

SEPTIC SYSTEM ~~REVIEW~~ *AS BUILT*

SEPTIC PERMIT # 3-58-18
 Owner: Donald & Jill McGraw
 Site : 1137 Cross Creek Road
 Installer: Westin Mechanical

Reviewed by Wes Smiley on
Inspected By W.S.
 Engineer: Thomas Pilch 6262

10/31/2018
11/13/2018

Single Family Dwelling 4 bedrooms = 470 gpd 470 gpd flow rate
 ground water test pit done 9/26/2018 excavated 5 ft. water indicators at 1.66 feet
 Bottom of field 1.33 ft. above existing grade

Septic Tank: MP1250 gal. Concrete septic tank (1000 gal. CDT dosing tank with Model Liberty 370/380 Pump set at 41 GPM)

38-40 = .35

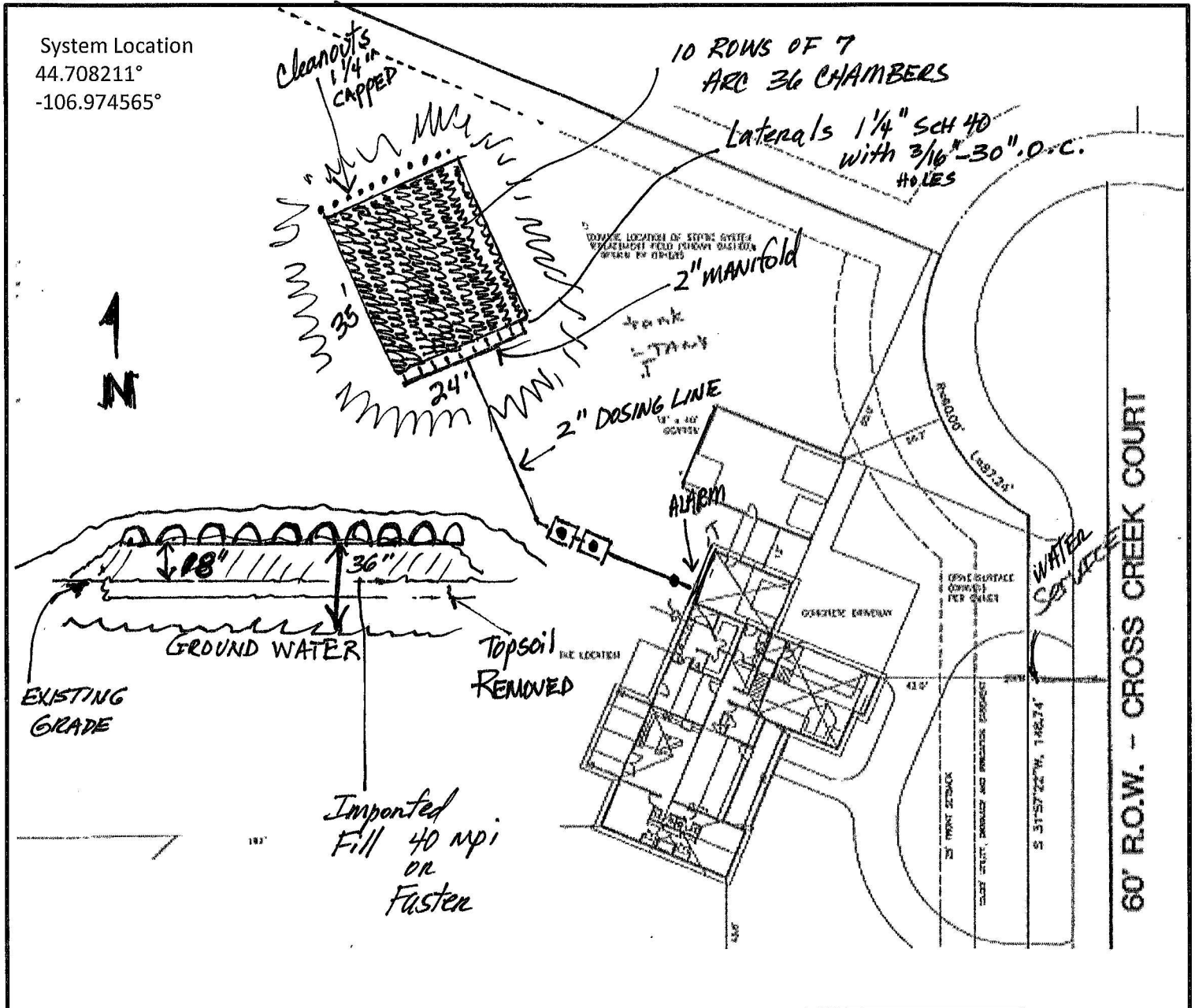
Perc Rate 40 mpi Loading Rate = 0.35
 470 divided by 0.35 equals 1342.8571 sq.ft. absorption
 70 x 21.3 equals 1491 sq.ft. absorption

REQUIRED

PROPOSED

Chamber Bed System	FULL DOSING						
70	x	21.13	equals	1479.1	sq.ft. absorption	APPROVED	

ARC 36





Sheridan County

224 S. Main St. Suite 428
Sheridan, WY 82801
(307) 674-2920

Permit to Construct

Permit 3-58-18

☒ **Residential**
☐ **Commercial**

☒ **New**

☐ **Modified (Replacement)**
☐ **Permit Renewal**

Site Address: 1137 Cross Creek Ct

Applicant: McGraw Donald & Jill
(Last) (First)

Mailing Address 426 Shadow Ridge Blvd
(Street or P.O. Box)

Sheridan WY 82801
(City) (State) (Zip)

This permit hereby authorizes the Applicant to construct, install or modify a small wastewater facility located in:

Cross Creek Estates Subdivision, Block, _____ Lot 6;

or unplatted Legal Description _____ $\frac{1}{4}$; Sec. _____; T _____ N; R _____ W;

in the County of Sheridan, Wyoming. This permit will be effective for a period of one (1) year from the date of issuance.

The permittee shall construct and operate the permitted facility in accordance with the statements, representations, procedures, terms and conditions of the permit application.

Authorized by:

W. Smiley
County Inspector

10/31/18
Date of Issuance

Sheridan County Small Wastewater Application Form

Permit to Construct Conventional Small Wastewater System with Leachfield less than 2,000 gallons per day only.

Not to be used for evaporation ponds or other non-conventional systems. For non-conventional systems, contact Sheridan County Public Works. For systems exceeding 2,000 gallons per day, contact the Underground Injection Control Program at 307-777-7937 or refer to: <http://deq.wyoming.gov/wqd/underground-injection-control/>

Complete entire package and submit to: Sheridan County Public Works
224 S. Main Street, Suite 428, Sheridan, WY 82801

Fee \$250; Additional fee levied if system construction starts prior to permit approval.

COUNTY USE ONLY

Permit Number	3-58-18
Date Received	10/25/18
Date Approved	10/31/18
Date Inspected	11/13/18
Inspected by	N/S

Name of Project: MCGRAW RESIDENCE

Type of Building: FAMILY DWELLING - SINGLE
(single family dwelling, mobile home, commercial, etc.)

RECEIVED

OCT 25 2018

☒ New System County Zoning or Building Permit # 17-18

☐ Modified Septic Tank or Leachfield

Site Address: 1137 CROSS CREEK CT

Is the septic system in compliance with a county approved plat? ☒ Yes ☐ No or ☐ N/A

• Legal Address: Must Attach Copy of Recorded Deed

Lot/Parcel Size: _____ feet by _____ feet OR 2.22 acres

Subdivision: CROSSCREEK ESTATES Lot # 6 Block# _____ or

Township: SSN Range: 84W Section: 28 1/4 1/4 Section: SESE + NESE

Water Source: ☐ Private well, SEO Well# _____ ☒ Municipal SAWS (name)

☐ Cistern

☐ Community Well _____ (name)

Installer Information

Name: WESTIN MECHANICAL

Address: 42 E. Ridge Rd, Sheridan, WY 82801

Phone: 307-763-1733 E-mail: mike@westinmechanical.com

Signatures: All undersigned agree to comply with applicable State of Wyoming Statutes & Regulations and Sheridan County Rules & Regulations, and to allow the activities described in this application.

Property Owner Printed Name: DONALD & JILL MCGRAW

Mailing Address: 426 SHADOW RIDGE BLVD, SHERIDAN, WY 82801

Phone: _____

E-mail: _____

Property Owner Signature: [Signature]

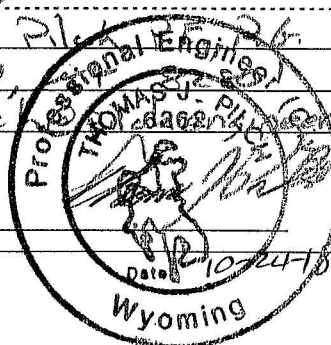
Engineer/Geologist Printed Name: (if required) Thomas J. Pilch

Mailing Address: 2155 W. MAIN, SHERIDAN

Phone: 307-672-8750 E-mail: tom.pilch@adamsengineeringllc.com

WY P.E.# 6262 WY P.G.# 617

Engineer/Geologist Signature & Seal: _____



System Design & Configuration

Residential Design Flow Rate per Bedroom	
Quantity of Bedrooms	Flow Rate (gpd)
1 bedroom	150
2 bedrooms	280
3 bedrooms	390
4 bedrooms	470
5 bedrooms	550
6 bedrooms	630
An unfinished basement is considered two (2) additional bedrooms.	
The design flow shall be increased by eighty (80) gpd for each additional bedroom over six (6).	

Non-Residential Design Flow Rate-
Refer to Section 15 of Sheridan County
Rules & Regulations Governing
Wastewater Systems

Complete:

☐ **Non-Residential** - Refer to Section 15, Sheridan County Rules & Regulations Governing Wastewater Systems:
Facility Type _____ # Units x _____ Flow(gal/unit/day) = _____ Design Flow Rate

☒ **Permanent Structure** (single family dwelling, mobile home)

4 Total Number of Bedrooms (* Must Include 2 Bedrooms for Unfinished Basement)

Design Flow Rate = 470 (gpd)

Percolation Rate = 40 (mpi) From Test Data, page 8. Find Loading Rate on chart below.

Percolation Rate (mpi)	Loading Rate (gpd/ft ²)	Percolation Rate (mpi)	Loading Rate (gpd/ft ²)	Percolation Rate (mpi)	Loading Rate (gpd/ft ²)	Percolation Rate (mpi)	Loading Rate (gpd/ft ²)
<input type="checkbox"/> 5	0.80	<input type="checkbox"/> 13	0.56	<input type="checkbox"/> 21	0.45	<input type="checkbox"/> 34-35	0.37
<input type="checkbox"/> 6	0.75	<input type="checkbox"/> 14	0.54	<input type="checkbox"/> 22	0.44	<input type="checkbox"/> 36-37	0.36
<input type="checkbox"/> 7	0.71	<input type="checkbox"/> 15	0.52	<input type="checkbox"/> 23-24	0.43	<input checked="" type="checkbox"/> 38-40	<u>0.35</u>
<input type="checkbox"/> 8	0.68	<input type="checkbox"/> 16	0.50	<input type="checkbox"/> 25	0.42	<input type="checkbox"/> 41-43	0.34
<input type="checkbox"/> 9	0.65	<input type="checkbox"/> 17	0.49	<input type="checkbox"/> 26-27	0.41	<input type="checkbox"/> 44-46	0.33
<input type="checkbox"/> 10	0.62	<input type="checkbox"/> 18	0.48	<input type="checkbox"/> 28-29	0.40	<input type="checkbox"/> 47-50	0.32
<input type="checkbox"/> 11	0.60	<input type="checkbox"/> 19	0.47	<input type="checkbox"/> 30-31	0.39	<input type="checkbox"/> 51-55	0.31
<input type="checkbox"/> 12	0.58	<input type="checkbox"/> 20	0.46	<input type="checkbox"/> 32-33	0.38	<input type="checkbox"/> 56-60	0.30

Loading Rate = 0.35 (gpd/ft²)

Calculate Minimum Absorption System Size (Leachfield):

Design Flow (gpd) / Loading Rate (gpd/ft²) = Minimum Absorption System Sizing (Leachfield)

470 (gpd) / 0.35 (gpd/ft²) = 1343 (sq. ft)

ROETECH**CONSTRUCTION MATERIALS TESTING**

2058 DANA AVENUE
SHERIDAN, WYOMING 82801

CLIENT: PILCH ENGINEERING

DATE: 10/18/2018

PROJECT: CROSSCREEK LOT 6

WO. NUMBER: R-18459

PERCOLATION TEST WORKSHEET

Depth of Hole 14" Depth of Hole 15" Depth of hole 16" Depth of Hole 16" Depth of Hole 17" Depth of Hole 15"

The water levels were measured every 10 minutes and pre - soaked overnight.

Soils Encountered:

	SILTY CLAY		SILTY CLAY		SILTY CLAY		SILTY CLAY		SILTY CLAY		SILTY CLAY	
READING NUMBER	TEST HOLE 1		TEST HOLE 2		TEST HOLE 3		TEST HOLE 4		TEST HOLE 5		TEST HOLE 6	
	WATER LEVEL	DROP INCHES	WATER LEVEL	DROP INCHES	WATER LEVEL	DROP INCHES	WATER LEVEL	DROP INCHES	WATER LEVEL	DROP INCHES	WATER LEVEL	DROP INCHES
	7.50"		6.00"		8.00"		6.25"		6.50"		5.00"	
1	7.75"	.25"	6.00"	0"	8.25"	.25"	6.75"	.50"	7.00"	.50"	5.25"	.25"
2	8.25"	.25"	6.25"	.25"	9.25"	1.00"	7.50"	.75"	7.50"	.50"	5.75"	.25"
3	8.50"	.50"	6.75"	.50"	10.00"	.50"	8.25"	.75"	8.00"	.50"	6.25"	.50"
4	9.00"	.50"	7.00"	.25"	5.00"	.75"	9.00"	.75"	8.50"	.50"	6.50"	.50"
5	9.50"	.50"	7.25"	.25"	5.25"	.25"	9.75"	.75"	8.75"	.50"	6.75"	.25"
6	10.00"	.50"	7.75"	.25"	5.75"	.50"	10.50"	.75"	9.50"	.50"	7.00"	.25"

FINAL TIME	10	10	10	10	10	10
FINAL DROP	.50"	.25"	.50"	.75"	.50"	.25"
PERC RATE	20	40	20	13.3	20	40

Percolation Rate = 25.55

Reported by: J.ROE

Perc Rate (minutes per inch)

Time Interval (minutes) / Final Drop (in inches)

ABSORPTION SYSTEM DESIGN PERCOLATION RATE: If 3-5 holes were tested, use the slower (highest number) rate from all of the holes tested. If 6 or more were tested, use the average rate.

* Stabilization occurs when 3 consecutive drops are within 1/8" of each other.

Site Suitability

The owner must be aware of the depth of the impermeable soil layer, the seasonal high groundwater level, and slope when considering the system location. **A County representative must inspect a ground water test pit prior to application submission. Call (307) 674-2920 to schedule an inspection.** After an inspection, the following questions below must be answered:

EXCAVATION	Was an excavation conducted within the proposed location of leachfield?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Was the test pit open at least 24 hours prior to inspection?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Was bottom of the excavation <u>at least 4 feet below</u> bottom of the proposed leachfield?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Depth of Excavation? <i>± 6'</i>		
	Did a County representative observe and measure depth?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Name of County Representative & Date of Inspection: <i>Wes Smiley</i>		

SLOPE	What is the estimated slope of the proposed leachfield area? <i>< 2%</i>
	How far away is the nearest break in slope (such as the side of a hill)? <i>> 100'</i>
	Distance to nearest drainage ditch or surface water body; such as river, pond, creek, etc? <i>± 60' west</i>

County Inspector will complete the following:

IMPERMEABLE LAYER	Was a rock layer observed?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	If yes, at what depth below ground surface?		
	Was a clay layer observed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	If yes, at what depth below ground surface? <i>12" bgs to 6'</i>		

SEASONAL HIGH GROUNDWATER	Was groundwater present in the excavation?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	If yes, at what depth below ground surface? <i>± 24" - Seasonal 18"</i>		
	Did the soil have a mottled color (which can be indicative of groundwater)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	If yes, at what depth below ground surface? <i>18"</i>		
	Was the soil stained a dark color or was a salt/alkali layer encountered?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	If yes, at what depth below ground surface?		

Components

SEPTIC TANK	Is the Septic Tank on the approved list? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<i>If Yes, provide the following:</i>	
	Manufacturer: <u>SKYLINE CONCRETE PRODS</u> Model: <u>CST-1500-2C</u>	
	Size: <u>1500 GALLON</u>	
	<i>If No, provide the following & Complete the Septic Tank Design Worksheet (page 14):</i>	
	Size: _____ Number of Compartments: _____	
	Tank Material: _____	
PIPING	Residences up to 4 bedrooms – Is the tank size 1,000 gallons or more? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	Residences greater than 4 Bedrooms – Does the tank have additional capacity of 150 gallons per additional bedroom? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Estimated Depth of backfill over tank: <u>≈ 18"</u>	
	Is the tank equipped with a 6-inch cleanout that extends to the ground surface from each compartment in the tank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	What is the Piping material from the building to the septic tank? <u>PVC SCH. 40</u>	
	What is the Pipe size ? <u>4"</u>	
	LEACHFIELD DESIGN	Is the pipe from residence/building to the septic tank in a straight line? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If No, will cleanout ports be installed at any alignment change greater than 22.5 degree? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
This is Required.		
Is the pipe from residence to the septic tank greater than 100 feet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, will cleanout ports be installed? This is Required. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Is there a cleanout port just outside the building? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Does the piping have a minimum slope of 1/4 inch per foot (2%) for a 4-inch pipe? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Is there a distribution box on the effluent piping? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Are flow dividers installed on the effluent piping? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Are all leachfield trenches less than 100 feet? This is Required. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
LEACHFIELD DESIGN	Are you using a Pipe Trench System ? Complete Part A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Are you using a Pipe Bed System ? Complete Part B <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Are you using a Chamber Trench System ? Complete Part C <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Are you using a Chamber Bed System ? Complete Part D <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Part D - Chamber Bed System

CHAMBER	Type of Chamber (Manufacturer)	HANCOR	
	Model	ARL 36	
	Width (inches)	34.5"	
	Height (inches)	7.13"	
	Length (inches)	60"	
	Equivalent Area Per Unit (See Table - page 28)	20.56 Box 11	

DESIGN	Required Minimum Infiltrative Surface Area (Leachfield sizing from page 4)	1343 Box 12	
	Minimum Number of Units	$\frac{\text{Min. Area}}{\text{Equivalent Area}} = \frac{1343}{20.56} = 66$ <div style="display: flex; justify-content: space-between; font-size: small;"> (Box 12) (Box 11) </div> <div style="text-align: right;"> Box 13 Minimum Units Must ROUND Up </div>	

LAYOUT	Width of Bed (feet)	34.25	
	Length of Bed (feet)	36'	
	Total Square Feet	1233	
	<input checked="" type="checkbox"/> Complete Sheet D (page 27)		

Installer Information:

General Comments:

Sheet D

Chambered Bed Leachfield

This worksheet is for a bed type leachfield, using chambered units.
Where boxes appear, please supply the dimensions of your system.

Brand HANCOR

Model ADC 36

Dimensions

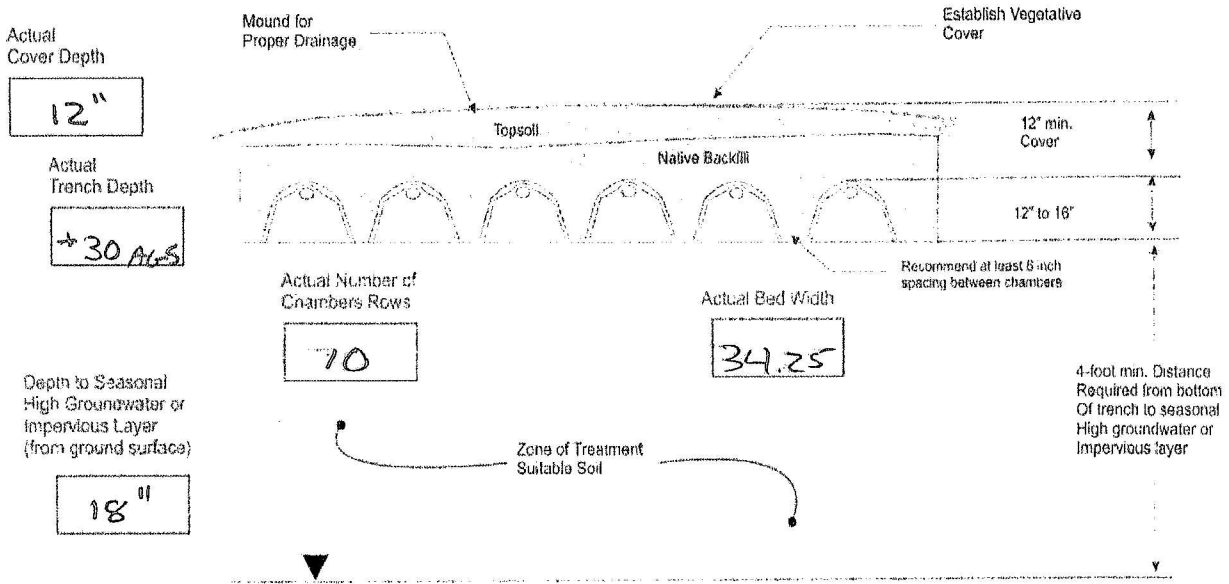
Length 60"

Width 34.5"

Number of sections required 66

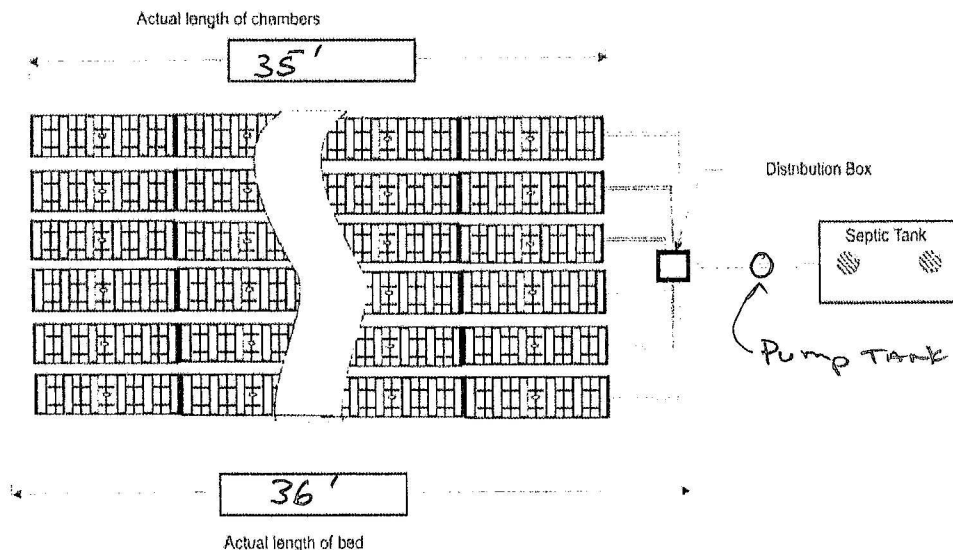
Number of sections used 70

Height 7.13



Notes:

1. A level flat surface is necessary for the chambers.
2. Scarify (rake) bottom and sidewall surfaces.
3. "Walk-in" fill to compact soil along the sides of the chamber.
4. Schedule 40 PVC pipe is required only for the inlet and outlet to the septic tank.
5. Recommend 6 inch spacing between chambers rows.



WYOMING

Drawn by: KJM
Feb. 2010

Part E - Pressure Distribution or Sand Mound System

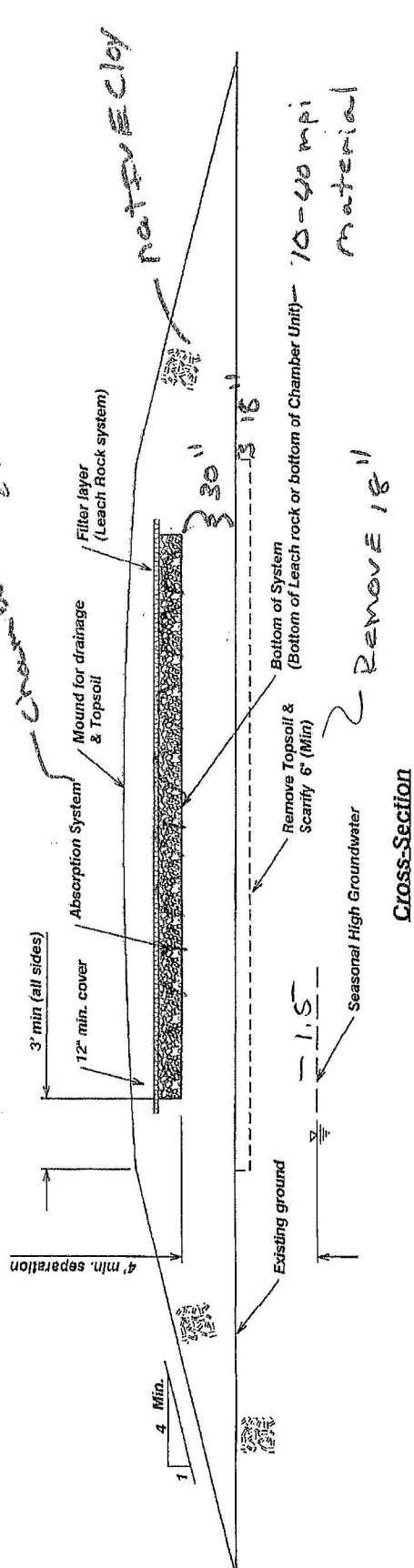
Refer to Rules and Regulations Governing Small Wastewater Systems in Sheridan County for systems requiring Part E.

DOSING SYSTEM	Pump Information	Manufacturer: LIBERTY
		Model: PRO 370/380
		Capacity (gpm): ≈ 100 gpm
	Pump Tank Information	Manufacturer: LIBERTY
		Model: PRO 370/380
		Volume (gallons): 41 gallons
	Dosing Pipe Information	Diameter: 2"
		Hole Size: (CHAMBERS)
		Hole Spacing:
	Electrical Control Settings	Pump "On" to Pump "Off" volume (gallons): ≈ 30
		Pump "On" to Alarm volume (gallons): ≈ 35
		Alarm to Tank inlet (gallons): ≈ 5

Percolation Rate of Imported Material (mpi):	< 40 mpi > 10
Was the Percolation Test performed on Imported Material?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No REQUIRED
If No, How was the Percolation Rate determined?	WILL BE REQUIRED
Percolation Rate of Native Soil (mpi) from Percolation Test Data:	40 mpi

Part E - Standard Mound System Detail

PART E Standard Mound System Detail

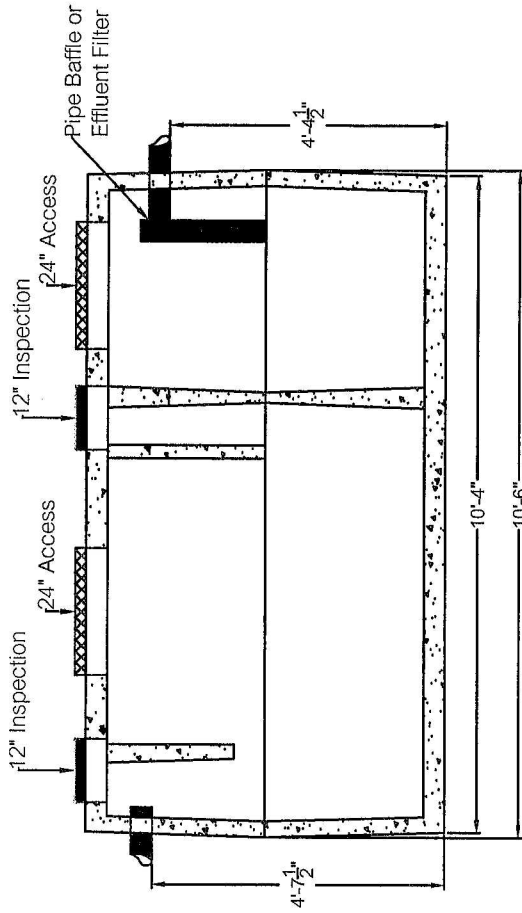
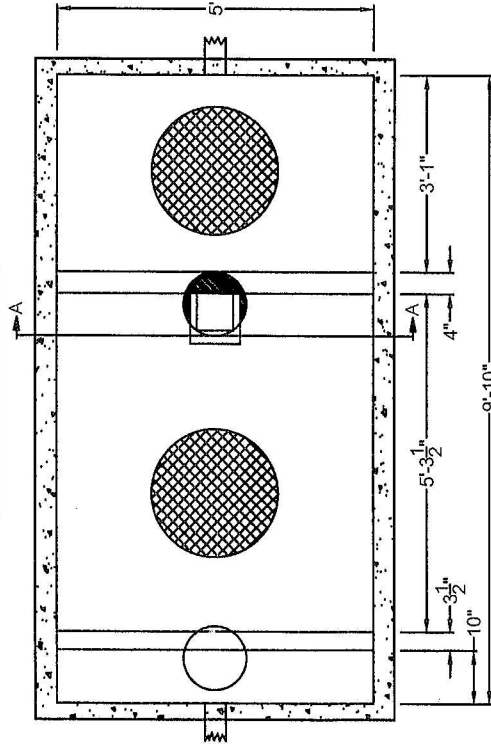


Skyline Concrete Products

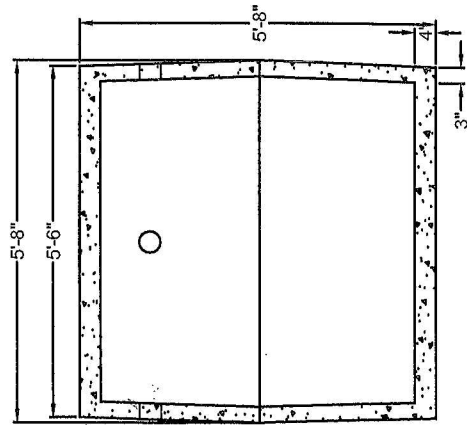
Phone: 307-751-4051

CST - 1500 - 2C

Top View



Side View



End View

Specifications

Septic Tank

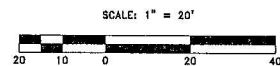
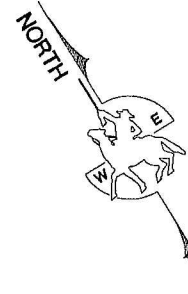
1. Portland Type II Modified (sulfate resistant) cement.
2. 4000 psi (minimum) with wire mesh (6"x6"x10g) and #4 grade rebar reinforcement.
3. 4" pipe seals for inlet and outlet pipe penetrations.
4. 2 EA. 24" access and 2 EA. 12" inspection port.

Miscellaneous:

1. 24" diameter, Tuff-Tite access to bring to final grade.
2. 24" Tuff-Tite lid with gasket and stainless steel screws.
3. Conseal CS102 to seal tank joint.

Notes:

1. This tank shall not be placed in a traffic area (ie. parking lot, driveway, etc.)- Skyline Concrete Products will not be responsible for damage resulting from being driven on.



NOTE:
NORTHWESTERLY LOT BOUNDARY LINE(S)
APPROXIMATE THE CENTERLINE OF
THE GERDEL DITCH.

BORROW AREA

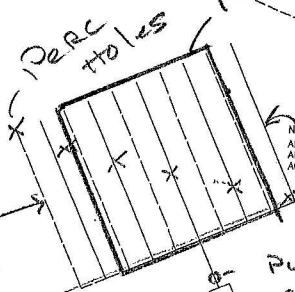
IRRIGATION
DITCH

60'
REPLACEMENT

LOT 6
CROSS CREEK ESTATES
SUBDIVISION

2.22 ACRES

40%
SLOPE



NOTE:
APPROXIMATE LOCATION OF SEPTIC SYSTEM
AND REPLACEMENT FIELD (SHOWN DASHED);
ACTUAL DESIGN BY OTHERS

Pump tank
Septic Tank
cleanout

PROPOSED 28' x 40'
SHOP / ART LOCATION

PROPOSED HOME LOCATION

CONCRETE DRIVEWAY

DRIVE SURFACE
(GRAVEL)
PER OWNER

25' FRONT SETBACK
15.00' UTILITY, DRAINAGE AND IRRIGATION EASEMENT

EDGE OF ASPHALT (TYP)

60' R.O.W. - CROSS CREEK COURT

2 SAWS WATER LINE

LOT 5

SITE PLAN

SCALE: 1" = 20'

LOT 7

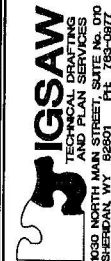
LOT 8

LOT 9

PROPOSED HOME PLANS
LOT 6, CROSS CREEK ESTATES SUBDIVISION
SHERIDAN COUNTY, WYOMING

177258T.dwg

NOVEMBER 13, 2017



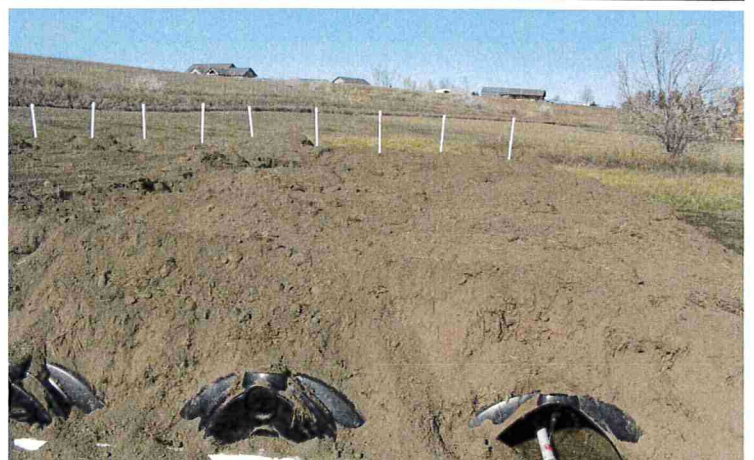
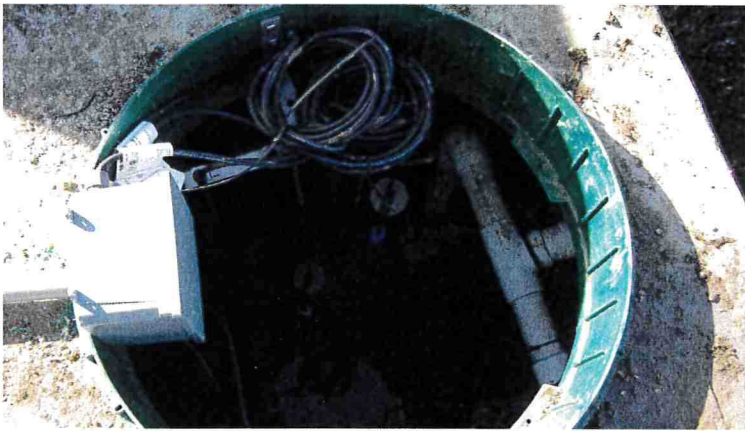
JILL and TODD MCGRAW
426 SHADOW RIDGE BOULEVARD
SHERIDAN, WY 82801

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Final Inspection – Sheridan County

3-58-18 Final

Inspected by WS 11/13/18



Soils Exploration Pit – Sheridan County

1137 Cross Creek Estates - Excavated to 5 feet with water indicators present at 1'-8". Soil is clay loam.

WS 9/26/18



WARRANTY DEED

Mumtaz Khan and Amina Shanaz Khan, Trustees of the Mumtaz Khan Revocable Trust dated the 18th day of October, 2006, as to an undivided one-half interest, and Amina Shanaz Khan and Mumtaz Khan, Trustees of the Amina Shanaz Khan Revocable Trust dated the 18th day of October, 2006, as to an undivided one-half interest, GRANTORS, for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration in hand paid, receipt whereof is hereby acknowledged, convey and warrant to Donald T. McGraw and Jill R. McGraw, husband and wife as tenants by the entirety with rights of survivorship, GRANTEES, whose address is 426 Shadow Ridge Blvd Sheridan WY 82801, the following described real estate, situate in Sheridan County, State of Wyoming, hereby releasing and waiving all rights under and by virtue of the homestead exemption laws of the State of Wyoming, more particularly described as follows:

Lot 6 Cross Creek Estates Subdivision. A subdivision in Sheridan County, Wyoming, as recorded in Drawer C, Plat #58 in the Office of the Sheridan County Clerk;

TOGETHER WITH all improvements, hereditaments and appurtenances thereunto belonging to or appertaining thereto;

SUBJECT TO all exceptions, reservations, rights-of-way, easements, covenants restrictions, and rights of record and subject of any state of facts which would be disclosed by an accurate survey or physical inspection of the premises and subject to building and zoning regulations and city, state and county subdivision laws.

WITNESS my/our hand(s) this 22 day of August, 2017.

Mumtaz Khan
Mumtaz Khan, Co-Trustee

Amina Shanaz Khan
Amina Shanaz Khan, Co-Trustee

STATE OF WY) ss.

COUNTY OF Sheridan

This instrument was acknowledged before me on the 22nd day of August, 2017, by Mumtaz Khan and Amina Shanaz Khan, Trustees of the Mumtaz Khan Revocable Trust dated the 18th day of October, 2006 and by Amina Shanaz Khan and Mumtaz Khan, Trustees of the Amina Shanaz Khan Revocable Trust dated the 18th day of October, 2006.

WITNESS my hand and official seal.

Brian T. Kinnison
Signature of Notarial Officer
Title: Notary Public

My Commission expires 5-13-18

