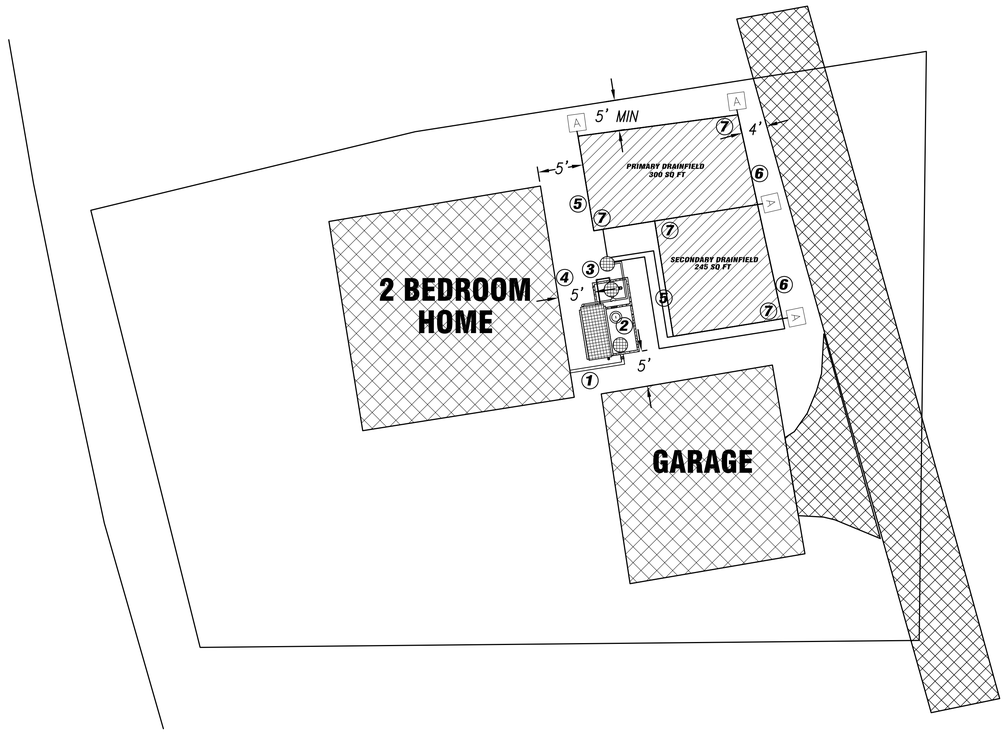
SCALE: 1"=10'

10 5 0 10

GRAPHIC SCALE



LEGEND

1. BUILDING SEWER SHALL BE APPROVED 4" PIPE (ASTM 3034) AND HAVE 2% SLOPE MINIMUM, ONE CLEANOUT MINIMUM, ADDITIONAL CLENOUTS EVERY 100' OR DIRECTION CHANGE.
2. 1250 GALLON TANK W/AX20 POD
3. 192 GALLON PUMP BASIN
4. VCOM CONTROL PANEL
5. FORCE MAIN LINE
6. RETURN MANIFOLD
7. INSPECTION PORT

A AIR BREAKER VALVE

IMPORTANT REMINDERS

- READ, UNDERSTAND AND FOLLOW THESE PLANS.
- PLEASE CONTACT A.O.S. AND WEBER MORGAN COUNTY HEALTH DEPARTMENT BEFORE ATTEMPTING TO INSTALL SYSTEM.
- ANY CHANGES MADE TO THIS PLAN MUST BE APPROVED BY BEN WITT AND UTAH COUNTY HEALTH DEPARTMENT.
- MEASUREMENTS TAKEN BY A.O.S. ARE NOT FIELD MEASUREMENTS AND SHOULD BE CONFIRMED BY THE EXCAVATOR AT THE TIME OF INSTALLATION.
- CHECK WITH LOCAL AUTHORITIES FOR UNDERGROUND UTILITIES.
- DO NOT ENTER DEEP TRENCH EXCAVATIONS
- INSTALLATION MUST BE DONE IN ACCORDANCE WITH ALL OSHA SAFETY STANDARDS. INSTALLER MUST BE LICENSED AND INSURED.
- SYSTEM SHALL BE INSPECTED BY WMHD PRIOR TO ANY BACKFILLING. MULTIPLE INSPECTIONS MAY BE REQUIRED DURING THE INSTALLATION.
- TANK SHALL BE WATER TIGHT TESTED.
- A.O.S. DISCLAIMS ANY LIABILITY FOR ANY CHANGES MADE TO THESE PLANS WITHOUT PROPER CONSENT.
- RISERS OVER SEPTIC TANK MUST BE 20" DIA MINIMUM. ALL LIDS MUST BE CHILDPROOF.
- PLEASE CALL A.O.S. WITH ANY QUESTIONS (801) 380-0103.

DESIGN NOTES

EASEMENTS-
SEPTIC SYSTEM MUST BE 5' AWAY FROM FOUNDATIONS. DRAIN FIELD MUST BE IN THE AREA DESIGNATED ON THIS PLAN TO MEET SETBACK REQUIREMENTS. THERE ARE NO OTHER KNOWN EASEMENTS.

WATER SOURCES-
THIS PROPERTY WILL BE SERVED BY A WATER SYSTEM WHICH WILL REQUIRE A 10' SETBACK FROM THE WATER SERVICE LINE TO THE HOUSE. THE SYSTEM WILL BE AN ATLERNATIVE SYSTEM THAT WILL MEET 50' SETBACKS FROM THE PROVO RIVER. THERE ARE NO KNOWN PUBLIC WATER SUPPLY SOURCES WITHIN 1500 FEET OF THE SEPTIC SYSTEM. THE SYSTEM IS NOT LOCATED WITHIN 200' OF A NON PUBLIC WATER SYSTEM. THE SYSTEM WILL NOT BE LOCATED IN A ZONE 2 DRINKING WATER SOURCE PROTECTION BOUNDARY.

DRAINFIELD-
WATER DRAINAGE MUST BE DIVERTED OFF OF DRAINFIELD AND DRAINFIELD REVEGETATED WITH SHALLOW ROOTED GRASSES AND VEGETATION AFTER INSTALLATION IS COMPLETED.

FOUNDATION DRAINS-
THE BUILDING WILL NOT HAVE A FOUNDATION DRAIN. THE NEIGHBORING PROPERTIES DO NOT HAVE ANY KNOWN FOUNDATION DRAINS THAT WILL BE WITHIN 50' OF THE DRIPFIELD.

DRAINFIELD CALCULATIONS FOR 2 BEDROOM HOME

TOTAL NUMBER OF BEDROOMS: 2
PERC RATE: 1.18 MPI
GALLONS PER DAY: 300

LOADING RATE: $2.35/\sqrt{1.18}+.15$= 2.31 GAL/SQ FT/DAY
300 GALLONS/DAY / 2.31 SQ FT/DAY= 129.87 SQ FT
129.87 SQ FT *.7 TEXTILE FILTER REDUCTION=90.90 SQ FT

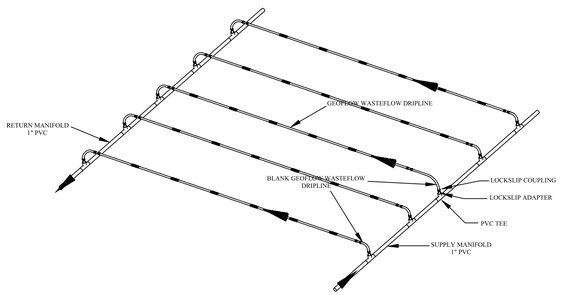
LOADING RATE USING 1.5 GAL/SQ FT/DAY
300 GALLONS/DAY/ 1.5 GAL/SQ FT/DAY= 200 SQ FT
200 SQ FT * .7 TEXTILE FILTER REDUCTION= 140 SQ FT

CALCULATIONS

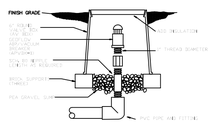
GEOFLOW SUBSURFACE DRIP
WASTEFLOW 1 GPH DRIPLINE

TOTAL DAILY FLOW	300 GALLONS
LOADING RATE	1 GAL/SQ.FT./DAY
TOTAL DISPERSAL FIELD AREA	300 SQUARE FT.
SPACING BETWEEN LINES	1'
SPACING BETWEEN EMITTERS	1'
TOTAL LINEAR FEET	300
TOTAL NUMBER OF EMITTERS	300
PRESSURE AT BEGINNING OF DRIPFIELD	20 PSI
FT OF HEAD AT BEGINNING OF DRIPFIELD	46.2'
FLOW RATE PER EMITTER	1.02 GPH
TOTAL FLOW	5 GPM
FLUSH VELOCITY	1 FT/SEC
TOTAL NUMBER OF LINES	13
FLUSH FLOW PER DRIPLINE	.74 GPM
TOTAL FLOW FOR FLUSHING VELOCITY	9.62 GPM
TOTAL SYSTEM FLOW	14.62 GPM

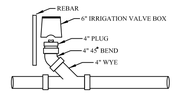
TYPICAL CROSSECTION OF DRIP DISPOSAL FIELD



AIR BREAKER DETAIL



CLEANOUT DETAIL SCALE 1/2"=1'



NOTE:
CLEANOUTS SHOULD BE LOCATED EVERY 100' AND BEFORE ANY CHANGE IN DIRECTION OR GRADE.

AOS
ALTERNATIVE ONSITE SOLUTIONS INC.
WASTEWATER TREATMENT SYSTEM DESIGN
HEBER CITY, UTAH 801-380-0103

DESIGNED BY: Benjamin Witt BENJAMIN WITT
LEVEL 3 CERTIFIED DESIGNER
LIC.#10541-2006-OT3

TOTAL BEDROOMS:2
SQ FT REQUIRED: 140
PROCESSING TANK SIZE: 1250 GALLONS
LOADING RATE: 1.25

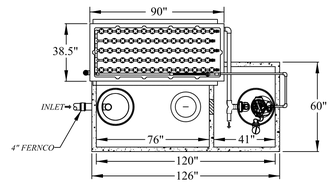
PREPARED FOR:
RICK GOLDEN
962 ODGEN CANYON ROAD
WEBER/MORGAN COUNTY HEALTH DEPARTMENT

SHEET TITLE
SEPTIC SYSTEM DESIGN
SITE PLAN

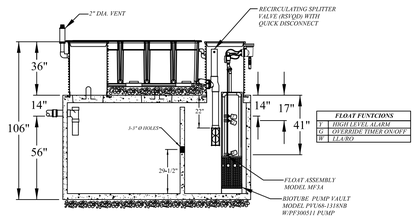
DATE: 05/30/16
SCALE: 1" = 10'
SHEET 1

TREATMENT SYSTEM DETAILS

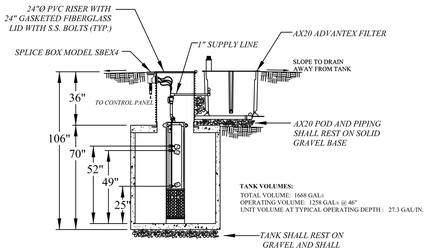
TEXTILE FILTER TREATMENT SYSTEM WITH DURA-CRETE 1250 GALLON PROCESSING TANK
SCALE: 1/4" = 1'



TOP VIEW



SIDE VIEW



END VIEW

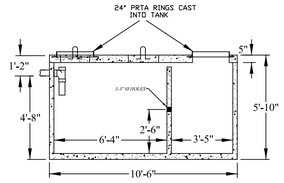
CUSTOM
1250 GALLON SEPTIC TANK DETAIL
SCALE 1/4"=1'

NOTES:
WEIGHT: 11,000 LBS
EXCAVATION DIMS: 7' X 12'-6"
SEALED WITH BUTYL ROPE
4" SANITARY TEE

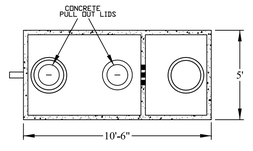
REINFORCING:
TANK - 6X6-6X6 WELDED WIRE FABRIC CAGE
#4 BAR OVERLAP 2' O.C.
LID: #4 BAR 8" O.C.E.W.

SPECS ON THICKNESS
WALLS-4"
FLOOR-5"
LID-5"

DURA-CRETE INC.
801-972-8686

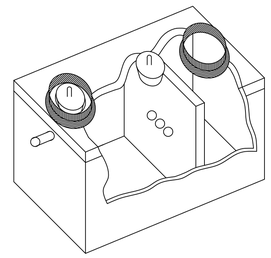


SIDE VIEW



TOP VIEW

CUTAWAY ISOMETRIC



DESIGN NOTES

EXPECTED FLOWS
- Q^{Peak} = 300 gpd

EXPECTED INFLUENT QUALITY
GREASE & OIL: 20 mg/L
BOD: 150 mg/L
TSS: 40 mg/L
TKN: 65 mg/L

TYPICAL EFFLUENT QUALITY
BOD: < 10 mg/L
TSS: < 10 mg/L
TN: < 25 mg/L

RECIRCULATION RATIO: 3:1

WATER USAGE PER PERSON = 50 GPD
ANTICIPATED RESIDENTS= 4
ACTUAL DAILY FLOW= 200 GPD
RETURN RECIRCULAION RATIO= 3:1
CYCLE TIME= 20 MIN
PUMP CYCLES PER DAY= 72
GALLONS PER CYCLE= 10.032
GALLONS PER ORIFICE PER DOSE=.1075
TIMER ON = 15 SECONDS (.33 MINUTES)
TIMER OFF = 19.45 MINUTES[2]

TIMER OFF EQUATION

$$Tr = \left[\frac{1440 * Td * Qd}{(Rb + 1) * Qi}\right] - Td$$

$$Tr = \left[\frac{1440 * .45 * 60.8}{(3 + 1) * 525}\right] - .45$$

Tr=19.45

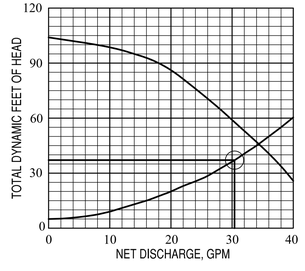
Td= PUMP ON CYCLE TIME (DOSE)
Qd= ACTUAL PUMP DOSE RATE (GPM)
Qi= ACTUAL DAILY FLOW TOTAL

RECIRCULATION PUMP CALCULATIONS

ORIFICE SIZE	1/8"
RESIDUAL HEAD AT LAST ORIFICE	5'
ORIFICE SPACING	6"
NUMBER OF LATERALS PER CELL	5
LATERAL LENGTH	6.6'
LATERAL LINE SIZE	3/4"
LATERAL PIPE CLASS/SCHEDULE	40
DISTRIBUTING VALVE MODEL	N/A
MANIFOLD LENGTH	3'
MANIFOLD LINE SIZE	1"
MANIFOLD PIPE CLASS/SCHEDULE	40
LIFT TO MANIFOLD	5'
TRANSPORT LENGTH	12'
TRANSPORT LINE SIZE	1"
TRANSPORT PIPE CLASS/SCHEDULE	40
DISCHARGE ASSEMBLY SIZE	1"
FLOW METER	N/A
ADD ON FRICTION LOSSES	0

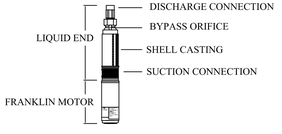
MINIMUM FLOW RATE PER ORIFICE	.43 GPM
NUMBER OF ORIFICES PER ZONE	68
TOTAL ACTUAL FLOW RATE	30.4
NUMBER OF LINES PER ZONE	5
% FLOW DIFFERENTIAL 1ST AND LAST ORIFICE	1.6%
LIFT TO MANIFOLD	5'
RESIDUAL HEAD AT LAST ORIFICE	5'
HEAD LOSS IN LATERALS	.2'
HEAD LOSS THROUGH DISTRIBUTING VALVE	N/A
HEAD LOSS IN MANIFOLD	.4'
HEAD LOSS IN TRANSPORT PIPE	5.2'
HEAD LOSS THROUGH DISCHARGE	21.3'
HEAD LOSS THROUGH FLOW METER	N/A
ADD ON FRICTION LOSSES	0
TOTAL FLOW RATE	30.4 GPM
TDH	37.1'

PF 3005 PUMP CURVE



PF 3005 PUMP SPECS

HORSE POWER= 1/2HP
VOLTAGE=115
NOMINAL FLOW= 30GPM
DISCHARGE= 1.25"
AMPS= 12/6
RATED CYCLES/DAY=300



MATERIALS OF CONSTRUCTION

DISCHARGE:	FIBERGLASS-REINFORCEDTHERMOPLASTIC OR STAINLESS STEEL (P50)
DISCHARGE BEARING:	NYLON POLYMER
DIFFUSERS:	POLYCARBONATE
IMPELLERS:	ACETAL
THRUST PADS:	PROPRIETARY
MOTOR:	STAINLESS STEEL
INTAKE SCREEN:	POLYPROPYLENE
SUCTION CONNECTION:	FIBERGLASS-REINFORCE THERMOPLASTIC
DRIVE SHAFT:	7/16" HEXAGONAL STAINLESS STEEL
COUPLING:	STAINLESS STEEL
SHELL:	STAINLESS STEEL

ALTERNATIVE ONSITE SOLUTIONS INC.
WASTEWATER TREATMENT SYSTEM DESIGN
HEBER CITY, UTAH 801-380-0103

DESIGNED BY: Benjamin Wall
BENJAMIN WITT
LEVEL 3 CERTIFIED DESIGNER
LIC. # 0541-2006-OT3

TOTAL BEDROOMS:2
SQ FT REQUIRED: 140
PROCESSING TANK SIZE: 1250 GALLONS
LOADING RATE: 1.25

PREPARED FOR:
RICK GOLDE
962 OGDEN CANYON ROAD
WEBER MORGAN HEALTH

SHEET TITLE
SEPTIC SYSTEM DESIGN
TREATMENT SYSTEM

DATE: 05/30/16
SCALE: 1/4"= 1'
SHEET 2