“G”

Wastewater System Calculations and Septic Plans

Shed Creek Winery Use Permit P16-00327 and
Use Permit Exception to the Conservation Regulations P17-00178
Planning Commission Hearing November 15, 2017

CMP Civil Engineering & Land Surveying
1607 Capell Valley Road
Napa, CA 94558
(707) 815-0988
Cameron@CMPEngineering.com
CMPEngineering.com

Wastewater System Calculations

for the

Shed Creek Winery Wastewater System

Located at:

80 Grapevine Lane

Napa, CA 94558

Date: 11/2/2015

Rev: 5/26/2016

Project # 00066

Legend

Requires Input
Automatically Calculates
Important Value Automatically Calculates
Important Value Requires Input

Hit ctrl + alt + shift + F9 when finished

Combined Winery Waste Flow Summary

The proposed system will be designed to treat process waste from a 5,000 gallon per year winery & the associated domestic waste.

Winery Process Waste Flow Calculations

Wine Production =	5000	gal/wine/yr
Crush Duration =	30.00	days (30 -60)
Peak Process Waste Flows During Crush =	250.00	gal/day ((1.5 x production)/crush days)
Average Process Flows (non crush) =	68.49	gal/day ((5 x production)/days in yr)
Additional Process Flow =	0.00	gal/day (usually 0)
Total Design Peak Process Waste Flows =	**250.00**	gal/day

Winery Domestic Waste Flows

% Water savings from low flow fittings =	0%	percent
Typical Crush Weekend		
Number of FT Employees =	2	#
Number of PT Employees =	2	#
Number of daily visitors =	15	#
Event people count serviced by this system =	0	#
FT employee daily domestic waste flow =	30.00	gal/day
PT employee daily domestic waste flow =	15.00	gal/day
Visitor daily domestic waste flow =	45.00	gal/day
Event daily domestic waste flow =	0.00	gal/day
Winery Dimestic Flow =	90.00	gal/day
Typical Non Crush Weekend Volumes		
Number of FT Employees =	1	#
Number of PT Employees =	1	#
Number of daily visitors =	8	#
Event people count serviced by this system =	0	#
FT employee daily domestic waste flow =	15.00	gal/day
PT employee daily domestic waste flow =	7.50	gal/day
Visitor daily domestic waste flow =	24.00	gal/day
Event daily domestic waste flow =	0.00	gal/day
Winery Dimestic Flow =	46.50	gal/day
Typical Weekday Volumes		
Number of FT Employees =	1	#
Number of PT Employees =	0	#
Number of daily visitors =	6	#
Event people count serviced by this system =	0	#
FT employee daily domestic waste flow =	15.00	gal/day
PT employee daily domestic waste flow =	0.00	gal/day
Visitor daily domestic waste flow =	18.00	gal/day
Event daily domestic waste flow =	0.00	gal/day
Winery Dimestic Flow =	33.00	gal/day

Total Domestic Waste Peak Flows =	**90.00**	**gal/day**

Combined Winery Waste Annual Volume Calculations

Winery Combined Process & Domestic Waste Flows

Typical Crush Weekend Volumes		
Number of FT Employees =	2	#
Number of PT Employees =	2	#
Number of daily visitors =	15	#
FT employee daily domestic waste flow =	30.00	gal/day
PT employee daily domestic waste flow =	15.00	gal/day
Visitor daily domestic waste flow =	45.00	gal/day
Number of Flow Days =	30.00	gal/day
Combined Process and Domestic Volume =	10200	gal/year

Typical Non Crush Weekend Volumes		
Number of FT Employees =	1	#
Number of PT Employees =	1	#
Number of daily visitors =	8	#
FT employee daily domestic waste flow =	15.00	gal/day
PT employee daily domestic waste flow =	7.50	gal/day
Visitor daily domestic waste flow =	24.00	gal/day
Number of Flow Days =	94.00	gal/day
Combined Process and Domestic Volume =	10809	gal/year

Typical Weekday Volumes		
Number of FT Employees =	1	#
Number of PT Employees =	0	#
Number of daily visitors =	6	#
FT employee daily domestic waste flow =	15.00	gal/day
PT employee daily domestic waste flow =	0.00	gal/day
Visitor daily domestic waste flow =	18.00	gal/day
Number of Flow Days =	241.00	gal/day
Combined Process and Domestic Volume =	24460	gal/year

Special Event Visitor Volumes	visitors	days/yr	flow/day	gallons
Large Events =	100	1	10	1000
Medium Events =	30	10	10	3000
Other =	0	0	10	0
Other 2 =	0	0	10	0
Total Annual Event Visitor Waste Volume =	4000	gal/year		

Total Annual Winery Domestic Waste =	49469	gal/year	0.15	
Total Annual Winery Process Waste =	25000	gal/year	0.08	
Total Winery Waste Annual Volume =	**74469**	**gal/yr**	**0.23**	**af**

WASTEWATER PLAN

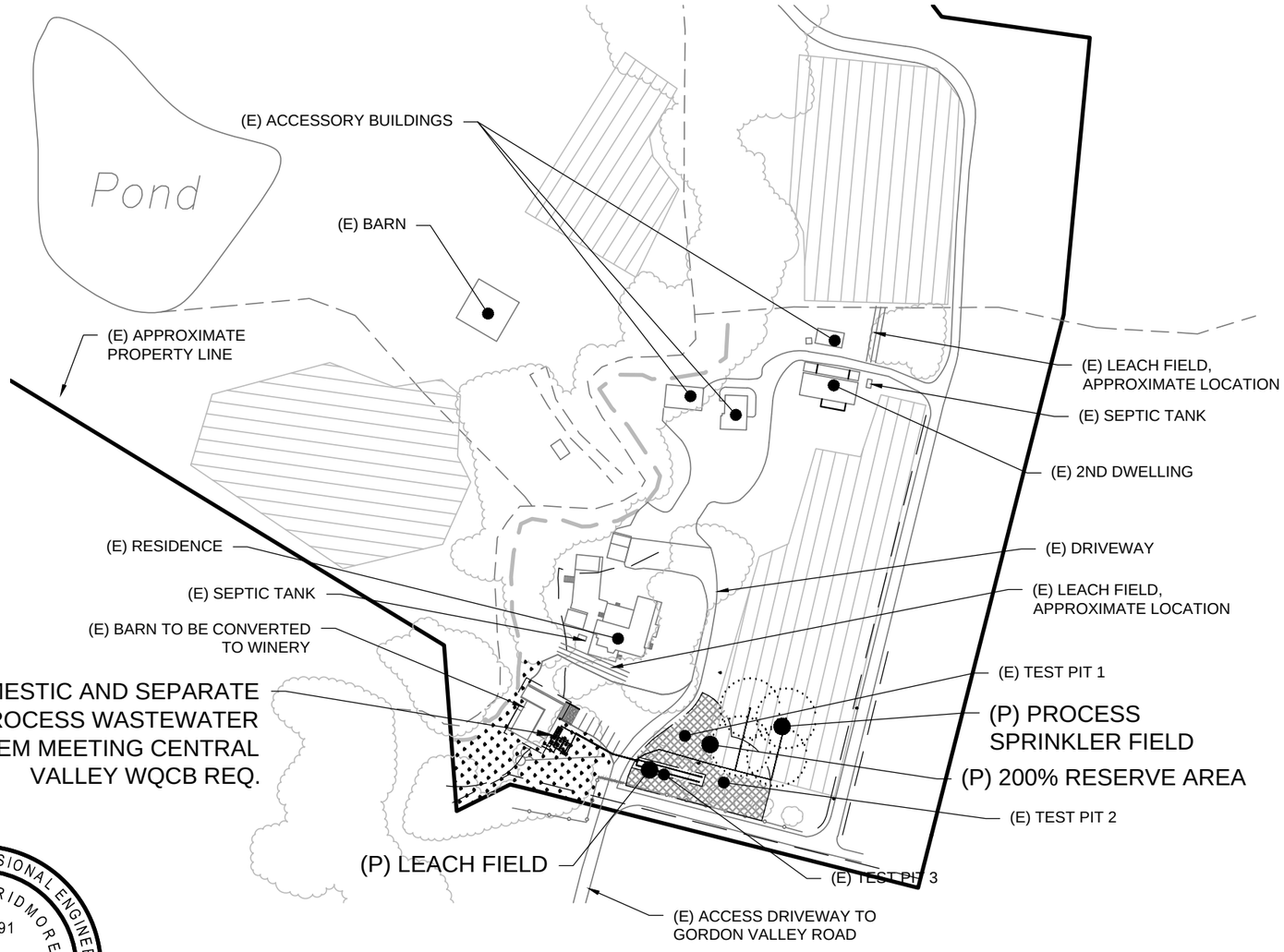
FOR THE

SHED CREEK WINERY

80 GRAPEVINE LANE

NAPA, CA 94558

APN: 033-170-002

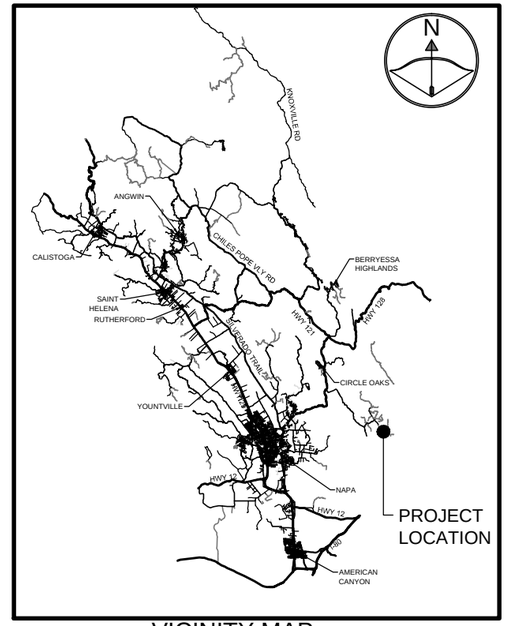


SITE MAP

1" = 150'

0 75 150 300

SCALE: 1"=150'



VICINITY MAP

NTS

SHEET INDEX

SHT. #	DESCRIPTION
1	TITLE SHEET
2	DOMESTIC WASTEWATER PLAN
3	PROCESS WASTEWATER PLAN
4	DOMESTIC SYSTEM NOTES & DETAIL
5	PROCESS SYSTEM NOTES & DETAIL

UNAUTHORIZED CHANGES & USES:

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE DESIGNER OF THESE PLANS.

PROPERTY LINES:

THE PROPERTY LINES SHOWN HEREON ARE BASED ON PRELIMINARY SURVEY DATA, AND ARE FOR REFERENCE ONLY. THIS IS NOT A BOUNDARY SURVEY MAP AND SHOULD NOT BE USED AS SUCH.

REGISTERED PROFESSIONAL ENGINEER
CAMERON PRIDMORE
NO. 76691
EXP. 12-31-2016
CIVIL
STATE OF CALIFORNIA

CMP
CIVIL LAND ENGINEERING & SURVEYING

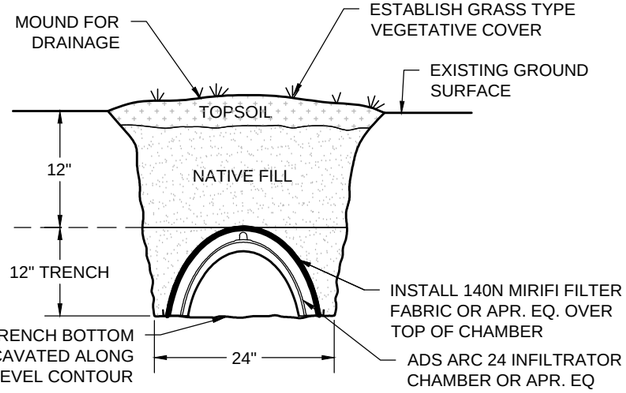
PREPARED BY:
CAMERON PRIDMORE PE, PLS
1607 CAPELL VALLEY ROAD
NAPA, CA 94558
(707) 815-0988

PROJECT # 00066 DATE: 5/14/2015

OWNER:
SHED CREEK WINERY
80 GRAPEVINE LANE
NAPA, CA 94558
APN: 033-170-002

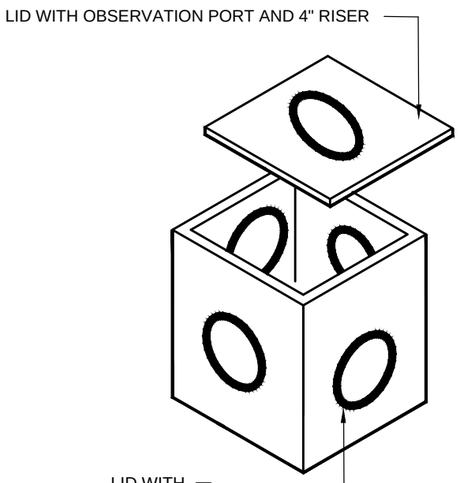
TITLE SHEET

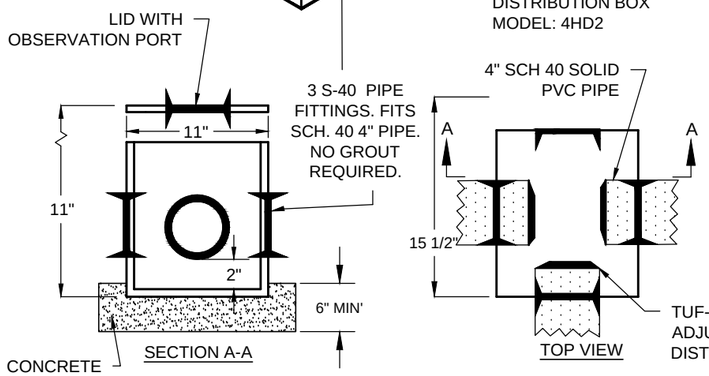
R#	DESCRIPTION	DATE
1	7-7-15 NC COM.	11-2-15
2	1-7-16 NC COM.	5-26-16



TRENCH DETAIL

NO SCALE

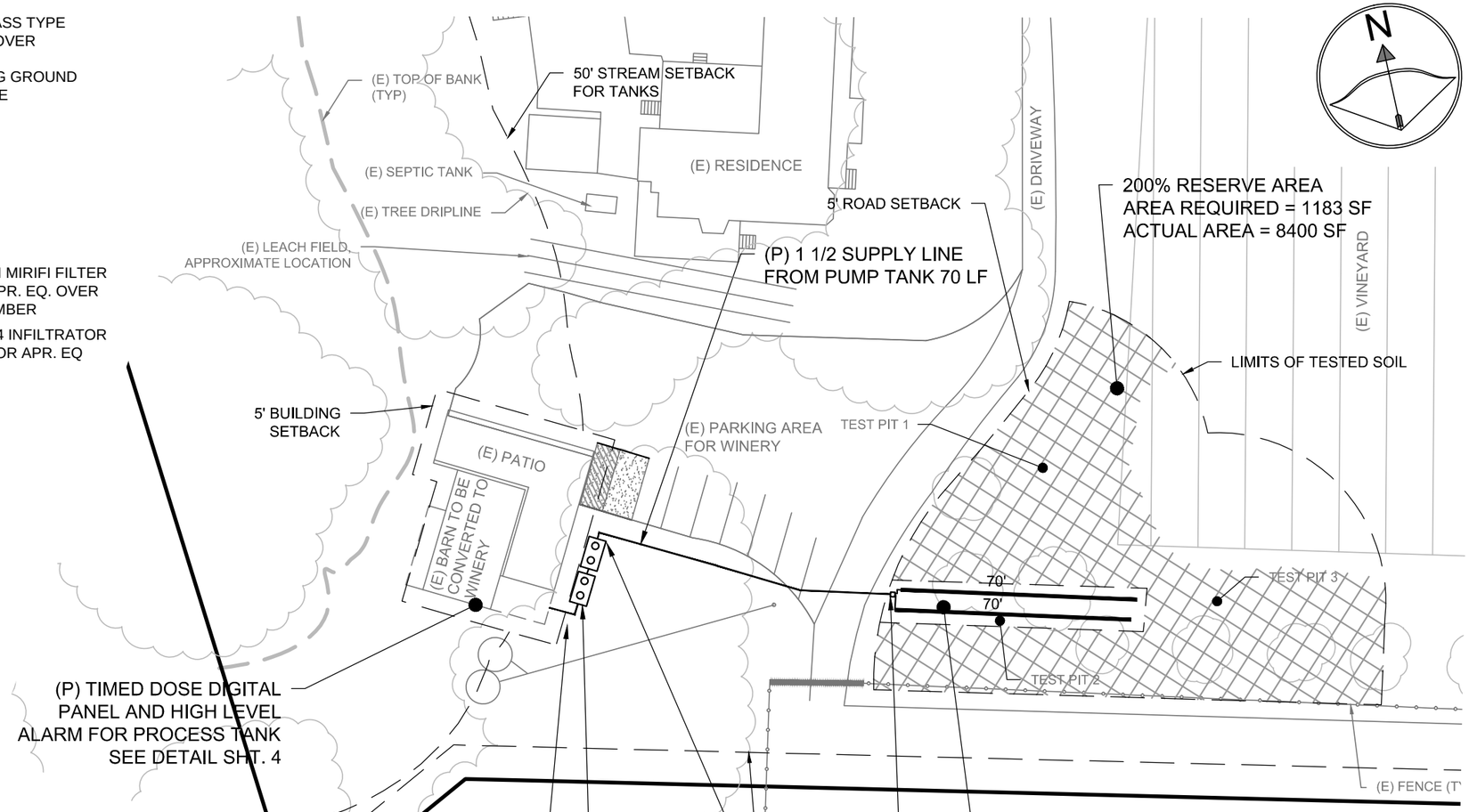




FOR COMPLETE DESIGN AND INSTALLATION DETAILS, CONTACT TUF-TITE

DISTRIBUTION BOX DETAIL

NO SCALE



0 20 40 60 80

SCALE: 1"=40'

NOTES:

1. ACTUAL TANK LOCATION MAY VARY IN THE FIELD DUE TO TANK SETTING ACCESSIBILITY. IF TANK LOCATION MUST DIFFER FROM PLAN MAINTAIN MIN 2% PIPE FALL TO AND FROM TANK AND CONFIRM NEW LOCATION MEETS ALL NAPA COUNTY CODES & SETBACK REQUIREMENTS.
2. TIME DOSE DIGITAL CONTROL PANEL MUST BE INSTALLED WITHIN 25' FROM HOUSE UNLESS A REMOTE ALARM IS INSTALLED

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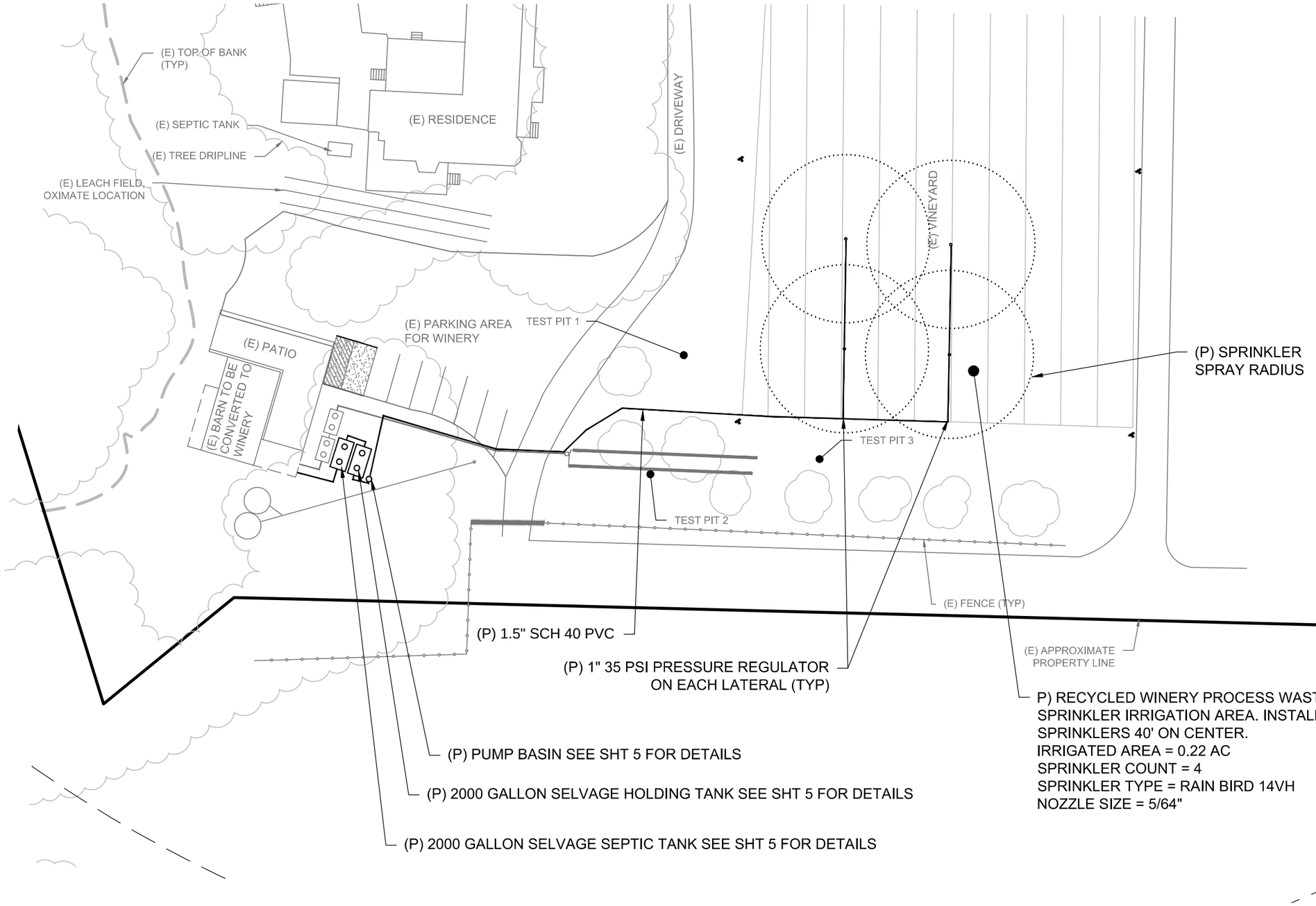
DOMESTIC WASTEWATER PLAN

R#	DESCRIPTION	DATE
1	7-7-15 NC COM.	11-2-15
2	1-7-16 NC COM.	5-26-16

SHEET: 2 OF 5



NOTES:

1. ACTUAL TANK LOCATION MAY VARY IN THE FIELD DUE TO TANK SETTING ACCESSIBILITY. IF TANK LOCATION MUST DIFFER FROM PLAN MAINTAIN MIN 2% PIPE FALL TO AND FROM TANK AND CONFIRM NEW LOCATION MEETS ALL NAPA COUNTY CODES & SETBACK REQUIREMENTS.
2. TIME DOSE DIGITAL CONTROL PANEL MUST BE INSTALLED WITHIN 25' FROM BUILDING UNLESS A REMOTE ALARM IS INSTALLED

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PROJECT # 00066 DATE: 5/14/2015

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PROCESS WASTEWATER PLAN

R#	DESCRIPTION	DATE
1	7-7-15 NC COM.	11-2-15
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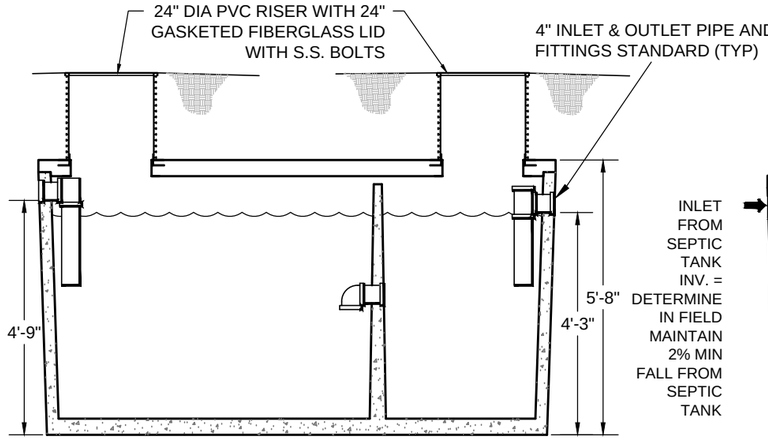
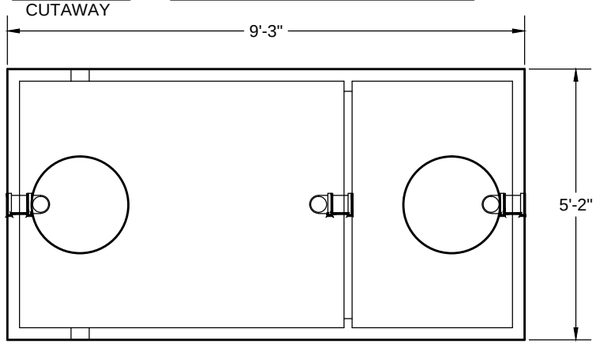
SHEET: 3 OF 5

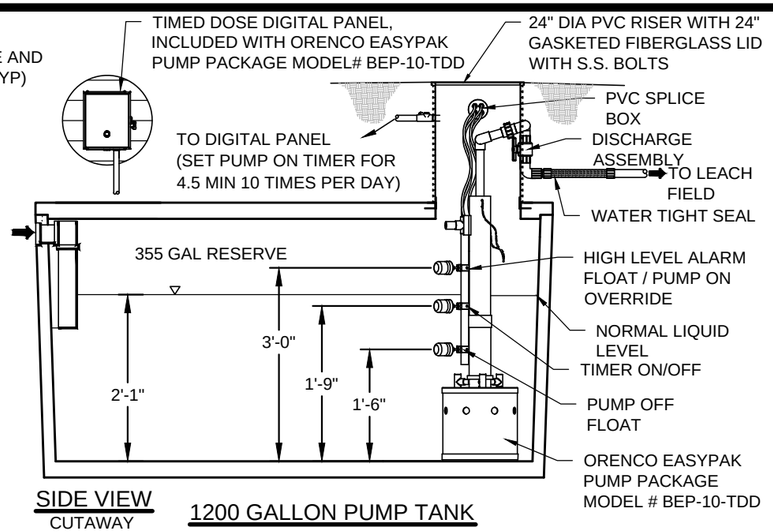


SIDE VIEW CUTAWAY — 1200 GALLON SEPTIC TANK

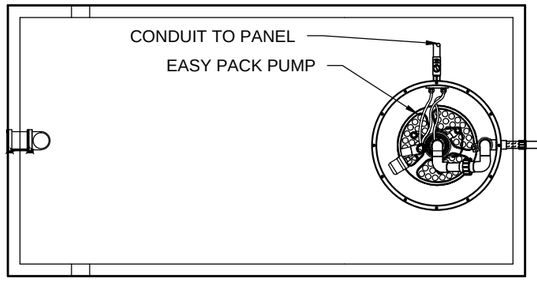


TOP VIEW

LIQUID CAPACITY: 1200 GALLONS
BOX DESIGN LOAD: NON-TRAFFIC, UP TO 3 FEET OF SOIL COVER, MAXIMUM 500 PSF.



SIDE VIEW CUTAWAY — 1200 GALLON PUMP TANK

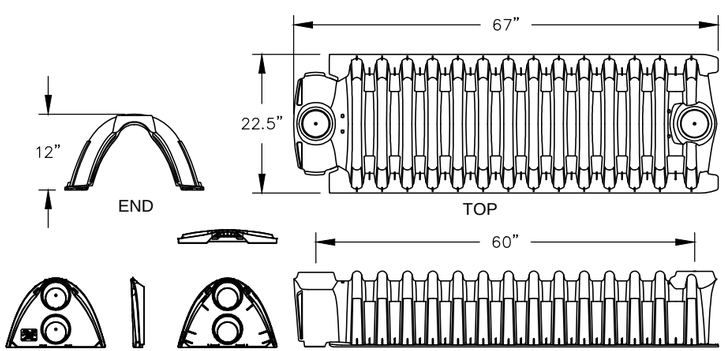


TOP VIEW

NOTE:
FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT SELVAGE CONCRETE PRODUCTS INC. AND ORENCO SYSTEMS INC.

SEPTIC TANK AND PUMP TANK DETAIL

SELVAGE SEPTIC/ PUMP TANK, NO SCALE



ADS ARC 24 CHAMBER DETAIL

NO SCALE

PRIMARY WASTEWATER CALCULATIONS

1. SOIL TYPE IS CLAY LOAM WITH MODERATE GRANULAR STRUCTURE
2. BASED ON SOIL TYPE THE INFILTRATION RATE = **0.25** GAL/SF/DAY
3. USING INFILTRATOR CHAMBERS, THE NET ABSORPTION AREA PER LINEAR FOOT OF TRENCH = **3 SF/LF**
3. THE WINERIES EXPECTED PROCESS WASTE IS 250 GALLONS PER DAY, WHICH WILL BE PROCESS VIA THE PROPOSED 2000 GALLON HOLD AN HAUL TANK SYSTEM. THE REQUIRED STORAGE IS 7 X 250 GAL = 1750 G.
4. THE WINERIES EXPECTED SANITARY WASTE IS 105 GALLONS PER DAY
5. THE TOTAL EXPECTED GALLONS PER DAY TO THE WINERY LEACHFIELD IS = **105 GAL/DAY**
6. THE MINIMUM TOTAL LENGTH OF TRENCH REQUIRED TO TREAT THE EXPECTED EFFLUENT IS 105 GAL/DAY / [(0.25 GAL/SF/DAY) X (3 SF/LF)] = **140 LF**

RESERVE WASTEWATER CALCULATIONS

1. SOIL TYPE IN THE TRENCH ZONE IS CLAY LOAM WITH MODERATE GRANULAR STRUCTURE
2. BASED ON SOIL TYPE THE INFILTRATION RATE FOR DRIP = **0.6** GAL/SF/DAY
3. THE WINERIES EXPECTED PROCESS WASTE IS 250 GALLONS PER DAY
4. THE WINERIES EXPECTED SANITARY WASTE IS 105 GALLONS PER DAY
5. THE TOTAL EXPECTED GALLONS PER DAY FROM THE PROPOSED WINERY = **355 GAL/DAY**
6. THE MINIMUM DISPERSION FIELD AREA FOR AN ENGINEERED DRIP SYSTEM GIVEN THE ABOVE VARIABLES IS (355 GAL/DAY / 0.6 GAL/SF/DAY X 200%) = 1183 **SF**

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DATE: 5/14/2015

PROJECT #: 00066

OWNER:
SHED CREEK WINERY
80 GRAPEVINE LANE
NAPA, CA 94558
APN: 033-170-002

DOMESTIC SYSTEM NOTES & DETAILS

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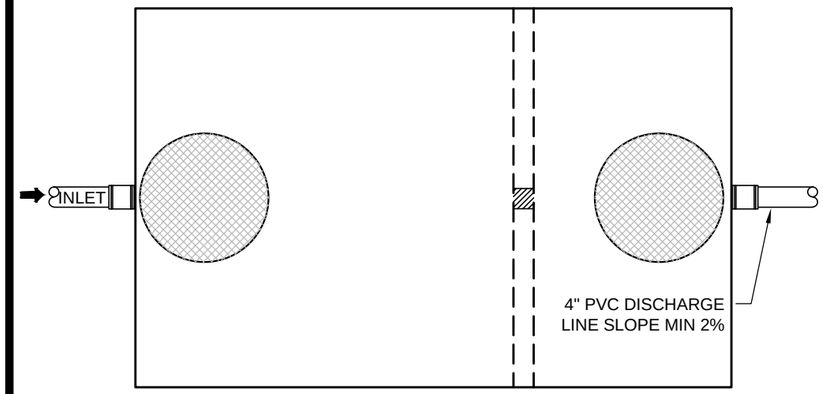
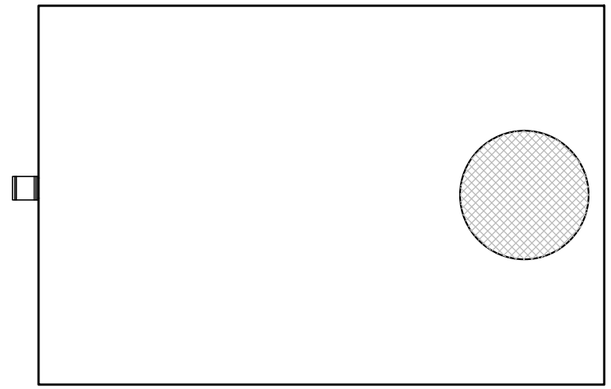
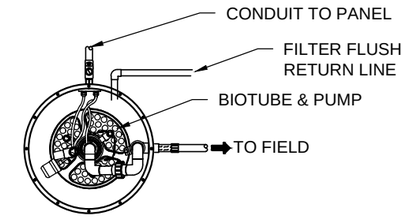


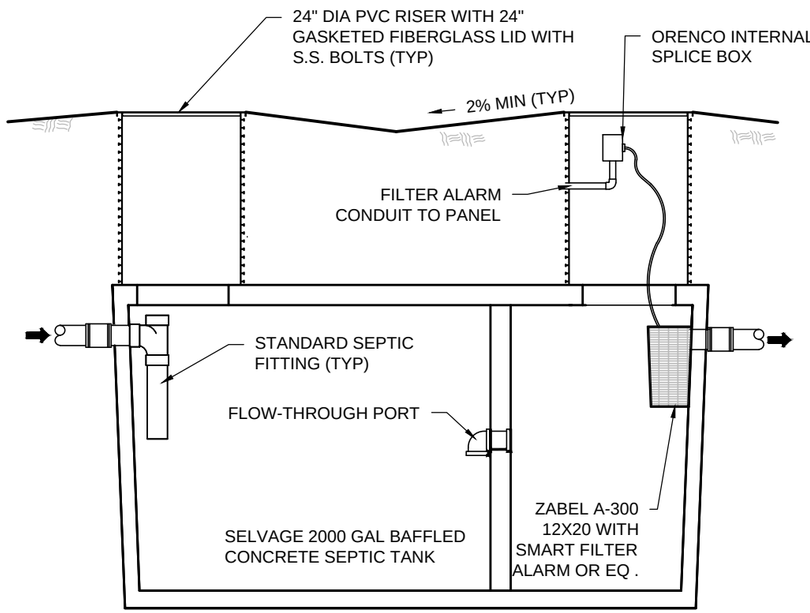
SEPTIC TANK TOP VIEW
NTS



HOLDING TANK TOP VIEW
NTS



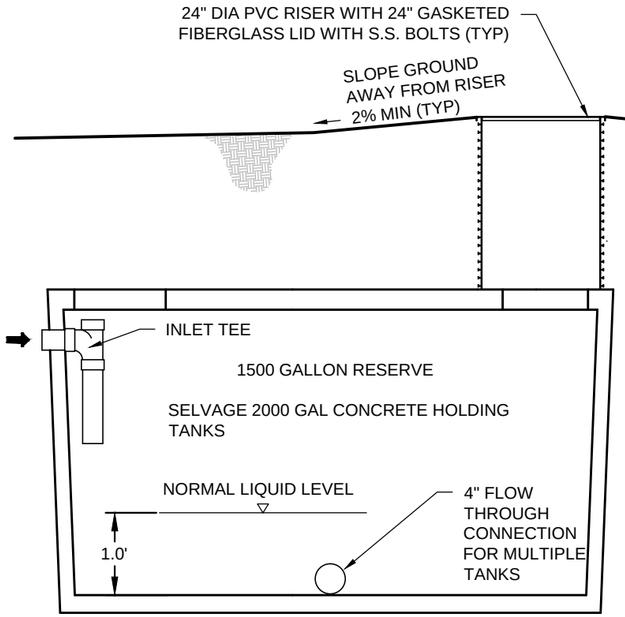
PUMP BASIN TOP VIEW
NTS



SEPTIC TANK SECTION VIEW
NTS

SEPTIC TANK DETAIL

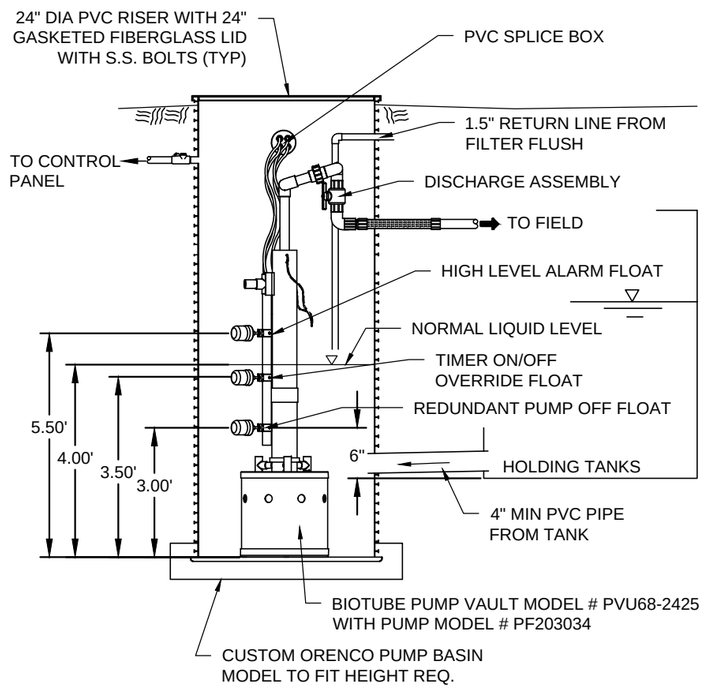
FOR SCHEMATICAL PURPOSES, ACTUAL LAYOUT MAY VARY, SEE PLAN (N.T.S.)



HOLDING TANK SECTION VIEW
NTS

HOLDING TANKS DETAIL

FOR SCHEMATICAL PURPOSES, ACTUAL LAYOUT MAY VARY, SEE PLAN (N.T.S.)



PUMP BASIN SECTION VIEW
NTS

PUMP BASIN DETAIL

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PROCESS SYSTEM NOTES & DETAILS

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SHEET: 5 OF 5