
SSTS PROGRAM

MACPZA ANNUAL CONFERENCE

OCTOBER 11, 2018



SSTS PROGRAM – PROTECTING HUMAN HEALTH AND THE ENVIRONMENT

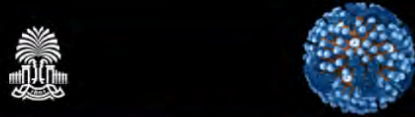
HEALTH CONSEQUENCES OF FAILING SEPTIC SYSTEMS

- **Bacteria**
 - Include typhoid, dysentery, gastroenteritis
 - Most infect stomach and intestinal tract causing:
 - Diarrhea, abdominal cramps, fever, nausea, diarrhea and vomiting
 - Hours to several days after ingestion
- **Viruses**
 - Can't multiply outside of host but enough survive to cause:
 - Hepatitis A, polio and viral gastroenteritis (>100 different types in raw sewage)
- **Parasites** (eggs can be ingested)
 - Causes mild to severe diarrhea (tapeworms and roundworms most common)



Children & elderly most affected since diseases causes severe dehydration

SSTS PROGRAM – PROTECTING HUMAN HEALTH AND THE ENVIRONMENT




Microbiology and Immunology
On-line
University of South Carolina School of Medicine

Good afternoon Today is Tuesday, September 25, 2018

Poliovirus Infections in Four Unvaccinated Children --- Minnesota, August--October 2005

On September 29, 2005, the Minnesota Department of Health (MDH) identified poliovirus type 1 in an immunocompromised infant girl aged 7 months (the index patient) in an Amish community whose members unvaccinated for polio. The patient has no paralysis; the source of the patient's infection is unknown. Five infections in three other children within the index patient's community have been documented. This ongoing investigation, provides information regarding poliovirus exposure risks and prevention measures and offers recommendations to state health departments and clinicians.

CDC Home Search Health Topics A-Z

MMWR

Dispatch

October 14, 2005 / 54(Dispatch);1-3

Persons using assistive technology might not be able to fully access information in this file. For assistance, please send e-mail to: mmwrq@cdc.gov. Type 508 Accommodation and the title of the report in the subject line of e-mail.

Poliovirus Infections in Four Unvaccinated Children --- Minnesota, August--October 2005

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[washingtonpost.com](http://www.washingtonpost.com) > Health

Polio Outbreak Occurs Among Amish Families In Minnesota

Advertisement
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By David Brown
Washington Post Staff Writer
Friday, October 14, 2005

TOOLBOX

Resize Print
E-mail Reprints

The first outbreak of polio in the United States in 26 years occurred earlier this fall in an Amish community in central Minnesota, state and federal health officials reported yesterday.

Four children have been infected with the virus, although none has become paralyzed. The Amish typically decline to vaccinate their children. The last large outbreak of polio occurred in numerous Amish communities in several states in 1979.

The outbreak poses little threat to children outside the Amish community. About 98 percent of Minnesota's children are vaccinated against polio, said Harry Hull, the state epidemiologist.

SSTS PROGRAM – PROTECTING HUMAN HEALTH AND THE ENVIRONMENT

LOCAL

Minnesota Health Department, campground owner spar over disease outbreak that made 72 sick

Minnesota officials say the intestinal infection has sickened 72 campers; facility's owner challenges their science.

By Glenn Howatt Star Tribune | AUGUST 11, 2018 — 8:47AM

A waterborne-disease outbreak at a campground near Zumbrota has sickened 72 people, making it one of the largest in the state in recent years, the Minnesota Department of Health said Friday.

The Shades of Sherwood Campground has taken steps recommended by the agency, including hyperchlorinating its swimming pool, closing a nearby man-made pond and posting signs that warn anyone with diarrhea to refrain from swimming.

"We believe that the steps that have been taken at this time would limit ongoing risk," said Trisha Robinson, supervisor of the waterborne diseases unit at the Department of Health.

At the same time, campground owner Mike Thoreson challenged the state's account of the outbreak, saying most of the cases have not been confirmed by laboratory tests and that the agency hasn't tested his pool or pond.

Thoreson said the health of his customers is paramount, but said the state has used a heavy hand in its public notices that is hurting his business.



m DEPARTMENT OF HEALTH

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News Release

August 10, 2018

[Contact information](#)

MDH working with Zumbrota campground to reduce risks as outbreak response continues

The investigation into illnesses caused by *Cryptosporidium* and Shiga toxin-producing *E. coli* (STEC) continues, and Minnesota Department of Health (MDH) disease investigators continue working with the Shades of Sherwood Campground owner in Zumbrota to better determine ongoing risks and to take steps to limit those risks.

Following up on information received from the public, MDH has identified at least 72 people who are part of a waterborne illness outbreak associated with the campground.

In an effort to prevent additional illnesses, the owner has taken several steps at the recommendation of health officials:

- The swimming pool was temporarily closed and hyper-chlorinated to kill any existing *Cryptosporidium*. The pool has since reopened.
- The campground posted signs at the pool warning visitors to not swim for two weeks if they have been ill with diarrhea.
- The campground closed the man-made water pond (referred to as a water park) to swimming. The pond is constructed in such a way that it cannot be effectively treated to remove *Cryptosporidium* or other pathogens.

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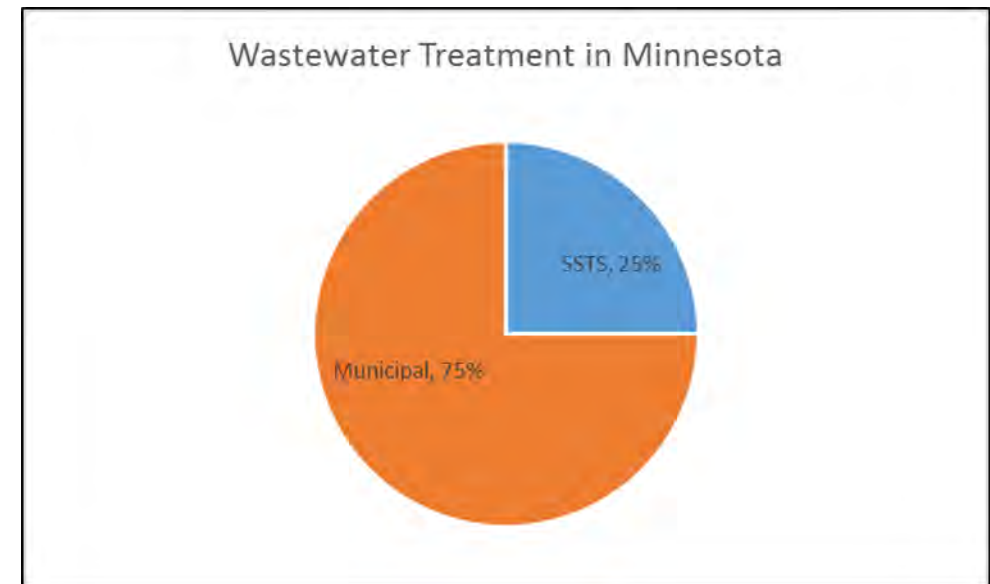
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SSTS PROGRAM – PROTECTING HUMAN HEALTH AND THE ENVIRONMENT



- 537,354 SSTS reported by LGUs in 2017
 - ~25% of the wastewater in MN
- Minn. Statue 115.55
- Partner with Counties, Cities, and Townships



SSTS PROGRAM – PROTECTING HUMAN HEALTH AND THE ENVIRONMENT

- 211 LGU submitted Annual Report
- 537,000 SSTS Reported
 - 36 billion gallons/yr.
- 15,250 Existing Systems Inspected
- 10,906 Construction Permits Issued
 - 6,197 were replacements
- 158 connected to a centralized sewer
- 497 abandoned or removed



SSTS PROGRAM – PROTECTING HUMAN HEALTH AND THE ENVIRONMENT

Wastewater

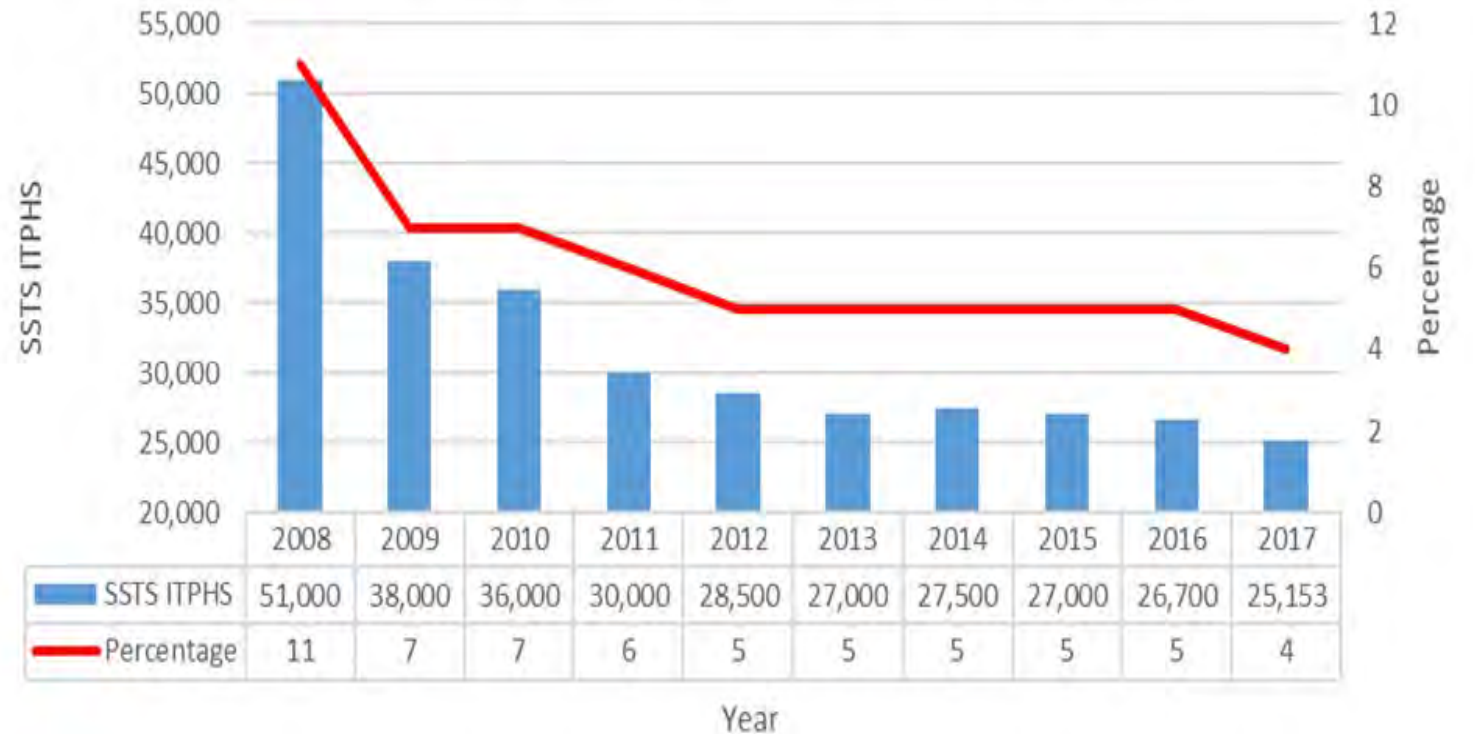
April 2018

2017 SSTS Annual Report

Subsurface Sewage Treatment Systems in Minnesota



Imminent Threat to Public Health and Safety 2017

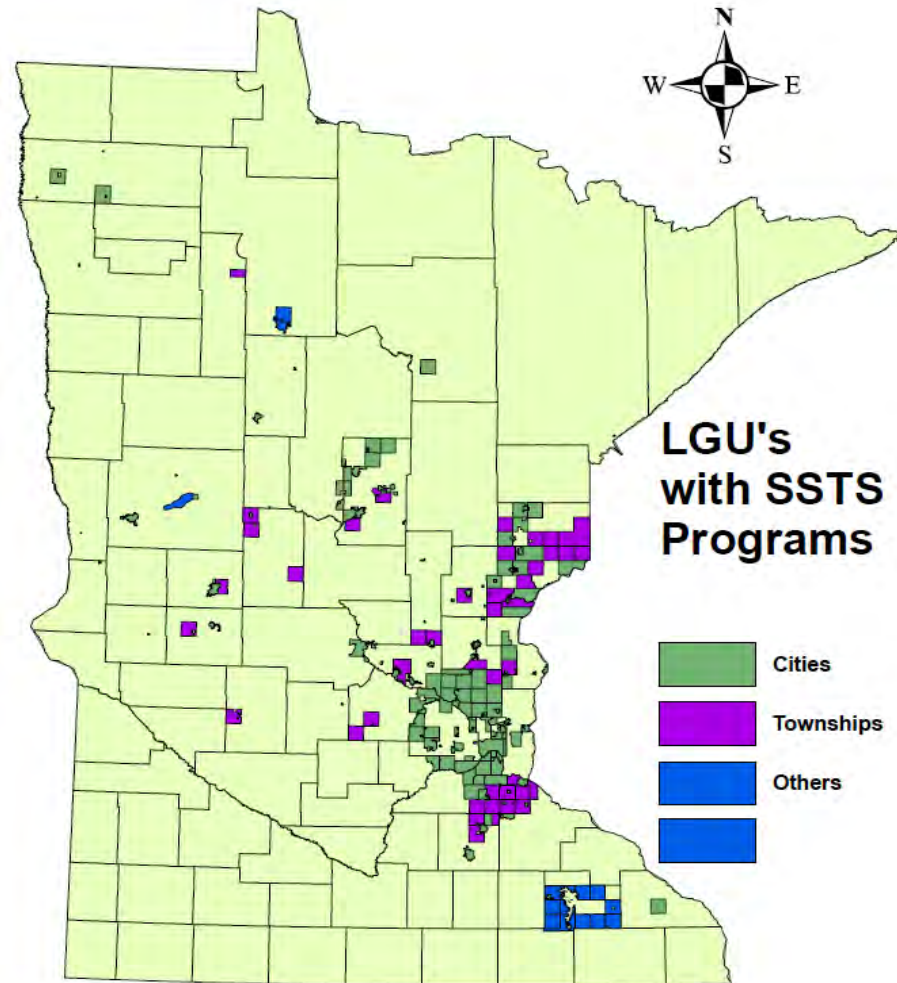


LOCAL PROGRAM ASSESSMENTS

2017 SSTS annual reporting rate from 218 LGUs.

	County	City	Twp.	Other	Total
■ LGUs Contacted	86	85	43	4	218
■ LGUs Reported	86	83	39	3	211
■ LGUs Not reporting	0	2	4	1	7

LOCAL PROGRAM ASSESSMENTS



LOCAL PROGRAM ASSESSMENTS

Goal: Protecting Human Health & Environment

- Provide assistance to local governmental units (LGUs) in administering and implementing effective SSTS programs statewide
- Focusing on 13 Cities and Townships who say they are administering the program and prioritizing those without a current ordinance or no annual report submittal

LOCAL PROGRAM ASSESSMENTS

Four parts of the Questionnaire

1. Do you have an up to date ordinance?
2. Do you submit an annual report?
3. Do you have enforcement capability?
4. Do you have a permitting/inspection program?

LOCAL PROGRAM ASSESSMENTS

Assessment Prerequisite

Submit the following at least two weeks prior to the scheduled date of assessment

- A full copy of your most recent ordinance
- One sample SSTS construction permit with all relating documentation (permit application, site evaluation report, design report, inspection report, any local addendums, etc.)
- Questionnaire completed in full

LOCAL PROGRAM ASSESSMENTS

- Developed a questionnaire to facilitate these assessments
- SSTS Local Program Requirements Questionnaire (wq-wwists2-5 I)
- Transparent & Consistency



m MINNESOTA POLLUTION CONTROL AGENCY

SSTS Local Program Requirements Questionnaire

Subsurface Sewage Treatment System (SSTS) Program

Doc Type: Questionnaire

Purpose: The Minnesota Pollution Control Agency (MPCA) seeks to provide assistance to local governmental units (LGUs) in administering and implementing effective SSTS programs statewide. Recognizing our partnership and common goal of well-functioning SSTS programs, we intend to conduct LGU assessments around the state to work through various program elements necessary to be successful. This questionnaire shall serve as a guide to facilitate these assessments while being transparent in communicating local outcomes and agency expectations. Please note the outcome of an LGU assessment is not for punitive action, rather to initiate a foundation for local SSTS programs to achieve success while meeting minimum rule requirements.

Assessment Instructions: Please prepare and submit the following materials to the MPCA staff member conducting your assessment at least two weeks prior to the scheduled date of assessment:

- ✓ A full copy of your most recent ordinance
- ✓ One sample SSTS construction permit with all relating documentation (permit application, site evaluation report, design report, inspection report, any local addendums, etc.)
- This questionnaire, completed in full

All items found on this questionnaire are derived from minimum mandatory requirements in Minn. R. Ch. 7082. The primary purpose for obtaining these answers is for the agency to identify how we can best provide assistance. Therefore, please do your best to provide accurate responses to each question. The questionnaire is broken down into categories reflecting the four critical elements needed for LGUs to have an SSTS program: ordinance requirements, enforceability, annual reporting, and permitting. Underneath each question identifies the method used by the MPCA to evaluate LGU performance, along with a short justification outlining the need and reasonableness of each rule requirement. Please provide specific answers in the blanks provided for the questions that ask for them. For each "no" response, please include a brief plan of action indicating steps that need to be taken in order to satisfy that requirement. For this reason, this questionnaire is recommended to be completed and filled out electronically. Space is provided at the the end of this questionnaire for additional comments.

If you have any questions on the use of this form, or about LGU assessments in general, please contact your regionally assigned SSTS Compliance and Enforcement (C&E) staff member. For help finding your assigned C&E contact, use the [SSTS Field Staff Map](#) (found on the MPCA website at <https://www.pca.state.mn.us/water/ssts-staff>)

***If you answer "No" to any of the following questions, please provide a plan of action to facilitate further discussion.**

Ordinance Requirements - Do you have an ordinance? Yes No

	Yes	No
1 Counties only: Have you adopted an ordinance meeting the requirements of 7080-7082 that applies to all land area within the county not covered under a city or township program? (Minn. R. 7082.0040, subp. 2A) <small>Agency operation without C&E will continue until a plan of action is submitted to correct issues of ordinance not being approved by MPCA, or terms that were first passed have already expired and have not been replaced or changed over latest compliance deadline. If No, follow up in 3 months.</small>	<input type="checkbox"/>	<input type="checkbox"/>

LOCAL PROGRAM ASSESSMENTS

Assessments Completed or in Process

	<u>2017</u>	<u>2018</u> <small>(9/12/18)</small>
Counties	9	3
Cities	1	15
Townships	<u>4</u>	<u>5</u>
Total	14	23

LOCAL PROGRAM ASSESSMENTS

Challenges from the City & Twp Assessments

- Scheduling
- Undertrained staff
- Effectively managing & implementing all requirements
- Enforcing their ordinance
- Verifying soils - lots of opportunities for improvement
- Will require a lot of follow-up

LOCAL PROGRAM ASSESSMENTS

Benefits of the Assessments

- Level playing field
- City & Twp ordinances now comply with County's Ordinances
- Building Relationships
- LGU's learning how to better their programs
- Receptive to making a better program
- More complete permit files
- Protection of Human Health and the Environment

LOCAL PROGRAM ASSESSMENTS

Changes in number of Local Governmental Units (LGU) saying they administer the SSTS program

<u>Date</u>	<u>Number of LGU</u>
2015	236
2016	222
2017	218



SSTS CERTIFICATION PROGRAM

SSTS JOB ANALYSIS – NEED TO KNOW PROCESS

“Align the job tasks, curriculum priorities, and exam competencies that warrant certification for environmental professionals.”

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

SSTS Intermediate Designer and Inspector Task Analysis
Subsurface Sewage Treatment System (SSTS) Program
Doc Type: Task Analysis

Intermediate Designer & Inspector Task Analysis	
I.	Become Certified as an Intermediate Designer and/or Inspector
I.A.	Complete Training
I.B.	Pass Certification Exam
I.C.	Apply for Certification
I.D.	Complete Continuing Education
II.	Obtain Intermediate Design and/or Inspector Business License
III.	Complete Preliminary Site Evaluation
III.A.	Communicate with Client about Desires/Preferences
III.B.	Contact Local Unit of Government
III.B.1.	Obtain legal description of property, including Township, Range, and Section
III.B.2.	Determine property lines, easements, and proposed or existing improvements
III.B.3.	Determine location and status of proposed or existing water supply wells and pipes in vicinity
III.B.4.	Determine ordinary high water level and/or floodplain designation
III.C.	Determine Dwelling or Group of Dwellings Flow \leq 2,500 gpd
III.D.	Determine Flow for Other Establishment \leq 2,500 gpd
III.E.	Determine Anticipated Effluent Concentrations of BOD, TSS, & FOG
III.E.1.	Assess waste suitability (domestic, non-domestic - suitable for discharge into soil, non-domestic - not suitable for discharge into soil, hazardous)
III.E.2.	Identify challenging waste streams (inhibitors to treatment)
III.E.3.	Determine necessity for source segregation due to waste characteristics
III.F.	Complete Preliminary Site Report
III.F.1.	Determine applicable setbacks
III.F.2.	Document soil characteristics from Web Soil Survey
III.F.3.	Confirm authorization to perform intermediate design/inspection activities
III.G.	Assess Risk Based on Preliminary Site Report
IV.	Complete Field Evaluation
IV.A.	Locate Utilities
IV.B.	Investigate Property
IV.B.1.	Establish lot lines to satisfaction of owner or local unit of government
IV.B.2.	Identify improvements, setbacks, & easements
IV.B.3.	Investigate site for initial and replacement sites
IV.C.	Identify Surface Features and Soils Characteristics for Initial and Replacement Sites
IV.C.1.	Describe slope, vegetation, disturbed or compacted soils, run-on potential, & geomorphic characteristics
IV.C.2.	Complete correct number of soil observations in correct locations to determine soil characteristics
IV.C.3.	Follow acceptable soil observation methods to determine soil characteristics

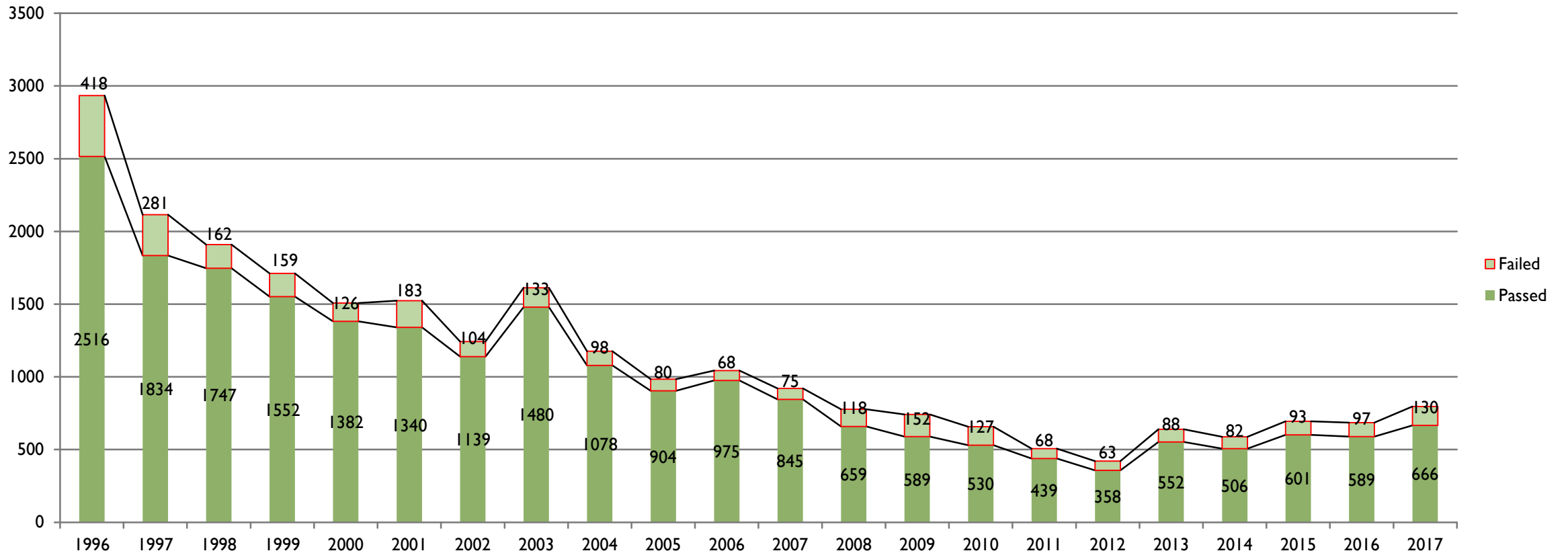
CERTIFICATION EXAMS

- Updated exams are the culmination of NTK efforts
- Every exam question has been piloted and approved by a committee of qualified individuals
- We seek comments at each exam event
- We review comments after each exam event
- We review results for inconsistencies and correct for cohort performance when $< 20\%$ answer correctly



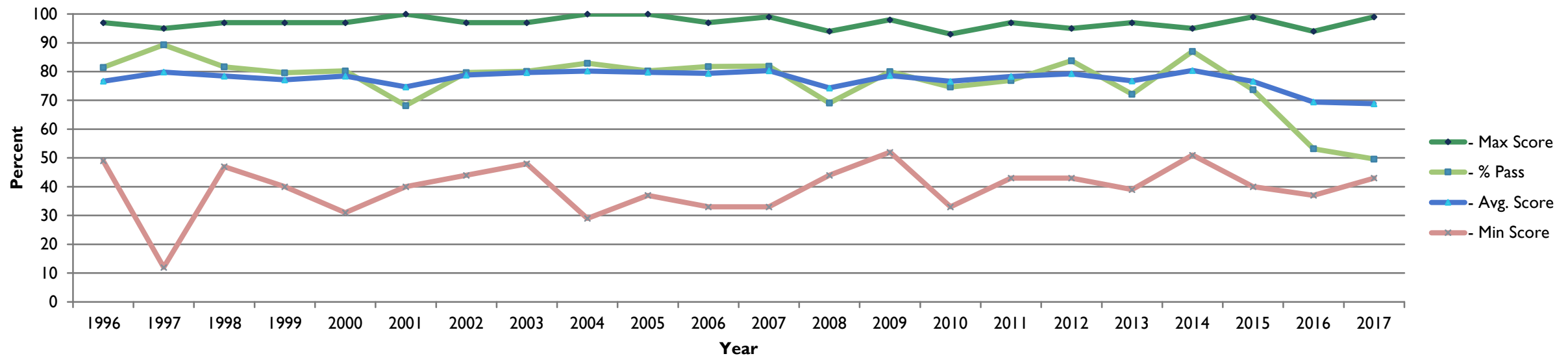
SSTS EXAM COUNT AND PASSING RATES

**SSTS Certification Exams
1996 - 2017**



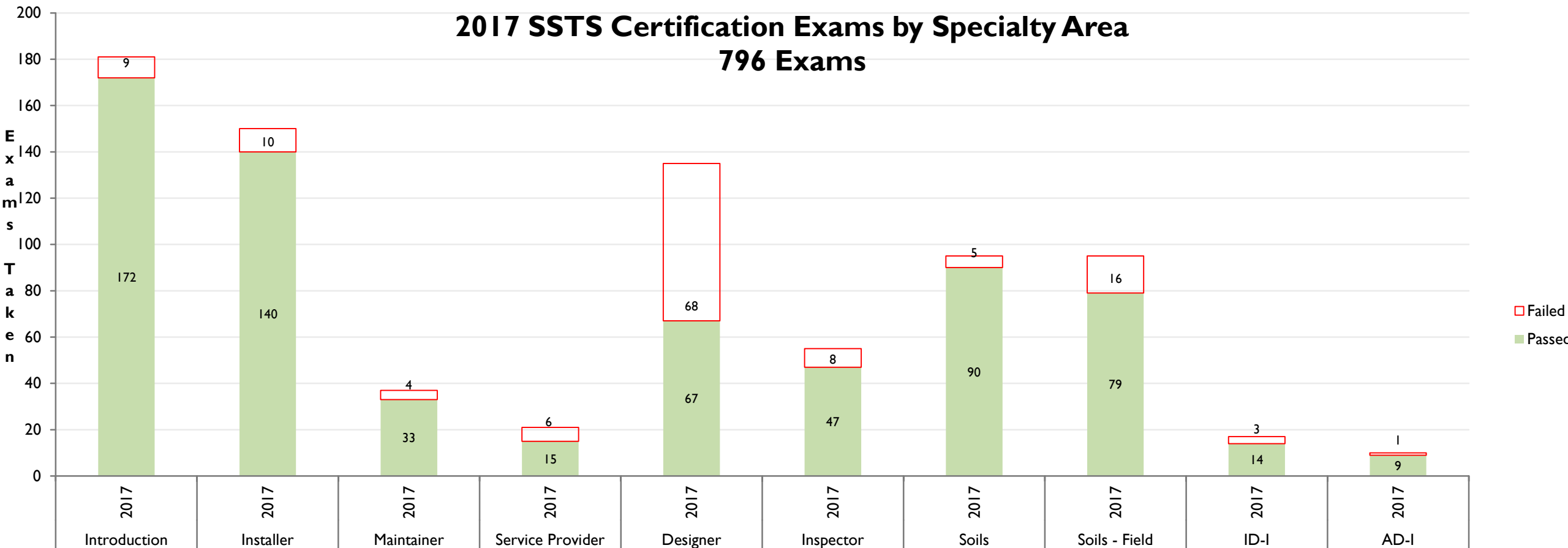
DESIGN EXAM OVER TIME

Designing Onsite Systems
Exam Max, Min, Average, and % Pass



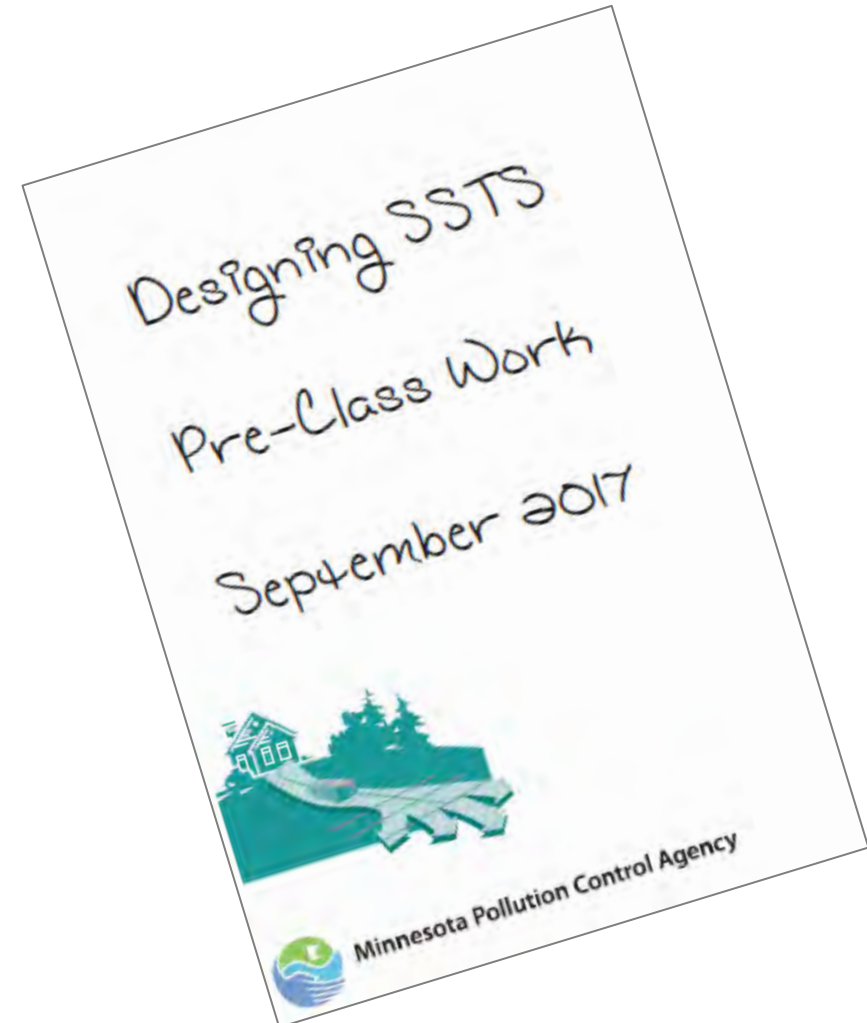
2017 SSTS SPECIALTY AREA EXAMS

2017 SSTS Certification Exams by Specialty Area
796 Exams



EXTRAORDINARY EFFORTS

- Short-course developed
- U of M and MPCA collaboration
- Customized exam analysis and tutoring
- Exam adjustments

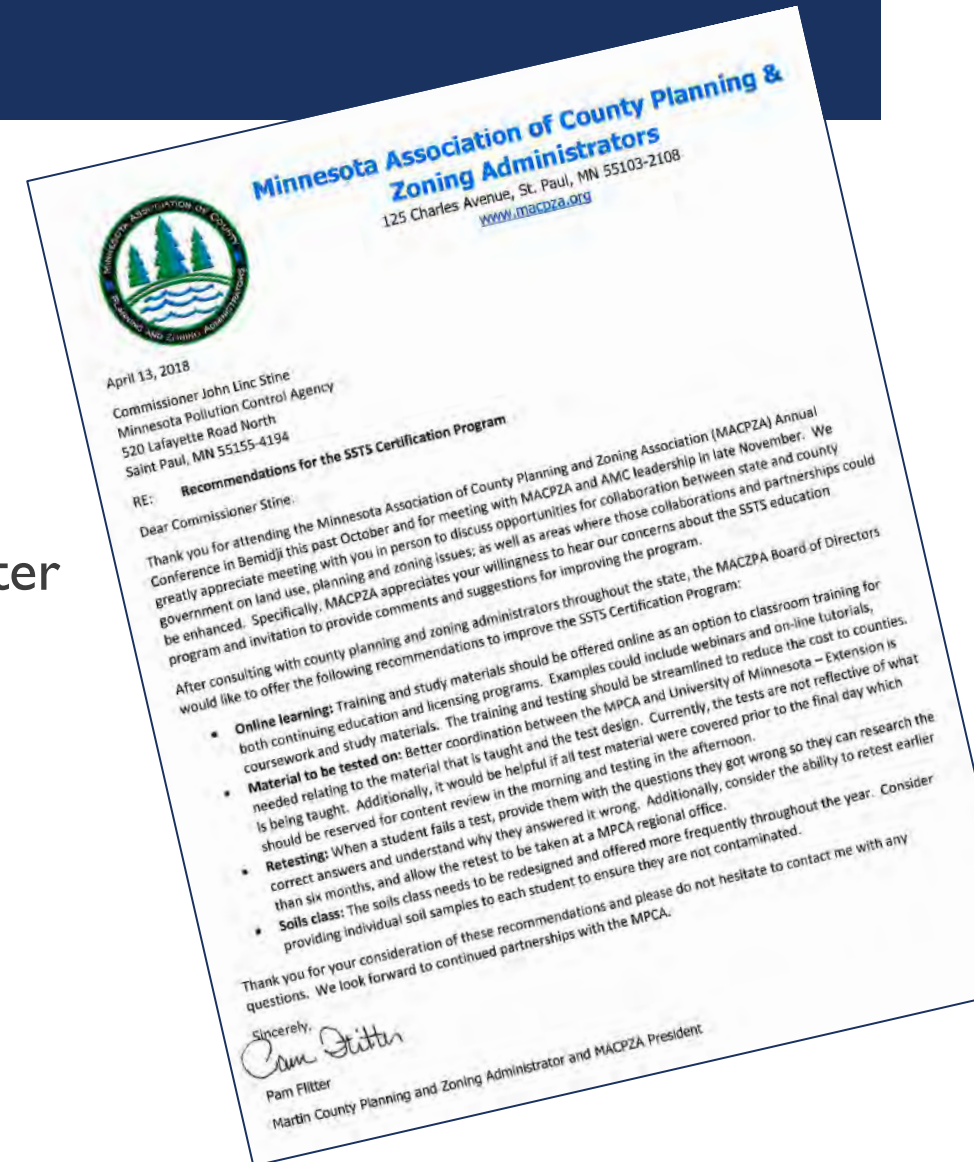


NEW EXAM FEEDBACK

- “Exam questions on the Design Exam Retake were much more consistent with the criteria reviewed in class”
- “Having the test shortened to 60 questions helped tremendously”

MACPZA INPUT

- Online learning
 - Goal – blended learning and accreditable content
- Training and exam content
 - Goal – continued adjustments, including a revised, shorter Design exam in August, 2018; customized tutoring
- Retesting
 - Goal – explore six-month restriction in rule; continue supporting learners
- Soils Class
 - Goal – learn more about MACPZA’s concerns



QUESTIONS

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**MINNESOTA POLLUTION
CONTROL AGENCY**