

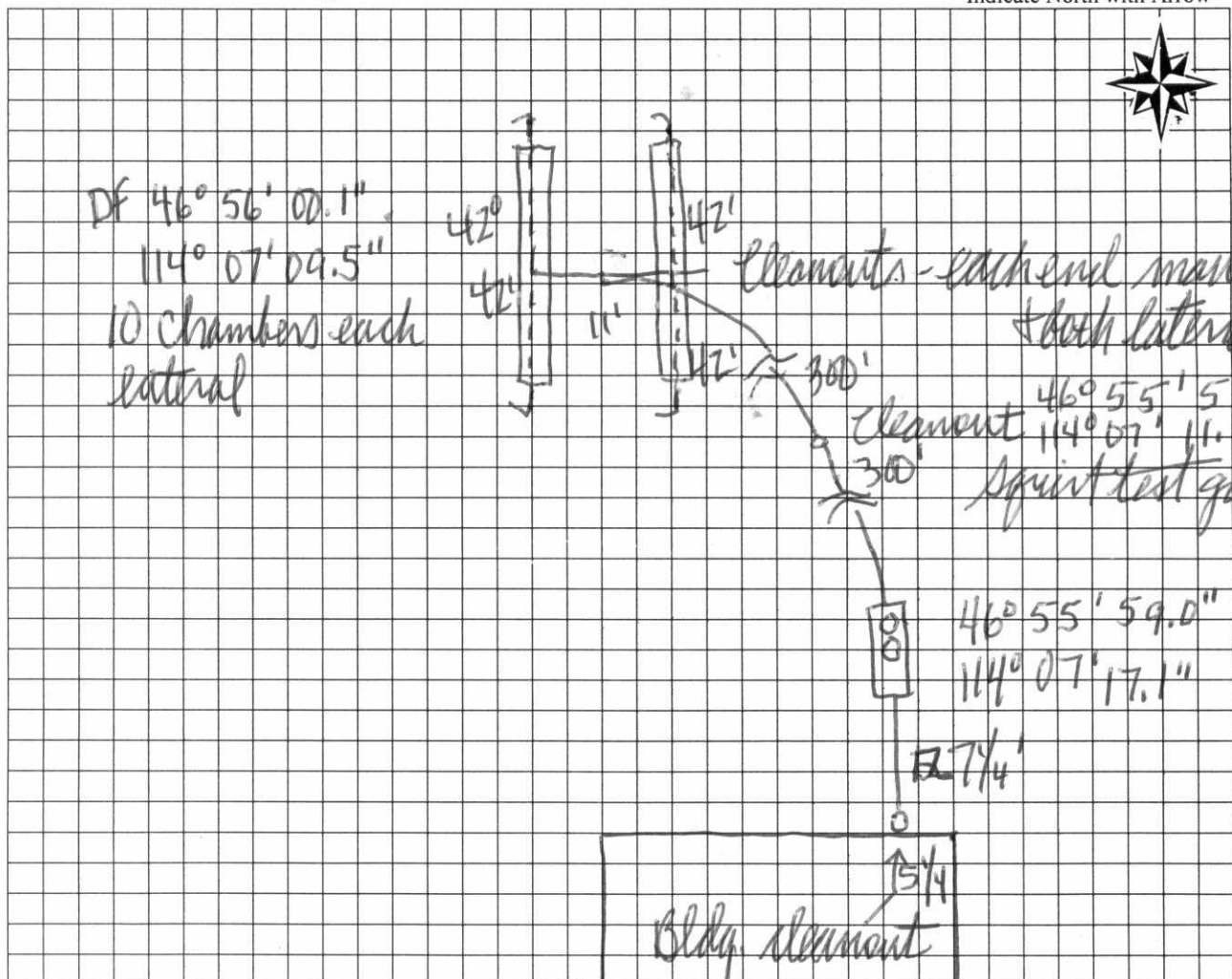
MISSOULA CITY-COUNTY HEALTH DEPARTMENT
301 W. Alder, Missoula, MT 59802
(406) 258-4755, FAX 258-4781

INDIVIDUAL SEWER SYSTEM INSPECTION REPORTName of Owner Christian InvestmentsLegal Address/Location 8989 Rollencaster Dr.Certified Installer Bob Hadac

Type System: New ☒ Replacement ☐ No. of Bedrooms Permitted 5
 Septic Tank: Capacity: 1100+480 Gal., Material: Concrete ☒ Other ☐ Depth to top: 5 ft. 5 in.
 Standard ☐ Gravelless ☒ Pressure Dist. ☒ Dosed ☐
 Drainfield: Total length 168 ft., # of laterals 4, Trench Depth 24-26 in. to bottom
 Seepage Pit: Height ft., Depth to Top ft., in.
 Distance of Installation From: Property Lines: 10' Wells: 100' Surface Water: NA Other NA

Soil Type clay Paved? ☒ Yes ☒ No

Indicate North with Arrow



Approved ☒ Disapproved ☐ Ken Anderson 10 / 7 / 08
 Sanitarian Date

Corrections Necessary: Inspection Witnessed By: / /

Deficiencies Corrected: Yes ☐ No ☐ / /
 Sanitarian Date

MISSOULA CITY-COUNTY HEALTH DEPARTMENT

301 W. ALDER, MISSOULA MT 59802
(406) 258-4755 Fax (406) 258-4781

PERMIT NO.: 2008-203

FEE AMOUNT: 285⁰⁰

DATE PAID: 8/20/08

SEPTIC PERMIT

Owner Name: CHRISTIAN INVESTMENTS LLC (KIRBY CHRISTIAN) Phone: (406) 721-7772

Owner Address: 301 SPRUCE ST MISSOULA, MT 59803

Certified Installer: _____

Location of Installation: 1/4 1/4 T 14 N N R 20 W S 33/34

Address of Site: 8989 ROLLERCOASTER RD City: MISSOULA

Certificate of Survey #: 2586 Subdivision: _____

Lot: 2 Block: _____ Tract: _____ Parcel Size: 20 ac

General Area Name: THE WYE Geocode: 2325-33-1-01-01-0000

Site Plan Attached? ☒ Yes ☐ No
All separations met? ☒ Yes ☐ No
Site plan matches state approval? N/A ☐ Yes ☐ No
Any existing septic systems? ☐ Yes ☒ No
Upgrade required? ☐ Yes ☒ No
Inside or near floodplain? ☐ Yes ☒ No
Public sewer less than 200 ft? ☐ Yes ☒ No
Checklist on reverse completed? ☒ Yes ☐ No

New or Increased Use

Non-deg of state water completed ☐ Yes ☐ No
Property located in MWTPSA? ☐ Yes ☐ No
Subdivision Plat Language exists ☐
Deed Restriction filed ☐
Property located in STEP area? ☐ Yes ☐ No
City STEP tank permit obtained ☐

SOIL TYPE: CLAY WATER SUPPLY: WELL ((I, S, M, C, P) Circle one

TYPE OF SYSTEM TO BE INSTALLED: ☒ New ☐ Replacement ☐ Modified ☐ PUBLIC (Must be approved by DEQ)

SYSTEM SIZING: Res: # Dwelling Units _____ # of Bedrms _____ + Unfin Bsmnt? Y N = GAL/DAY _____

☒ Com: Use WAREHOUSE # Employees 8 # Customers 0 GAL/DAY 128

APPLICATION RATE: (Gal/day or sq. ft./bedroom): _____ FROM: _____ Plat Approval _____ Site Eval # _____

Consultant (Name) DS & A Other _____

SYSTEM SIZE & DESCRIPTION: 1100 + 400 -gallon concrete septic tank with 200 lineal feet of 36" wide drainfield trench using PRESSURE distribution as per plans attached.

Septic Tanks must include an inspection port measuring at least 8 inches above the inlet, marked with rebar and extend to within 12 inches of surface. Septic tank outlets must include an effluent filter or other approved device. An access to the effluent filter must allow maintenance of the filter and extend from the tank to the finished ground surface. A handle to the filter must extend to within 2 inches of the access lid. For multiple compartment septic tanks, an access riser at least 18" in diameter to each compartment must extend to within 12 inches of the finished ground surface.

Additional comments: If infiltration chambers are used, 150 If of drainfield is required.
DEED RESTRICTION MUST BE FILED BEFORE PERMIT IS ISSUED

NOTE: Any well and/or drainfield must be installed as shown on the Certificate of Subdivision Plat Approval (76-4-130 MCA)

As purchaser of this permit, I agree to comply with all requirements for installation as described in Missoula City-County Health Code Regulation #1, DEQ Circular 4 and special conditions described above. This document does not release me from complying with any other State, Federal or Local regulations including but not limited to zoning, building and floodplain regulations.

This permit is valid for twelve (12) months from date of purchase. Sewage disposal systems must be completed within this time and inspected by the Department prior to covering the system. A copy of this permit is to be on site at all times during construction and inspection of the system. Please use the permit number in the upper right hand corner for reference when you call for a final inspection.

Permit purchaser: _____ Date: 8/20/08

Health Authority: _____ Date: 08-20-08

SEPTIC PERMIT CHECKLIST

ALL PERMITS:

MUNICIPAL SEWER: (CHECK ONE)

- ☐ Public sewer does not abut property or is not within 200 ft of system/building, verified by _____
- ☒ N/A Public sewer abuts property, is within 200 ft of structure or any part of subsurface disposal system, connection required.
- ☐ Public sewer will not allow connection as per _____ on _____

SPECIAL MANAGEMENT AREAS: (see section XVII of Health Code)

- ☐ STEP tank area requires City permits and inspections.
- ☒ MWTPSA – _____ Deed restriction filed Need to do
- ☐ _____ Subdivision Plat language exists
- ☐ RATTLESNAKE – One system per lot – 25' vertical & 100' horizontal separation from valley
- ☐ ROMAN CREEK/TOUCHETTE LANE (W ½ SEC 27, S 28, E ½ S 29, T 15N, R 21 W) _____ Conditions met
- ☐ LOLO SEWER (RSID 901) or _____ Connection not allowed as per _____ on _____

TYPE OF PARCEL: (CHECK ONE)

- ☐ Subdivision filed prior to 5/27/1961, _____ Site evaluation in file (Yes, No)
- ☐ Subdivision filed after 5/27/1961 without lifting, requires subdivision review, _____ Site evaluation in file (Yes, No)
- ☐ Subdivision filed after 5/27/1961 with restriction lifted and recorded.
- ☐ COS with restriction lifted and recorded.
- ☒ COS with ≥20 acre exemption (requires site evaluation) DJA Site evaluation in file (Yes, No)
- ☐ Tractland requires a site evaluation. (>5 acres before 1973, >10 acres before 1975, >20 acres)
- ☐ COS without lifting (usually an exemption - no permit can be issued, i.e. ag, cemetery, etc) Subdivision review required.
- ☐ Mortgage release/exemption

NEW PERMITS

PLANNING/ZONING/FLOODPLAIN PERMIT REQUIRED

- ☐ In a zoned area
- ☒ N/A Near a floodplain or flood prone area
- ☐ Subdivision for Lease or Rent

OTHER PERMITS REQUIRED

- ☒ In Air Stagnation Zone, Paving permit required. Ben

SIZE OF PARCELS OR PARCELS: _____

- ☐ If < ½ acre, ownership of contiguous lots prior to May 19, 1988; determined from Assessor's Office (See Section V(D)(2))
- ☐ If < ½ acre, complies with 350 gpd.
- ☒ If > ½ acre but less than 1 acre, complies with prorated 700 gal/useable acre/day.

REPLACEMENT SYSTEMS:

HIGH GROUNDWATER OR BEDROCK: (CHECK ONE)

- ☐ High groundwater or bedrock area – pumping required.
- ☒ N/A Not a high groundwater or bedrock area determined by _____

SITE VISIT: (CHECK ONE)

- ☐ Site visit required to verify room for: 1) Drainfield, absorption bed or seepage pit; 2) Groundwater; 3) Wells; 4) Other
- ☐ Site plan shows all separations met. Site visit not necessary to verify soils or groundwater.

INCREASED USE – CHANGE OF USE:

SIGNIFICANT IMPROVEMENT/EXPANSION OF STRUCTURES: (CHECK ONE)

- ☐ Drainfield equivalent treatment required (DET)
- ☒ N/A Advanced secondary treatment required for systems not meeting DET above.
- ☐ Septic tank appropriately sized, pumped, verified in good condition, effluent filter, capacity _____ gallons.
- ☐ Within MWTPSA, deed restriction required; recorded copy attached to permit.



Return to:
Kirby S. Christian
Christian, Samson, Jones & Chisholm, PLLC
310 W. Spruce
Missoula, MT 59802

DEED RESTRICTION


The undersigned, CHRISTIAN INVESTMENTS, LLC, of 310 W. Spruce, Missoula, MT 59802, hereby certify that it is the owner of real property located at Tract 2 of COS 2586, located in the NW1/4 of Section 33 and the NW1/4 of Section 34, Township 14 North, Range 20 West, P.M.M., Missoula County, Montana, and hereby waive any right to protest an RSIDs or SIDs affecting said property for the purpose of financing the design and construction of a public sewer benefiting said property. Further, its signatures on this waiver may be used in lieu of its signature on an RSID or SID petition for the creation of one or more RSID or SID petitions for the purpose of financing the design and construction of a public sewer benefiting the above described property. This deed restriction is granted to the County or City of Missoula in exchange for permission to discharge sewage into the ground until such time that public sewer is installed.

This deed restriction shall constitute an agreement whereby the owner shall connect to public sewer within 180 days after public sewer mains are installed and available in the public right of way adjacent to the property.

This waiver shall run with the land and shall be binding on the transferees, successors, and assigns of the owners of the land described herein.

All documents of conveyance shall refer to and incorporate this waiver.

CHRISTIAN INVESTMENTS, LLC

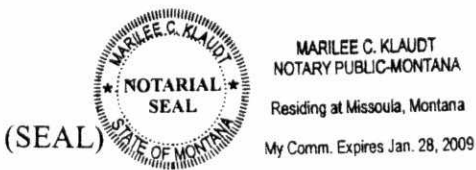
By: 
Calvin T. Christian, Its Authorized Agent

STATE OF MONTANA)
) ss.

County of Missoula)

On this 18th day of June, 2008, before me, the undersigned, a Notary Public for the State of Montana, personally appeared CALVIN T. CHRISTIAN, known to me to be the Authorized Agent of the entity that executed the within instrument and acknowledged to me that such entity executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Marilee C. Klaudt
Notary Public for the State of Montana
Print Name: Marilee C. Klaudt
Residing at: Missoula, MT
My Commission Expires: Jan. 28, 2009



MISSOULA CITY-COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
301 W. ALDER
MISSOULA MT 59802
(406) 258-4755, Fax 258-4781

WASTEWATER TREATMENT & DISPOSAL SYSTEM - PERMIT APPLICATION

Owner's name CHRISTIAN INVESTMENTS LLC (KIRBY CHRISTIAN) Phone # (406) 721-7772

Owner's address 301 SPRUCE ST

City: MISSOULA State: MT Zip Code: 59803

Phone(s): _____

Certified Installer: _____

(If unknown, ensure installer is certified by MCCHD)

Location of installation: _____ 1/4 _____ 1/4 T 14 N R 20 W Section 33/34

A. Legal description of site: (One can be obtained from the Missoula County Property Database on the web at: <http://www.co.missoula.mt.us/Owner/default.aspx> or from your tax statement).

Complete below:

TAX ID: 0005846895 / 0005846799

GEOCODE: 04232534202050000 / 232533101010000

Certificate of Survey # 2586 Or _____

Subdivision name: _____

Lot 2 Block _____ Tract _____

Size of lot or parcel 20 ACRES

Type of water supply INDIVIDUAL

(Individual, Shared, Multi-family, Community, Public)

B. Assigned address from County Road Department
(6089 Training Drive, PH: 258- 4753):

Will the drainfield be in compliance with:

At least 100 ft from wells	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 10 ft from water lines	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 100 ft from floodplain	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 100 ft from surface water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 6 ft from groundwater	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 6 ft from bedrock	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 10 ft from property lines	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
At least 10 ft from buildings	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
Slopes less than 25%	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure

Address: 8989 ROLLERCOASTER RD City: MISSOULA Zip _____

Provide a site map showing the locations of all of the following:

Existing and proposed

<input checked="" type="checkbox"/> Property lines	<input checked="" type="checkbox"/> Water supplies (i.e., all wells, springs, cisterns) and piping
<input checked="" type="checkbox"/> Buildings	<input checked="" type="checkbox"/> Wastewater systems
<input checked="" type="checkbox"/> No build zones	<input checked="" type="checkbox"/> Roads and driveways
<input checked="" type="checkbox"/> All wells and wastewater systems on adjacent lots within 100 ft of your property	<input checked="" type="checkbox"/> Surface water including irrigation ditches
	<input checked="" type="checkbox"/> Floodplain or flood prone area
	<input checked="" type="checkbox"/> Easements

Are there any existing structures or sewage disposal facilities on the parcel? _____ Yes ☒ No

If Yes, Explain _____

Type of system: ☒ New (See reverse) _____ Replacement _____ Modification _____
_____ Residential # dwelling units _____ # of bedrooms _____ Unfinished bsmnt? _____ Yes _____ No
☒ Commercial Use WAREHOUSE # Employees 8 # Customers 0
_____ Other, describe _____

Applicant Information:

Applicant's name: DJ + A, P.C. Phone: (406) 721-4320 Date: 12 JUNE 2008

Applicant's address: 3203 RUSSELL STREET City: MISSOULA State: MT Zip 59801

APPLICATION FEE as of July 1, 2006 – Gravity \$225; Pressure Distribution \$275 & Pressure sizing \$34; Alternative Systems \$300. Additional fees may apply. Call (406) 258-4755 for current fees.

WASTEWATER SYSTEM REPORT
FOR
NORTHWEST INDUSTRIAL SUPPLY
(8989 Rollercoaster Road)

JUNE 2008

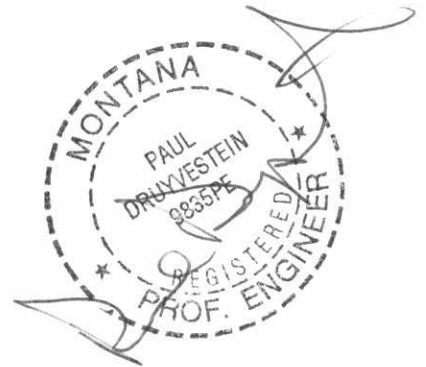
PREPARED FOR:

Missoula County Health Department

MISSOULA, MONTANA

PREPARED BY:

DJ&A, P.C.
Engineers - Planners - Surveyors
3203 Russell Street
Missoula, MT 59801



EXECUTIVE SUMMARY

This report discusses the management of the wastewater from the proposed warehouse that will be built on Lot 2 of COS 2586 for Northwest Industrial Supply. The wastewater volumes and rates were found using guidelines presented by DEQ Circular 4. The wastewater will be conveyed from the proposed warehouse to a septic tank and pump chamber and then to a gravelless drainfield where it will be distributed for natural treatment into the ground.

GENERAL DESCRIPTION

The Northwest Industrial Supply warehouse will be located in the northwestern area of Lot 2 of COS 2586, in Missoula County, Montana. The warehouse has a physical address of 8989 Rollercoaster Road and is accessed by a driveway that lies in the public utility easement. The warehouse will be serviced by a 1,100 gallon septic tank that will have an effluent filter and risers to the ground surface with secured covers. The septic tank will discharge flows into a 400 gallon pump chamber that will pump the waste 584 feet to the drainfield. The drainfield will be two gravelless trench domes. Each lateral will be one hundred feet long.

DESIGN FLOW AND SEPTIC TANK SIZING

The proposed warehouse will have a maximum of eight employees and no customers. Based on Table 5-1 in Circular 4 from DEQ, the estimated flow per employee for an industrial building is 10 to 16 gallons per day. By using the maximum flow of 16 gpd for the eight employees, the estimated flow from the warehouse will be 128 gpd. The septic tank was sized by multiplying the waste flow by 2.7; this value came from DEQ 7.2.10.1B. The value rendered by the multiplication was 345.6 gallons. The minimum septic tank size is 1,000 gallons, so a 1,100 gallon tank with a 400 gallon pump

chamber was selected for the warehouse.

DRAINFIELD

A soil gradation test and three percolation tests were performed in order to determine the correct size of the drainfield. Copies of these tests are found in the Appendix of this report. All three percolation tests resulted in a percolation rate of 60 minutes per inch. Based on DEQ Table 8-2, the application rate for the proposed drainfield is 0.2 gpd per square foot. A gravelless trench dome was selected for the drainfield. The domes are three feet wide, so the required treatment length of the drainfield trench was found to be 213 feet ($128 \text{ gpd} / 3 \text{ ft} / 0.2 \text{ gal/day/ft}^2 = 213 \text{ ft}$). With a gravelless absorption trench, it is possible to take a twenty-five percent length reduction. This brought the required length of the drainfield to 171 feet. A total length of 200 feet will be used.

PUMP SIZING

The center of the drainfield will be approximately one hundred feet west and fifty feet south from the north-east corner of Lot 2. Wastewater will be pumped a distance of 584 feet through a 2-inch PVC pipe to the drainfield. It was found that the system will need to pump 43 gallons per minute against 30 feet of head (calculations can be found in the Appendix). Myers pump MWH50 was selected for the pump to be used.

PUMP CHAMBER

With the drainfield sized and the pump selected, the lift station was detailed. The pump chamber will have 18 inches for covering the pump, 20 inches that will be pumped each time the pump runs, 3 inches before the alarm goes off, and 6 inches of emergency storage. The pump will pump for approximately four minutes each time when it is run and will pump 170 gallons. The pump will run once every other day. There will be 9.6 hours of emergency storage before water begins to back up into the septic tank.

Appendix

WASTEWATER SYSTEM DESIGN CALCULATIONS

Design Flow:

$$8 \text{ Employees @ } 16 \text{ gpd/person} = \underline{128 \text{ gpd}}$$

Septic Tank:

$$2.7 \times 128 \text{ gpd} = 345.6 \text{ gallons}$$

Minimum tank size is 1,000 gallons

Septic Tank Selected 1,100 gallons

Percolation Test Data:

Table 1: Percolation Test Data

Hole	Rate Min /Inch
1-A	60
1-B	60
1-C	60
Average	60.0
Application Rate	0.2 gpd/ft²

Soil Profile Data:

Table 2: Soil Profile Performed by Terry L. Forest, P.E.

0'	to	10"	(0.83' Thick)	Topsoil with Organics
10"	to	1.5'	(0.67' Thick)	Dark Sandy Clay Loam Some Roots
1.5'	to	3'	(1.50' Thick)	Silty Clay with Some Roots
3'	to	10'	(7.00' Thick)	Light Grey Clay

Drainfield Length:

3' Wide Trenches

$$128 \text{ gpd} / 0.2 \text{ gpd/ft}^2 / 3 \text{ ft} = 213 \text{ ft}$$

25% Reduction for using Gravelless

$$213 \text{ ft} \times 0.75 = 160 \text{ ft}$$

Drainfield Length Used = 200 ft

Head Loss:

2" F.M. Friction	$584 \text{ ft} \times 0.036 = 21.0 \text{ ft}$
------------------	---

2" Manifold	$11 \text{ ft} \times 0.036 = 0.4 \text{ ft}$
-------------	---

1" Lateral	$50 \text{ ft} \times 0.028 = 1.4 \text{ ft}$
------------	---

Bends	2.5 ft
-------	--------

Residual	5.0 ft
----------	--------

Total	<u>30.0 ft</u>
-------	----------------

Pump:

3/16" Orifice	Q = 0.64 gpm
Spacing	3' on center
Number of Holes	$200 \text{ ft} / 3 \text{ ft} = 67 \text{ holes}$
Out Flow	$67 \text{ holes} \times 0.64 = 42.8 \text{ gpm}$

Pump Chamber:

Table 3: Volume within Pipe

	Length	Diameter	Volume (gal)
F.M.	584'	2"	95.1
Manifold	11'	2"	1.8
Laterals	50'	1"	12.2

Min amount to be pumped (DEQ 9.3)

$$95.1 \text{ gal} + 1.8 \text{ gal} + (5 \times 12.2 \text{ gal}) = 158.1 \text{ gal}$$

Max amount to be pumped (DEQ 9.3)

$$95.1 \text{ gal} + 1.8 \text{ gal} + (10 \times 12.2 \text{ gal}) = 219.3 \text{ gal}$$

Design:

6.0"	Storage
3.0"	Alarm On
20.0"	Pump Volume (170.2 gal)
18.0"	Pump Cover
<u>Σ47"</u>	Depth of Liquids in Chamber

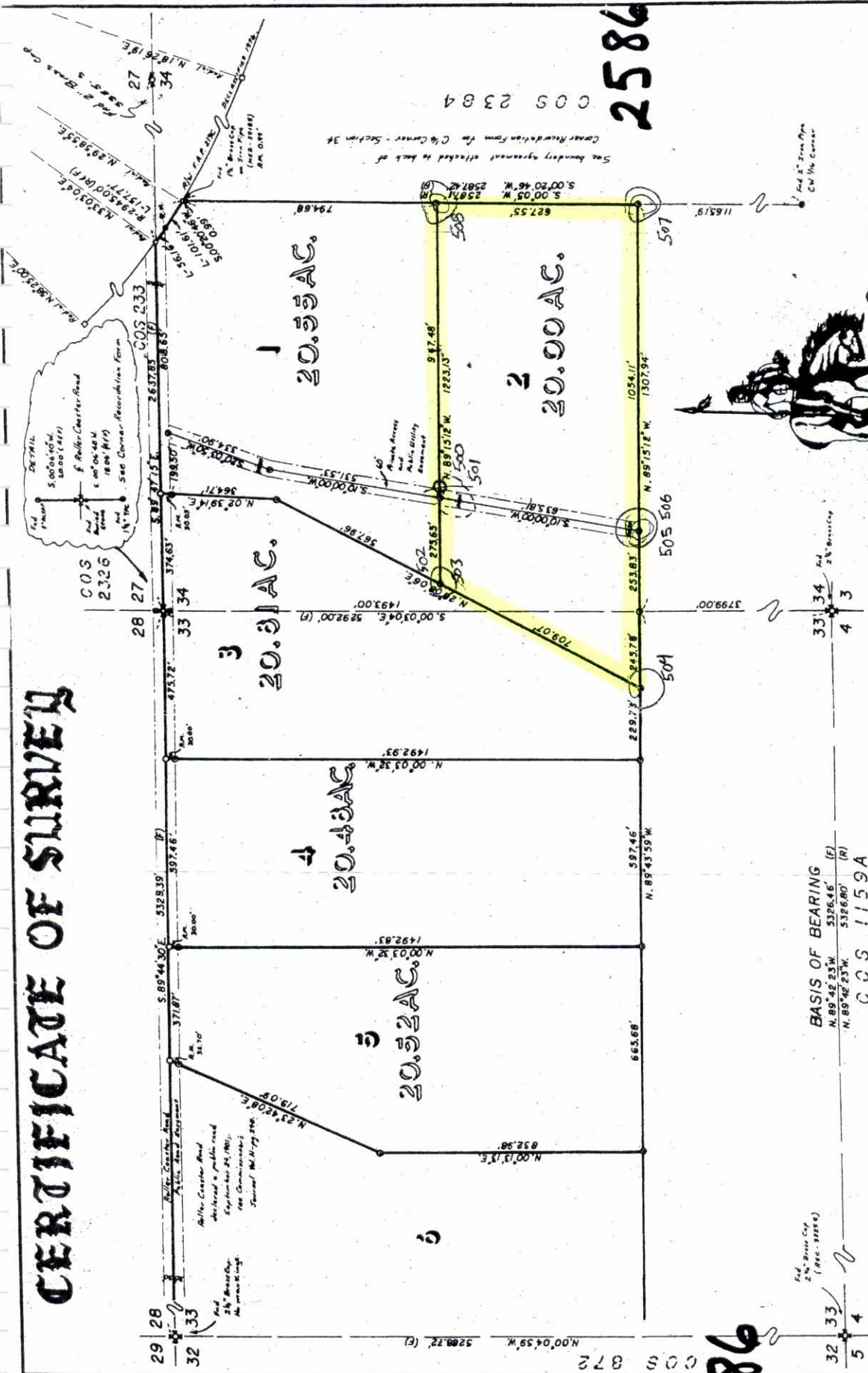
Amount to be pumped (DEQ 9.3)

$$20.0" \times 8.5 \text{ gal/in} = 170.2 \text{ gal}$$

$$158.1 \text{ gal} < \underline{170.2 \text{ gal}} < 219.3 \text{ gal}$$

The pump chamber on a 1,100 gallon septic tank with a 400 gallon septic tank provides 8.54 gallons per inch of depth. The total available depth is 47".

CERTIFICATE OF SURVEY



Owners:
Charles W. & Nancy R. Deschamps
Micro Books 15 page 510 of 131 page 1438

Scale in Feet
0 100 200

1/4	Sec	T	R
33	34	14N	20W
34	34	14N	20W

State of Montana
Dept. of Health
& Env't. Sciences
Certificate of
Subdivision Plat
Approval
File No. 1399

SURVEY BY
ELLI & ASSOCIATES
Professional Land Surveyors &
Land Planners
MISSOULA, MONTANA
Telephone 544-1812



INFORMATION UPDATED January 31, 2008	
General Parcel Information <u>definitions</u>	
GEOCODE	04232534202050000
OWNCODE	99999
OWNER CLASSIFICATION	Undetermined
COUNTY ASSESSOR CODE	0005846895
SECTION	34
TOWNSHIP	T14NR20W
LEGAL DESCRIPTION	TRACT 2 IN W2 NW4
PROPERTY ADDRESS	
ADDITION-SUBDIVISION	
LEVY DISTRICT	041592
COUNTY LEVY DISTRICT	20-3
LEVY DISTRICT NAME	DESMET/MSLA RURAL FIRE
TOTAL FINAL LAND VALUE	\$179,656.00
TOTAL FINAL BUILDING VALUE	\$0.00 <u>Explanation</u>
2003 FULL REAPPRAISAL VALUE	\$179,656.00
2007 TAXABLE MARKET VALUE	\$107,270.00
DEED 1: BOOK, PAGE, DATE (mmddyy)	0608, 00980, 2/10/00
OWNER NAME 1	KINNEY LOUIS
TAXPAYER MAILING ADDRESS	283 W FRONT ST STE 103 MISSOULA, MT 59802-4328

SITE INFORMATION <u>definitions</u>	
Characteristic	CAMA Code, (Description)
GEOCODE	04232534202050000
NEIGHBORHOOD	002
NEIGHBORHOOD TREND	2, (stable)
RESIDENTIAL INDICATOR	vacant lot
ACCESS	2, (semi-improved road) 0, (landlocked/none)
FRONTING	4, (residential street)
LOCATION	0, (rural land)
TOPOGRAPHY	8, (ag/timber land)
UTILITIES	0, (none) 0, (none) 0, (none)

ACREAGE TYPE CLASSIFICATION & VALUATION definitions**IRRIGATION
INFORMATION**

Property Type	Agricultural Type	Land Classification	Acres	Grade & Description	Rotation	Water Class	Type	Assessed Value
----------------------	--------------------------	----------------------------	--------------	--------------------------------	-----------------	--------------------	-------------	-----------------------

(Cost/Acre)							
vacant land rural	primary site	tract land	1.000		-	-	other \$52,000.00
vacant land rural	residual	tract land	17.730		-	-	other \$127,656.00
TOTALS			18.730				\$179,656.00

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INFORMATION UPDATED January 31, 2008	
General Parcel Information <u>definitions</u>	
GEOCODE	04232533101010000
OWNCODE	99999
OWNER CLASSIFICATION	Undetermined
COUNTY ASSESSOR CODE	0005846799
SECTION	33
TOWNSHIP	T14NR20W
LEGAL DESCRIPTION	PT TRACT 2 IN E2 NE4
PROPERTY ADDRESS	
ADDITION-SUBDIVISION	
LEVY DISTRICT	041586
COUNTY LEVY DISTRICT	4-2
LEVY DISTRICT NAME	HELLGATE RURAL
TOTAL FINAL LAND VALUE	\$53,944.00
TOTAL FINAL BUILDING VALUE	\$0.00 <u>Explanation</u>
2003 FULL REAPPRAISAL VALUE	\$53,944.00
2007 TAXABLE MARKET VALUE	\$33,423.00
DEED 1: BOOK, PAGE, DATE (mmddyy)	0608, 00980, 2/10/00
OWNER NAME 1	KINNEY LOUIS
TAXPAYER MAILING ADDRESS	283 W FRONT ST STE 103 MISSOULA, MT 59802-4328

SITE INFORMATION <u>definitions</u>	
Characteristic	CAMA Code, (Description)
GEOCODE	04232533101010000
NEIGHBORHOOD	002
NEIGHBORHOOD TREND	2, (stable)
RESIDENTIAL INDICATOR	vacant lot
ACCESS	2, (semi-improved road) 0, (landlocked/none)
FRONTING	4, (residential street)
LOCATION	0, (rural land)
TOPOGRAPHY	8, (ag/timber land)
UTILITIES	0, (none) 0, (none) 0, (none)

ACREAGE TYPE CLASSIFICATION & VALUATION definitions**IRRIGATION
INFORMATION**

Property Type	Agricultural Type	Land Classification	Acres	Grade & Description	Rotation	Water Class	Type	Assessed Value
----------------------	--------------------------	----------------------------	--------------	--------------------------------	-----------------	--------------------	-------------	-----------------------

(Cost/Acre)							
vacant land	primary site	tract land	1.270		-	-	other \$53,944.00
TOTALS			1.270				\$53,944.00

[Back](#)

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
PERCOLATION TEST FORM

Owner Name _____

Project Name NORTHWEST INDUSTRIAL SUPPLY WAREHOUSE

Lot of Tract Number _____ Test Number 1-A

Diameter of Test Hole 8-INCH Depth of Test Hole 27"

Date and Time Soak Period Began 29 MAY 08 11:00 AM Ended 1:00 PM

Date Test Began 29 MAY 2008

Distance of the reference point above the bottom of the hole 27"

Test Results

Start Time of Day	End Time of Day	Time Interval (Minutes)	Initial Distance Below Reference Point	Final Distance Below Reference Point	Drop in Water Level (inches)	Percolation Rate (minutes/inch)
3:01	3:16	15	21	21.75	0.75	20
3:17	3:32	15	21	21.50	0.50	30
3:32	3:47	15	21	21.25	0.25	60
3:48	4:03	15	21	21.25	0.25	60

I certify that this percolation test was done in accordance with DEQ-4, Appendix A.

Paul Dreyerstein
Name (printed)

[Signature]
Signature

6-16-08
Date

DJA, P.C.
Company

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
PERCOLATION TEST FORM

Owner Name _____

Project Name NORTHWEST INDUSTRIAL SUPPLY WAREHOUSE

Lot of Tract Number _____ Test Number 1-B

Diameter of Test Hole 8-INCH Depth of Test Hole 26.5"

Date and Time Soak Period Began 29 MAY 2008 11:05 Ended 1:05 PM

Date Test Began 29 MAY 2008

Distance of the reference point above the bottom of the hole 27"

Test Results

Start Time of Day	End Time of Day	Time Interval (Minutes)	Initial Distance Below Reference Point	Final Distance Below Reference Point	Drop in Water Level (inches)	Percolation Rate (minutes/inch)
3:03	3:18	15	20.5	21.0	0.50	30
3:18	3:33	15	20.5	21.0	0.50	30
3:34	3:49	15	20.5	20.75	0.25	60
3:49	4:04	15	20.5	20.75	0.25	60

I certify that this percolation test was done in accordance with DEQ-4, Appendix A.

Paul Druyvestein
Name (printed)

[Signature] 6-16-08
Signature Date

DJIA, P.C.
Company

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
PERCOLATION TEST FORM

Owner Name _____

Project Name NORTHWEST INDUSTRIAL SUPPLY WAREHOUSE

Lot of Tract Number _____ Test Number 1-C

Diameter of Test Hole 8-INCH Depth of Test Hole 26.5"

Date and Time Soak Period Began 29 MAY 08 11:07 Ended 1:07

Date Test Began 29 MAY 2008

Distance of the reference point above the bottom of the hole 26.5"

Test Results

Start Time of Day	End Time of Day	Time Interval (Minutes)	Initial Distance Below Reference Point	Final Distance Below Reference Point	Drop in Water Level (inches)	Percolation Rate (minutes/inch)
3:07	3:22	15	20.5	21.25	0.75	20
3:23	3:38	15	20.5	21.0	0.50	30
3:39	3:54	15	20.5	21.0	0.50	30
3:55	4:10	15	20.5	20.75	0.25	60
4:11	4:26	15	20.5	20.75	0.25	60

I certify that this percolation test was done in accordance with DEQ-4, Appendix A.


Paul Druyvestein [Signature]
Name (printed) Signature

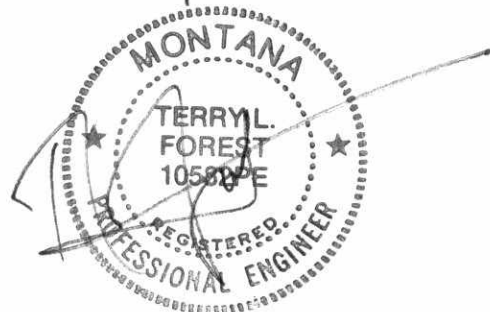
6-16-08
Date

DJA, P.C.
Company

Soil Profile:

0'	to	10"	(0.83' Thick)	Topsoil with Organics
10"	to	1.5'	(0.67' Thick)	Dark Sandy Clay Loam Some Roots
1.5'	to	3'	(1.50' Thick)	Silty Clay with Some Roots
3'	to	10'	(7.00' Thick)	Light Grey Clay

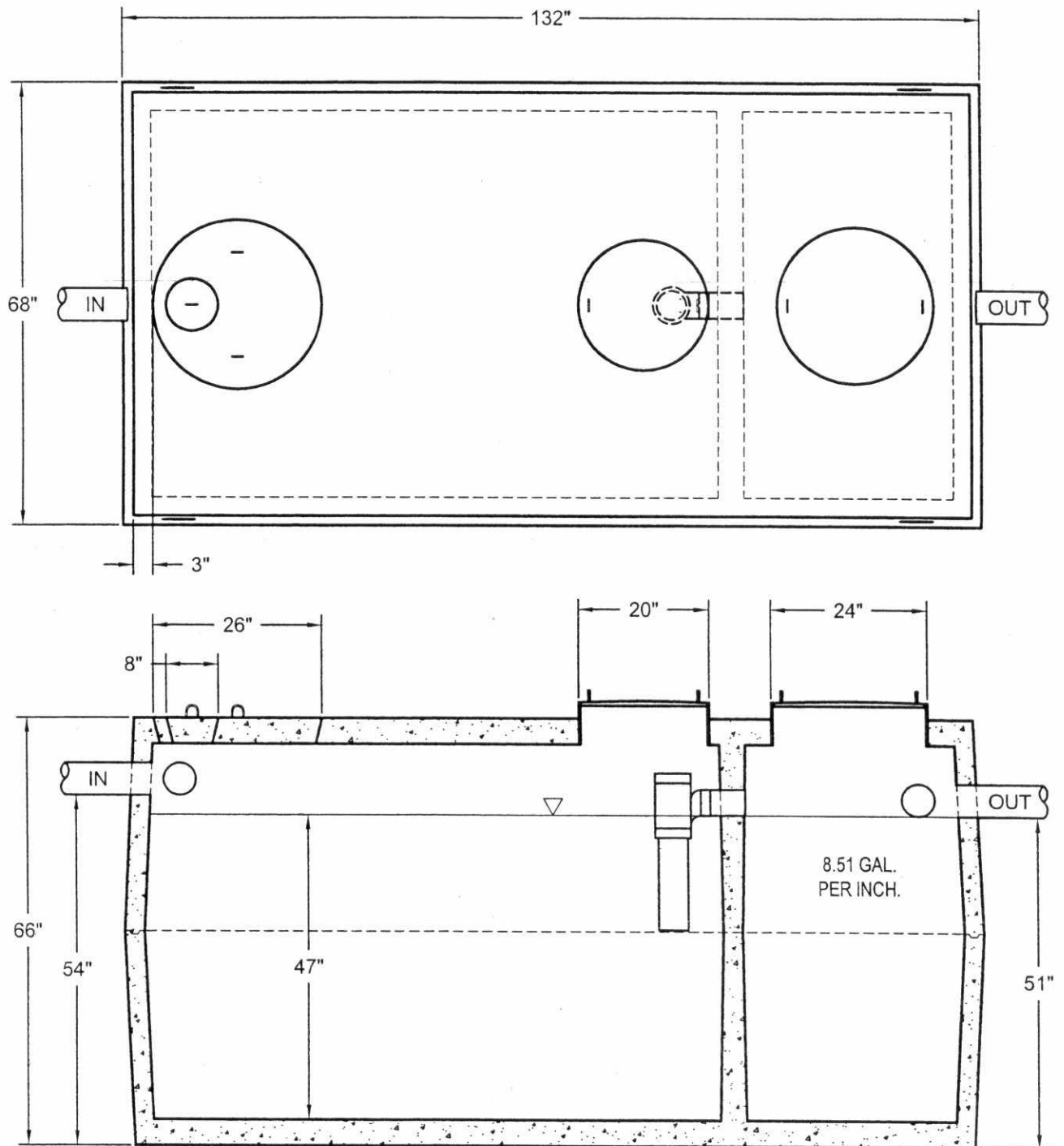

Terry L. Forest, P.E.



HUNTON PRE-CAST CONCRETE

PO BOX 7091 - MISSOULA, MONTANA - 59807-7091

PHONE 406/543-8640 - FAX 406/543-8640

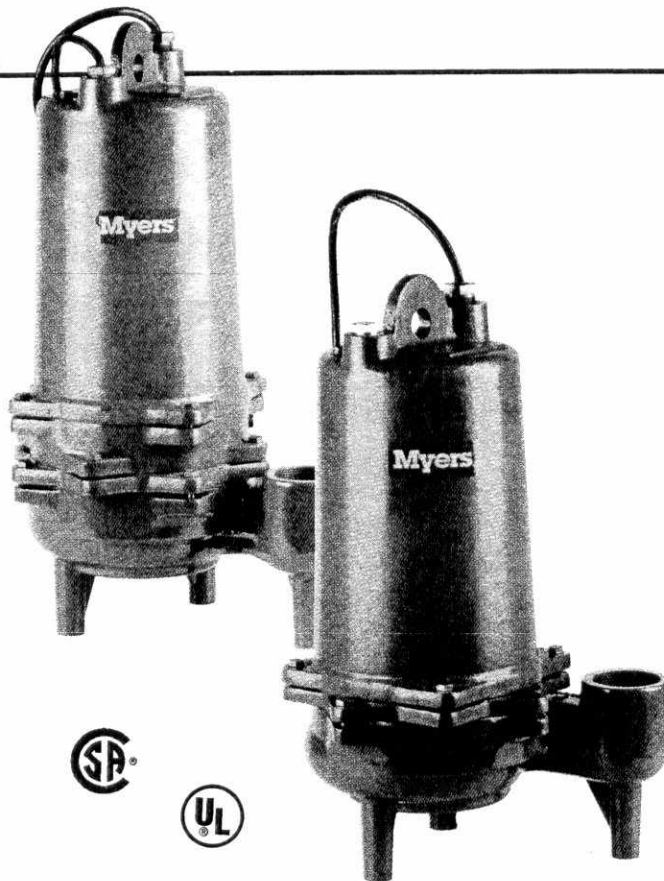


SCALE: 1/2" = 1'-0"

1100 GALLON SEPTIC TANK
WITH 400 GALLON PUMP VAULT
PRODUCT NO. 105

MW SERIES

2" Solids Handling Sewage Pumps, Single and Double Seal



THE HEAVY-DUTY MYERS MW SERIES SEWAGE PUMPS ARE DESIGNED FOR USE IN LIGHT COMMERCIAL AND RESIDENTIAL RAW SEWAGE APPLICATIONS. MW pumps will pass a full 2" sphere. The enclosed two-vane impeller provides high efficiency pumping and will handle stringy, trashy solids normally found in raw sewage applications. Ideal for a variety of sewage applications ranging from private household to light commercial installations. Available in double seal configuration for extended motor life. For more information, call your Myers distributor or the Myers, Ashland, Ohio, sales office at 419-289-1144.

ADVANTAGES BY DESIGN IDEAL FOR USE IN RESIDENTIAL AND LIGHT COMMERCIAL SEWAGE APPLICATIONS

- High efficiency, two vane, enclosed impeller provides ideal pump performance.
- Impeller passes full 2 inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE MW SERIES SEWAGE PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPABILITIES

Capacities To	165 GPM	624 LPM
Heads To	70 ft.	21.3 m
Max. Spherical Solids	2 in.	50.6 mm
Liquids Handling	domestic sewage & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/2 to 2 HP, 208, 230 volts, 1 ph 200, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz	
Motor Insulation	Class B (130° C)	
Third Party Approvals	UL, CSA	
Acceptable pH Range	5-9	
Specific Gravity	.9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex Duplex	24 in. 36 in.	61cm 91.4 cm

Construction Materials

Motor Housing, Volute	cast iron, Class 30, ASTM A48
Enclosed Two Vane Impeller Standard Optional	cast iron, Class 30, ASTM A48 bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna-N
Shaft	416 SST
Power Cord All 1 Ph All 3 Ph	20 ft. 14/3 SJOW/SJOW-A 20 ft. 14/4 SOW/SOW-A
Shaft Seals Standard Optional Opt. Lower	single carbon & ceramic tandem carbon & ceramic tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

Myers®
Pentair Pump Group

MW SERIES

2" Solids Handling Sewage Pumps,
Single and Double Seal

POWER CORD

Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

MOTOR HOUSING

Cast iron for efficient heat transfer and corrosion resistance.

BEARINGS

Upper and lower ball support rotor. Take radial and thrust loads.

MOTOR

1/2, 1, 1-1/2 and 2 HP single or three phase, 60 Hz, 3450 RPM. Single phase PSC motors have built-in overload protection, oil-cooled and lubricated.

HIGH EFFICIENT CAST IRON VOLUTE

Corrosion resistant. Passes 2" spherical solids. 2" NPT discharge.

ENCLOSED TWO VANE IMPELLER

High efficiency. Passes 2" spherical solids. Standard cast iron or optional bronze construction available.

VOLUTE/IMPELLER SEAL RING

Maintains high efficiency and reduces recirculation. Replaceable.

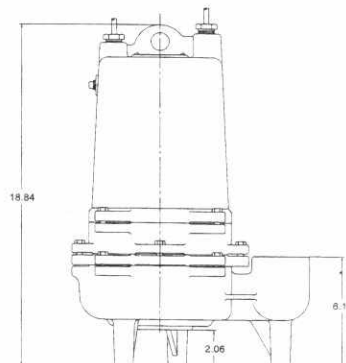
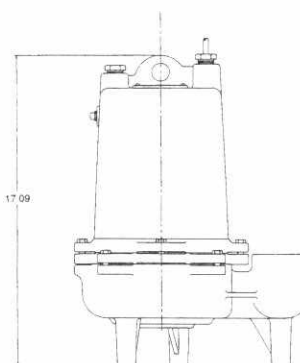
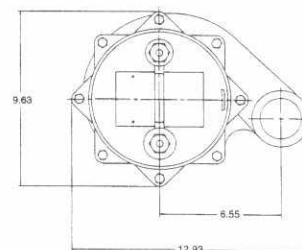
SHAFT SEAL(S)

Carbon and ceramic faces. Optional dual tandem seals. Extends motor life.

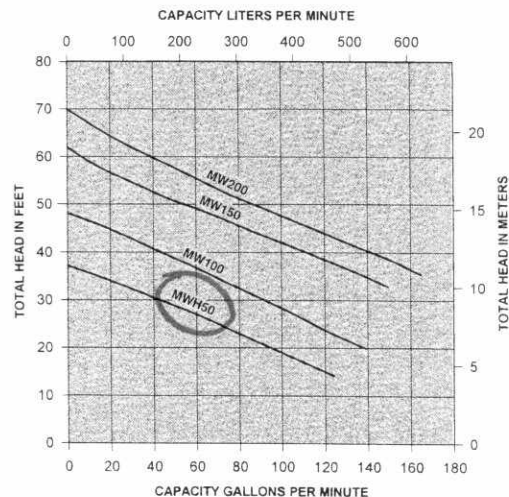
SEAL LEAK PROBE

Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

DIMENSIONS



PERFORMANCE CURVE



K3471 3/02
Printed in U.S.A.

Myers®
Pentair Pump Group

F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, www.femyers.com

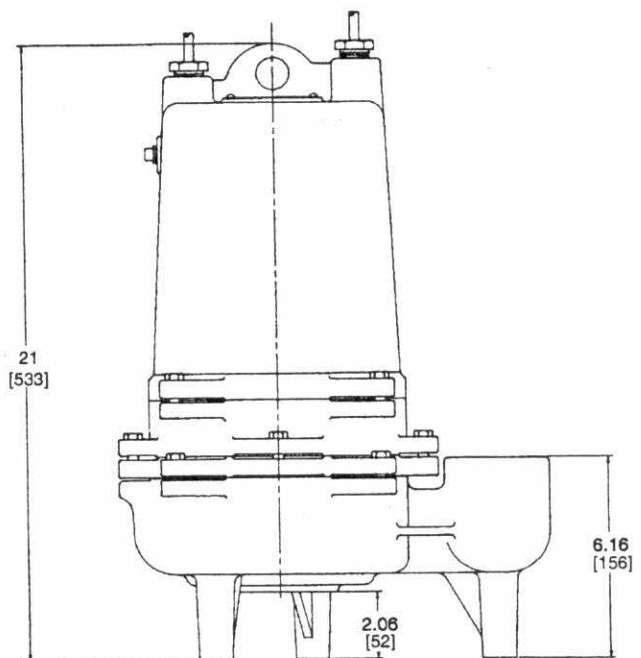
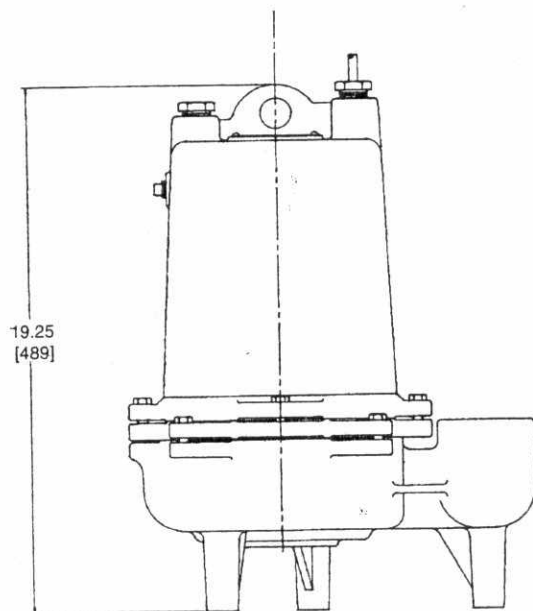
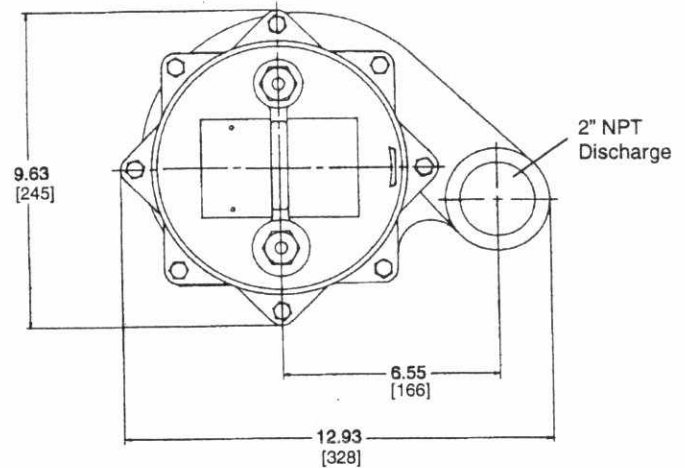
Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553

MW Series

2" Solids Handling Sewage Pumps Single and Double Seal

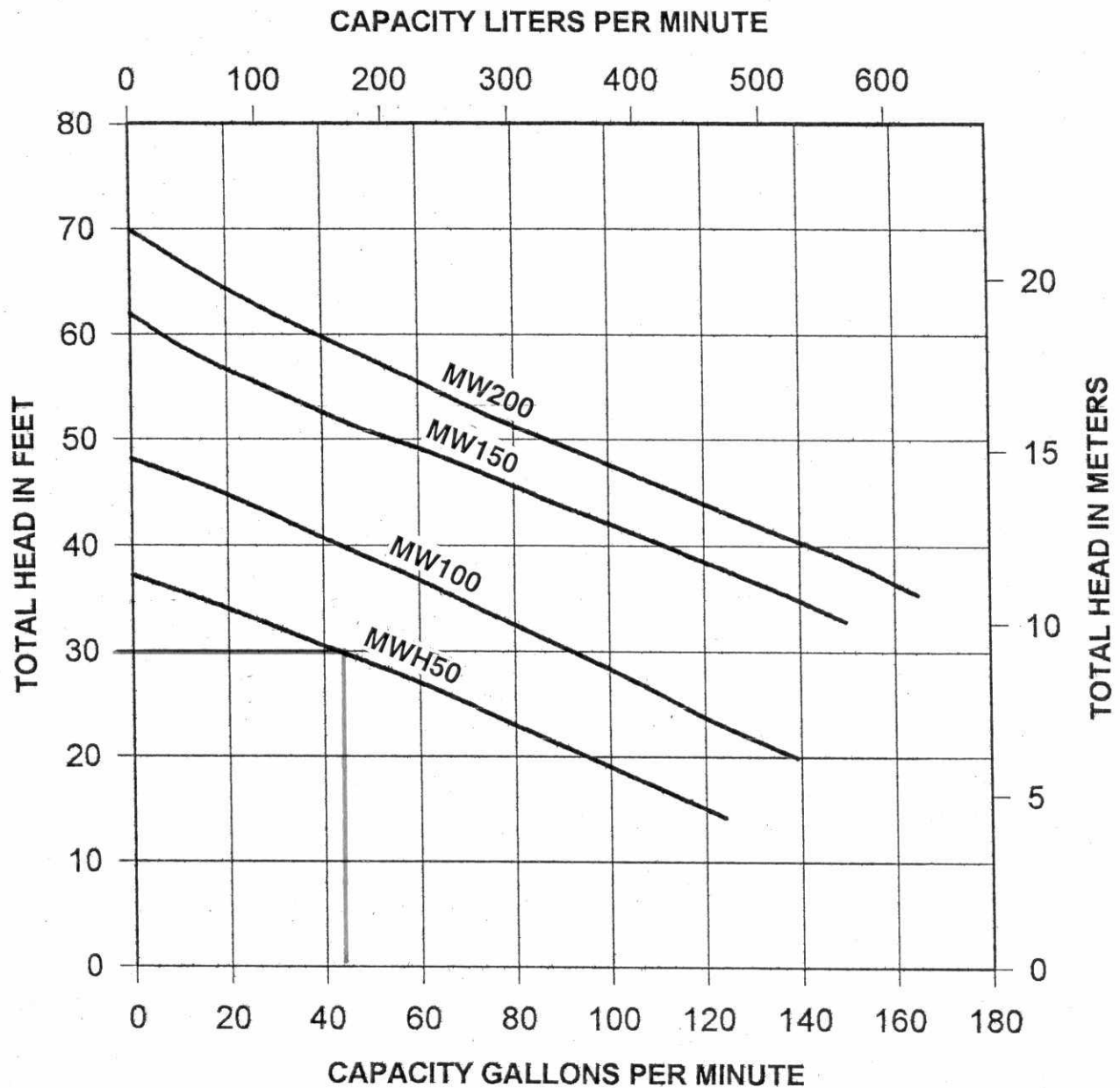
Myers®

[] Dimensions shown in millimeters



F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144 • Fax: 419/289-6658 • www.femyers.com

MW Series Curve



MFS Series

Mechanical Float Switches



**THE ENVIRONMENTALLY
SAFE SWITCH**



MERCURY-FREE

ADVANTAGES BY DESIGN

ENVIRONMENTALLY FRIENDLY

- Mechanical switching uses no mercury which can harm the environment.

DEPENDABLE OPERATION

- Time-proven, snap-action switch is activated by rolling ball and double lever arm. You can hear it operate.
- No mercury to ball or separate, no inert gas precharge to lose.

WIDE ANGLE OPERATION

- Can be adjusted to give variable draw-off.

HEAVY DUTY

- Rated 1/2 HP, 115 volts or 230 volts.

SERIES TAP PLUG

- Allows manual or automatic "piggy-back" operation.

Model	Volts	Cord Length
MFS-10	115	10'
MFS-20	115	20'
MFS2-10	230	10'
MFS2-20	230	20'

PRODUCT CAPABILITIES

Maxi. Liquid Temp.	Up to 140° F	Up to 60° C
Electrical Rating	1/2 HP, 13 Amps, 115 V, 1 Ph 1/2 HP, 13 Amps, 230 V, 1 Ph	
Third Party Approvals	UL, CSA Listed	
Acceptable pH Range	6-9	

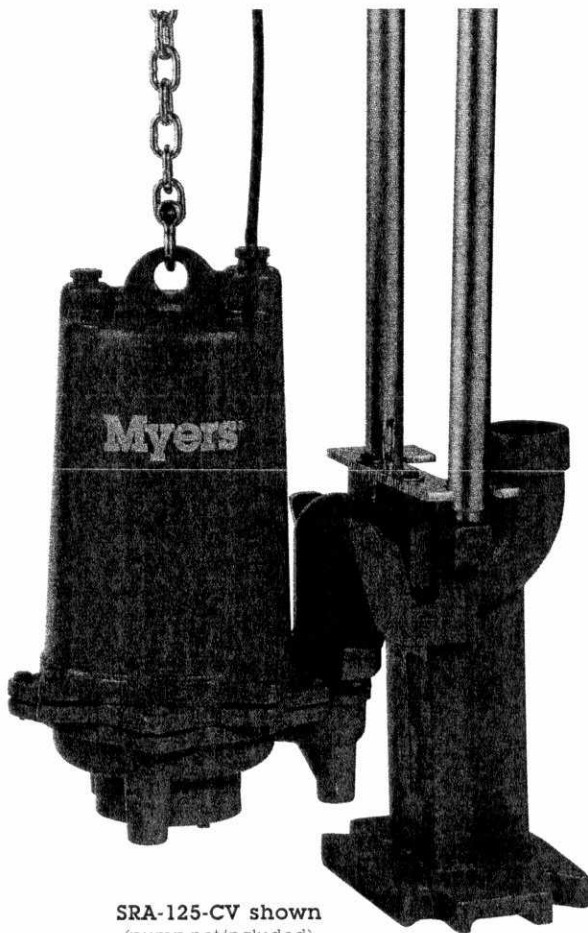
Construction Materials	
Float Housing	thermoplastic
Power Cord	10 or 20 ft., 16/2 SJOW-A

WHERE INNOVATION MEETS TRADITION

Myers®
Pentair Pump Group

SRA Lift-out Packages

1 1/4" to 3" Lift-out Packages
for Grinder, Sewage and Effluent Pumps



SRA-125-CV shown
(pump not included)

NOTE: SRA-125 package available for
Class 1, Division 1, Group C & D installations

MYERS SRA LIFT-OUT PACKAGE MAKES
INSTALLATION AND SERVICE OF GRINDER,
SEWAGE AND EFFLUENT PUMPS SAFER AND EASIER.
The SRA adapts to nearly any vertical discharge
wastewater pump from 1 1/4" to 3". Support
brackets are stainless steel for sewage,
dewatering or effluent pumping applications.
For more information on safer, easier pump
installation and service call your Myers
distributor today, or the Myers Ashland sales
office at 419/289-1144.

ADVANTAGES BY DESIGN

**LIFT-OUT PACKAGE OFFERS EASE OF SERVICE
AND REINSTALLATION.**

- Fast and easy pump removal
- No need for personnel to enter basin
- Offered with or without check valve
- Handles 1 1/4" to 3" discharge pumps
- Heavy duty cast iron construction
- Stainless steel brackets ensures parts will not corrode
- Positive machine fit with o-ring seal

SYSTEM INCLUDES:

- Mounting base
- Lift-out elbow with check valve
- Guide plate
- Fasteners and o-rings



	SRA-125	SRA-150	SRA-200	SRA-300	SRA-320
Elbow Size	1 1/4" x 2"	1 1/2" x 2"	2" x 2"	3" x 3"	2" x 3"
Guide Plate	SST	Galv/SST	Galv/SST	Galv/SST	Galv/SST
Lift-out Elbow w/check valve	Cast Iron**	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Mounting Base	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Fasteners	SST	SST	SST	SST	SST
O-Ring	BUNA-N	BUNA-N	BUNA-N	BUNA-N	BUNA-N
Guide Rails*	1" SST	3/4" SST	3/4" SST	3/4" SST	3/4" SST
Top Rail Support*	TRS-100	TRS-75	TRS-75	TRS-75	TRS-75
Chain*	Galv/SST	Galv/SST	Galv/SST	Galv/SST	Galv/SST

* Must be ordered separately

**Bronze for explosion-proof

WHERE INNOVATION MEETS TRADITION

Myers®

Pentair Pump Group

ISO 9001 Registered Quality System

SRA Lift-out Packages

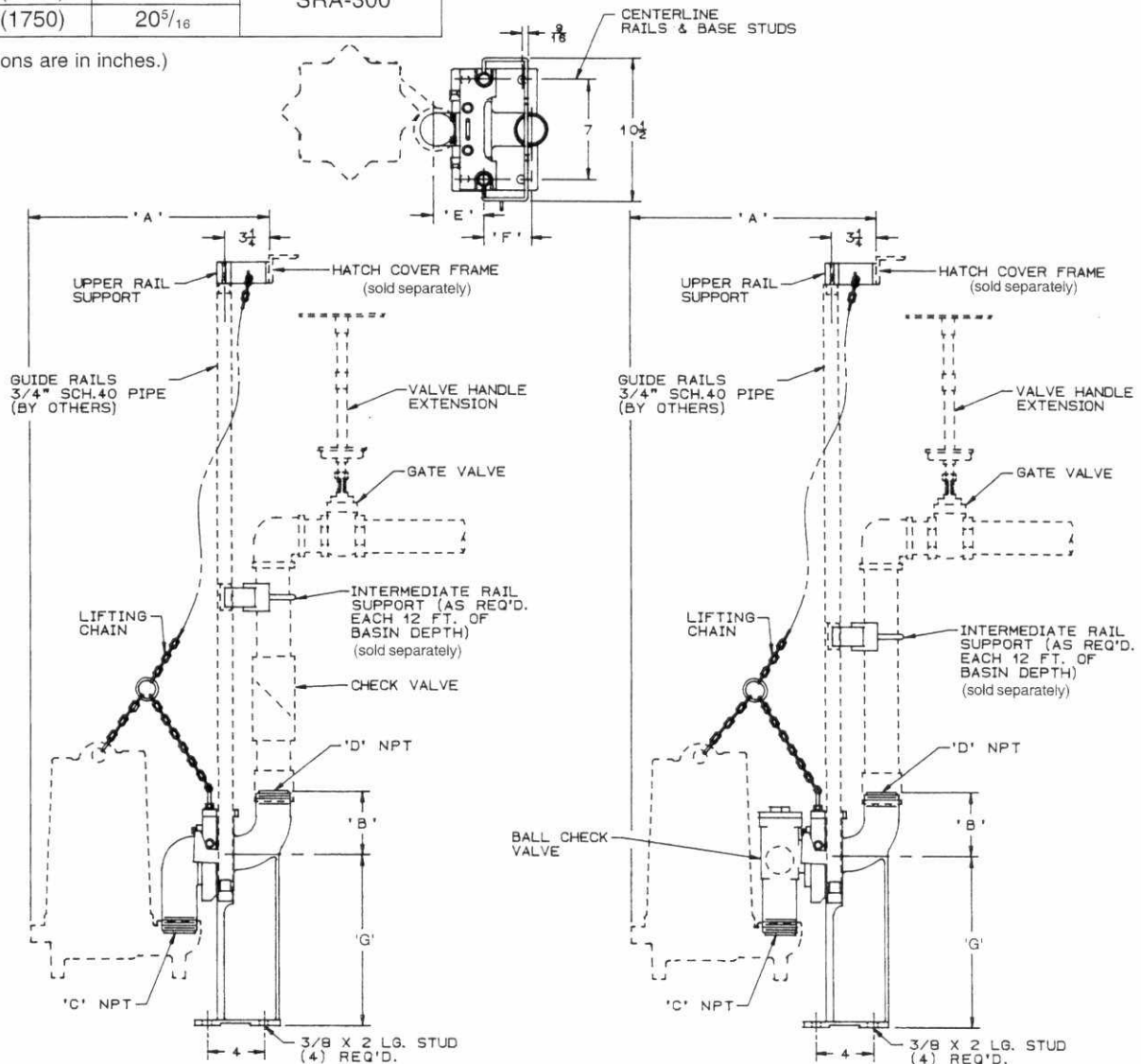
1 1/4" to 3" Lift-out Packages
for Grinder, Sewage and Effluent Pumps

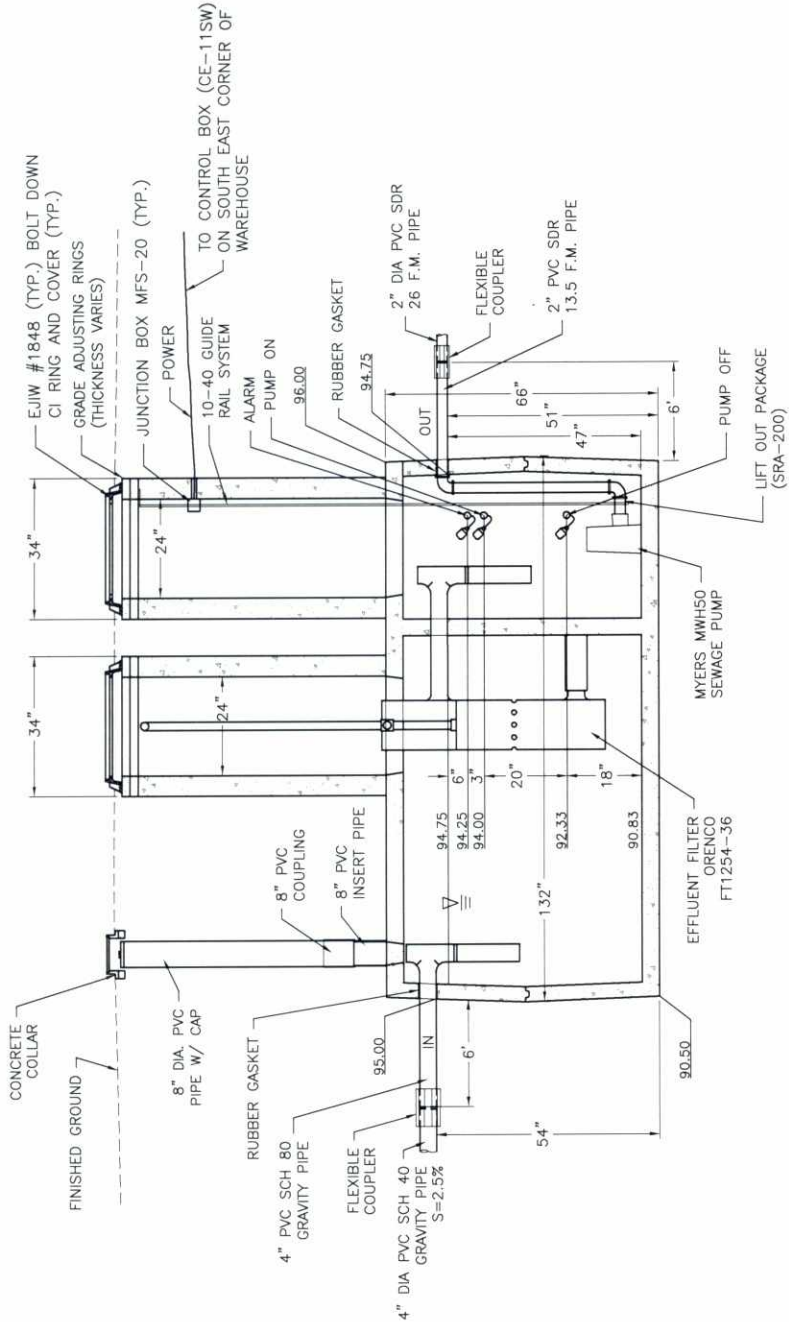
PUMP	'A'	LIFT-OUT
MG/MGH200	16 1/16	SRA-125
WGL20	15 3/8	SRA-125-CV
WG20	15 3/8	
P SERIES	17 3/8	SRA-150
ME3F	16 1/8	SRA-150CV
ME3H	15 7/8	
WHR	16 3/4	
WHRH	16 5/8	SRA-200
MWH/MW	18 1/8	SRA-200CV
SRM4	15 1/2	SRA-320
ME Series	17 5/8	
3MW (3450)	19 1/4	
3MW (1750)	20 5/16	SRA-300

(Dimensions are in inches.)

LIFT-OUT	'B'	'C'	'D'	'E'	'F'	'G'
SRA-125	4 3/8	1 1/4	2	2 15/16	3 1/4	9 11/16
SRA-150	4 5/16	1 1/2	2	3 1/4	3 3/8	12
SRA-200	4 5/16	2	2	3 1/4	3 3/8	12
SRA-320	6 1/2	2	3	3 1/4	4 11/16	12
SRA-300	6 1/2	3	3	4	4 11/16	12
SRA-125-CV	4 3/8	1 1/4	2	2 15/16	3 1/4	9 11/16
SRA-150-CV	4 5/16	1 1/2	2	3 1/4	3 3/8	12
SRA-200-CV	4 5/16	2*	2	3 1/2	3 3/8	12

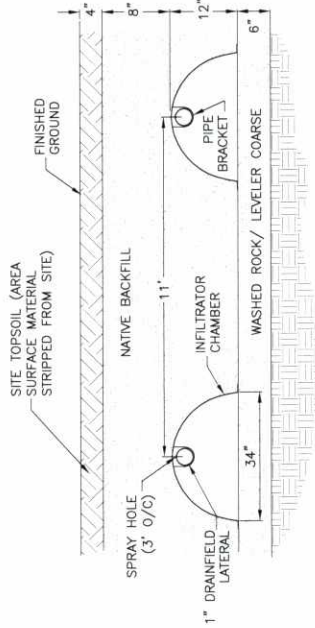
(Dimensions are in inches)





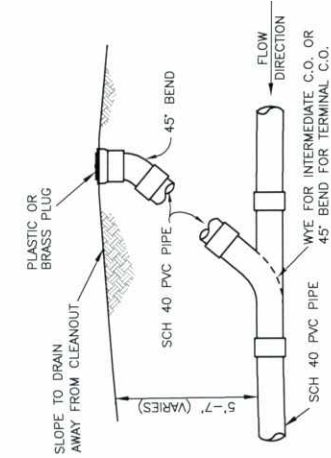
1,100 GALLON SEPTIC TANK
WITH 400 GALLON PUMP VAULT

(NO SCALE)



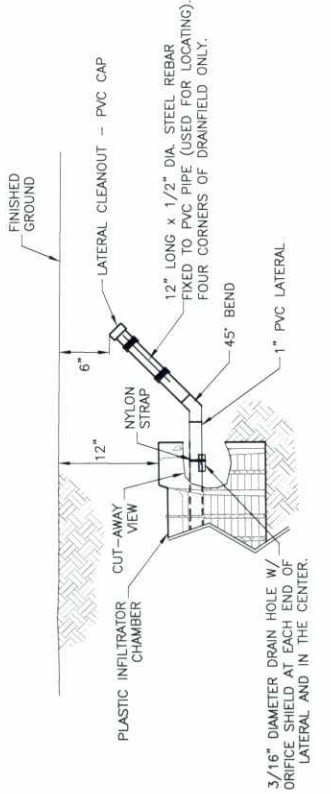
INFILTRATOR CHAMBER DETAIL

(NO SCALE)



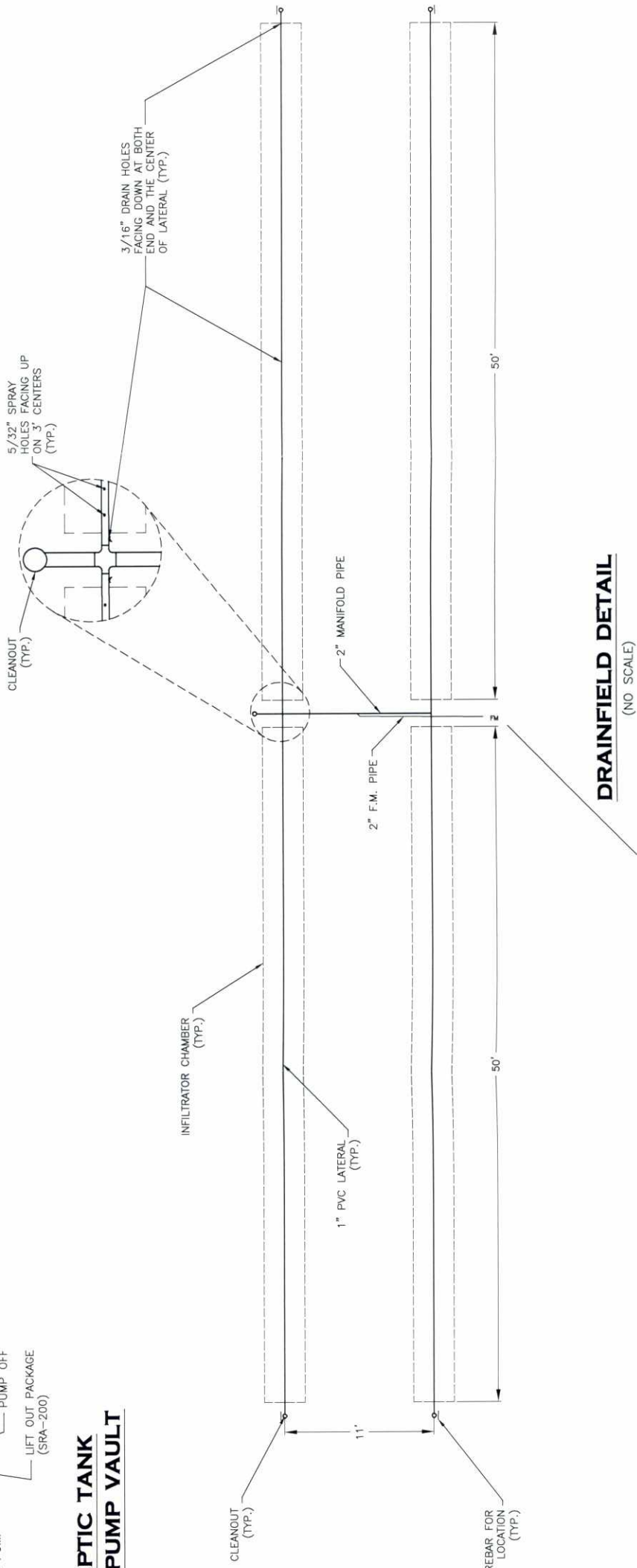
SEWER LINE CLEANOUT DETAIL

(NO SCALE)



LATERAL CLEANOUT DETAIL

(NO SCALE)



DRAINFIELD DETAIL

(NO SCALE)

BY	DATE	REVISION DESCRIPTION

DESIGN	BHJ	PROJ. NO. 5495
DRAWN	BHJ	DATE 6/2008
CHECKED	PD	SURVEYED

D&A P.C.
DRAINAGE ENGINEERS AND SURVEYORS
2021 NW 3rd Street, Fort Lauderdale, Florida 33305
Phone 407.714.8201 Fax 407.568.0371

**NORTHWEST INDUSTRIAL SUPPLY
WAREHOUSE**