked="" type="checkbox"/>	25	X		
7	Driveways		<input checked="" type="checkbox"/>	5	X		
8	Mainline railroad track centerlines		<input type="checkbox"/>	25	NA	NA	
9	Containers other than those being filled		<input checked="" type="checkbox"/>	10	X		
10	Flammable and Class II combustible liquid dispensers and aboveground and underground containers		<input checked="" type="checkbox"/>	20	X		
11	Flammable and Class II combustible liquid dispensers and the fill connections of LPG containers		<input checked="" type="checkbox"/>	10	X		
12	LP-Gas dispensing device located close to a Class I liquid dispensing device.		<input type="checkbox"/>	10	NA	NA	3.9.4.3

Note: Place a checkmark in Column C against an exposure that is present in or around the Facility. Fill Columns E or F for only those rows for which there is a checkmark in Column C.

If the Facility contains low emission transfer equipment (i.e, all equipment identified in Form 5.9 are installed and are in working order), then the minimum separation distances in column D of Form 6.4 can be reduced to one half of the indicated values.

If the containers in the LP-Gas Facility are provided with SPECIAL PROTECTION MEASURES, then continue the analysis below. Otherwise skip Forms 6.5 and 6.6 and go to Form 6.7. Also see Chapter 9.

Form 6.5
Special Protection Measures –Passive Systems

A #	B Special Protection Option	C Question	D Is the Facility compliant?		E NFPA 58 Section Reference (2014 Edition)
			Yes	No	
1	Container Insulation	Insulation provided on each of the containers?	NA	NA	6.27.5
		Insulation material complies with the requirements of section 6.23.5.1 of NFPA 58?	NA	NA	6.27.5.1 and 6.27.5.2
2	Mounding of containers	Each container in the Facility is mounded?	NA	NA	6.27.5.3
		Mounding complies with each requirement under section 6.6.6.3 of NFPA 58.	NA	NA	6.27.5.3
3	Burying of containers	Each container in the Facility is buried?	NA	NA	6.27.5.4
		Buried containers comply with each requirement under section 6.6.6.1 of NFPA 58.	NA	NA	6.6.6.3 & 6.27.5.4

Form 6.6
Special Protection Measures –Active Systems

#	Special Protection Option	Question	Is the Facility compliant?		NFPA 58 Section Reference (2014 Edition)
			Yes	No	
1	Water spray systems	Are fixed water spray systems, complying with NFPA 15 ¹ requirements, used for each container in the Facility?	NA	NA	6.27.6.1
		Do fire responsive devices actuate water spray system automatically?	NA	NA	6.27.6.2
		Can the water spray systems be actuated manually also?	NA	NA	6.27.6.2
2	Monitor nozzle systems	Are the monitor nozzles located and arranged so that the water stream can wet the surfaces of all containers exposed to a fire?	NA	NA	6.27.6.3
		Can the water stream from a monitor nozzle reach and wet the entire surface of, at least, one half of a length from one end of each of the containers it is designed to protect?	NA	NA	6.27.6.3
		Do fixed monitor nozzles comply with NFPA 15 ¹ requirements?	NA	NA	6.27.6.1
		Do fire responsive devices actuate the monitor nozzles?	NA	NA	6.27.6.2
		Can the monitor nozzles can be actuated manually also?	NA	NA	6.27.6.2

Note: Refer to Chapter 8 for a discussion on NFPA 15 *Standard for Water Spray Fixed Systems for Fire Protection*.

Form 6.7
Protection Against Vehicular Impact

#	System Protected	Is physical protection provided?		Type of physical protection installed
		Yes	No	
1	Storage containers	X		Guard Rails
2	Transfer stations	X		Guard Rails
3	Entry way into the plant	NA	NA	

Table 7.1
Distances to Various Types of Propane Hazards Under Different Release Models**

Model #	Details of the Propane Release Model Releases from or due to		Vapor Dispersion Distance to LFL (ft)	Explosion Hazard Distance (ft)	Fire Ball Radiation Distance (ft)
1A	Bobtail hose failure. Release of the entire inventory in the hose, quickly.	1" ID x 150 ft hose length	250	110	50
1B		1" ID x 120 ft hose length	230	103	45
1C		1" ID x 75 ft hose length	190	90	40
2a	Release of the inventory in a transfer piping 1" x 30 ft + @ 20 gpm for 10 min., due to failed excess flow valve.		135	120	25
2b	Release of the inventory in a transfer piping 2" x 30 ft + @80 gpm for 10 mins.		230	252	48
2c	Release of the inventory in a transfer piping 2" x 80 ft. @ 70 gpm for 10 mins.		328	235	74
2d	Release of the inventory in a transfer piping 2.5" x 30 ft @80 gpm for 10 mins.		269	252	59
2e	Release of the inventory in a transfer piping 3" x 30 ft + @100 gpm for 10 mins.		312	287	69
2f	Release of the inventory in a transfer piping 3" x 18 ft + @100 gpm for 10 mins.		256	284	55
3	Release from the container pressure relief valve		No ignitable vapor concentration at ground level		
4	Release from a 1" ID x 150 ft transfer piping to a vaporizer and reduced flow from a partially open excess flow valve @ 20 gpm for 10 min.		250	120	50
5	Leak from a corrosion hole in a transfer pipe at a back pressure of 130 psig (corresponding to 80 °F) for 60 min. Hole size is ¼" ID.		110	120	5
6	Release of the entire inventory in a 2" ID x 20 ft., transfer hose.		195	90	40
6a	Release of the entire inventory in a 2.5 inch dia. transfer hose x 16 ft. length		215	98	45
6b	Release of the entire inventory in a 3-inch dia. transfer hose x 12 ft. length		230	100	46
7	Transport hose blow down: Hose size 2" ID, 20 ft length release for 3min., from a Transport after the tank is filled.		25	30	<5
7a	Transport hose blow down: Hose size 2.5" ID, 16 ft length release for 3min., from a Transport after the tank is filled.		25	29	<5
7b	Transport hose blow down: Hose size 3" ID, 16 ft length release for 3min., from a Transport after the tank is filled.		31	36	<5

** Results from models described in Appendix B. The results are rounded to the nearest 5 feet.

Form 7.1

Types of Occupancies⁽¹⁾ Near or Surrounding the LP-Gas Facility

Type of Occupancies	Model # from Table 7.1	Hazard Distance ⁽²⁾ (feet)	Is an Occupancy located within the hazard distance from the Facility?	
			Yes	No
Assembly Occupancies (Places of worship, Libraries, Theaters and Auditoriums, Food or Drink Bars, Sports Stadiums, Amusement Parks, Transportation Centers, etc. with 50 or more people).	6	195 (Vapor Dispersion)		X
Institutional Occupancies (Elderly Persons Home or Nursing Home, Hospitals, Alcohol & Drug Rehabilitation Centers, Prisons)	6	195 (Vapor Dispersion)		X
Educational Occupancies (Elementary Schools, Day Care facilities, etc).	6	195 (Vapor Dispersion)		X

NOTES: (1) Different types of occupancies are defined in NFPA 5000

- (2) Table 7.1 provides a number of scenarios that can result in propane release, and the resulting area exposed for different ignition mechanisms. Determine the scenarios that are applicable to the Facility, for the quantities that can be released. Use the hose diameters and length that will be used at the Facility if they differ from the ones in Table 7.1 and recalculate the hazard distances using a spreadsheet method that is available at npga.org. Some scenarios may not be applicable to an installation based on other mitigation measures taken, such as a hose management procedure to minimize the possibility of hose failure.

Form 7.2

Exposure to LP-Gas Facility from External Hazards

A	B	C	D
Item #	Type of Neighboring Facility	Hazard exists to the LP-Gas Facility	
		Yes	No
1	Petroleum and other hazardous material storage, wholesale dispensing, etc.	X	
2	Metal cutting, welding, and metal fabrication	NA	NA
3	Industrial Manufacturing that can pose external hazards	NA	NA
4	Ports, rail yards and trans-shipment terminals handling flammable and explosive materials.	NA	NA
5	Other operations that may pose hazards (gasoline and other hazardous material dispensing stations, fertilizer storage, etc).	NA	NA

Note: If a particular activity indicated in Column B does not exist, fill both “Yes” and “No” Columns with “NA.”

Where a “Yes” has been checked in either Form 7.1 or Form 7.2:

- 1) For an existing Facility, communicate this information to local emergency responders for inclusion in their emergency planning.**
- 2) For a proposed Facility, implement the actions indicated in Chapter 9.**

Form 8.1
Data on the Responsible Fire Department

A	B		C
Item #	<u>Data Item</u>		Data Entry
1	Name of the Fire Department (FD).		Candia Fire Department
2A	Name of the person in the FD assisting with the data acquisition.		Dean Young
2B	Position of the person in the FD assisting with the data acquisition.		Chief
3A	Date on which FD data was collected.		October 18, 2023
3B	Name of the person collecting the data.		Robert Coluccio, PE
4	Number of firefighters on duty at any time.		(ALL VOLUNTEER)
5	Average number of firefighters available for response.		(ALL VOLUNTEER)
6A	Number of firefighters qualified to	“Firefighter I” level.	11
6B		“Firefighter II” level.	20
7A	Number of firefighters who would	respond on the first alarm to the facility.	(ALL VOLUNTEER)
7B		respond on the first alarm and who are qualified to the operations level requirements of NFPA 472 or local requirements	(ALL VOLUNTEER)
7C		respond on the first alarm with specific knowledge and training on the properties of LP-Gas and LP-Gas fires.	(ALL VOLUNTEER)
8A	Number of fire apparatus that have the capability to deploy a 125 gpm hose line supplied by onboard water for at least 4 minutes, and	that are in service in the department.	2
8B		that would respond on a first alarm.	4

Form 8.2
Response Time data for the Fire Departments

A	B	C	D	E
Company or Department	Time in Minutes for			
	Alarm Receipt & Handling	Turnout	Travel	Total Time
Hooksett (manned 24/7)	up to 2	2	10	14
Deerfield (manned during day)	up to 2	10	12	24
Auburn (manned during day)	up to 2	10	10	22
Chester (manned during day)	up to 2	10	15	27
Raymond (manned during day)	up to 2	10	8	20

Notes: Number in Column E = Sum of numbers from Columns B through D.

This form contains formulas that will automatically calculate results based on the values entered in the related cells. To activate the calculations, click in another number field, such as one in Column D.

Form 8.4
Evaluation of Water Availability in or Near the LP-Gas Facility

A	B	C	D		
Item	Water from	Available?	Quantitative information		
1	Public supply or from another piped-in supply through one or more fire hydrants in or near the Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydrant data	Distance from Facility gate (feet)	Available water flow rate from all hydrants ⁽¹⁾ (gpm)
			Hydrant 1		
			Hydrant 2		
			Hydrant 3		
2	A nearby static water source (stream, pond, lake, etc).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Distance to water source = 1,000 feet Time to set up relay = 15 Minutes Rate of delivery = 500 GPM		
3	Only through mobile water tanker shuttle.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2 Engines 1,000 Gallons each 1250 and 1500 GPM 1 Tanker 3,500 Gallon		

- 1. For an existing Facility, communicate this information to local responders for inclusion in their emergency planning.**
- 2. For a proposed new Facility, refer to Chapter 9**

Form 9.1
Analysis Summary on Product Control and Local Conditions of Hazard

A	B	C	D	E
Item #	CHAPTER Title	Section & Title	Reference FORM #	Number of "No" checked [§]
1	Product Control Measures in Containers & Transfer Piping	5.1: Product Control in Containers	5.3	0
		5.2 Product Control in Transfer Piping	5.5	0
			5.6	0
			5.7	0
			5.8	0
			5.9	0
2	Analysis of Local Conditions of Hazard	6.1 Physical Protection Measures	6.1	0
		6.2 Ignition Source Control	6.2	0
		6.3.1 Separation distances; Container and outside exposures	6.3	0
		6.3.2 Separation distances; Transfer points and outside exposures	6.4	0
		6.4 Special Protection Measures	6.5	0
			6.6	0

§ The number of "No" for Forms from Chapter 5 is the difference between the required number of appurtenances according to NFPA 58-2014, and a lesser number found to be actually installed on the container or the transfer piping.

If in any row of Column E ("No") of Form 9.1, the entry number is greater than zero, the proposed LP-Gas Facility is not in compliance with the 2014 NFPA 58 Code requirements for product control appurtenances or other safety measures. The design of the proposed Facility must be modified to conform to the Code requirements. In addition, the following items should be noted.

- If there are any "No" checks in Form 6.3, then the separation distance requirements for containers are not satisfied. An option that may be considered is the reduction in separation distance to 10 feet for underground and mounded containers by providing "Redundant and Fail-Safe Product Control Measures." In this case, complete Form 9.4, below to ensure that each requirement of "Redundant and Fail-Safe Product Control Measures" is provided.
- If there are any "No" checks in Form 6.4, then the separation distance requirements for transfer points are not satisfied. In this case, relocate the transfer points so that the separation distances conform to the code requirements or provide the Low Emission Transfer Equipment. Complete Form 9.5 below and ensure that all requirements for Low Emission Transfer Equipment are fulfilled.

Form 9.2
Analysis Summary on Exposure from and to the LP-Gas Facility

A	B	C	D	E
Item #	CHAPTER Title	Section & Title	Reference FORM #	Number of “Yes” Checked
1	Exposure to and from Other Properties	7.1 Exposure to off-site properties and persons from in-plant propane releases	7.1	0
		7.2 Exposure to propane Facility from external events.	7.2	0

If the entry number in column E (“Yes”), Form 9.2 corresponding to Form 7.1 is greater than zero, consider one or more of the following design alternatives.

- 1) Consider moving the container or the transfer point to a different location, if possible and space exists, so that the property or the person is beyond the hazard distance.
- 2) Provide “Redundant and Fail-safe Product Control Measures”. Complete Form 9.4 to ensure compliance.
- 3) Institute other technical measures such as installing gas and flame detectors (connected to Facility shut down systems), sounding alarm outside Facility premises, etc.
- 4) Institute administrative controls such as additional training for personnel, more frequent inspection of hoses and transfer piping, etc.

If the entry number in column E (“Yes”), Form 9.2 corresponding to Form 7.2 is greater than zero, consider one or more of the following design alternatives.

- 1) Implement procedures to monitor neighboring activity.
- 2) Install means in the adjacent plant to shut down the LP-Gas plant in case emergency in that plant.

Form 9.3
Analysis Summary on Fire Department Evaluations

A	B	C	D	E	F
Item #	CHAPTER Title	Section & Title	Reference FORM #	Number "zeroes" entered in Column C, Lines 6 through 8 of Form 8.1	Number of "Yes" checked in Column C of Form 8.4
1	Fire department capability, adequacy of water supply and Emergency Planning	8.1 Data on the Fire Department	8.1	0	
		8.2 Fire response water needs and availability	8.4	—	2

If the entry number in row 1, Column E of Form 9.3 is greater than zero, consider one or more of the following design alternatives.

- 1) Discuss with the local Fire Department the needs of the LP-Gas Facility and the evaluation results on the capability and training inadequacies of the Department.
- 2) Consider developing a cadre of personnel within the LP-Gas Facility to respond to emergencies.
- 3) Institute container special protection system based on active protection approaches or passive approaches. Complete Form 9.6 and Form 9.7 below.

If the entry number in row 2, Column F of Form 9.3 is equal to zero, consider one or more of the following design alternatives.

- 1) Provide special protection (other than water spray or monitor systems) to containers, satisfying the requirements of section 6.25.5 of NFPA 58, 2014 edition. Complete Form 9.6 to ensure compliance.
- 2) Consider implementing the various options indicated in Table 9.1.

Form 9.4
Redundant and Fail-Safe Design for Containers

A Item #	B Description		C Features	D		E	F NFPA 58 Section Reference (2014 Edition)
				Proposed for the Facility?		No	
				Yes	No		
1	Container Sizes for which the appurtenances are provided		Appurtenances and redundant fail-safe equipment and Low Emission transfer lines are provided for each container of water capacity 2,001 gal to 30,000 gal	X			6.28.4 and 6.28.5
2	Liquid or Vapor Withdrawal (1-1/4 in. or larger)		Internal Valve with integral excess flow valve or excess flow protection	X			6.28.3.1
			Positive Shutoff Valve installed as close as possible to the Internal Valve	X			6.28.3.4
3	Liquid or Vapor Inlet		Internal Valve with integral excess flow valve or excess flow protection or Back Flow Check valve	X			6.28.3.5
			Positive Shutoff Valve installed as close as possible to the Internal Valve or the back flow check valve	X			6.28.3.5
4	Railcar Transfer	Flow Into or Out of Railroad tank car	Emergency Shutoff Valve installed in the transfer hose or the swivel-type piping at the tank car end.	NA	NA		6.18.2.6 (1) and 6.28.4.1
		Flow Only Into railroad tank car	Emergency shutoff valve or backflow check valve installed in the transfer hose or the swivel-type piping at the tank car end.	NA	NA		6.18.2.6 (2) and 6.28.4.1
5	Cargo Tank Transfer		Protection provided in accordance with 6.28.4.1	NA	NA		6.28.4.1
6	Automatic closure of all primary valves (IV & ESV) in an Emergency		By fire actuation	X			6.28.4.2
			In the event of a hose pull-away due to vehicle motion	X			6.28.4.2
7	Manually operated remote shutdown of IV and ESV		Remote shutdown station within 15 ft of the point of transfer?	X			6.28.4.3 (A)
			Another remote shutdown station between 25 ft and 100 ft of the transfer point?	X			6.28.4.3 (B)
			Shutdown stations will shut down electrical power supply, if any, to the transfer equipment and primary valves?	X			6.28.4.3
			Signs complying with the requirements of 6.28.4.3 (C) provided?	X			6.28.4.3 (C)

Note: If your Facility does not have a rail terminal, enter “NA” in both the “Yes” Column and the “No” Column in item 4 of the form in the railroad tank car row. Similar option is also available if there is no cargo tank vehicle transfer station.

Form 9.5
Low Emission Transfer Equipment

A	B	C		D	E	F
Item #	Description	Features		Proposed for the Facility?		NFPA 58 Section Reference (2014 Edition)
				Yes	No	
1	Transfer into Cylinders or ASME Containers on Vehicles	Delivery Nozzle and Filer Valve-Max. Liquid Release after transfer of 4 cc.	Fixed Maximum Liquid Level Gauge not used during transfer Facilityys	NA	NA	6.28.5.1 (B)
2	Transfer into Stationary ASME Containers Delivery valve and nozzle combination	During product transfer or post transfer uncoupling of the hose, liquid product volume released to the atmosphere	Does not exceed 4 cc (0.24 in ³) from a hose of nominal size 1 in or smaller	NA	NA	6.28.5.2(A)
			Does not exceed 15 cc (0.91 in ³) from a hose of nominal size larger than 1 in.	NA	NA	6.28.5.2 (B)
3	Transfer into Stationary ASME Containers Maximum filling limit	Do containers less than 2,001 gal (wc) have an overfilling prevention device or another approved device?		NA	NA	6.28.5.2 (F)
		Do containers greater than 2,000 gal (wc) have a float gauge or other non-venting device?		NA	NA	6.28.5.2 (E)
4	Transfer into Stationary ASME Containers Fixed Maximum Liquid Level gauge	Not used during routine transfer Facilityys but may be used in calibrating other non-venting liquid level gauges in the container		NA	NA	6.28.5.2 (C,D)

Note: If the Facility does not have a particular feature described in the form, enter “NA” in both the “Yes” and “No” Columns corresponding to its row in item 2.

Form 9.6
Special Protection Measures –Passive Systems

A Item #	B Special Protection Option	C Question	D Proposed for the Facility?		E NFPA 58 Section Reference (2014 Edition)
			Yes	No	
1	Container Insulation	Insulation provided on each of the containers?	NA	NA	6.25.5.1
		Insulation material complies with the requirements of section 6.25.5.1 of NFPA 58?	NA	NA	6.25.5.1 and 6.25.5.2
2	Mounding of containers	Each container in the Facility is mounded?	NA	NA	6.25.5.3
		Mounding complies with each requirement under section 6.6.6.3 of NFPA 58.	NA	NA	6.25.5.3
3	Burying of containers	Each container in the Facility is buried?	NA	NA	6.25.5.4
		Buried containers comply with each requirement under section 6.6.6.1 of NFPA 58.	NA	NA	6.6.6.1 & 6.25.5.4

Form 9.7
Special Protection Measures –Active Systems

Item #	Special Protection Option	Question	Is the Facility compliant?		NFPA 58 Section Reference (2014 Edition)
			Yes	No	
1	Water spray systems	Are fixed water spray systems, complying with NFPA 15 requirements, used for each container in the Facility?	NA	NA	6.25.6.1
		Do fire responsive devices actuate water spray system automatically?	NA	NA	6.25.6.2
		Can the water spray systems be actuated manually also?	NA	NA	6.25.6.2
2	Monitor nozzle systems	Are the monitor nozzles located and arranged so that the water stream can wet the surfaces of all containers exposed to a fire?	NA	NA	6.25.6.3
		Can the water stream from a monitor nozzle reach and wet the entire surface of, at least, one half of a length from one end of each of the containers it is designed to protect?	NA	NA	6.25.6.3
		Do fixed monitor nozzles comply with NFPA 15 requirements?	NA	NA	6.25.6.1
		Do fire responsive devices actuate the monitor nozzles?	NA	NA	6.25.6.2
		Can the monitor nozzles be actuated manually also?	NA	NA	6.25.6.2

Equivalent Protection to a Water Supply for Industrial and Bulk Facilities

In the case where water supply is not available in or near the LP-Gas Facility, or is inadequate or is prohibitively expensive to connect to a public or private water supply hydrant, alternative methods for providing protection should be considered. In lieu of providing a water supply, several alternatives are indicated in Table 9.1, which can offer an equivalency to a water supply system.

The intent of the controls identified in Table 9.1 is to maintain the entire system as a gas tight entity. These methods include reducing the service life of equipment, increasing the design pressure rating of the system beyond the requirements of NFPA 58, or providing early detection and isolation of the system to ensure product control. This list is not exhaustive and is not ranked in an order of priority.

Table 9.1
Suggested Alternative Methods for Industrial and Bulk Plants that do not pose a hazard but lack a water supply

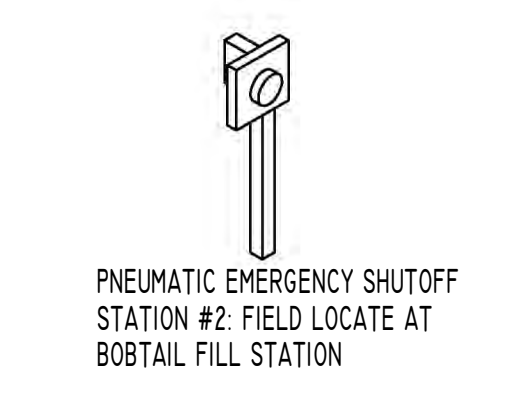
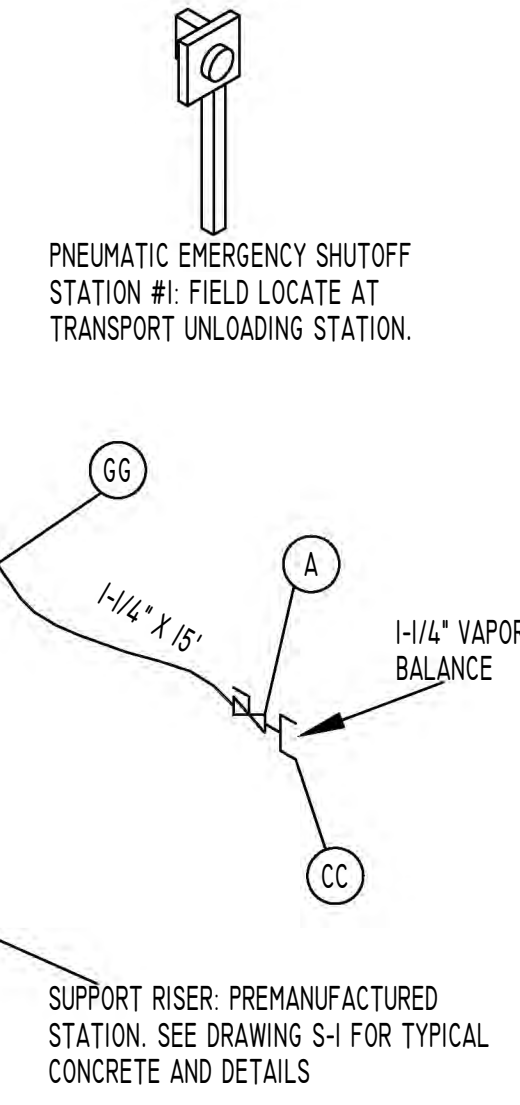
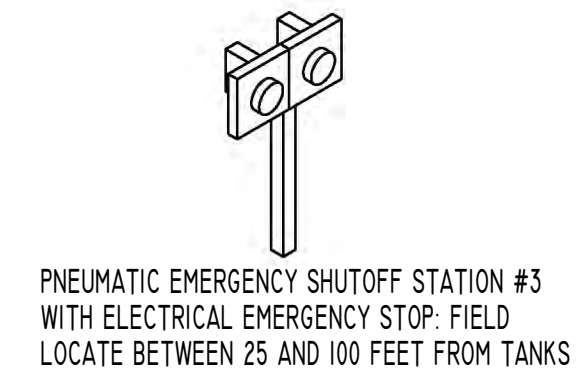
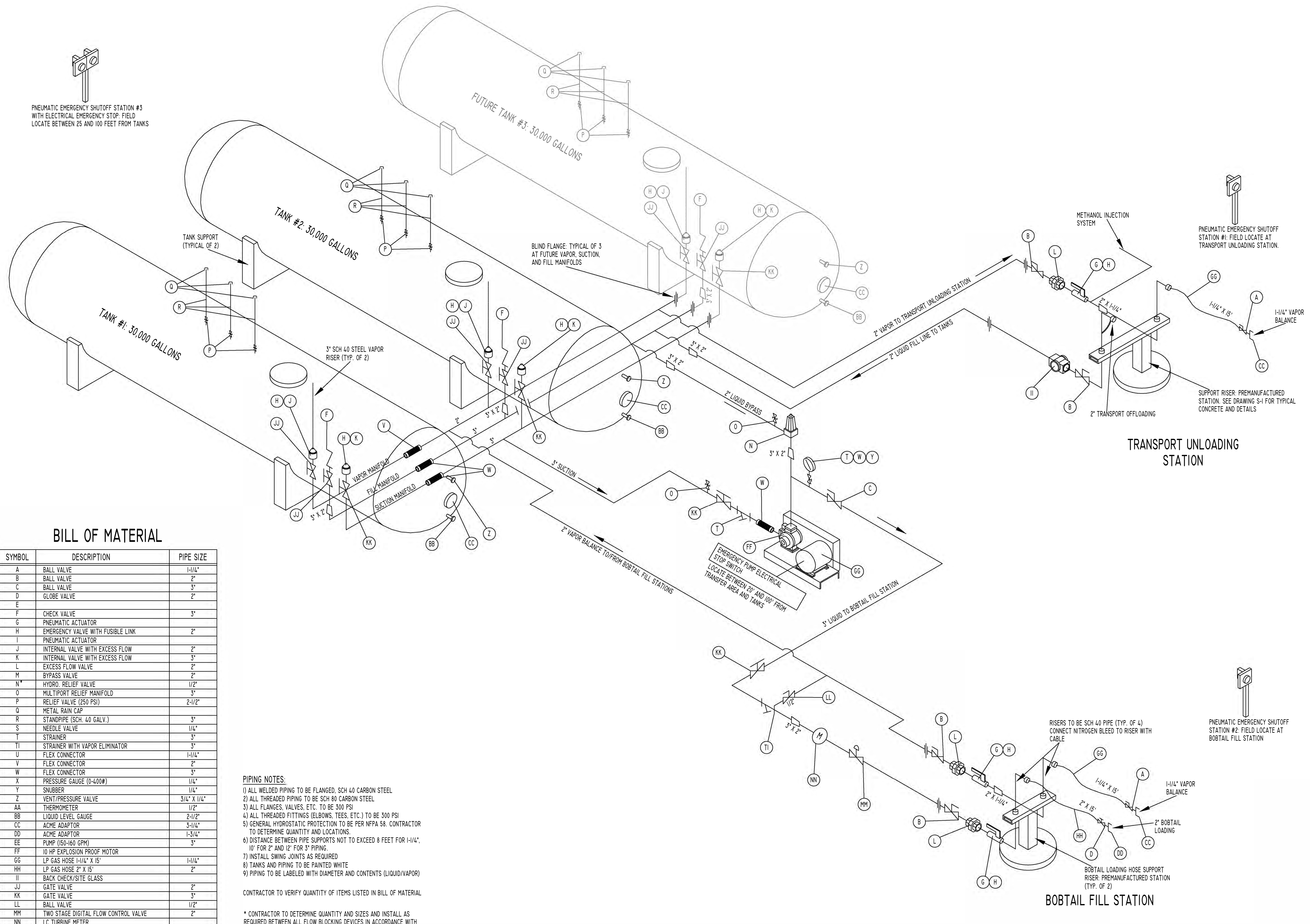
Item #	Possible options to implement when adequate water supply is not available
1	Reduce the service life of hoses.
2	Increase frequency of equipment inspection.
3	Establish a service life program for the maintenance of the container pressure relief devices. This could include the installation of a listed multiple port valve and certifying that the relief devices are properly set and maintained every 5 to 10 years.
4	Increase the strength of the piping and fitting systems.
5	Install emergency shutoff valves in conjunction with container internal valves.
6	Install emergency shutoff valves downstream of transfer pump outlets, and upstream of the vapor and liquid valves at the bulkhead.
7	Install pneumatic tubing along the plant boundary to serve as a perimeter fire detection system. This would provide protection of the plant against exposure fires.
8	Provide optical flame detection or linear heat detection, or a gas detection system connected to an isolation valve installed downstream of every liquid and vapor nozzle on the container. This system could also be monitored to send a signal to an alarm company that notifies the Fire Department of an event.
9	Increase the separation distances of internal plant exposures to the container. These exposures would include a site dumpster, idle or waste pallets and combustibles, and increasing the parking distances between the bobtails and transports in relation to the container.
10	Relocate overhead power lines away from all container and cylinder storage areas to protect against ignition in the event of a line dropping due to wind or power pole impact.
11	Eliminate all combustible vegetation within 30 feet of the LP-Gas container. This can be accomplished using gravel, or paving the site yard.
12	Install tanks using the mounding or burial method.

APPENDIX E

SCHEMATICS

DATE	REVISION

FILE: SCHEMATIC
DRAWN BY: JAS
DATE: 8/28/23
JOB #: 22-E-023
WEB DRAWING NO. 23068
SCALE: NTS

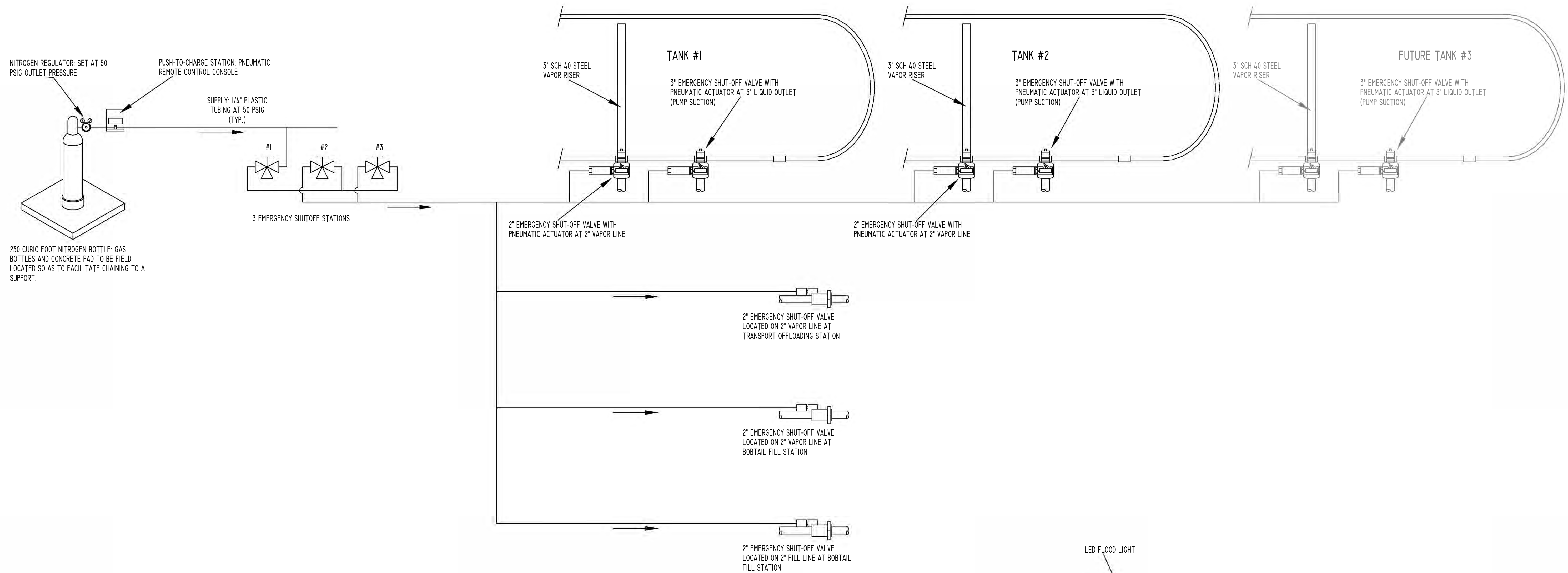


BILL OF MATERIAL

SYMBOL	DESCRIPTION	PIPE SIZE
A	BALL VALVE	1-1/4"
B	BALL VALVE	2"
C	BALL VALVE	3"
D	GLOBE VALVE	2"
E		
F	CHECK VALVE	3"
G	PNEUMATIC ACTUATOR	
H	EMERGENCY VALVE WITH FUSIBLE LINK	2"
I	PNEUMATIC ACTUATOR	
J	INTERNAL VALVE WITH EXCESS FLOW	2"
K	INTERNAL VALVE WITH EXCESS FLOW	3"
L	EXCESS FLOW VALVE	2"
M	BYPASS VALVE	2"
N*	HYDRO. RELIEF VALVE	1/2"
O	MULTIPOINT RELIEF MANIFOLD	3"
P	RELIEF VALVE (250 PSI)	2-1/2"
Q	METAL RAIN CAP	
R	STANDPIPE (SCH. 40 GALV.)	3"
S	NEEDLE VALVE	1/4"
T	STRAINER	3"
TI	STRAINER WITH VAPOR ELIMINATOR	3"
U	FLEX CONNECTOR	1-1/4"
V	FLEX CONNECTOR	2"
W	FLEX CONNECTOR	3"
X	PRESSURE GAUGE (0-400#)	1/4"
Y	SNUBBER	1/4"
Z	VENT/PRESSURE VALVE	3/4" X 1/4"
AA	THERMOMETER	1/2"
BB	LIQUID LEVEL GAUGE	2-1/2"
CC	ACME ADAPTOR	3-1/4"
DD	ACME ADAPTOR	1-3/4"
EE	PUMP (150-160 GPM)	3"
FF	10 HP EXPLOSION PROOF MOTOR	
GG	LP GAS HOSE 1-1/4" X 15'	1-1/4"
HH	LP GAS HOSE 2" X 15'	2"
II	BACK CHECK/SITE GLASS	
JJ	GATE VALVE	2"
KK	GATE VALVE	3"
LL	BALL VALVE	1/2"
MM	TWO STAGE DIGITAL FLOW CONTROL VALVE	2"
NN	LC TURBINE METER	

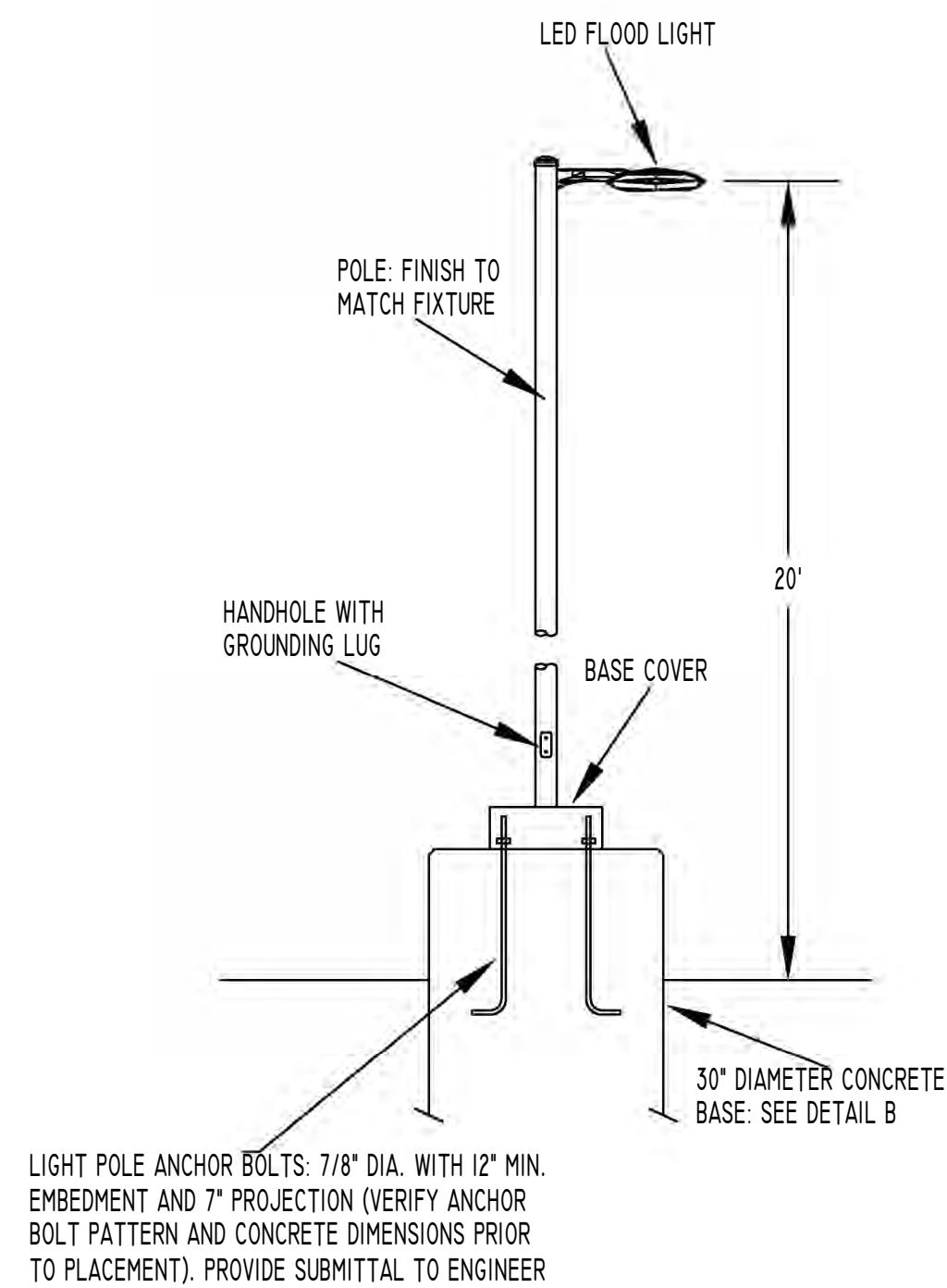
- PIPING NOTES:**
- 1) ALL WELDED PIPING TO BE FLANGED, SCH 40 CARBON STEEL
 - 2) ALL THREADED PIPING TO BE SCH 80 CARBON STEEL
 - 3) ALL FLANGES, VALVES, ETC. TO BE 300 PSI
 - 4) ALL THREADED FITTINGS (ELBOWS, TEES, ETC.) TO BE 300 PSI
 - 5) GENERAL HYDROSTATIC PROTECTION TO BE PER NFPA 58. CONTRACTOR TO DETERMINE QUANTITY AND LOCATIONS.
 - 6) DISTANCE BETWEEN PIPE SUPPORTS NOT TO EXCEED 8 FEET FOR 1-1/4", 10' FOR 2" AND 12' FOR 3" PIPING.
 - 7) INSTALL SWING JOINTS AS REQUIRED
 - 8) TANKS AND PIPING TO BE PAINTED WHITE
 - 9) PIPING TO BE LABELED WITH DIAMETER AND CONTENTS (LIQUID/VAPOR)

CONTRACTOR TO VERIFY QUANTITY OF ITEMS LISTED IN BILL OF MATERIAL
* CONTRACTOR TO DETERMINE QUANTITY AND SIZES AND INSTALL AS REQUIRED BETWEEN ALL FLOW BLOCKING DEVICES IN ACCORDANCE WITH NFPA 58

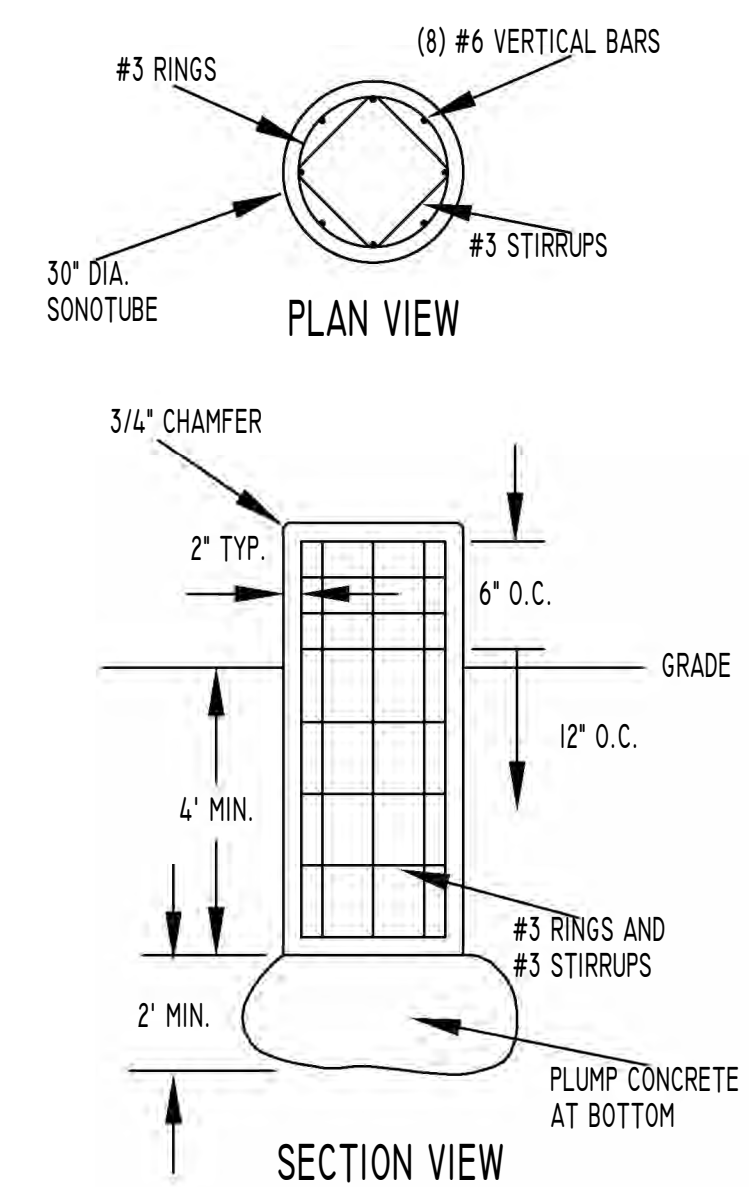


230 CUBIC FOOT NITROGEN BOTTLE- GAS BOTTLES AND CONCRETE PAD TO BE FIELD LOCATED SO AS TO FACILITATE CHAINING TO A SUPPORT.

PNEUMATIC DIAGRAM (FIELD LOCATE)



DETAIL A
TYPICAL LIGHT POLE DETAILS
NOT TO SCALE



DETAIL B
CONCRETE BASE: LIGHT POLE
NOT TO SCALE

RICK WENZEL OIL COMPANY
5 HIGH STREET, CANDIA, NEW HAMPSHIRE

WEB ENGINEERING ASSOCIATES, INC.
111 SUMMER STREET, SCITUATE, MASSACHUSETTS 02066

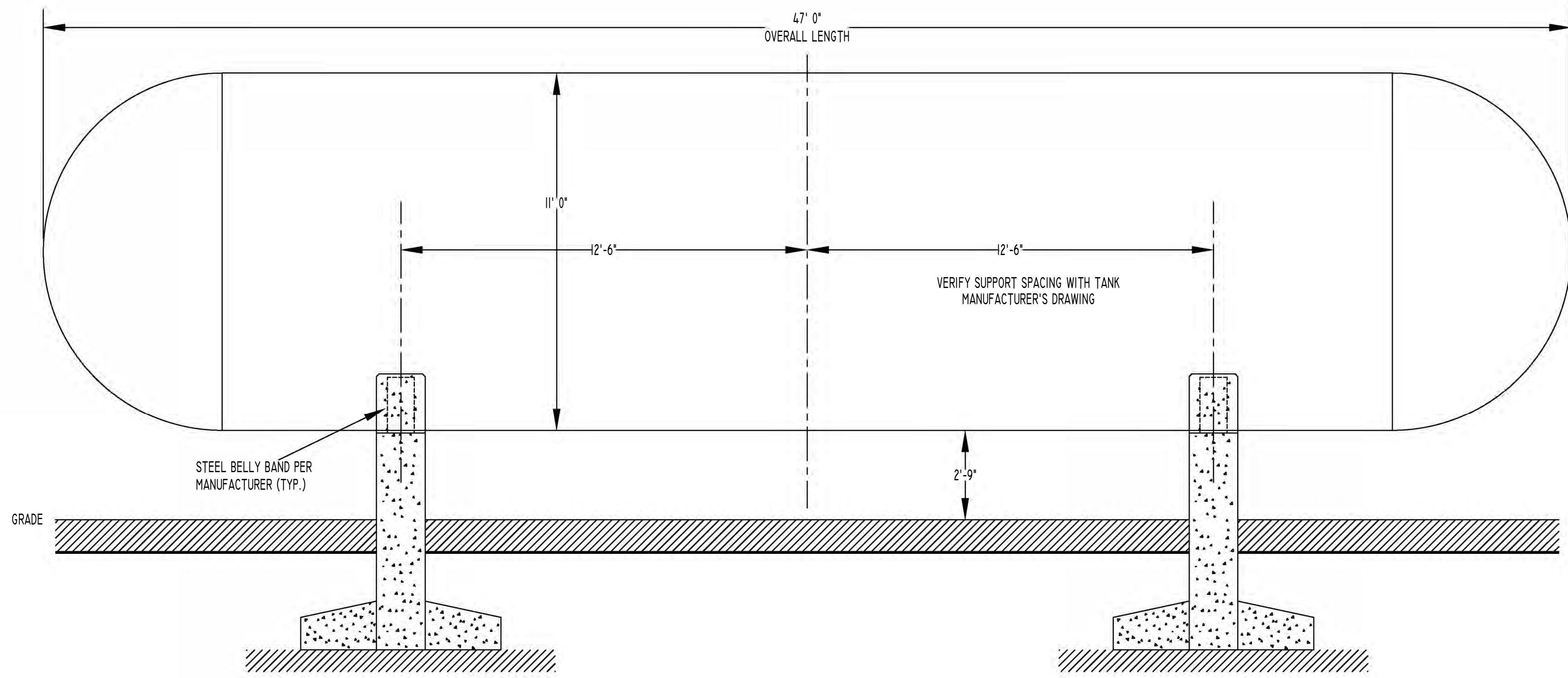
DATE	REVISION

FILE: PNEUMATIC
DRAWN BY: JAS
DATE: 8/28/23
JOB #: 22-E-023
WEB DRAWING NO. 23069
SCALE: NTS

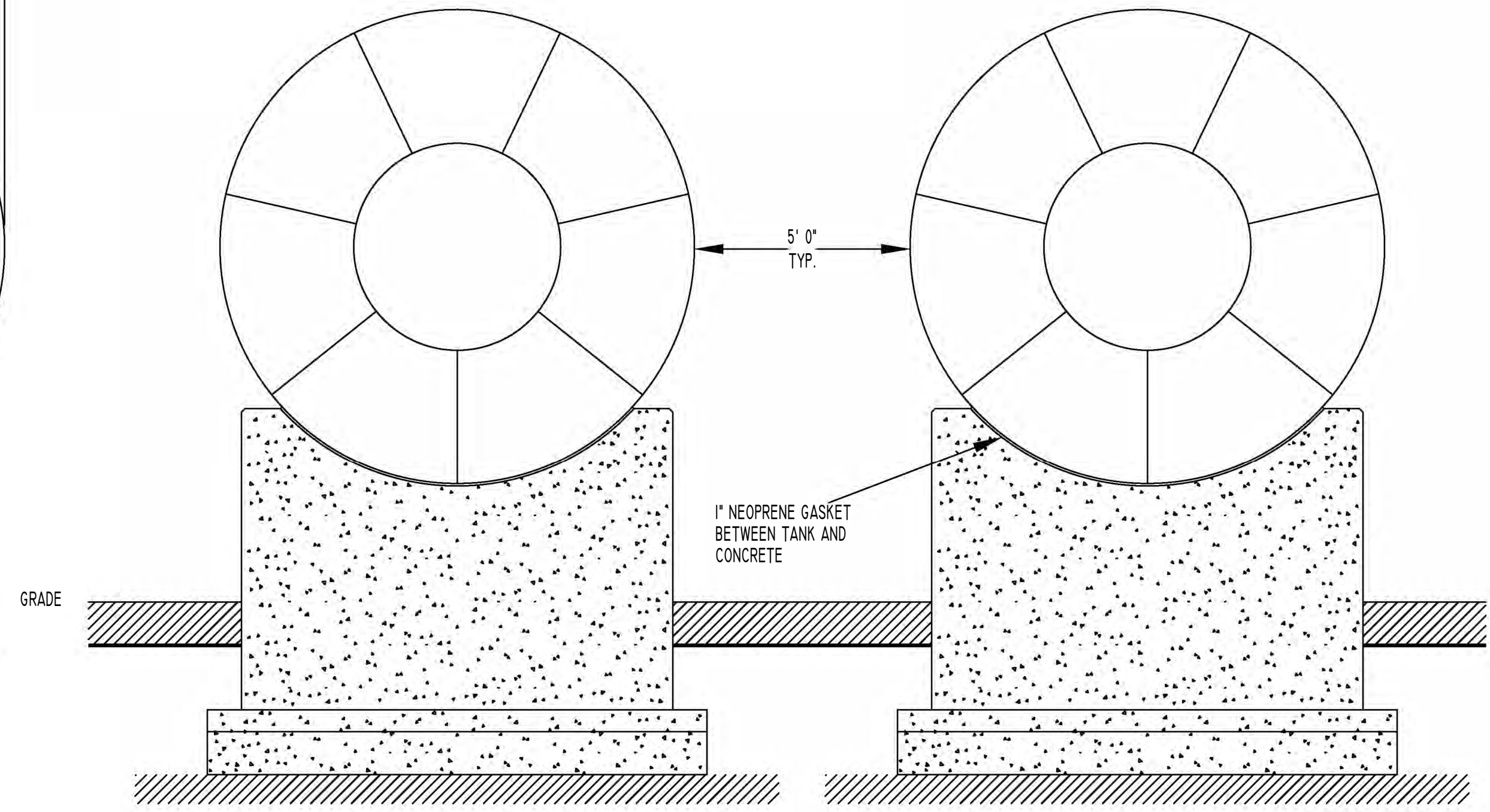
PNEUMATIC PIPING SCHEMATIC

DATE	REVISION

FILE: FOOTINGS
DRAWN BY: JAS
DATE: 8/28/23
JOB #: 22-E-023
WEB DRAWING NO. 23070
SCALE: 3/8" = 1'

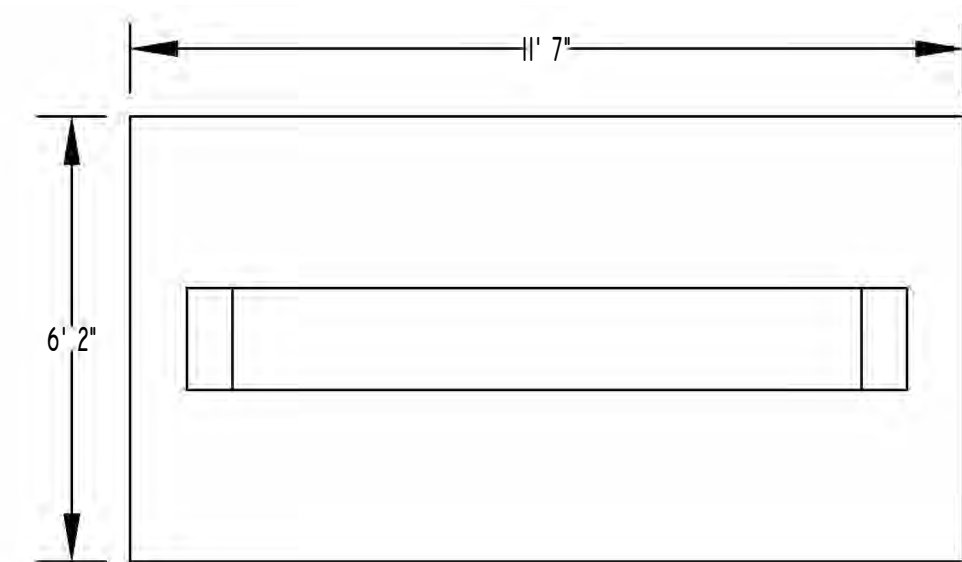


TYPICAL TANK ELEVATION VIEW

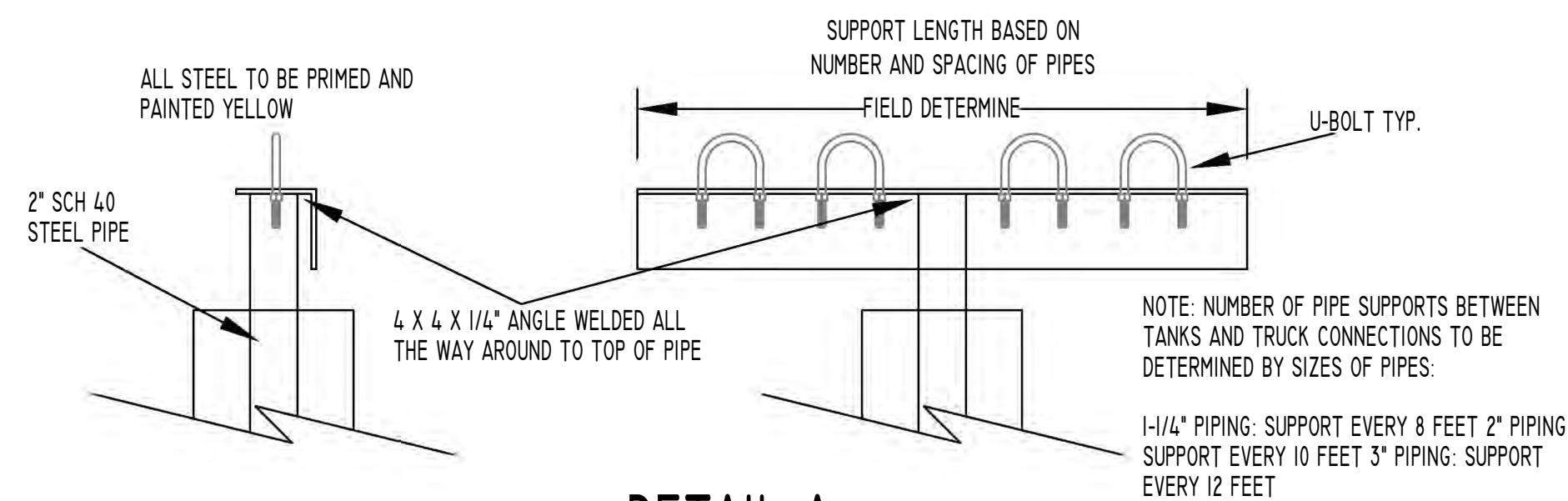


TANK END VIEW

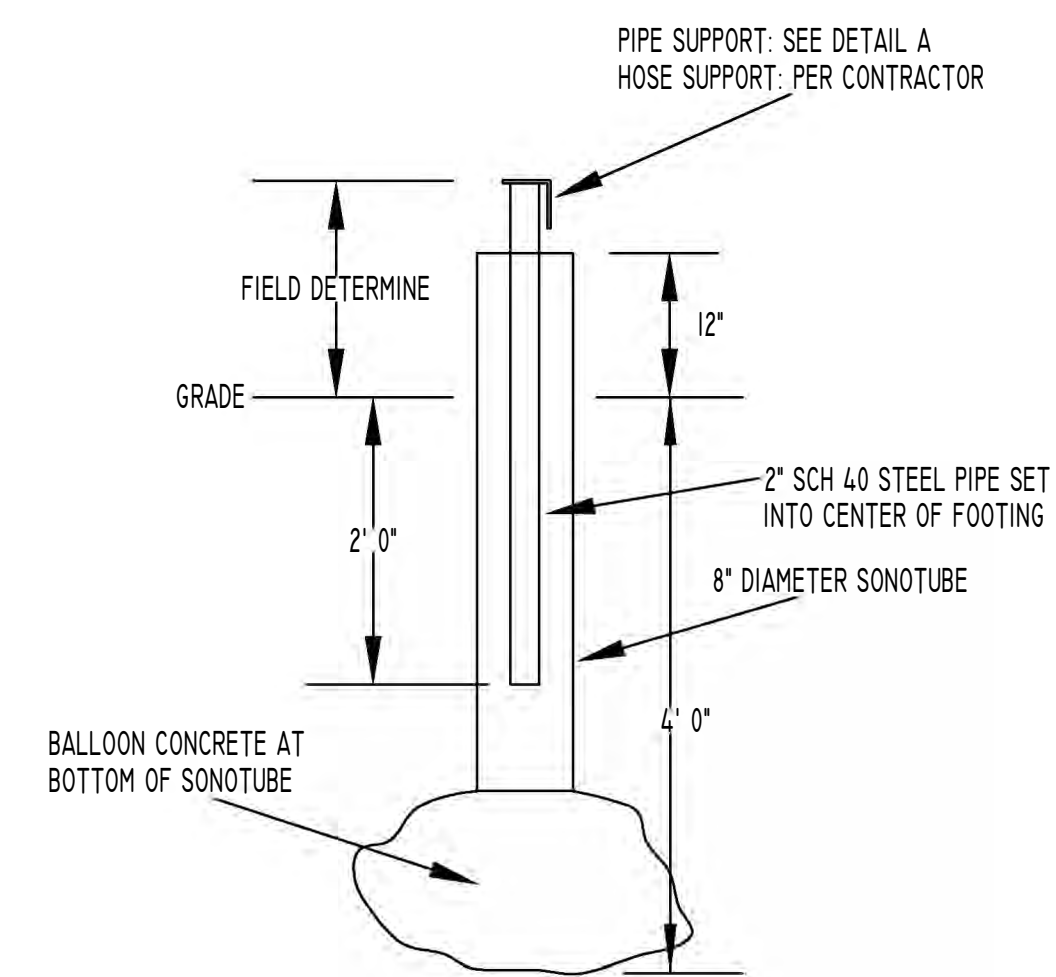
FIELD VERIFY ALL DIMENSIONS WITH HILTZ PIER DRAWING



PLAN VIEW



DETAIL A
TYPICAL PIPE SUPPORT
NOT TO SCALE



(OR EQUAL)
TYPICAL PIPE / HOSE SUPPORT

DESIGN CRITERIA:

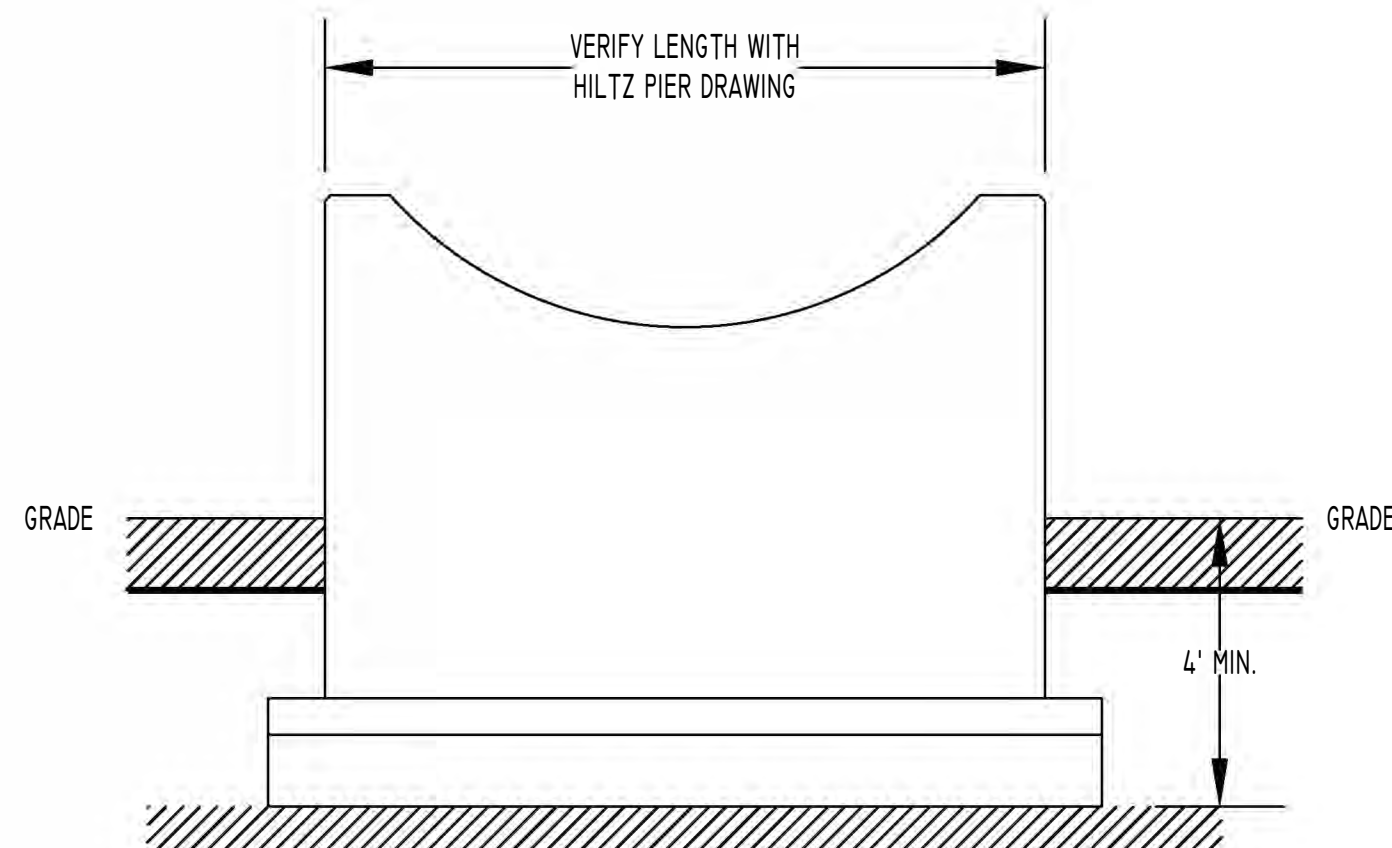
- TANK DRY WEIGHT = 50,000 LBS.
- TANK WET WEIGHT = 180,000 LBS.
- PEDESTAL WEIGHT = 28,000 LBS. EACH
- TANK TOP SURFACE AREA = 1/2 X 35 FT X 11 FT = 193 SF
- FOOTING = 6'-2" X 11'-7" = 73.3 SF X 2 = 146.6 SF
- DL = 180,000 LBS + 56,000 LBS = 236,000 LBS / 146.6 SF = 1,610 PSF X 1.4 = 2,254 PSF
- LL = 40 PSF X 193 SF = 7,720 LBS / 146.6 SF X 1.6 = 85 PSF
- SL = 100 PSF X 193 SF = 19,300 LBS / 146.6 SF X 1.6 = 211 PSF
- TL = (2,254 + 85 + 211) PSF = 2,550 PSF

SUBGRADE PREPARATION:

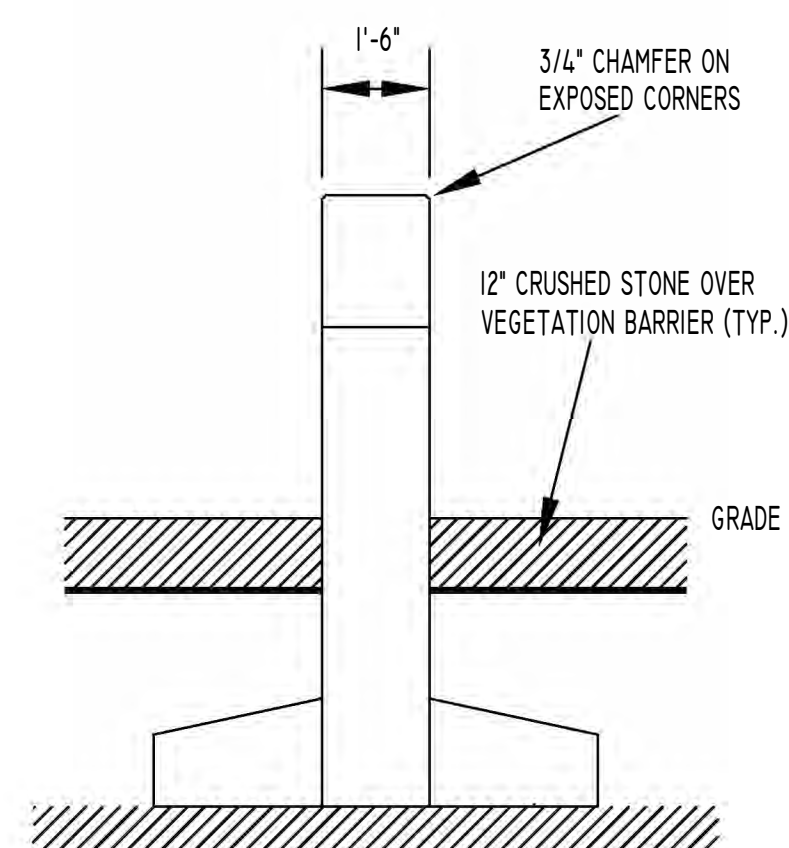
1. SUITABLE BEARING CONDITIONS. 1.3 TSF CONFINED AND UNDISTURBED.
- 1.2 DO NOT DISTURB SUITABLE BEARING MATERIAL BELOW EXCAVATED LEVELS.
- 1.3 COORDINATE WITH ENGINEER FOR INSPECTION AND APPROVAL PRIOR TO PROCEEDING WITH SUBGRADE PREPARATION.
2. SUBGRADE. MIN. 8" OF CLEAN, COARSE 1-1/2" CRUSHED STONE PLACED OVER SUITABLE BEARING CONDITIONS.
- 2.1 LEVEL AND OVER-BUILD SUBGRADE 1'-8" BEYOND THE LIMITS OF FOOTINGS.
- 2.2 CRUSHED STONE SHALL BE A QUARRY PRODUCT OBTAINED FROM OFF-SITE SOURCES APPROVED BY ENGINEER. CRUSHED STONE SHALL CONSIST OF WASHED, DURABLE CRUSHED ROCK OR COARSE GRAVEL STONE FREE OF SILT, CLAY, LOAM OR OTHER DELETERIOUS MATERIALS.
3. SPOILS
- 3.1 NATIVE SANDS MAY BE USED TO BACKFILL ABOVE SUBGRADES, FOOTINGS, AND AROUND PEDESTALS
- 3.2 NATIVE LOAM MAY NOT BE USED FOR TOP SOIL AND GENERAL FILL.

GENERAL NOTES:

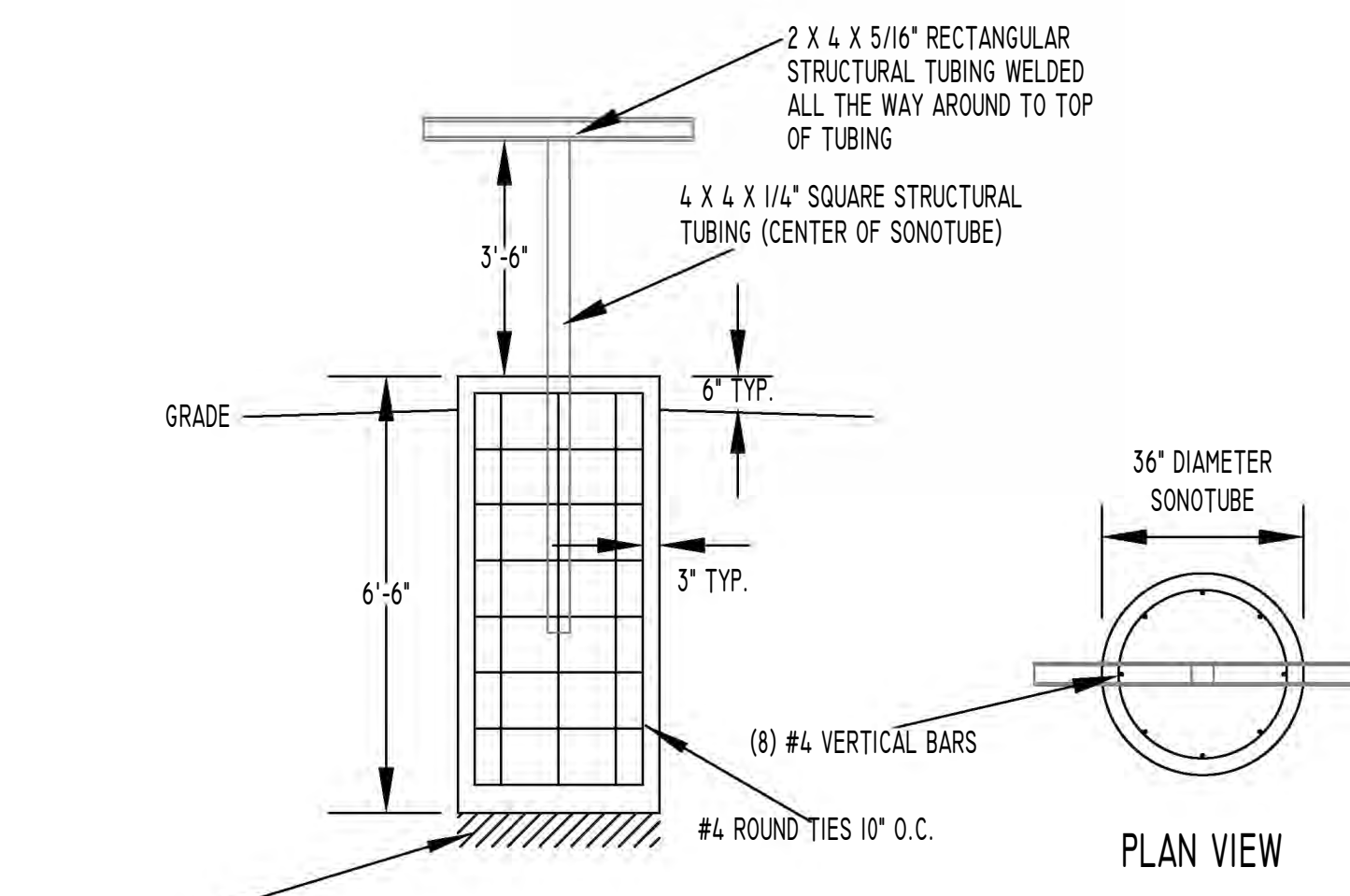
- 1) FOR TYPICAL PIER AND FOOTING REINFORCING REFER TO HILTZ DRAWING NO. 1907-027 DATED 7/19/19 WITH DESIGN CRITERIA AMENDED ACCORDING TO THIS DRAWING
- 2) CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS" (ACI-301)
- 3) ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT THE END OF 28 DAYS WITH A SLUMP OF NO MORE THAN 4". PROVIDE PROOF OF COMPRESSION THROUGH A MINIMUM OF TWO FIELD SAMPLE CYLINDERS PER CONCRETE POUR (CRACK FIRST AT 7 DAYS AND SECOND AT 28). ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED (NOMINAL 6%). ALL PROPOSED CONCRETE MIXES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. ALL APPROVED MIX DESIGNS SHALL BE IN STRICT CONFORMANCE TO CHAPTER 4 OF ACI 318. ALL CONCRETE SHALL CONFORM TO ACI 350R CONCRETE SANITARY ENGINEERING STRUCTURES. PROVIDE PROCEDURES FOR CURING CONCRETE TO ENGINEER FOR APPROVAL.
- 4) ALL REINFORCING BARS SHALL BE COLD BENT IN ACCORDANCE TO THE PROPER RADIUS ESTABLISHED BY THE AMERICAN CONCRETE INSTITUTE. UNDER NO CONDITIONS SHALL HEAT BE APPLIED TO THE BARS TO OBTAIN BENDS. REINFORCING SHALL CONFORM TO ASTM 615, GRADE 60.
- 5) ALL CONCRETE TO BE CONTINUOUSLY VIBRATED DURING POURING.



SIDE VIEW



END VIEW



SIDE VIEW
OFFLOADING/LOADING RISER
SUPPORT BLOCK
TYP. OF 2

PLAN VIEW

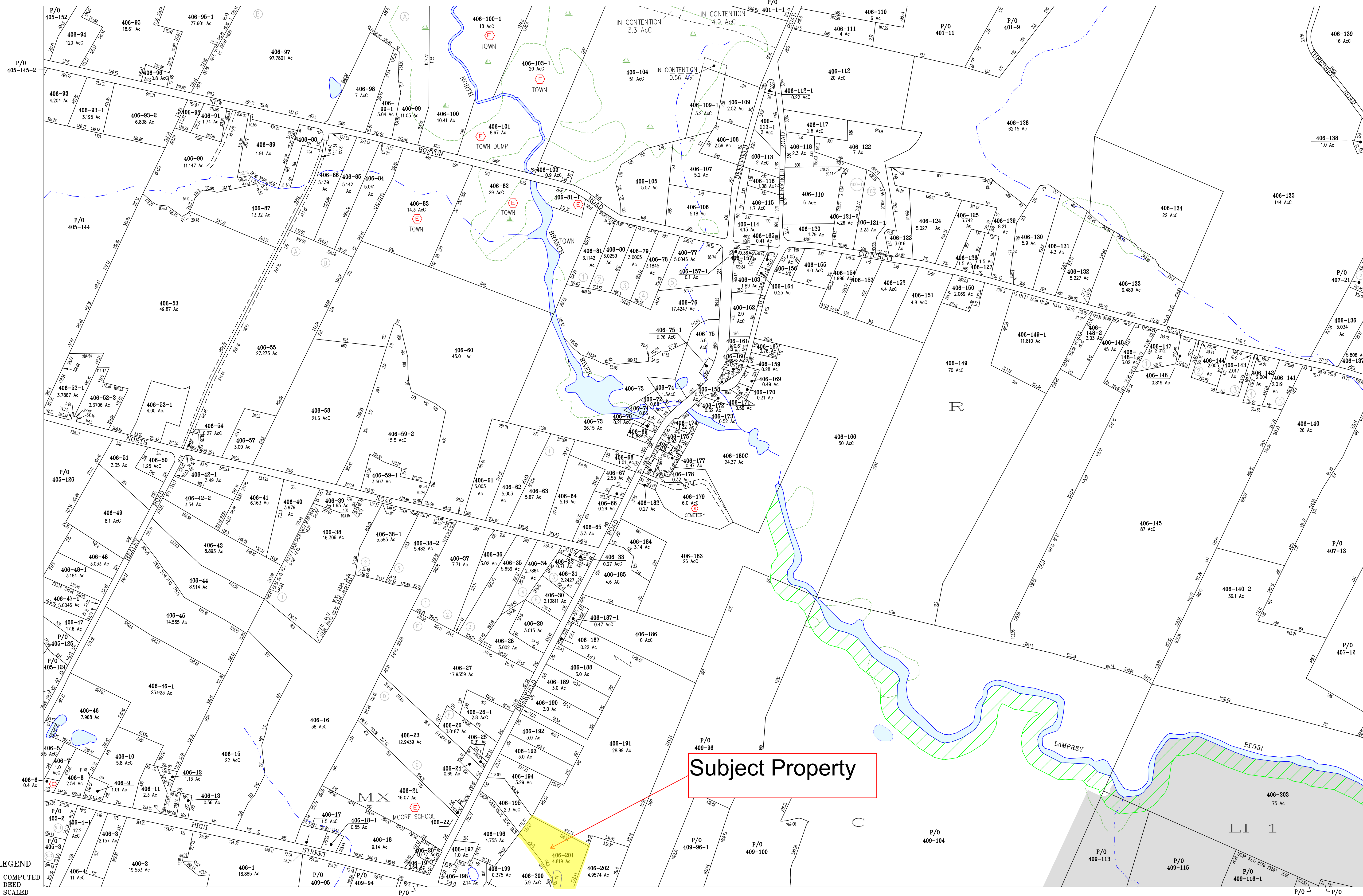
MIN. 6" CRUSHED STONE BENEATH BLOCK (TYP.)

TANK SUPPORT
TYP. OF 2 PER TANK

APPENDIX F

HYDRANT PHOTO





LEGEND

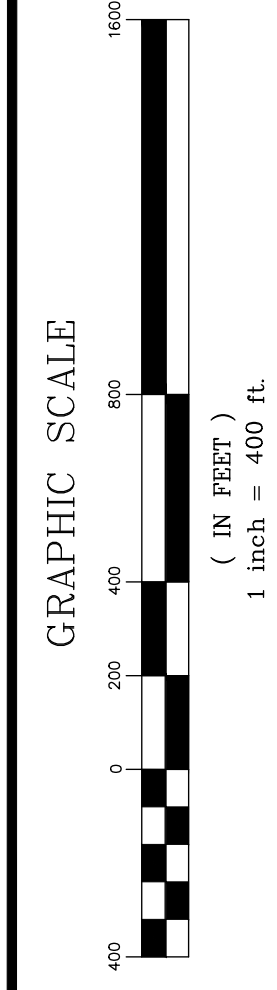
- C COMPUTED
- D DEED
- S SCALED
- ⊙ SUBLOT NUMBER
- E EXEMPT
- ∟ PART OF ORIGINAL LOT

Subject Property

Prepared by
ROLLARD ASSOCIATES
 70 Main Street, Candia, NH 03026
 (603) 465-4823

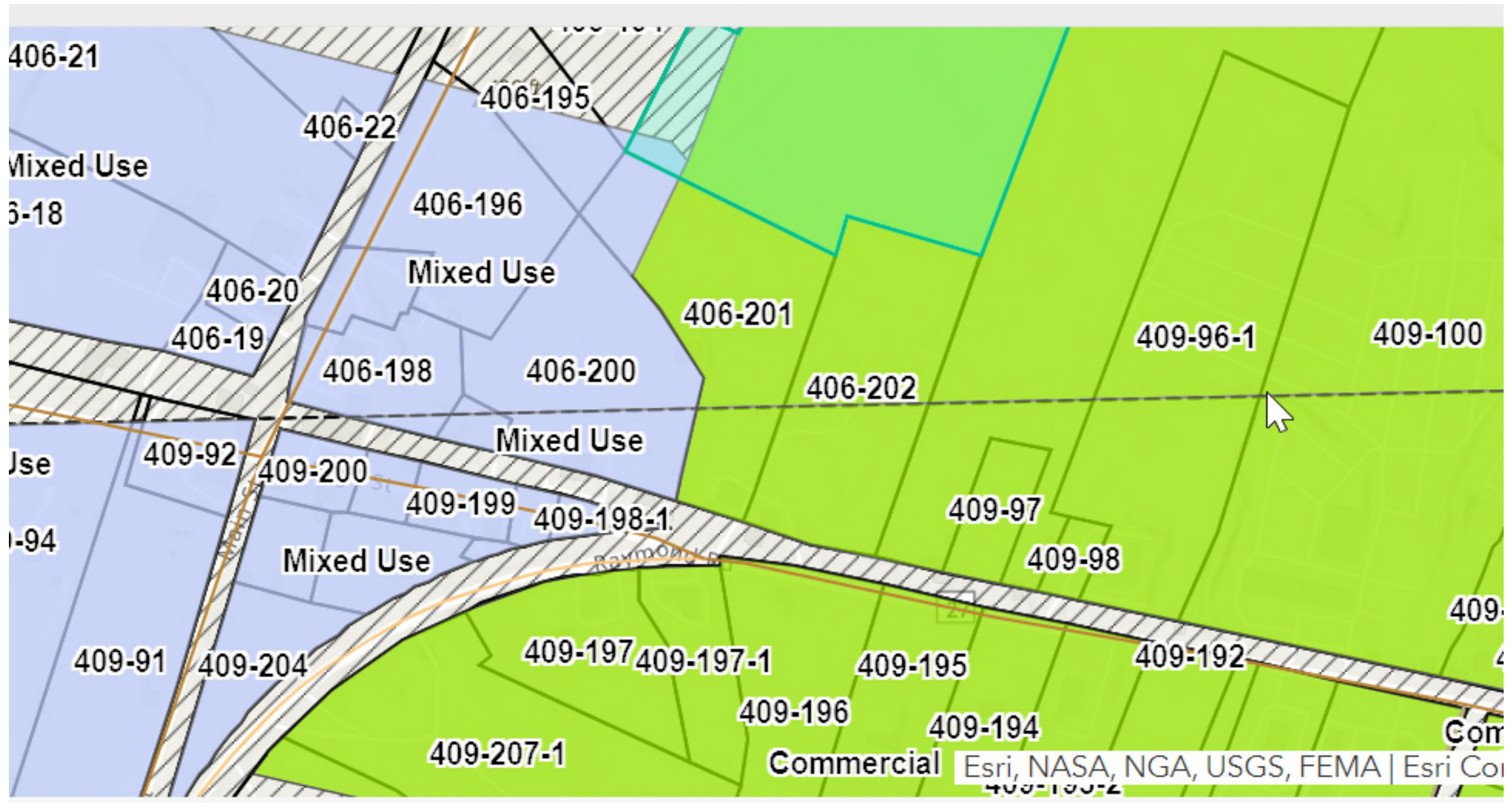
The data on this map has been compiled from a variety of sources granted voluntarily by private owners and official sources and is not to be considered legal location of property boundary lines. The TOWN OF CANDIA assumes no responsibility for the accuracy of individual parcels.

PROPERTY MAP
CANDIA
 NEW HAMPSHIRE



402	401
405	406
410	409
	408

406



APPENDIX 1: E

TOWN OF CANDIA
ZONING BOARD OF ADJUSTMENT

OWNER'S AFFIDAVIT

I, the undersigned owner of property located at 5 High Street, Candia, NH

Do hereby authorize Devine Millimet & Branch, P.A. & Fieldstone Land Consultants, PLLC

To make the following request with respect to the above described property:

Apply for and prosecute all permits pertaining to 5 High Street, Candia, NH 03034

Candia Tank Farm, LLC

By [Signature]
Signature of owner Richard Wenzel, Manager

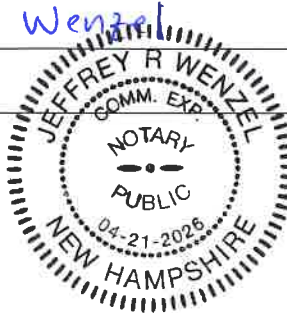
12/20/2023
Date

Auburn New Hampshire, County of Hillsborough
City or Town

Personally appeared the above named Richard Wenzel

Before me, Jeffrey Wenzel, and acknowledged
(Justice of Peace/Notary Public)

the foregoing to be his/her voluntary act and deed.



[Signature]

Archived: Thursday, December 21, 2023 8:45:44 AM
From: [Bob Donovan](#)
Sent: Mon, 18 Dec 2023 14:55:25 +0000ARC
To: [Beth Morrison](#)
Subject: RE: Building Permit
Sensitivity: Normal

I will need the check for the Denial letter, The fee is \$100

Thank You.

Robert Donovan
Building Inspector/Code Compliance & Health Officer
Town of Candia, NH 03034
bdonovan@townofcandia.org
Office 603-483-1015
Cell 603-270-8033



Office Hours:
Monday – 7:00 AM – 4:00 PM
Tuesday – 7:00 AM – 4:00 PM
Wednesday – 7:00 AM – 4:00 PM
Thursday – 7:00 AM – 3:00 PM
4th Tuesday of month 7:00 AM-8:00 PM
Inspections start at 12:00 each day.

From: Beth Morrison <bmorrison@devinemillimet.com>
Sent: Wednesday, December 13, 2023 1:25 PM
To: Bob Donovan <bdonovan@TownOfCandia.org>
Subject: RE: Building Permit

Hi,

I will forward this to Chris and let him know.

Thank you
Beth

From: Bob Donovan <bdonovan@TownOfCandia.org>
Sent: Wednesday, December 13, 2023 1:07 PM
To: Beth Morrison <bmorrison@devinemillimet.com>
Subject: RE: Building Permit

Commercial denial letter is \$100.

Thank You.

Robert Donovan
Building Inspector/Code Compliance & Health Officer
Town of Candia, NH 03034
bdonovan@townofcandia.org
Office 603-483-1015
Cell 603-270-8033



Office Hours:
Monday – 7:00 AM – 4:00 PM
Tuesday – 7:00 AM – 4:00 PM
Wednesday – 7:00 AM – 4:00 PM
Thursday – 7:00 AM – 3:00 PM
4th Tuesday of month 7:00 AM-8:00 PM
Inspections start at 12:00 each day.

From: Beth Morrison <bmorrison@devinemillimet.com>
Sent: Wednesday, December 13, 2023 1:04 PM
To: Bob Donovan <bdonovan@TownOfCandia.org>
Subject: Building Permit

Good afternoon Robert,

Attached you will find a cover letter, building permit and conceptual plan for 5 High Street, Candia, NH. It is also in the mail today along with a check for \$70.00.

Thanks
Beth

Beth Morrison
Legal Assistant to
Chris Swiniarski, Esq.
Laura J. Gandia, Esq.
111 Amherst Street
Manchester, NH 03101
P. 603-695-8730

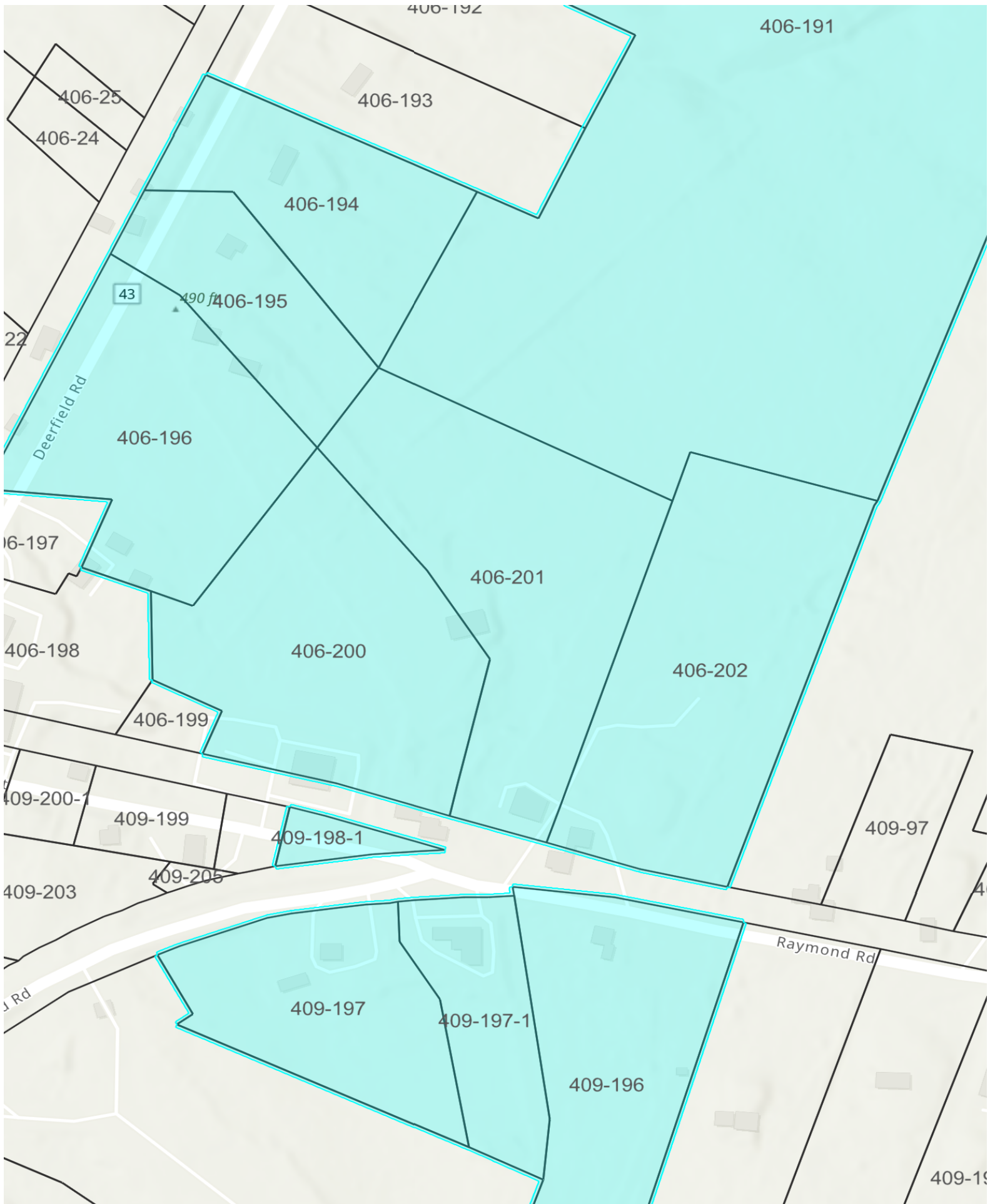
DEVINE
MILLIMET MANCHESTER | CONCORD | PORTSMOUTH
ATTORNEYS AT LAW 603-669-1000 DEVINEMILLIMET.COM

*****Important Notice*****

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The incidence of fraud involving wired funds is on the rise. Never rely solely on emailed wiring instructions from anyone. Devine Millimet will not ask you to wire funds to us or to a third party without separately confirming the relevant wiring instructions with you by telephone. Once that telephonic confirmation has occurred, we will not change the wiring instructions. If you receive an email which appears to be from our Firm and which requests that you wire funds but have not received final telephonic confirmation from us, or which otherwise seems suspicious, then please contact us by telephone at 603-669-1000 before transferring any funds.



Tax Map: 409 , Lot: 197
CANDIA SOUTH BRANCH BROOK HOLDINGS, LLC.
P.O. BOX 202
CANDIA , NH 03034

Tax Map: 406 , Lot: 200
CANDIA SOUTH BRANCH BROOK HOLDINGS, LLC
P.O. BOX 202
CANDIA , NH 03034

Tax Map: 409 , Lot: 197-1
CANDIA SOUTH BRANCH BROOK HOLDINGS, LLC
P.O. BOX 202
CANDIA , NH 03034

Tax Map: 406 , Lot: 201
CANDIA TANK FARM, LLC.
6 HILLSIDE AVENUE
AMHERST , NH 03031

Tax Map: 409 , Lot: 196
DARRAH,RALPH SR,ROLLINS,LINDA,
P.O. BOX 318
CANDIA , NH 03034

Tax Map: 406 , Lot: 196
HICKEY, MICHAEL
23 DEERFIELD ROAD P.O. BOX 173
CANDIA , NH 03034

Tax Map: 409 , Lot: 198-1
UNKNOWN
RAYMOND ROAD
CANDIA , NH 03034

Tax Map: 406 , Lot: 195
MARINEAU,RAYMOND & KIMBERLY
39 DEERFIELD ROAD
CANDIA , NH 03034

Tax Map: 406 , Lot: 202
IT'S ABOUT TIME, LLC
PO BOX 31
CANDIA , NH 03034

Tax Map: 406 , Lot: 194
LALIBERTE, ROBIN L
43 DEERFIELD ROAD
CANDIA , NH 03034

Tax Map: 406 , Lot: 191
GODDARD, RICHARD
67 SCOBIE POND ROAD
DERRY , NH 03038