Local Health Department Resources for Training of New Staff

Kristine Rendon, MEH, R.E.H.S.
Michigan Department of Environmental Quality
Onsite Wastewater Program
rendonk@michigan.gov

Lucus Pols, R.E.H.S.
Kalamazoo County Environmental Health
ldpols@kalcounty.com

Lowell Cameron, R.E.H.S.
St. Clair County Health Department
lcameron@hd.stclaircounty.org

Emily VanBrandt, R.E.H.S.
Lenawee County Health Department
ewolfe@hline.org

Please Stand!!

- Stay standing if you have at least:
  - 1 year of experience in Onsite Wastewater
  - 5 years of experience in Onsite Wastewater
  - 10 years of experience in Onsite Wastewater
  - 15 years of experience in Onsite Wastewater
  - Greater than 20 years of experience in Onsite Wastewater….

The State of Michigan

Has 83 Counties

Served by 44 Local Health Departments

Each Local Health Department is required to meet the Minimum Program Requirements for the Onsite Wastewater Program through the Public Health Accreditation process.

Over time, staff performing the duties associated with the Onsite Wastewater Program come and go and there is a great need to help in the training of new staff or refresh the experienced staff.

MDEQ Training

- Our Program description includes assisting Local Health Departments in the implementation of the essential elements of the Onsite Wastewater Program.
  - This includes training of Local Health Department Staff in the permitting, designing and troubleshooting of onsite wastewater treatment systems.

MDEQ Training Continued…

As issues arise across the state

- Training is tailored to include emerging topics
  - Done predominantly at Annual Education Conferences

New staff joining EH is rising

- Paired with a busy economy- can cause stress on training programs at Local Health Departments.

This combined presentation is to help share what is offered through MDEQ and to share what is being done for training at other county departments.

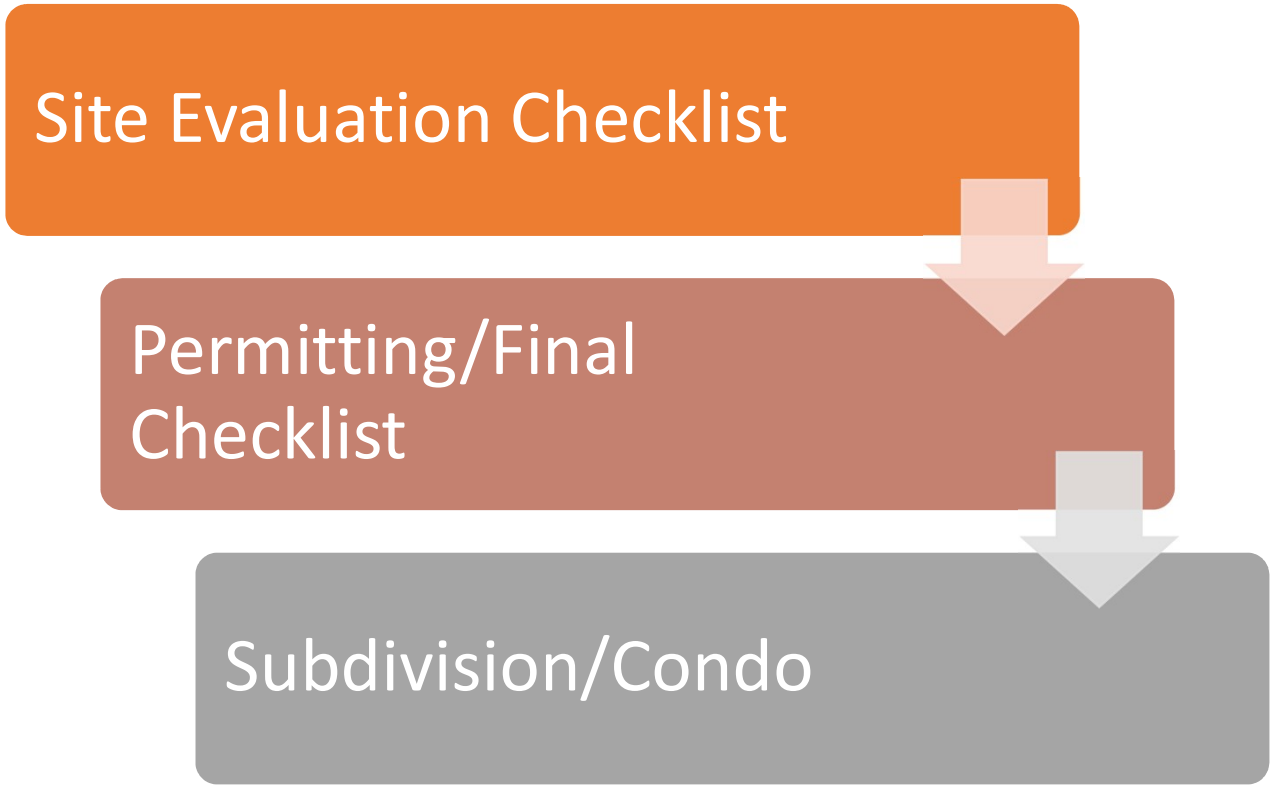
One on One Training

Our program offers the opportunity to spend time with LHD staff to help with training.

Travel to LHDs to spend time with staff

Can go over basic permitting requirements	Site Evaluations	Permitting of System	Final Inspections	What rules apply and why? •Administrative Rules •Michigan Criteria for Subsurface Sewage Disposal

Developing Checklists/Flow Charts



Soils Training

Two day class consisting of:

- Classroom exercises on learning soil texture and differentiating between them
- Field visit excavating native soil for identification

Hosted by Local Health Departments

- Regionally- as needed

Always looking for LHDs willing to host!

- Exploring new options of utilizing MDOT or MDNR properties/equipment…

What is yet to come…

Seeing a need for more immediate training on-demand…

- Four staff in MDEQ can get stretched across the state.

Starting the process of developing a web based learning module

Learning at your leisure:

- Working later this month at recording webinar based presentations on various topics pertaining to the Onsite Wastewater Program.
  - Developed into an entire course on Local Health Department Onsite Wastewater Training…

Chapter One: Overview

What is the DEQ Onsite Wastewater Program

History of Michigan's Sewage Disposal

A Look at Michigan's Onsite Regulations

- What is a Septic System?
- How does a Septic System Work?
- Fundamental Components Inside and Outside the Tank
- What is Wastewater Treatment? (I.e. BOD/TSS/FOG)

Chapter 2: Septic Systems

Chapter 3: Soil Training Basics

Soils Training Basics

Soil Test Pit Safety

Soil Surveys and Online Resources

Soil Field Test Flow Chart

Qualitative Field Test to Help Determine Common Soil Textures

Understanding the USDA Soil Texture Triangle

Chapter 4: Accreditation

Onsite Wastewater Minimum Program Requirements

Site Evaluation and Permit Documentation

Final Inspections

Chapter 5: Michigan Criteria for Subsurface Sewage Disposal

How to Determine Flows and What Rules are Applicable?

The MCSSD

Site Suitability and Filled Soil

Draft Michigan Criteria: High Strength Wastewater

Chapter 6: Administrative Rules

Onsite Rules for Land Divisions, Subdivisions, and Condominiums

Why Do Dates Matter?

Online Module

- Will be offered in Sections open to LHDs.
- Discussion on having a quiz at the end of each section to offer a certificate of completion.
- Allows information to become accessible to all counties as new staff arrive to give basic information about the program requirements.
- Can help emphasize training of new and existing staff at the local level as needed.

Lucus Pols
Kalamazoo County Environmental Health

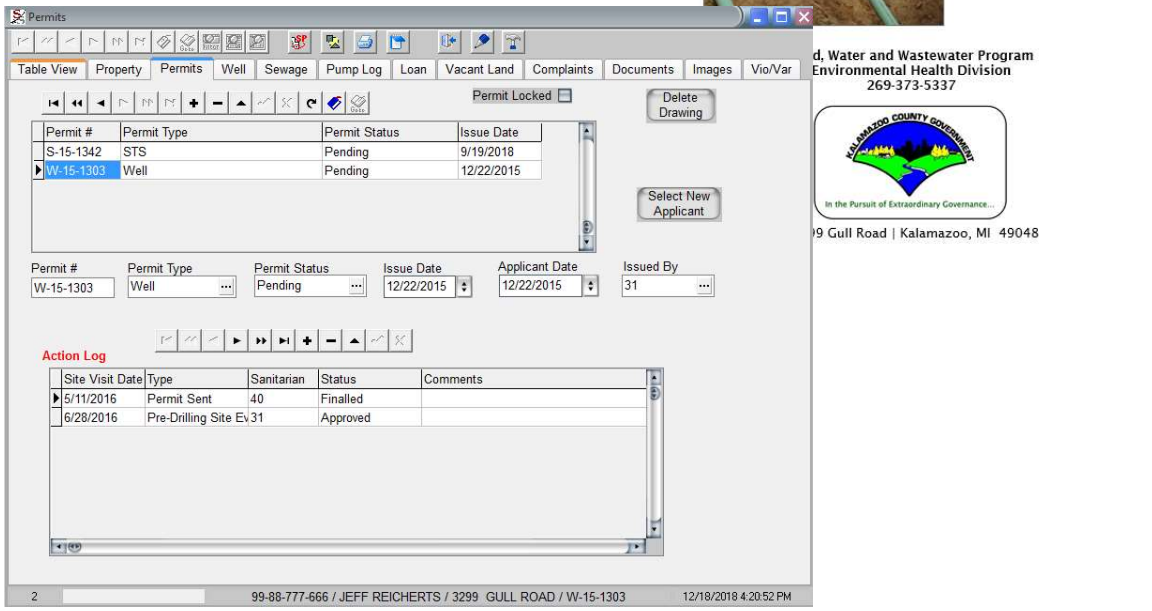
Kalamazoo County Environmental Health Training Program

Lucus Pols, REHS, Environmental Health Supervisor

Health & Community Services Department

Start with a Plan

- Training Plan
  - Meet and Greet
  - Training Manual
  - Policies, procedures, code reading
  - Overview of databases used



Articles I, II, and III of the Kalamazoo County Sanitary Code – Revised 2013 Related to Sewage Treatment and Water Supply Regulations

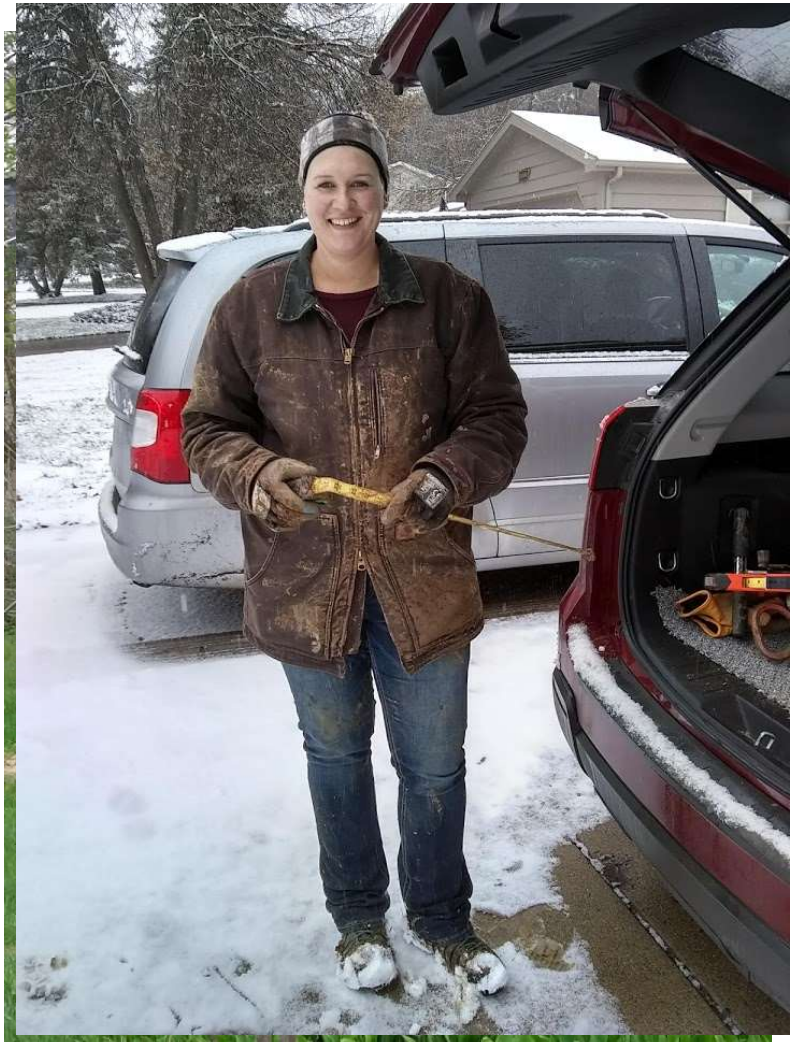
The complete Kalamazoo County Sanitary Code is available at www.kalcounty.com/eh

d, Water and Wastewater Program
Environmental Health Division
269-373-5337

9 Gull Road | Kalamazoo, MI 49048

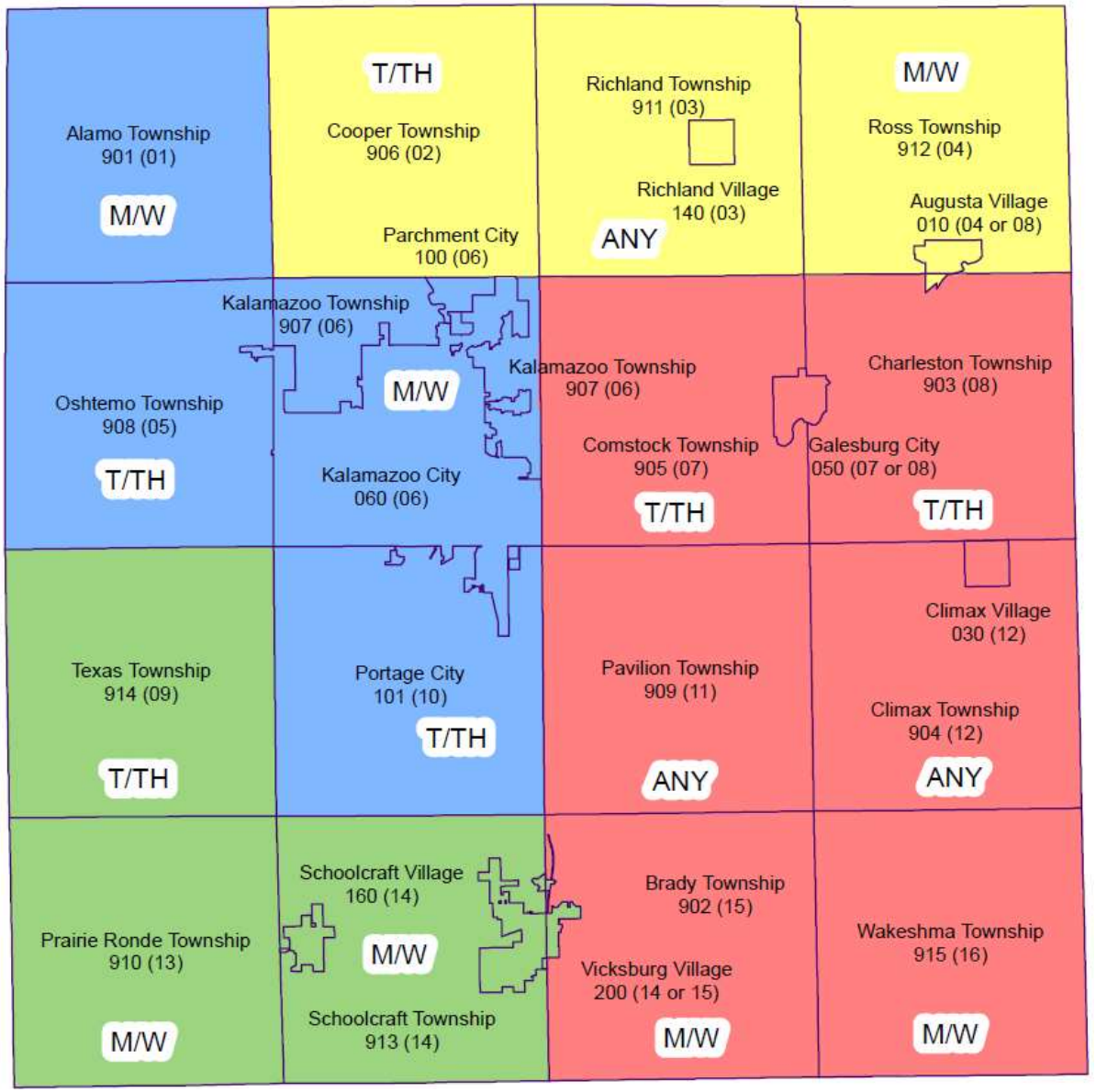
Beginning in the field

- First couple of days with Supervisor
- See and then do
- Work to maintain good mix of being in the field and office work/reading



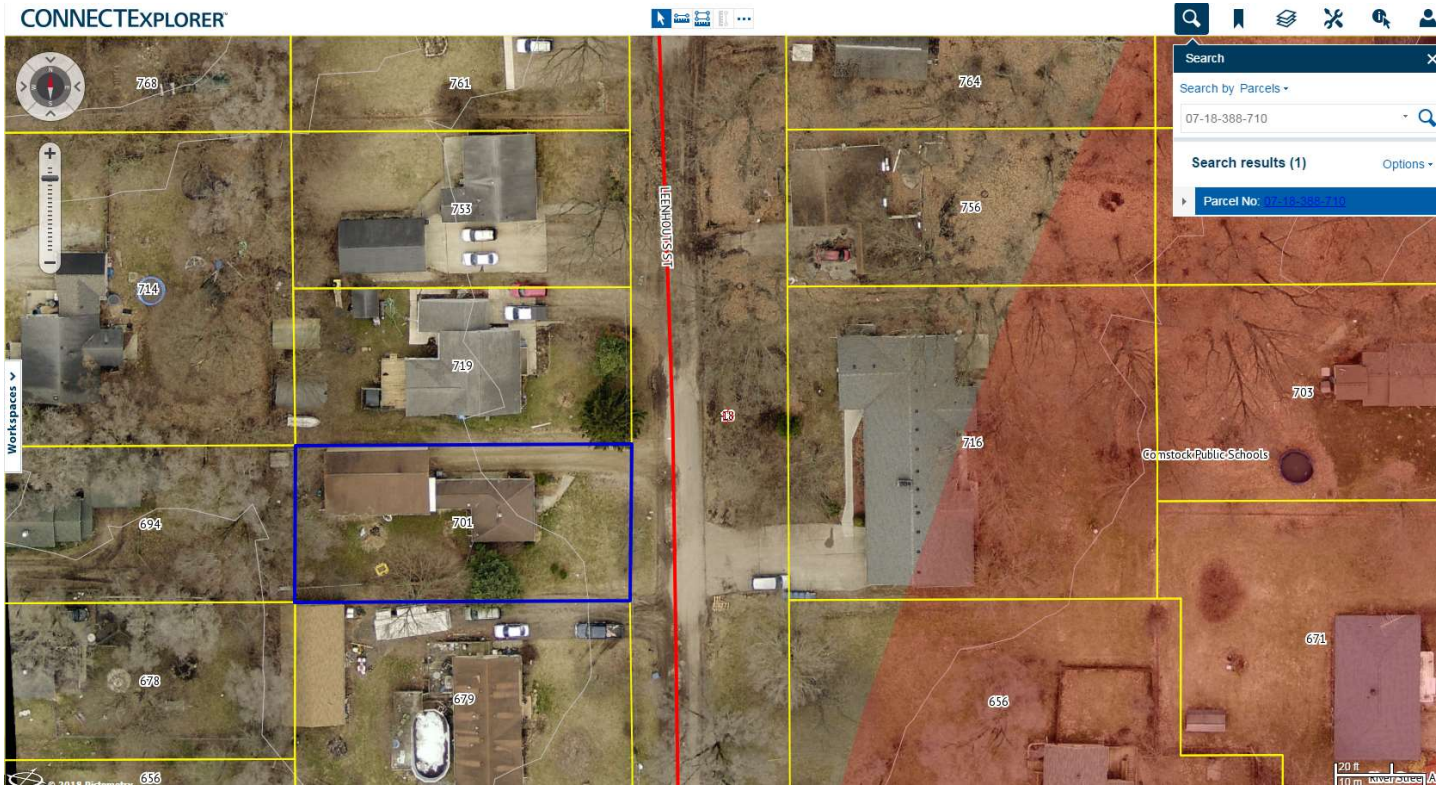
Out with Staff

- Visit every area
- One week rotations



Learning Technology

- Sword Database
- ArcGIS
- ConnectExplorer



Time out

- Tank and Field Installs
- Working with Installers and homeowners

Training

- Soils Training
- Any available training (web, field, conference)
- MEHA
- SWMEHA
- Onsite Conference!

Out on own

- Around 6 weeks and after ~3 months, sit down and review what you've learned
- Mounds, Drainbeds, Trenches, Drywells, Soils, Mottling, Codes, Policies, Letters, Permits, Finals
- Comfort factor
- If you haven't see something before, take someone with you
- Take pictures!!
- Ask questions!!

QA/QC

- On all staff
- All permits, finals, letters etc…
- Example of QA/QC

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1			SYSTEM INFORMATION			INDICATOR 2.1 EVALUATION INFORMATION				SUPERVISOR REVIEW			Intern	FINAL	SPEC	N & D	WING	INTER	L REVIE			
2	Date	Permit Number, Computer ID or Other Identifier	Address	Residential (R) Commercial (C)	New or Replacement	Boring/Excavation Location (north arrow & two measurements)	Texture Description	Horizon Depth(s)	Seasonal High Water Table	complete (includes slope, isolations, location, initial/rep area)	Tank & Absorption Size Correct?	Design =app	Permit Issued OK in Sword	Final Drawing (Reserve area or failed STS)	Septic Tank(s) Size & Location with north arrow	Absorption Area Size & Location	Inspection Date & Staff Identified	System installed as permitted or documented why	Water well or water line noted	Permit Number, Computer ID or Other Identifier	Date QA	
2911	12/4/2018	S-18-1345	2840 Jasmine	Residential	Replacemen	1	1	1	1	0- PC not requ	1	1	1									
2912	12/4/2018	S-18-1346	9184 Alidor	Residential	Replacemen	Septic Tank	-	-	-	1	1	1	1	1	1	-	1	1	1	1	12/11/2018	CH - 2
2913	12/4/2018	S-18-1347	5365 Plantation Avenue																			
2914	12/6/2018	S-18-1348	718 Chene Drive																			
2915	12/10/2018	s-18-1349	9401 Big Rock Drive																			
2916	12/10/2018	S-18-1350	9039 West XY Avenue																			
2917	12/10/2018	S-18-1351	5564 Wren Street																			
2918	12/10/2018	S-18-1352	6481 South 6th Street																			
2919	12/11/2018	S-18-1353	7714 East Q Avenue																			
2920	12/12/2018	S-18-1354	10268 North 19th Street																			
2921	12/13/2018	S-18-1355	5355 East CD Avenue																			
2922	12/13/2018	S-18-1356	8275 South Van Kal																			
2923	12/17/2018	S-18-1357	8586 West YZ Avenue																			
2924																						
2925																						

Final Thoughts

- Continue to discuss
- Team Meetings – Round Table
- Talk with co-workers
- Ask questions
- Reminder: Training never ends!

Lowell Cameron
St. Clair County Health Department

FIELD EVALUATION OF THE ON-SITE SEWAGE DISPOSAL STAFF FOR SYSTEM DESIGN UNIFORMITY

Lowell Cameron, REHS
St. Clair County Health Department
Port Huron, MI

ST. CLAIR COUNTY HEALTH DEPARTMENT
Our Community. Our Environment.

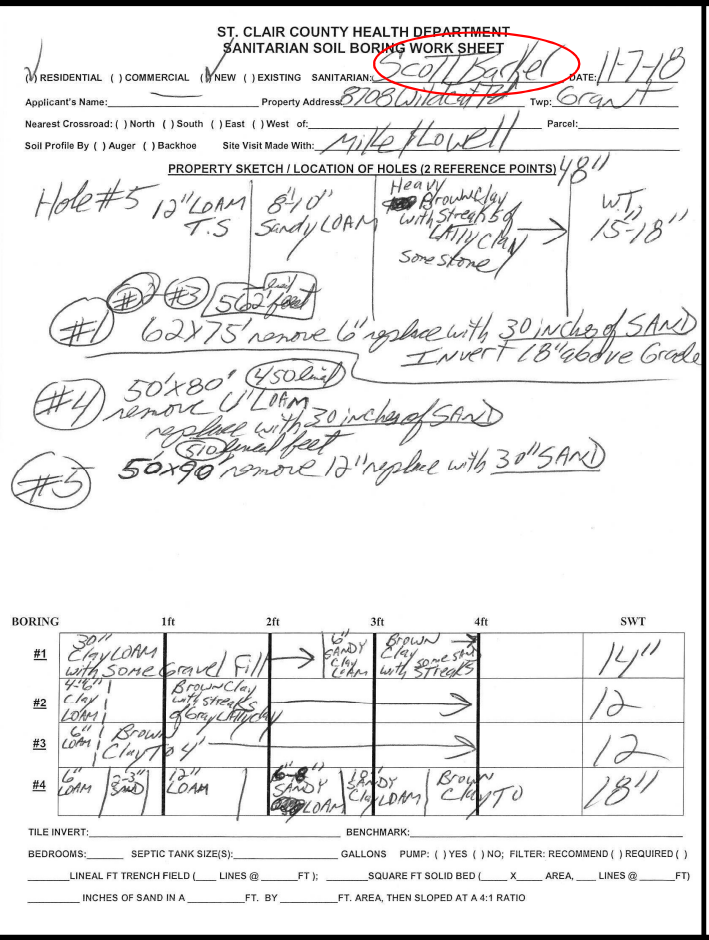
OVERVIEW

- **The following is a synopsis of a staff training exercise by the on-site sewage disposal staff** of the St. Clair County Health Department performed at the end of 2018. The staff were told to conduct soils borings at specific locations, determine the various soil strata, and design a typical residential sewage disposal system accordingly. The results were then tabulated to help evaluate staff uniformity and consistency.

- **A large parcel of land located in Grant Township was chosen to conduct the evaluation due to the variety of soils within a small area.** After obtaining permission from the property's owner, 5 locations of different soils were flagged. Subsequently, department staff visited the site and performed soil borings at the specific locations. The soil and seasonal high water table information obtained were recorded on a specially created soil boring worksheet. Sanitarians were told to assume that observed soils were consistent over the entire area. The staff then designed a sewage disposal system for a typical 3-bedroom residence. The information on the sanitarian's worksheets was collected on the attached tables.

- **Ranges and averages were determined for the categories of seasonal water table, tile invert, lineal feet, and depth of sand fill required.** Outlying results were considered to be those where the sanitarian was not within +/- 3 inches of average for water table, invert, and sand fill and +/- 50 lineal feet of average lineal feet. The number of outliers per sanitarian and corresponding percentage was Scott (5, 25%), Lowell (4, 20%), and Mike (6, 30%). Overall, 15 (25%) out of a potential 60 results were considered outlying. The outliers further break down as follows: Scott (2 high, 3 low), Lowell (2 high, 2 low), and Mike (4 high, 2 low).

- **The exercise indicated that while the staff was generally consistent on system design, some room for improvement in uniformity remains.** This is especially noticeable for sandier soils where there appears to be more variation between sanitarians. The endeavor was well received by the staff and similar training activities should be conducted, with additional sites, to further help evaluate and promote uniformity.


ST. CLAIR COUNTY HEALTH DEPARTMENT
SANITARIAN SOIL BORING WORK SHEET

( ) RESIDENTIAL ( ) COMMERCIAL ( ) NEW ( ) EXISTING SANITARIAN: Scott Barker DATE: 11-7-18

Applicant's Name: Property Address: 8708 Wild Cat Rd Twp: Grant

Nearest Crossroad: ( ) North ( ) South ( ) East ( ) West of: Parcel:

Soil Profile By ( ) Auger ( ) Backhoe Site Visit Made With: Mike Howell

PROPERTY SKETCH / LOCATION OF HOLES (2 REFERENCE POINTS)

Hole #5 12" LOAM T.S 8-40" Sandy LOAM Heavy Brown Clay with Streaks of Gray Clay some stone WT 15-18" 48"

#1 #2 #3 5622 feet

#1 62x75' remove 6" replace with 30 inches of SAND Invert 18" above Grade

#4 50x80' (4 sides) remove 6" LOAM replace with 30 inches of SAND 5600 square feet

#5 50x90 remove 12" replace with 30" SAND

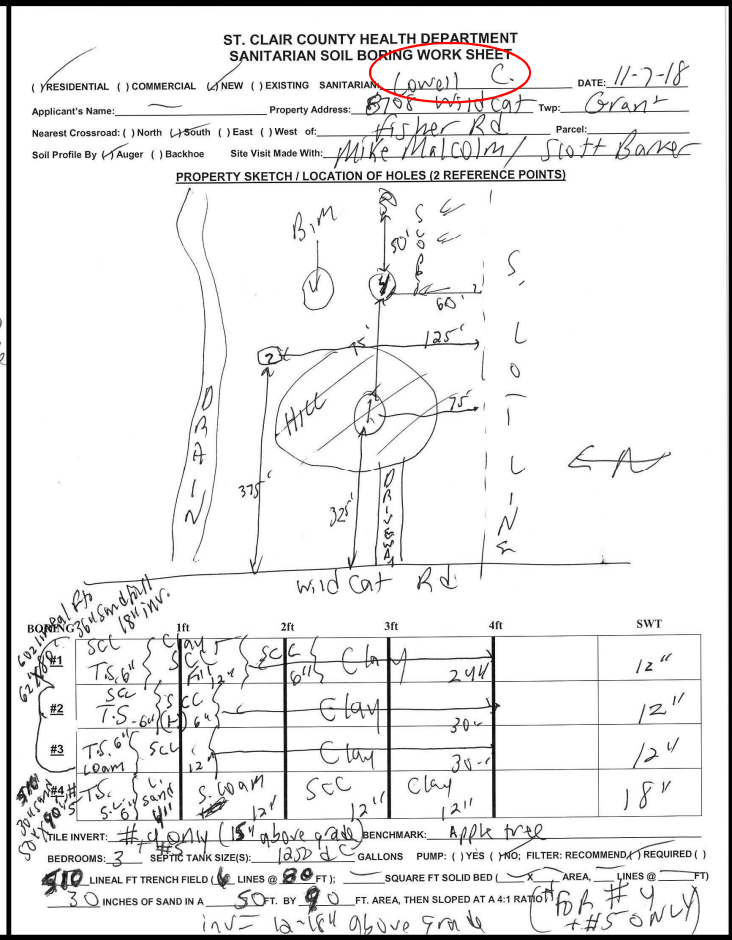
BORING	1ft	2ft	3ft	4ft	SWT
#1	30" Clay LOAM with Some Gravel Fill		6" SANDY Clay LOAM	Brown Clay some stone with Streaks	14"
#2	4-6" Clay LOAM	Brown Clay with streaks of Gray Clay			12
#3	6" LOAM	Brown Clay TO 4'			12
#4	6" LOAM	3" SAND 12" LOAM	6-8" SANDY LOAM	18" SANDY Clay LOAM	Brown Clay TO	18"

TILE INVERT: BENCHMARK:

BEDROOMS: SEPTIC TANK SIZE(S): GALLONS PUMP: ( ) YES ( ) NO; FILTER: RECOMMEND ( ) REQUIRED ( )

LINEAL FT TRENCH FIELD (___ LINES @ ___FT); SQUARE FT SOLID BED (___ X___ AREA, ___ LINES @ ___FT)

INCHES OF SAND IN A ___FT. BY ___FT. AREA, THEN SLOPED AT A 4:1 RATIO


ST. CLAIR COUNTY HEALTH DEPARTMENT
SANITARIAN SOIL BORING WORK SHEET

( ) RESIDENTIAL ( ) COMMERCIAL ( ) NEW ( ) EXISTING SANITARIAN: Lowell C. DATE: 11-7-18

Applicant's Name: Property Address: 8708 Wild Cat Twp: Grant

Nearest Crossroad: ( ) North ( ) South ( ) East ( ) West of: Fisher Rd Parcel:

Soil Profile By ( ) Auger ( ) Backhoe Site Visit Made With: Mike Malcolm / Scott Barker

PROPERTY SKETCH / LOCATION OF HOLES (2 REFERENCE POINTS)

B.M. 50' 60' 125' 75' 375' 325' DRAIN SOIL LINES Wild Cat Rd

BORING	1ft	2ft	3ft	4ft	SWT
#1	SCL Clay T.S. 6"	SCL	SCL 6" Clay	24"	12"
#2	SCL T.S. 6" (H)	SCL 6"	Clay	30"	12"
#3	T.S. 6" LOAM	SCL 12"	Clay	30"	12"
#4	T.S. 5-6" Sand	S. LOAM 12"	SCL 12"	Clay 12"	18"

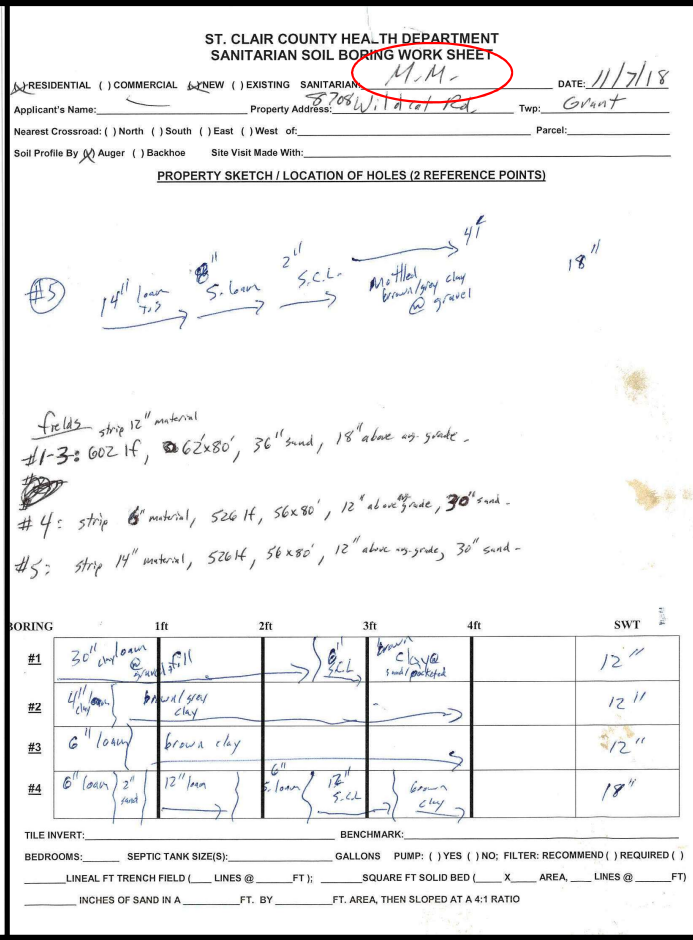
TILE INVERT: #1 Clay (15" above grade) BENCHMARK: Apple tree

BEDROOMS: 3 SEPTIC TANK SIZE(S): 1250 gal GALLONS PUMP: ( ) YES ( ) NO; FILTER: RECOMMEND ( ) REQUIRED ( )

LINEAL FT TRENCH FIELD (6 LINES @ 80 FT); SQUARE FT SOLID BED (___ X___ AREA, ___ LINES @ ___FT)

30 INCHES OF SAND IN A 50 FT. BY 90 FT. AREA, THEN SLOPED AT A 4:1 RATIO

inv = 12-18" above grade (for #4 +#5 only)


ST. CLAIR COUNTY HEALTH DEPARTMENT
SANITARIAN SOIL BORING WORK SHEET

( ) RESIDENTIAL ( ) COMMERCIAL ( ) NEW ( ) EXISTING SANITARIAN: M.M. DATE: 11/7/18

Applicant's Name: Property Address: 8708 Wild Cat Rd. Twp: Grant

Nearest Crossroad: ( ) North ( ) South ( ) East ( ) West of: Parcel:

Soil Profile By ( ) Auger ( ) Backhoe Site Visit Made With:

PROPERTY SKETCH / LOCATION OF HOLES (2 REFERENCE POINTS)

#5 14" loam T.S 8" S. loam 2" S.C.L. Mottled brown/gray clay @ gravel 41" 18"

fields strip 12" material

#1-3: 602 lf, @ 62'x80', 36" sand, 18" above avg. grade.

#4: strip 6" material, 526 lf, 56'x80', 12" above avg. grade, 30" sand.

#5: strip 14" material, 526 lf, 56'x80', 12" above avg. grade, 30" sand.

BORING	1ft	2ft	3ft	4ft	SWT
#1	30" clay loam @ surface	fill	6" S.C.L.	brown clay @ gravel packed	12"
#2	4" clay loam	brown/gray clay			12"
#3	6" loam	brown clay			12"
#4	6" loam	2" sand 12" loam	6" S. loam	12" S.C.L. brown clay	18"

TILE INVERT: BENCHMARK:

BEDROOMS: SEPTIC TANK SIZE(S): GALLONS PUMP: ( ) YES ( ) NO; FILTER: RECOMMEND ( ) REQUIRED ( )

LINEAL FT TRENCH FIELD (___ LINES @ ___FT); SQUARE FT SOLID BED (___ X___ AREA, ___ LINES @ ___FT)

INCHES OF SAND IN A ___FT. BY ___FT. AREA, THEN SLOPED AT A 4:1 RATIO

The number of outliers per sanitarian and corresponding percentage was Scott (5, 25%), Lowell (4, 20%), and Mike (6, 30%). Overall, 15 (25%) out of a potential 60 results were considered outlying. The outliers further break down as follows: Scott (2 high, 3 low), Lowell (2 high, 2 low), and Mike (4 high, 2 low).

SOIL BORING #4

	SCOTT	LOWELL	MIKE
SOIL	6” loam topsoil 3” loamy sand 12” loam 8” sandy loam 10” sandy clay loam clay to 5 feet	6” sandy loam topsoil 4” loamy sand 12” sandy loam 12” sandy clay loam clay to 5 feet	6” loamy topsoil 2” loamy sand 12” loam 6” sandy loam 12” sandy clay loam clay to 5 feet
SWT	18” below	18” below	18” below
SIZE	510 lineal feet	510 lineal feet	526 lineal feet
SANDFILL	30”	30”	30”
INVERT	12” above	12” above	12” above


Thank you!
Questions?
Lowell Cameron, REHS
ST. CLAIR COUNTY
HEALTH DEPARTMENT
Our Community. Our Environment.

Emily VanBrandt
Lenawee County Health Department

The importance of training and development in the workplace

- Expand knowledge
- Improved employee performance and satisfaction
- Addressing deficiencies
- Adding consistency
- Increased productivity with quality standards
- Increased innovation in new techniques
- Enhances the department
- The importance of training for both new and experienced, really cannot be overemphasized.

We can all learn from one another!!

Any thoughts on what additionally should be offered to help with training?

Michigan Department of Environmental Quality

800-662-9278

www.michigan.gov/deqonsitewastewater

Sign up for email updates

Follow us on Twitter @MichiganDEQ