

# Processes and Procedures for Reviewing/Approving Septic System Designs

Claire A. Golden, MassDEP

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# DISCLAIMERS:

- Any proprietary technology mentioned in this presentation is used purely as an example and its inclusion does not constitute a comment on or endorsement of the technology by the presenter or MassDEP.
- This presentation is intended to be general in scope but may, at time, refer back to 310 CMR 15.000, Title 5 of the Massachusetts State Environmental Code.
- Many municipalities in Massachusetts have regulations that are more restrictive than the appropriate State Code.

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What?

Who?

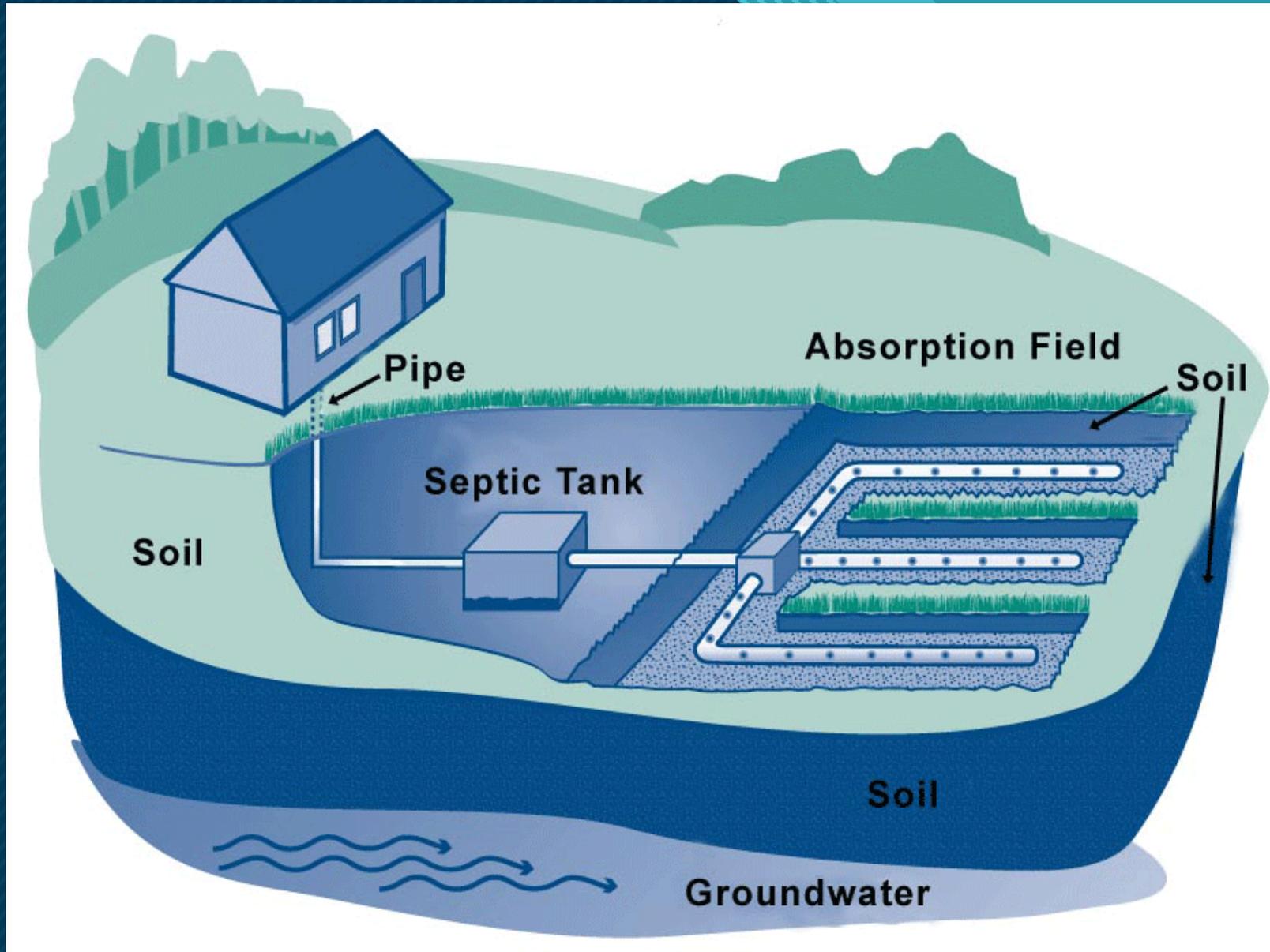
Why?

When?

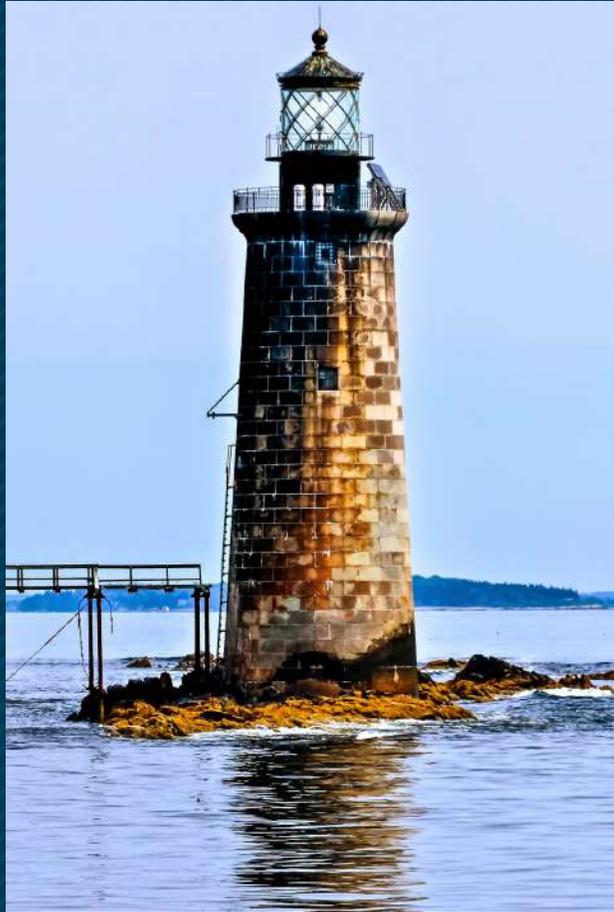
How?

# What?

Exactly what are we talking about?







# Who?

Who benefits from a system?

# Processes and Procedures Benefit:

- Health Department staff
- Board of Health members
- Consultants to the Dept/BOH
- Designers
- Installers
- Property owners/public



# Why?

Why do we need a system?

# Things that Work Against You In-House:

## Multiple areas of expertise

- Food
- Housing
- Septic
- Public health/nursing

## Multiple reviewers

- BOH staff
- Consultants
- Town engineering staff
- Others (ConCom, Building Dept., etc.)

# Regulations/Policies/Approvals/Guidance:

- Design flow
- Soil testing
- Component standards
- Leaching Area Design
- Alternative technologies
- Tight tanks
- Greywater systems
- Timelines for review

**When?**



As soon as possible or at least as soon as practicable!

# How?

What processes and procedures are needed?

# System Design Plan Basics

- Soil evaluation and perc testing information
- Plan and Profile
- Building sewer
- Grease trap (optional)
- Septic tank
- Pump chamber (before/after septic tank) (optional)
- Distribution box
- Soil absorption system/ leaching area
- Vents
- Inspection port

# Plan and Profile

- Site plan
  - Property lines/ROWs
  - Paved surfaces
  - Buildings/structures
- Profile
  - To scale
  - Elevations
- Designer Stamp: PE or RS (some states require designer licensing)
- Land Surveyor Stamp, if applicable

# System Components 1:

## Building Sewer

- Material
- Slope
- Access (change in direction)

## Septic Tank

- Size
- Compartment(s)
- Inverts
- Material
- Tees/baffles
- Inlet/outlet drop
- Effluent tee filter
- Accessibility

# System Components 2:

## Pump Chamber

- To septic tank
  - Pump type
  - Septic tank sizing/compartments
- To d-box or leaching area
  - Material
  - Storage
  - Alarms
  - Dual pumps?

## Distribution Box

- Material
- Sump size
- Level outlets

## System Components 3 – Leaching Areas or SASs:

- Type
- Loading rate to the SAS (in MA, LTAR)
- Size
- Calculations shown – Are mounding calculations required?
- Reductions taken?
- Adequate depth to groundwater
- Venting
- Inspection port

# Non-conventional System Designs:

- Tight tanks
- Shared systems
- Nitrogen aggregation approvals
- Alternative technologies
  - Secondary treatment units (STUs)
  - Patented sand filters
  - Drip dispersal systems
  - Alternative SASs

# Alternative Technology Considerations:

- Type of state issued approval
- Model of the technology
- Compliance with terms and conditions of approvals
  - For example in MA:
    - Best feasible alternative identification and siting
    - Owner acknowledgement
    - Deed notice



# Checklists

- Conventional septic system
- Especially for the any STU or I/A requirements
- Inclusive of any applicable guidance or policies
- Consistency among reviews/reviewers
- Adaptable for local bylaws

# Checklists - What Now?

- Purpose
  - Useful
  - Provides consistency among reviews/reviewers
- Adaptable for local bylaws
- Several sources:
  - Make your own
  - 310 CMR 15.220, especially 15.220(4)
  - MassDEP
  - Barnstable County Health Department

# Standard Forms

- Statement of deficiency with timelines for response
- Deed notice
  - Bedrooms
  - Alternative technology
- Owner acknowledgement
- Enforceable agreement
  - Municipal counsel
  - Conventional septic system

# Deficiency or Approval Letters

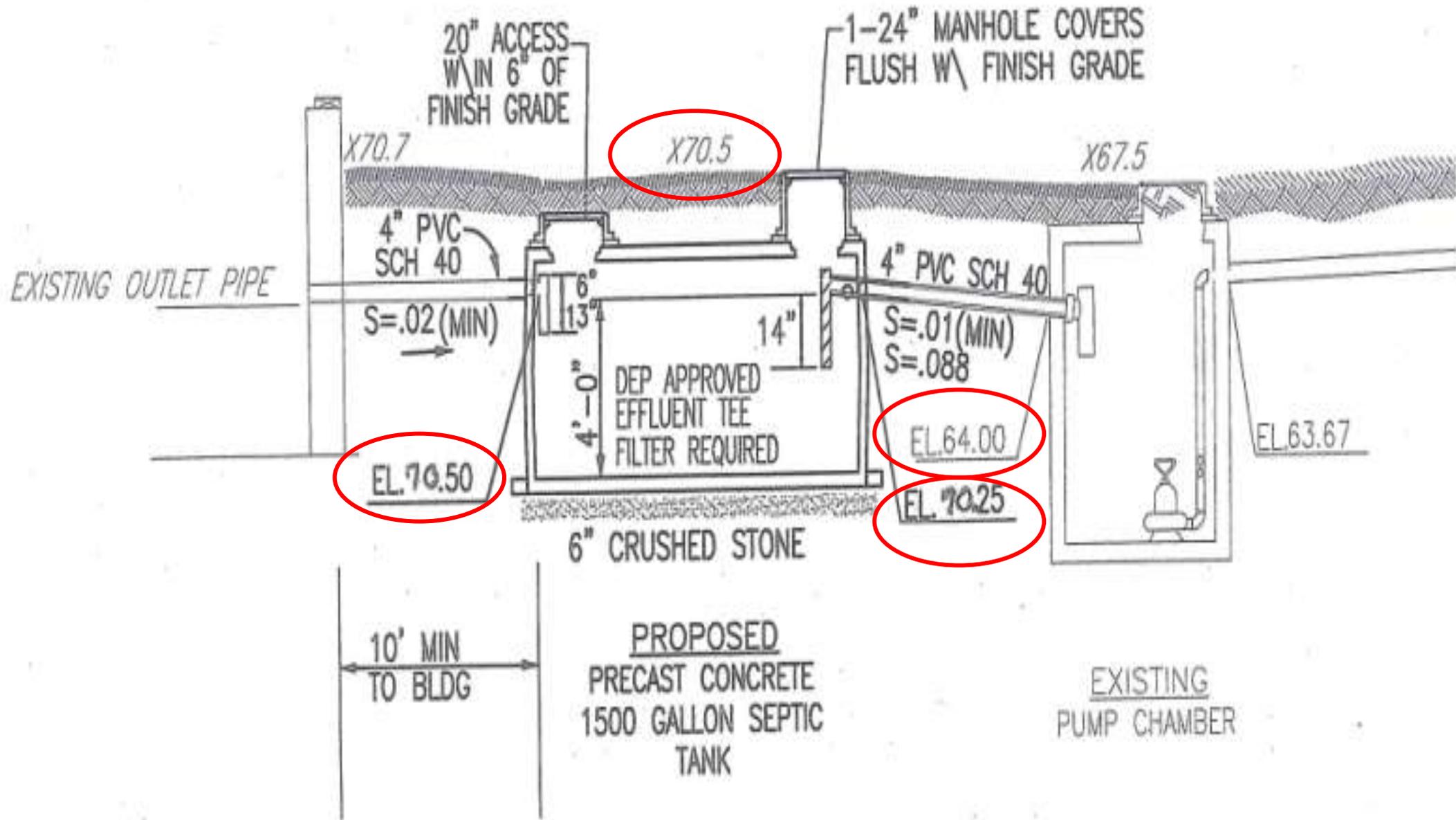
## Deficiency

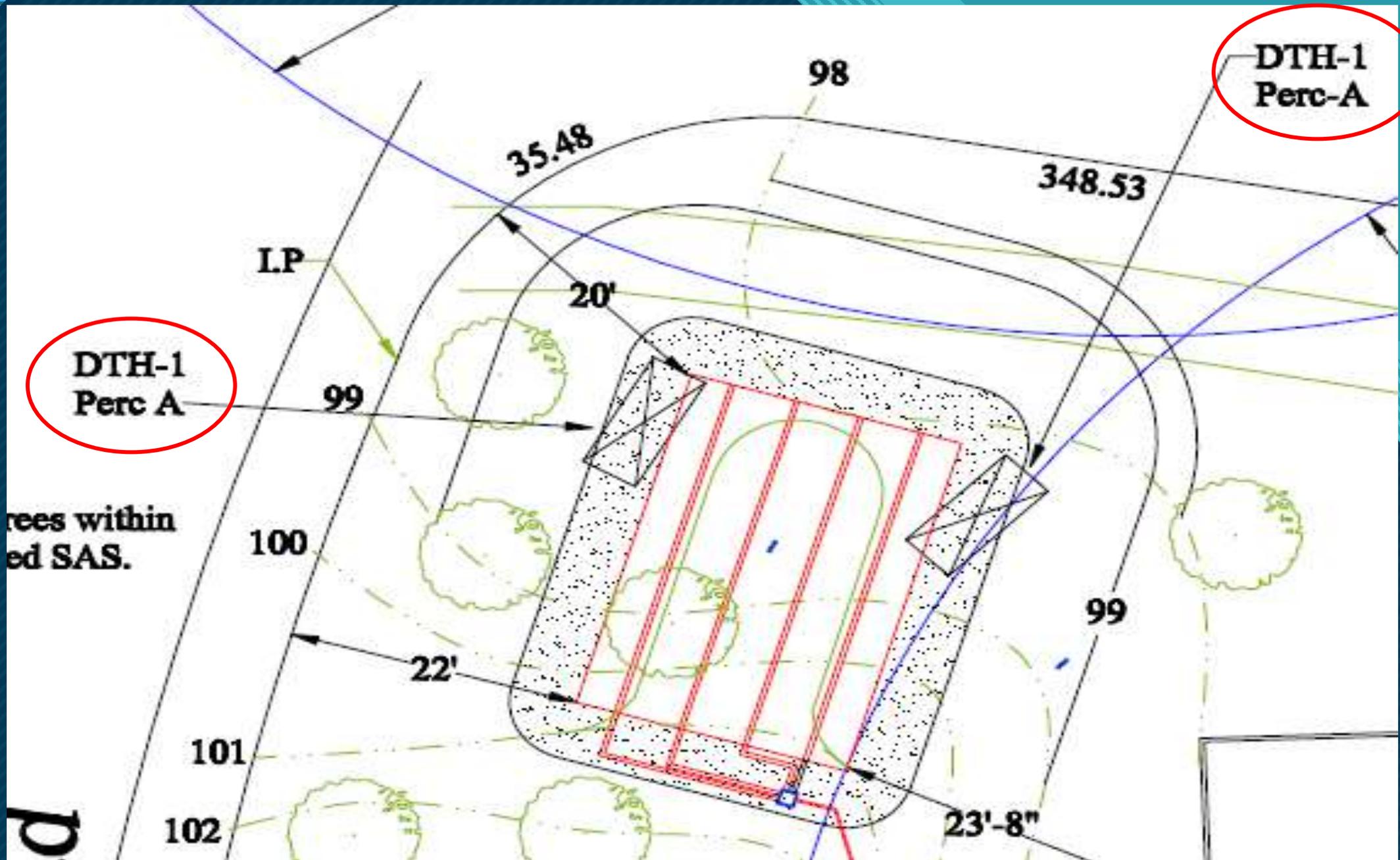
- Date of deficiency
- Date of meeting or hearing
- Plan name, date (revision) and designer
- Deficiencies
  - Listed
  - Detailed
  - Regulatory/policy/guidance citations

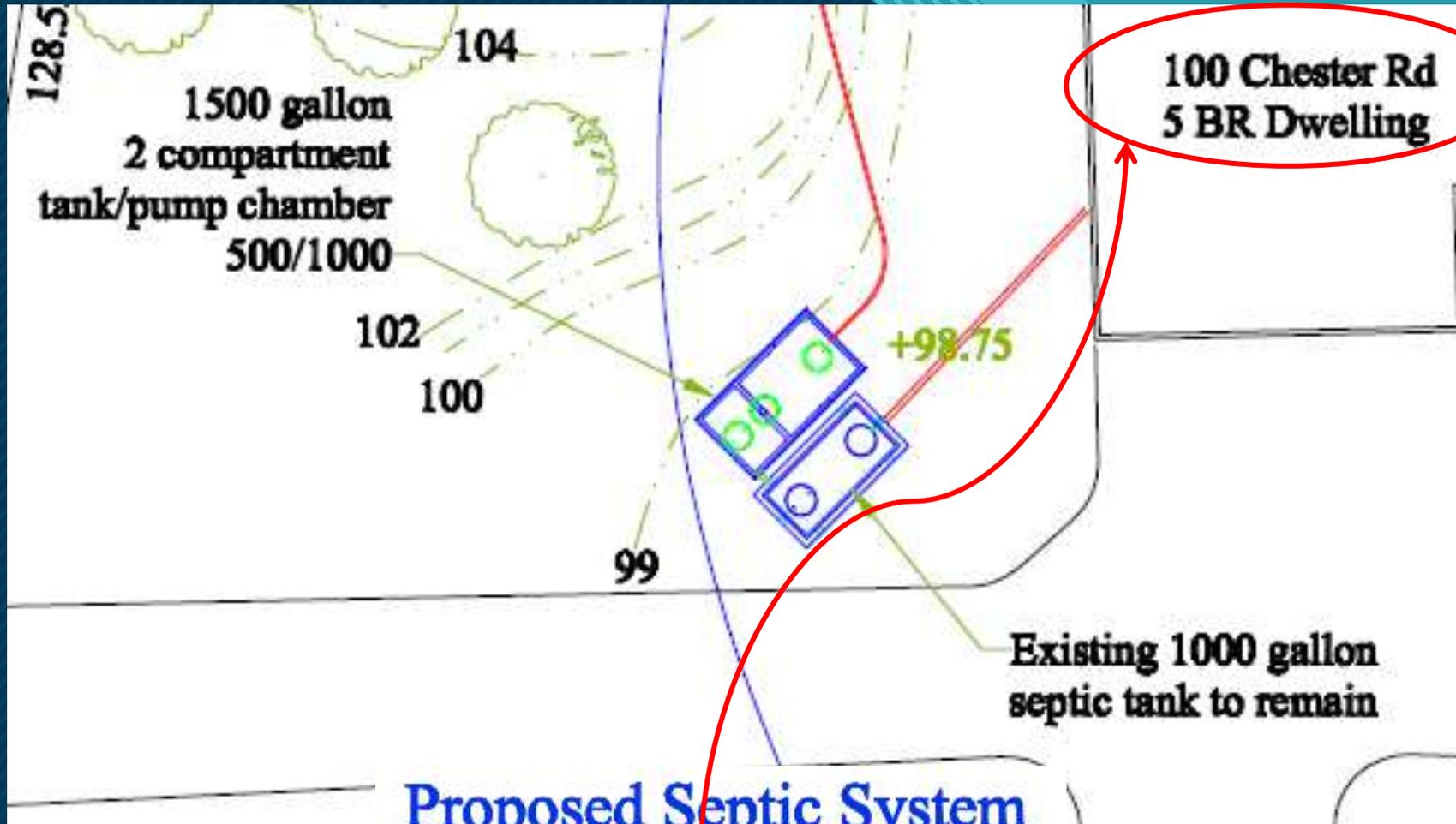
## Approval

- Date of approval
- Date of meeting or hearing
- Plan name, date (revision) and designer
- Special conditions
  - Coordination with BOH agent
  - Flagging of system components
  - Watertight construction testing
  - Others as may be applicable

# A Few Plan Sections







**1 Justa Rd  
Massachusetts**

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Questions?

# MassDEP Regional Contacts

## CERO

- David Boyer                      [david.boyer@mass.gov](mailto:david.boyer@mass.gov)                      508-767-2823

## NERO

- Wastewater Info Line                      978-694-3215
- Claire Golden                      [claire.golden@mass.gov](mailto:claire.golden@mass.gov)                      978-694-3244

## SERO

- Brian Dudley (Cape)                      [brian.dudley@mass.gov](mailto:brian.dudley@mass.gov)                      781-946-2814
- Brett Rowe (SE MA)                      [brett.rowe@mass.gov](mailto:brett.rowe@mass.gov)                      781-946-2754

## WERO

- John Bourcier                      [john.bourcier@mass.gov](mailto:john.bourcier@mass.gov)                      413-755-2112
- Dan Kurpaska                      [daniel.kurpaska@mass.gov](mailto:daniel.kurpaska@mass.gov)                      413-755-2274
- Matt Sokop                      [matthew.sokop@mass.gov](mailto:matthew.sokop@mass.gov)                      413-755-2218

# Connecticut Septic System Contacts

- Advanced or alternative technology;
- Community system; and/or
- Any flows over 7,500 gpd

Michael Hart  
CT DEEP  
860-424-3819  
[michael.hart@ct.gov](mailto:michael.hart@ct.gov)

- Conventional septic systems with flows up to 7,500 gpd

Robert W. Scully, P.E.  
CT DPH  
860-509-7296  
[robert.scully@ct.gov](mailto:robert.scully@ct.gov)

# Rhode Island Septic System Contacts

Jonathan Zwarg

RI DEM

401-222-4700, ext. 7205

[jonathan.zwarg@dem.ri.gov](mailto:jonathan.zwarg@dem.ri.gov)

- Advanced or alternative technology

Brian Lafaille

RI DEM

401-222-4700, ext. 7731

[brian.lafaille@dem.ri.gov](mailto:brian.lafaille@dem.ri.gov)

The background is a solid dark blue. A diagonal line runs from the bottom-left towards the top-right. The area above and to the left of this line is filled with a fine, light blue hatched pattern. The text "Thank you!" is positioned in the lower-right quadrant of the image.

**Thank you!**