

2019 Michigan Onsite Wastewater Conference

Land Application Septage Management/Injection

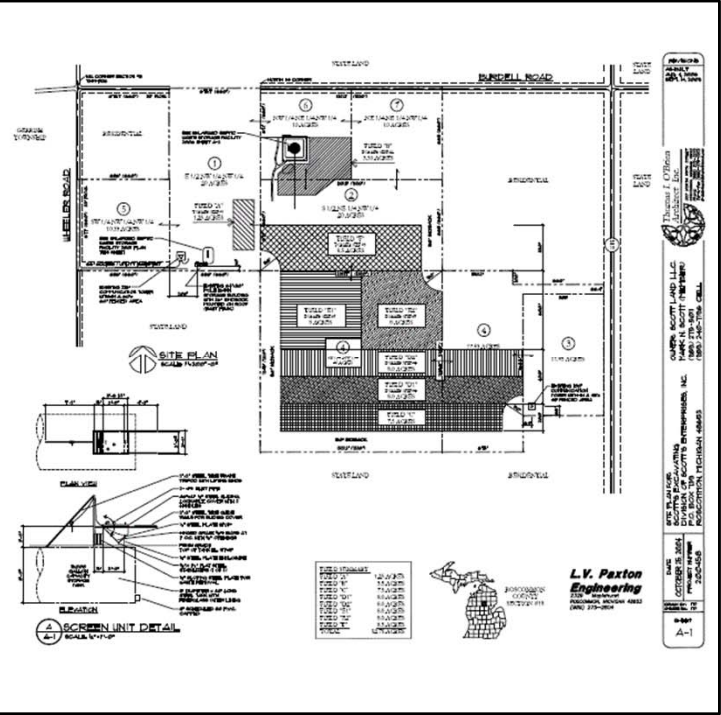
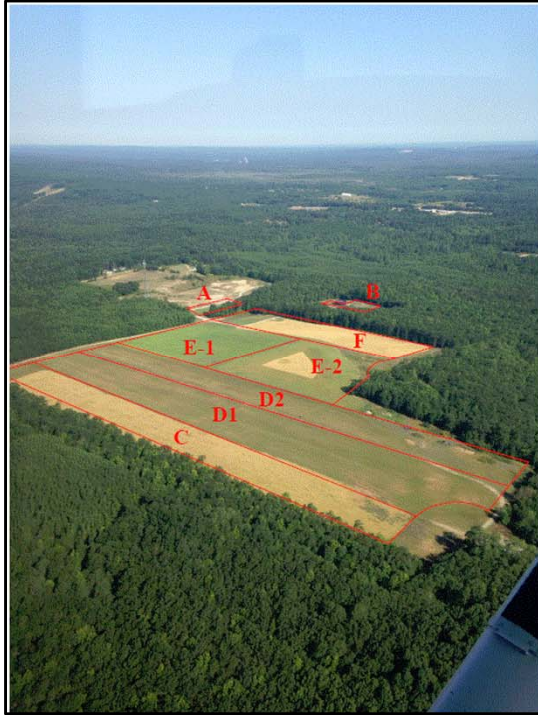
Mike Precord [T and M Pumping]
Tinus Koorn [Michigan AG Service, Inc.]

INTRODUCTIONS

LAND SITE MANAGEMENT (CROPPING PLAN) updated 5-23-18													
Business Name: <u>Scott's Excavating (division of Scott's Enterprises, Inc.)</u>				Septage License: <u>#20-05</u>				Cropping Year: <u>2018</u>					
Land Site Address: <u>NW Section #18 Burdell/Wheeler Road</u>				Site ID: <u>#1</u>				Land Owner: <u>Scott Land, LLC</u>					
City: <u>Roscommon</u>				Twp: <u>Higgins (North)</u>				County: <u>Roscommon</u>					
City: <u>Roscommon</u>				Twp: <u>Higgins (North)</u>				County: <u>Roscommon</u>					
Twp: <u>Higgins (North)</u>				County: <u>Roscommon</u>				Twp/Rng/Sec: <u>T24N R2W Section-18</u>					
Previous Crop Grown	January	February	March	April	May	June	July	August	September	October	November	December	Next Crop (to be grown following septage application in this or next cropping year)
Field: A	1.25 Acres		Phosphorus Level: 41 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 35,000 gallon/acre/year (Option "A")						
Mixed Hay Crop Maintained - No planned septage application this crop year.													
Harvest #1							Harvest #2						
Field: B	3.5 Acres		Phosphorus Level: 47 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 35,000 gallon/acre/year (Option "A")						
Mixed Hay Crop Maintained - No planned septage application this crop year.													
Harvest #1							Harvest #2						
Field: C	7.5 Acres		Phosphorus Level: 56 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 23,000 gallon/acre/year (Option "A")						
Oats Removed (August 2017) Injection 8/31/17													
Septage Application/Plant Out Crop							Possible Septage Application						
Field: D-1	8 Acres		Phosphorus Level: 56 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 23,000 gallon/acre/year (Option "A")						
Oats Removed (August 2017)													
Plant Out Crop							Possible Septage Application						
Field: D-2	8 Acres		Phosphorus Level: 48 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 23,000 gallon/acre/year (Option "A")						
Mixed Hay Crop Maintained - No planned septage application this crop year.													
Septage Application/Plant Out Crop							Possible Septage Application						
Field: E-1	8 Acres		Phosphorus Level: 67 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 35,000 gallon/acre/year (Option "A")						
Mixed Hay Crop Maintained - No planned septage application this crop year.													
Harvest #1							Harvest #2						
Field: E-2	8 Acres		Phosphorus Level: 53 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 23,000 gallon/acre/year (Option "A")						
Oats Removed (August 2017) Injection 8/31/17													
Septage Application/Plant Out Crop							Possible Septage Application						
Field: F	8.5 Acres		Phosphorus Level: 50 pound/acre (sampled 08/21/17)				Maximum Agronomic Application Rate (AAR) = 23,000 gallon/acre/year (Option "A")						
Oats Removed (August 2017) Injection 8/31/17													
Plant Out Crop							Possible Septage Application						
* - Re-applied for Winter (Non-Frozen Ground) Application of Septage if necessary 8/17/17.													
OTHER NOTES:													
Crop Use: <u>Animal Feed/Duck</u>													
Erosion & Runoff Control Method: <u>Buffer Strip/Cover Crop/Windbreak/Tillage Across Slope</u>													
Pathogen Reduction Method & Vector Reduction Method: <u>Injection</u>													
Other Nutrient Sources to be Land Applied in Addition to Septage Waste: <u>None</u>													
Winter Disposal Plan (Dec. 21 - Mar. 21): <u>Septage Waste Storage Facility and Application when ground is not frozen (if necessary). Written Winter Plan Submitted.</u>													
Land Application of Food Establishments Septage (FES): <u>Yes - Very Limited (Mixed in 220,000-gallon Septage Waste Storage Facility (SWSP) according to 3-part FES prior to land application - test for cadmium/cobalt.</u>													
Land Application of Portable Toilet Waste: <u>No</u>													
Land Application of Holding Tank Waste: <u>Yes (Limited)</u>													
Septage Waste Application Calibration Rate = <u>Not to exceed gallons/acre based on cropping plan rate above - even distribution per subcontractor during discharge injection.</u> [RATE (gal/acre) = Q + W - L, x 43,560] Drainage Tile: <u>No</u> Soil Group: <u>2-L loamy sands and</u>													
Septage Application over Actively Growing Crops/Vegetation: <u>No</u>													
* Acreage: <u>Proposed number of acres that will be used in the current cropping year</u> ** Phosphorus Level: <u>Pounds per acre - parts per million (ppm) x 2</u>													
Check the Guidance Manual for definitions, descriptions/explanations of items. Use additional sheets as necessary.													
EQP 3928 (Rev. 3/13)													

**CROPPING PLAN – COMPUTE APPLICATION RATE FOR INJECTION CALIBRATION
(DO NOT EXCEED GALLONS PER ACRE BASED ON CROPPING PLAN)**

- FOR EXAMPLE 400,00-GALLONS DIVIDED BY FOUR FIELDS (32-ACRES) = 12,500-ACRE
- FIELD-C = 7.5-ACRES
- FIELD-D1 = 8-ACRES
- FIELD-E2 = 8-ACRES
- FIELD-F = 8.5-ACRES
- TOTAL ACRES = 32-ACRES



MAPS OF SITE





520,000-GALLON SLURRYSTORE – ABOUT $\frac{3}{4}$ -FULL



5-RING SLURRYSTORE (APPROXIMATELY 100,000-GALLONS/RING)
THIS SLURRYSTORE HAS THE ABILITY OF 2-ADDITIONAL RINGS (OVER 700,000-GALLONS)



SLURRYSTORE IS FILLED FROM THE BOTTOM AS TRUCK IS OFF-LOADED THROUGH A BAR SCREEN



VIEW FROM THE TOP PRIOR TO LAND APPLICATION



CLOSER LOOK SHOWS A CRUST LAYER OF SEPTAGE ON TOP



VECTOR ☺



HOSE REEL USED FOR SETUP PRIOR AND AFTER TO INJECTION



TRACTOR WITH PTO TO "SLURRY," OR HOMOGENIZE SEPTAGE WASTE PRIOR TO INJECTION



CLOSER LOOK



VIEW FROM THE TOP OF THE CATWALK





CRANK USED TO ROTATE PRESSURIZED AGITATER NOZZLE IN THE BOTTOM OF THE TANK



CLOSER LOOK AT THE AGITATOR NOZZLE





GRAB SAMPLE SENT TO A LAB FOR THE CADMIUM/PCB TESTING WHEN INJECTING FOOD ESTABLISHMENT WASTE (THIS RECENTLY WAS NO LONGER REQUIRED BY MDEQ)



SECONDARY PUMP CAN PUSH WASTE ?? MILES





PRIMARY AND SECONDARY PUMP



NOTE FIELD CORNERS ARE IDENTIFIED PRIOR TO INJECTION
OPERATOR TYPICALLY SCARAFIES PERIMETER TO PREVENT POSSIBLE RUNOFF



HOSE STRETCHED TO PLANNED INJECTION FIELD
NOTE – SCARAFIED PERIMETER ON FIELD ABOVE



6" INJECTION HOSE

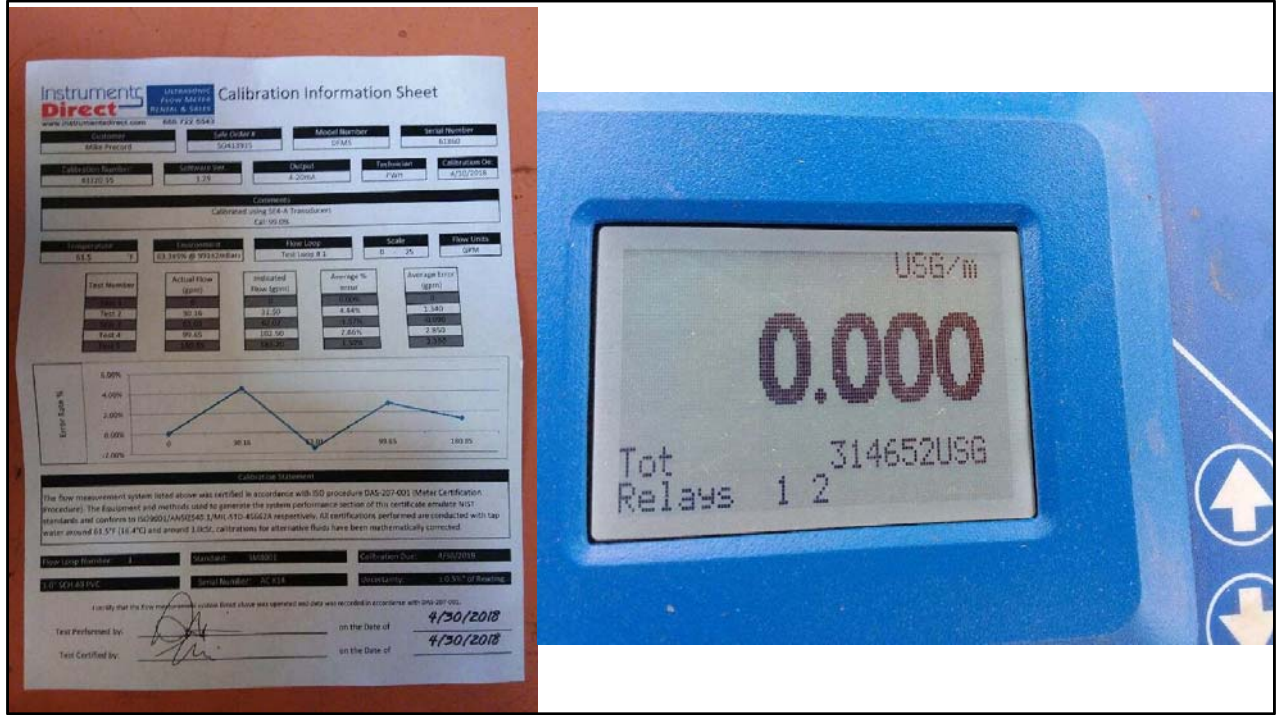


BALD EAGLE – ANOTHER VECTOR



HOSE PROR TO PRESSURIZING





CALIBRATION CERTIFICATION AND TRACTOR GALLON METER



INJECTION



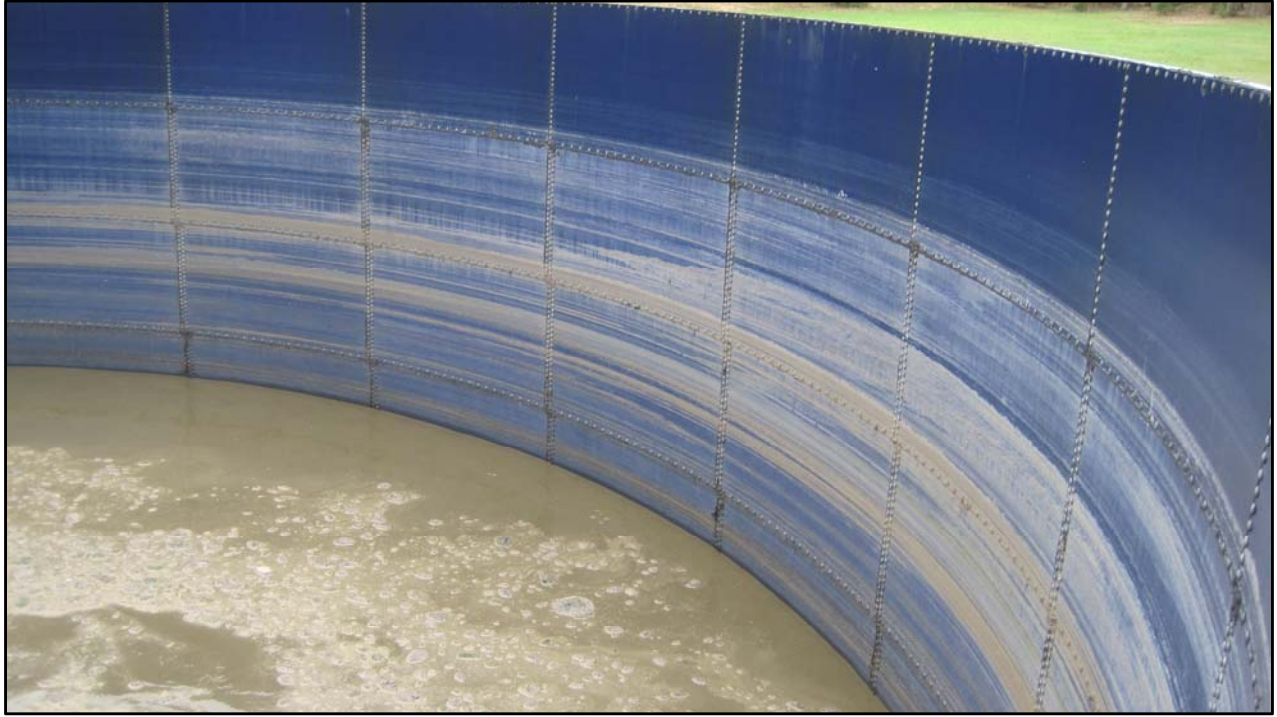










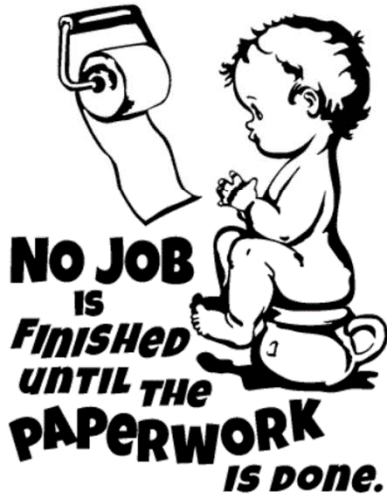


TANK ALMOST EMPTY





FIELD AFTER INJECTION



SEPTAGE VOLUME LOG TOTALS FOR ANNUAL SUBMITTAL TO MDEQ

This information is required by authority of Part 117, 1994 PA 451, as amended.
Failure to submit this information is a misdemeanor.

YEAR

Be sure to add the land site number, total for each month, and then total for all land sites. Add total for each septage waste receiving facility (SWRF) and then total for all SWRFs. Then place a DISPOSAL GRAND TOTAL at the end of all septage pumped & disposed per month. Also add yearly totals at the bottom for each land site and/or SWRF. Do not add the Total Volume Pumped to the Land Site Disposal Totals, SWRF Disposal Totals or Disposal Grand Total. Report in gallons.

MONTH	LAND APPLIED SEPTAGE WASTE					LAND SITE DISPOSAL TOTALS	SEPTAGE WASTE RECEIVING FACILITY (SWRF) DISPOSAL			SWRF DISPOSAL TOTALS	DISPOSAL GRAND TOTAL = Add Land Site Disposal Totals and SWRF Disposal Totals (if applicable)
	Land Site ID#	Land Site ID#	Land Site ID#	Land Site ID#	Land Site Totals from other Sheets		SWRF Name	SWRF Name	SWRF Totals from other Sheets		
January											
February											
March											
April											
May											
June											
July											
August											
September											
October											
November											
December											
Yearly Total											

Business Name Owner Name MDEQ License No.
NOTE: USE ADDITIONAL SHEETS IF YOU NEED TO ADD ADDITIONAL LAND SITES OR SWRF. EQP 5821-2 (Rev 3/13)

WHEN COMPLETED IT IS GOOD TIME TO RECORD NECESSARY INFORMATION NEEDED FOR THE SEPTAGE VOLUME LOG TOTALS FOR ANNUAL SUBMITTAL TO MDEQ