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Wastewater Feasibility Report

Winery Wastewater Feasibility Report

Onsite Wastewater Disposal Estimate

For Modification to Existing Winery Use Permit

Hagafen Cellars Winery

4160 Silverado Trail
Napa, CA 94558
Napa County
APN: 039-130-002

Owner:

Norman and Irit Weir
4160 Silverado Trail
Napa, CA 94558

Technical Report Prepared By:

Stillwater Civil Design
1090 Shetler Avenue
Napa, CA 94559
(707) 974 – 9261
rangel@stillwatercivil.com

March 5, 2019

The Hagafen Cellars Winery located at 4160 Silverado Trail was established in 1999 under Napa County Use permit #97219-UP. This approved use permit allowed for the following:

Wine Production	50,000 gallons/year
Full Time Employees	5 persons
Part Time Employees	2 persons
Seasonal Employees	5 persons
Annual Harvest Event	75 guests
Bi-Annual Holiday Events	100 guests
Food & Wine Pairings (8/year)	50 guests
Annual Wine Auction Event	50 guests
Daily Tours & Tastings	25 guests

A standard septic system was installed in late 1999 and early 2000 to serve the winery as permitted through Napa County. A total of 400 linear feet of leach line was installed to serve the domestic wastewater produced at the winery. The approved peak daily flow to be served by the domestic wastewater leach field was 400 gallons/day. A total of 1,500 linear feet of leach line was installed to serve the process wastewater produced at the winery. The approved peak daily flow to be served by the process wastewater leach field was 1,500 gallons per day. The total peak daily wastewater flow allowed to be disposed of through the approved septic leach fields was 1,900 gallons/day.

The only proposed change to the winery use permit is that the number of daily visitors for winery tours and wine tastings will be increased from 25 guests/day to 60 guests/day. The proposed updated use permit would allow the following:

Wine Production	50,000 gallons/year
Full Time Employees	5 persons
Part Time Employees	2 persons
Seasonal Employees	5 persons
Annual Harvest Event	75 guests
Bi-Annual Holiday Events	100 guests
Food & Wine Pairings (8/year)	50 guests
Annual Wine Auction Event	50 guests
Daily Tours & Tastings	60 guests

The following calculation will show that the existing standard leach field will be large enough to accommodate the proposed allowed winery uses. Only minor repairs to the distribution boxes will be required as explained below.

The following assumptions have been made regarding visitation and events:

- Different event types will not be held on the same day.
- Holiday Events will not be held during crush.
- Tours and tastings will not be allowed on event days during the crush period.
- Tours and tastings will be allowed on event days outside of the crush period.

The peak daily winery process wastewater flow rate is calculated as follows:

$$(50,000 \text{ gallons of wine/year} * 1.5 \text{ gallons wastewater/gallons of wine/year}) / 60 \text{ days of crush} \\ = 1,250 \text{ gallons of process wastewater (peak daily flow during crush)}$$

The off-peak daily winery process wastewater flow rate is calculated as follows:

$$(50,000 \text{ gallons of wine/year} * 6 \text{ gallons wastewater/gallons of wine/year}) / 365 \text{ days per year} \\ = 685 \text{ gallons of process wastewater (off-peak daily flow not during crush)}$$

The peak daily domestic wastewater flow is calculated as follows:

Employees

$$5 \text{ full-time employees} * 15 \text{ gallons / employee / day} = 75 \text{ gallons/day} \\ 5 \text{ full-time seasonal employees} * 15 \text{ gallons / employee / day} = 75 \text{ gallons/day} \\ 2 \text{ part-time employees} * 8 \text{ gallons / employee / day} = 16 \text{ gallons per day}$$

Guests

$$60 \text{ guests (tours \& tasting)} * 3 \text{ gallons / guest / day} = 180 \text{ gallons/day}$$

$$100 \text{ guests (holiday event)} * 5 \text{ gallons / guest / day} = 500 \text{ gallons/day}$$

$$75 \text{ guests (harvest event)} * 5 \text{ gallons / guest / day} = 375 \text{ gallons/day}$$

$$50 \text{ guests (auction or wine parings)} * 5 \text{ gallons / guest / day} = 250 \text{ gallons/day}$$

The estimated peak daily flow during crush is as follows:

- 1,250 gallons of process wastewater (peak daily flow during crush)
- 166 gallons of domestic water from employees (10 full-time & 2 part-time)
- 375 gallons of domestic water from harvest event (75 guests)

$$\text{The peak daily wastewater flow during crush} = 1,250 \text{ gpd} + 166 \text{ gpd} + 375 \text{ gpd} = 1,791 \text{ gpd}$$

The estimated off-peak daily flow for times outside of crush is as follows:

- 685 gallons of process wastewater (off-peak daily flow not during crush)
- 91 gallons of domestic wastewater from employees (5 full-time and 2 part-time)
- 500 gallons of domestic wastewater from holiday events (100 guests per event)
- 180 gallons of domestic wastewater from tours & tasting (60 guests)

$$\text{The off-peak daily wastewater flow not during crush} = 685 \text{ gpd} + 91 \text{ gpd} + 500 \text{ gpd} + 180 \text{ gpd} \\ = 1,456 \text{ gpd}$$

The engineer has decided to combine domestic and process wastewater produced by the winery and to dose the entire existing standard septic leach lines as one field. The existing standard leach field consists of 5 zones that each contain 300 feet of leach line and 1 zone that contains 400 feet of leach line. The zone containing 400 feet of leach line will be dosed equally to the zones only containing 300 feet of leach line. Therefore, all zones will be counted as having a maximum of 300 feet of leach line. The entire leach field will be considered to have 6 zones each containing 300 feet of leach line for a total of 1,800 linear feet of leach line.

All leach line is assumed to have a minimum sidewall area of 3 square feet per linear foot of trench as established in the original permit and inspections documents on file with Napa County. The leach lines are assumed to have an infiltration rate of 0.33 gallons/square foot/day. Therefore, the existing standard septic leach field can accommodate a peak daily wastewater flow as follows:

$$1,800 \text{ linear feet of trench} * 3 \text{ sf sidewall} / \text{linear foot of trench} * 0.33 \text{ gallons} / \text{sf sidewall} / \text{day}$$
$$= 1,800 \text{ gallons of wastewater can be disposed of per day in the existing standard leach field}$$

The existing standard leach field is more than adequate to support the peak and off-peak estimated maximum daily wastewater flows produced by the winery. The existing standards septic system can easily handle the increase in daily winery tours and wine tastings from 25 visitors to 60 visitors per day.

The existing standard septic system has three septic tanks. One, 1,200-gallon, septic tank is used for domestic wastewater produced from the winery. Two, 1,500-gallon, septic tanks are used for process wastewater production at the winery. Domestic wastewater and process wastewater were previously kept separate and drained into separate leach field zones. The distribution boxes must be reconfigured to ensure that all 6 leach field zones are equally dosed with both domestic and process wastewater. A repair permit will be applied for by a septic contractor to reconfigure the distribution boxes for the existing standard septic system.

Please feel free to contact me at (707) 974-9261 if there are any questions or comments concerning this septic feasibility study.

Thank you,



J. Rangel Gonzales, P.E.

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH - LAND USE
EXISTING INDIVIDUAL SEPTIC SYSTEM INSPECTION REPORT FORM

PROPERTY OWNER HAGAFEN CELLARS

DATE 3-7-22

SITE ADDRESS 4160 SILVERADO TRAIL

PARCEL NUMBER 039-130-002 SEWAGE CONTRACTOR P&R SEPTIC SYSTEM

SEWAGE CONTRACTOR LICENSE NUMBER 482218

PRIMARY TREATMENT-SEPTIC TANK

Distance to closest well: This parcel 100' Adjacent parcel 2004' Date tank was last pumped 8-16-21

Distance from foundation 10' Pumped by NAPA SEPTIC TANK

Distance from property line 70' Pre-fab tank or poured in place (describe) PRE-FAB (SELVAGE)

Material-Tank Concrete lid PLASTIC Number of compartments 2

Inside Dimensions-Length 104" Width 55" Depth 55" Total Capacity 1500 GAL x 2 (P)

1200 GAL x 1 (D)

SECONDARY TREATMENT-DISPOSAL FIELD

Distance to closest well: This parcel 100' Adjacent Parcel 2004' Distance to property line 50'

Distance from foundation 90'

Total length of leach line 1500' PROCESSED 400' DOMESTIC Total effective sidewall 5,700 Ft²

Type of filter material DRAIN ROCK Amount of filter material: 12"

Type of pipe PLASTIC Number of lines 22

Depth of cover over rock: Above pipe 18"-24" Below pipe 12"

Trench Width 18" Depth 36"-42"

GENERAL INFORMATION

Is the house/structure presently occupied? YES How many bedrooms? N/A

If commercial use-how many employees (FT and PT) _____ How many units served by this system _____

Any other septic systems on the property? YES If yes, how many? 1

CONDITION OF SYSTEM - Make a statement on the condition of the septic tank and interior surfaces, including baffles and fittings. How was this determined? Note: If tank is over five years old, it **MUST** be inspected (pumping is required to allow inspection). ALL THREE TANKS ARE STRUCTURALLY SOUND. NO CRACKS OR ROOT INTRUSION. WATER IS AT WORKING LEVEL.

Make a statement on the condition of the sump/pump (if applicable), including size, alarm, structure, etc. N/A

Make a statement on the condition of the distribution box, leaching lines, etc. How was the length and location of the disposal field determined? THERE ARE 3 D-BOXES, ALL 3 ARE STRUCTURALLY SOUND. PERFORMED A HYDRAULIC LOAD TEST OF APPROXIMATELY 200 GALLONS. ALL LINES

Note: Information on disposal field must be determined by physically locating each line by exposing the ends. All Distribution Boxes must be uncovered and inspected. ARE TAKING WATER.

A PLOT PLAN OF THE SEPTIC SYSTEM AND ALL OTHER IMPROVEMENTS MUST BE ATTACHED TO THIS REPORT-DISTANCE TO PONDS/STREAMS, WELLS, BUILDINGS, ETC. MUST BE SHOWN

MATT PHILLIPS

Print Name (Licensed Contractor)

Matt Phillips

Signature (Licensed Contractor)

Note: In order to secure clearance of an individual sewage disposal system from the Department of Environmental Management, the system must be inspected by a licensed sewage contractor and the completed form returned to our office for evaluation. It should be accompanied by a plot plan showing the septic system, wells, buildings and other improvements on the property and the 100% expansion area (if required).



SEWAGE PERMIT APPLICATION

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

Date: _____ Plan Check # _____ Install Permit # _____

David Morrison
Director

A Tradition of Stewardship
A Commitment to Service

PROPERTY OWNER INFORMATION:

Name: HAGEFEN CELLARS

Mailing Address: _____

Site Address: 4160 SILVERADO TRAIL

APN: 039-130-002

Phone #: _____

SEWAGE CONTRACTOR INFORMATION:

Company Name: P & R Septic Systems LLC

Contractor License Number: 482218

Contact Person: Matt Phillips

Address: P.O. Box 6776

Napa CA 94581

E-Mail: mark@pandrseptic.com

Phone #: 707.227.4503

TYPE OF SYSTEM (check one):

ASTS

Conventional

Proposed Use (check one):

Residential

Commercial

Type Of Permit (check one):

USE PERMIT MODIFICATION

New Construction

Addition

Repair

Tank Install

Tank Destruct

Sewer Line, Check one: Gravity Pump

DESIGN FLOW : _____ Gallons/Day # of Bedrooms/Potential Bedrooms: _____ (If applicable)

Bedroom Count Verified by (check one): Building Plans Physical Inspection Other: _____

SITE EVALUATION TEST DATA: Please attach. (If applicable)

SEWER LINE (check one):

Existing

New

Size: _____ Inches Total Length: _____ Feet Material: _____

SEPTIC TANK (check one):

Existing New

Size: _____ Gallons

Material (check one): Concrete Fiberglass Polyethylene Other: _____

Manufacturer: _____

SUMP TANK (check one):

Yes No

If yes (check one):

Existing New Size: _____ Gallons

Material (check one): Concrete Fiberglass Polyethylene Other: _____

Manufacturer: _____

TYPE OF DISPOSAL FIELD (check one): Gravel/Pipe Chamber Other: _____

Trench Depth: _____ Inches Trench Width: _____ Inches # of Leach lines: _____

Length of each Leach line: _____ Feet Total Length of Leach lines: _____ Feet

Fill (check one): Yes No If yes, depth of fill: _____ Inches

** Combine both DOMESTIC & PROCESS WASTE TO ONE DISTRIBUTION BOX FOR ALL LEACH LINES*

DISTRIBUTION BOX (check one):

Yes No

If yes (check one):

Existing New

****A SCALED MAP OF THE PROPOSED SEWAGE DISPOSAL SYSTEM SHALL BE ATTACHED TO THIS APPLICATION. THE MAP WILL INCLUDE THE DISTANCE FROM THE WELL, ***

APPLICATION THIS IS NOT A PERMIT

Worker's Compensation Coverage:

A Certificate of current Worker's Compensation Insurance Coverage is on file with this office (or filed with this application)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California.

By executing this application, the undersigned agrees to comply with all conditions, inspections and comments of the issued permit and all federal, state and county code requirements applicable to this permit. Furthermore, I understand that the Department of Environmental Management in no way guarantees trouble-free operation of the system, and that future repair may be necessary.

Please sign below

Signature: Matt Phillips Date: _____

Please print your name: Matt Phillips

3-14-22

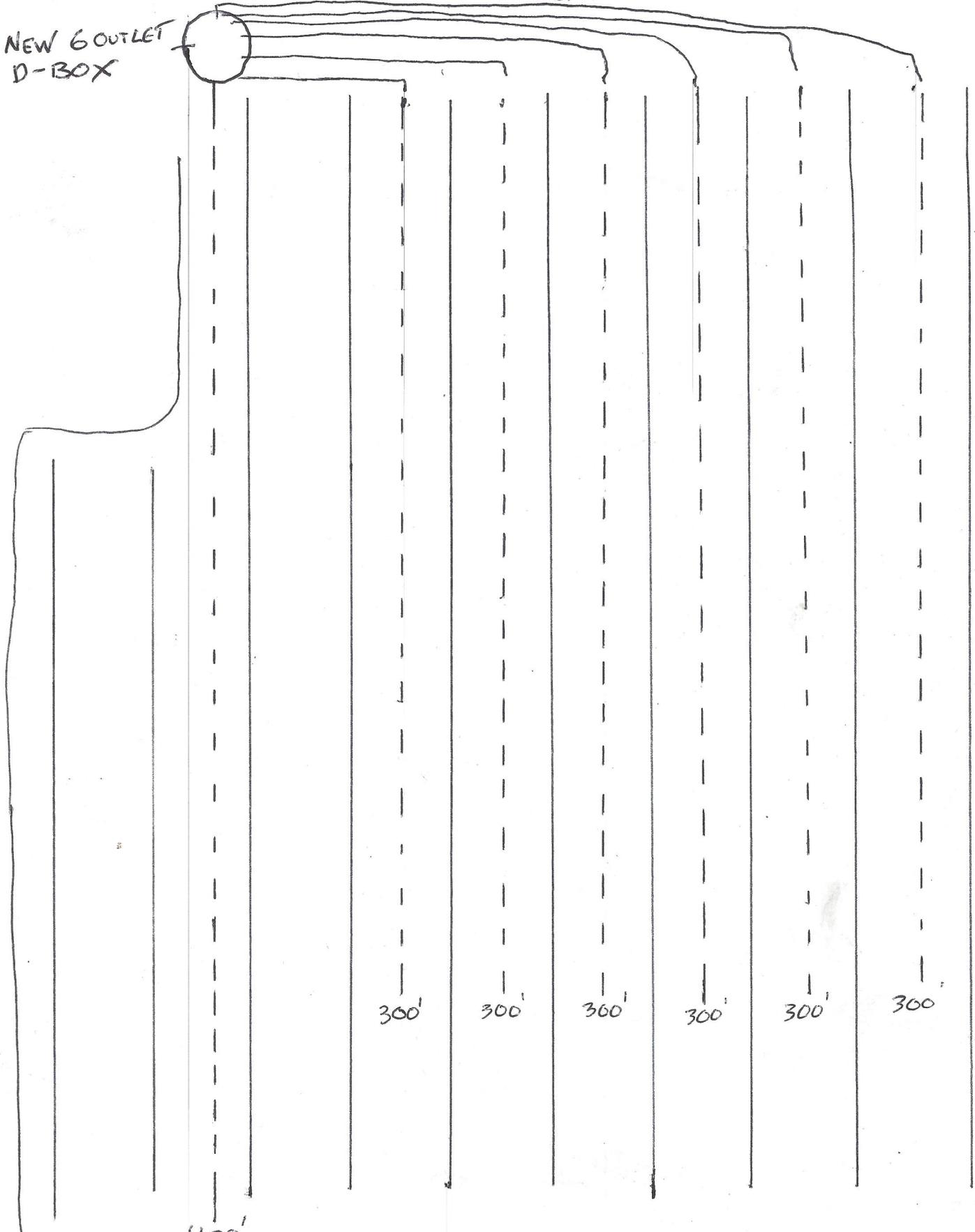
P & R Septic Systems, LLC

P.O. BOX 6776 • NAPA, CA 94581

(707) 252-6866 • LIC. #482218

PROPOSED D-BOX
CONSOLIDATION

NEW 6 OUTLET
D-BOX



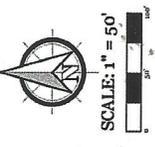
1090 SHETLER AVE.
 NAPA, CA 94559
 (707) 974-9261
 rangel@stillwatercivil.com



PREPARED UNDER THE DIRECTION OF:
Rangel
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL ENGINEERING
 LICENSE NO. 7485
 EXPIRES 12-31-21

HAGAFEN CELLERS WINERY
 4160 SILVERADO TRAIL - NAPA, CA 94558
 APN: 039-130-002
 OVERALL SITE PLAN

NAPA COUNTY



C1.0
 OF 3 SHEETS
 2/17/20



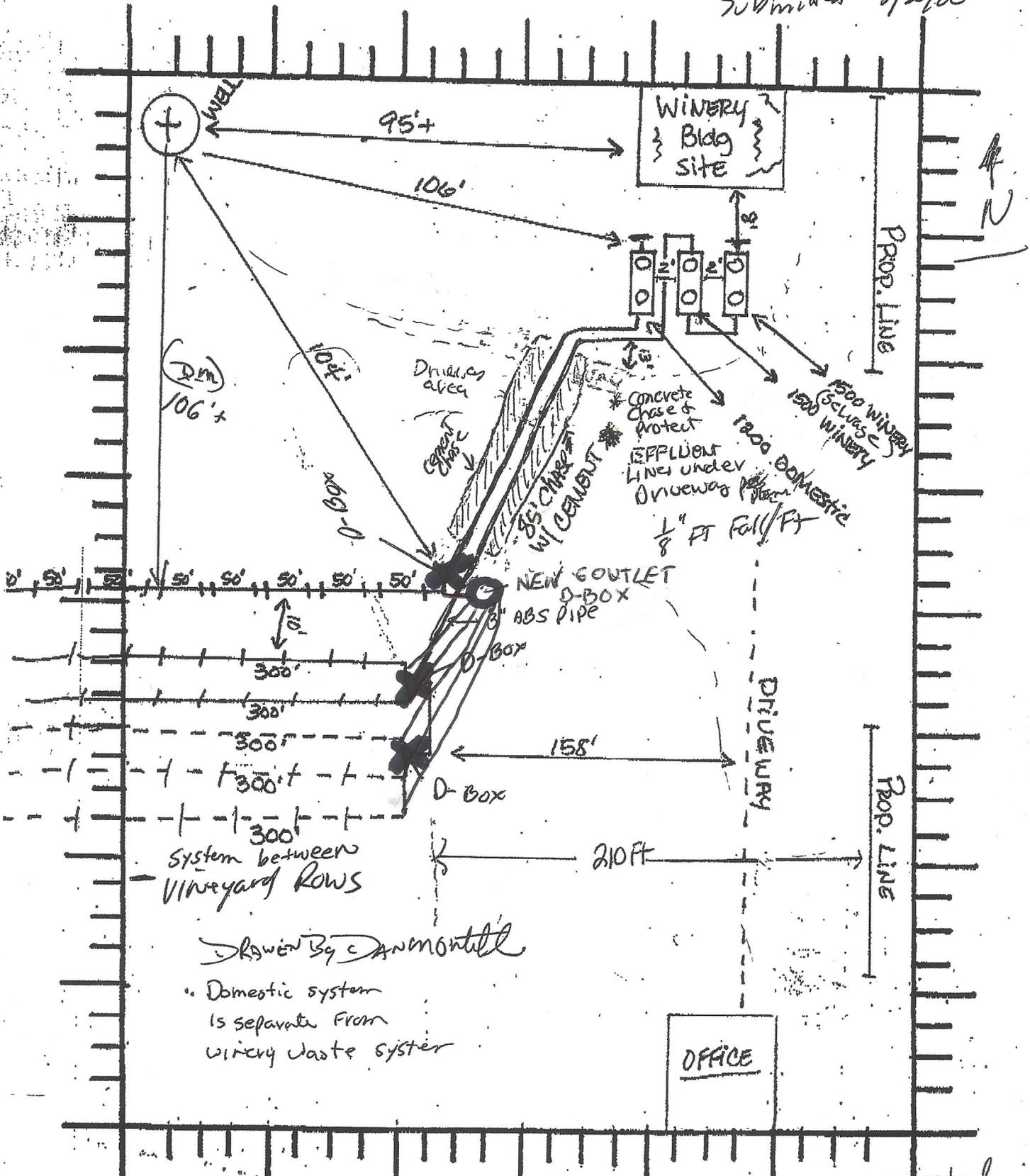
PLOT PLAN

DATE: 3/17/00

NAME: Hoagden Cellars

ADDRESS: 4160 Silverado Tr

Submitted 3/20/00



Drawn By c. Anmontelli

Domestic system is separate from winery waste system

- (5) 300' Leach lines for Winery = 1500 LF Total
- (1) 400' Leach line for Domestic = 400 LF Total