

# The Remediation Standard Regulations

Connecticut Department of Energy

and Environmental Protection

and

Environmental Professionals Organization

of Connecticut, Inc.

# **DEEP Disclaimer**

The following presentation was performed by the Remediation Division of the Connecticut Department of Energy and Environmental Protection in March 2023 for the Environmental Professionals of Connecticut (EPOC). The presentation is intended to be an overview of the Remediation Standard Regulation (RSRs), section 22a-133k-1 through 22a-133k-3, and 22a-133q-1 of the Regulations of Connecticut State Agencies, which became effective on January 30, 1996 and revised in June 27, 2013 and February 16, 2021. This overview is designed to answer general questions and provide basic information. You should refer to the appropriate statute or regulation for specific language. It is your responsibility to comply with all applicable laws. The information contained in this presentation is intended only to acquaint you with the Remediation Standard Regulations and does not constitute the Department's interpretation of the applicable laws.

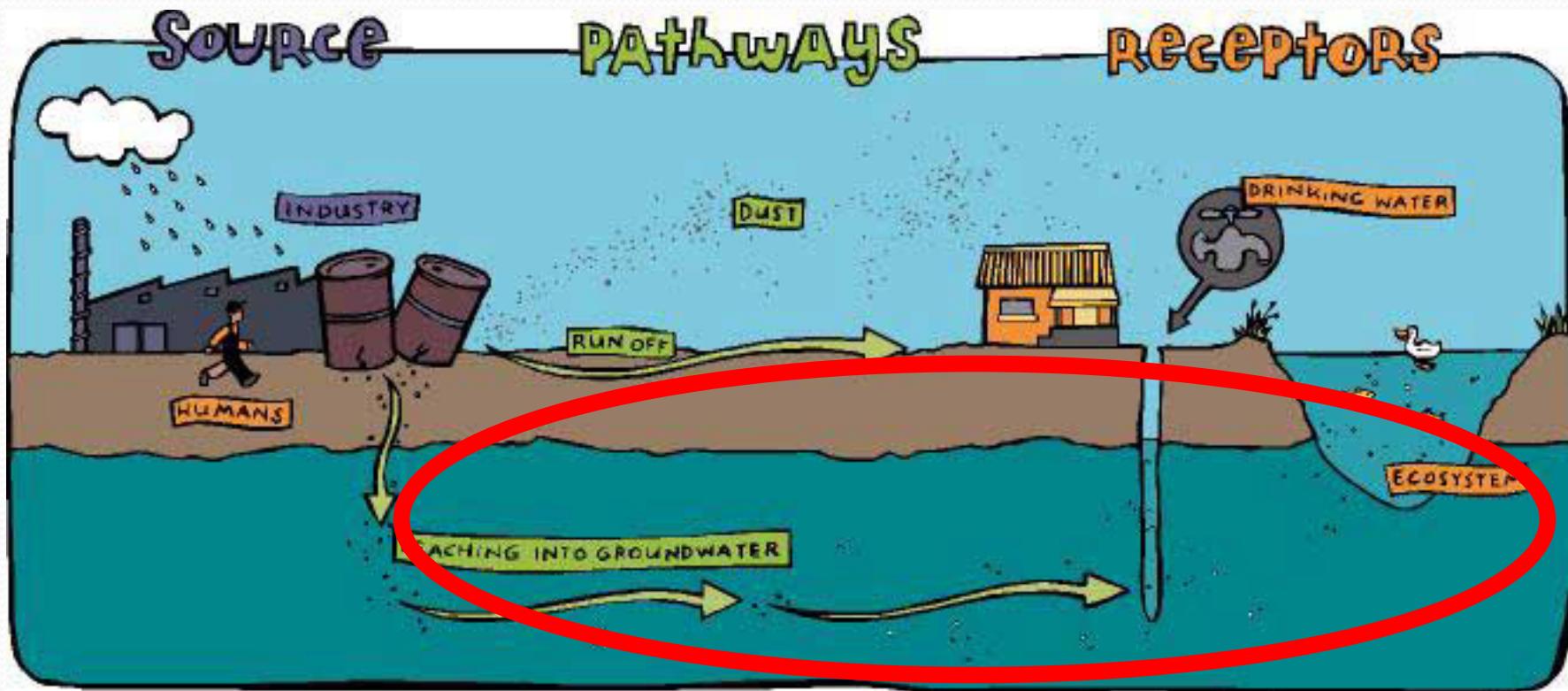
# *Language 101 of the RSRs*

- ◆ “**Notice**” – meant to be made at time of verification
- ◆ “**Commissioner satisfaction**” - language intended to clarify who determines what is satisfactory (in case of a difference of opinion)
- ◆ “**Acceptable to the commissioner**” - no approval needed but will be reviewed at time of verification and could be determined to be unacceptable
- ◆ “**Shall**” - means something required to be met (shall meet Residential DEC within release area)
- ◆ “**May**” - exception or alternative to the “shall” (may instead meet I/C DEC with EUR)

# General Groundwater Criteria Concepts

# Groundwater Remediation Standards

- ◆ Section 22a-133k-3 of the Regulations of Connecticut State Agencies



# Groundwater Remediation

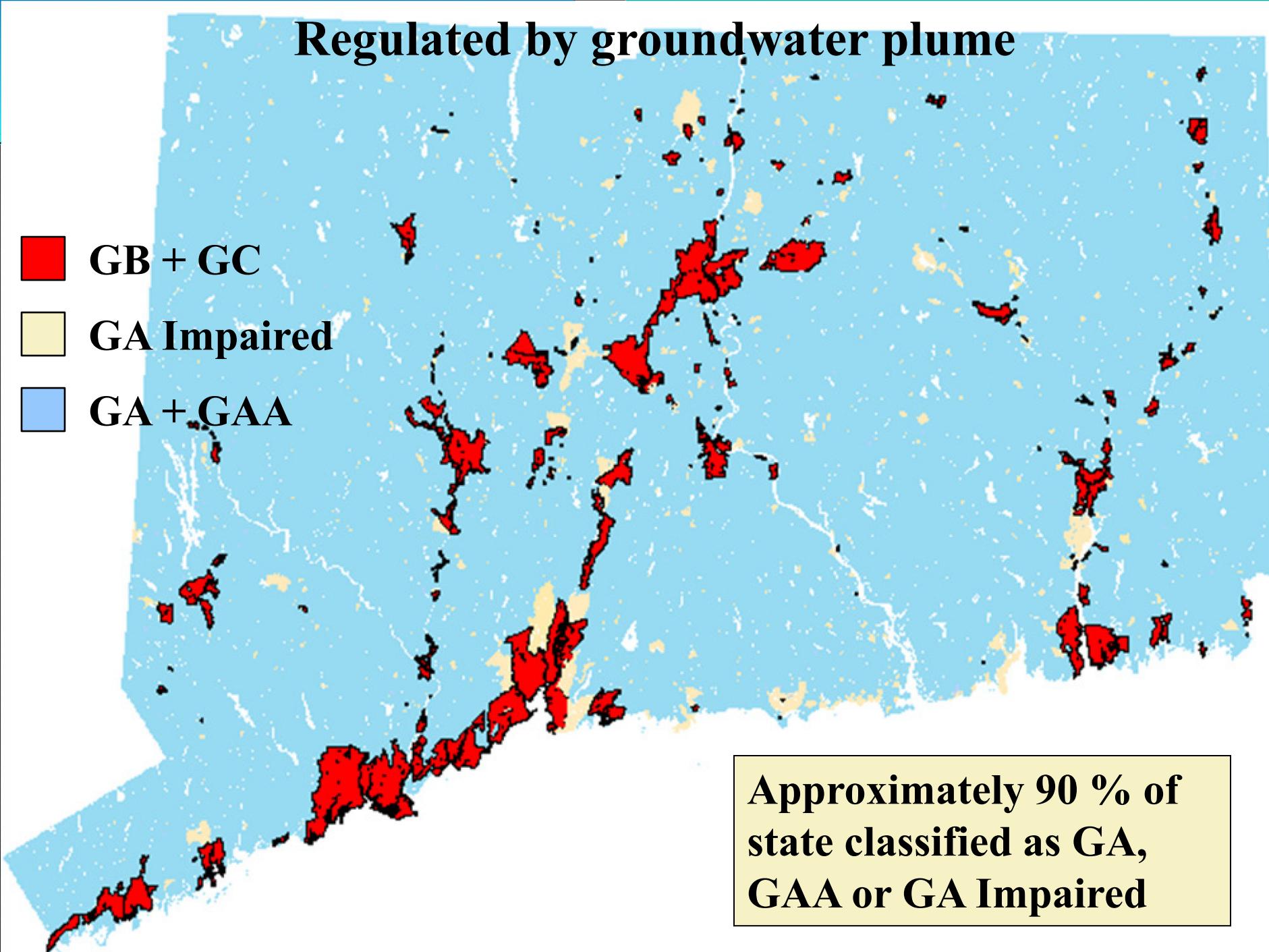
## Standards *Important Concepts*

- ◆ Regulated by groundwater plume
  - ◆ Location of plume



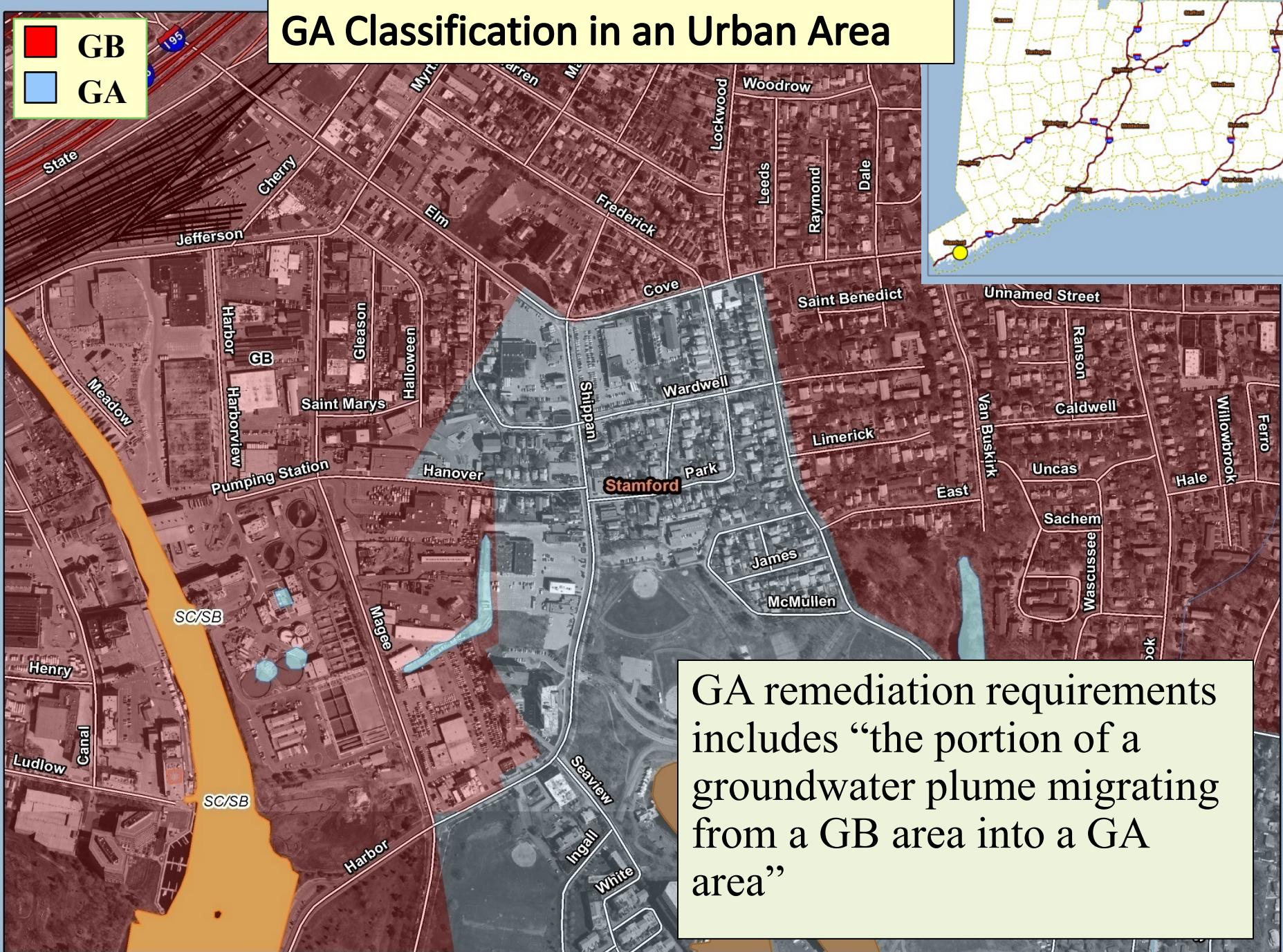
# Regulated by groundwater plume

- GB + GC
- GA Impaired
- GA + GAA

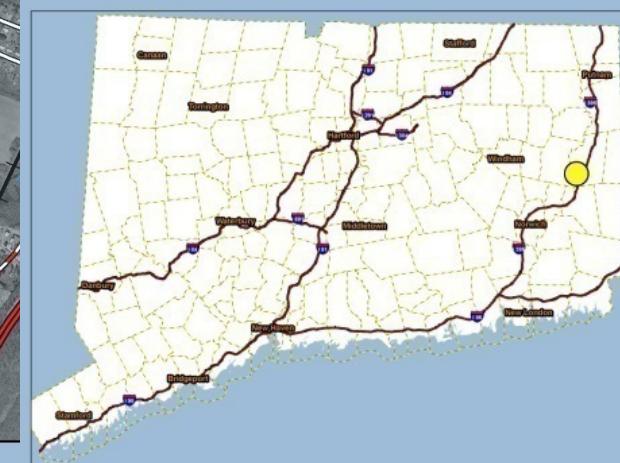
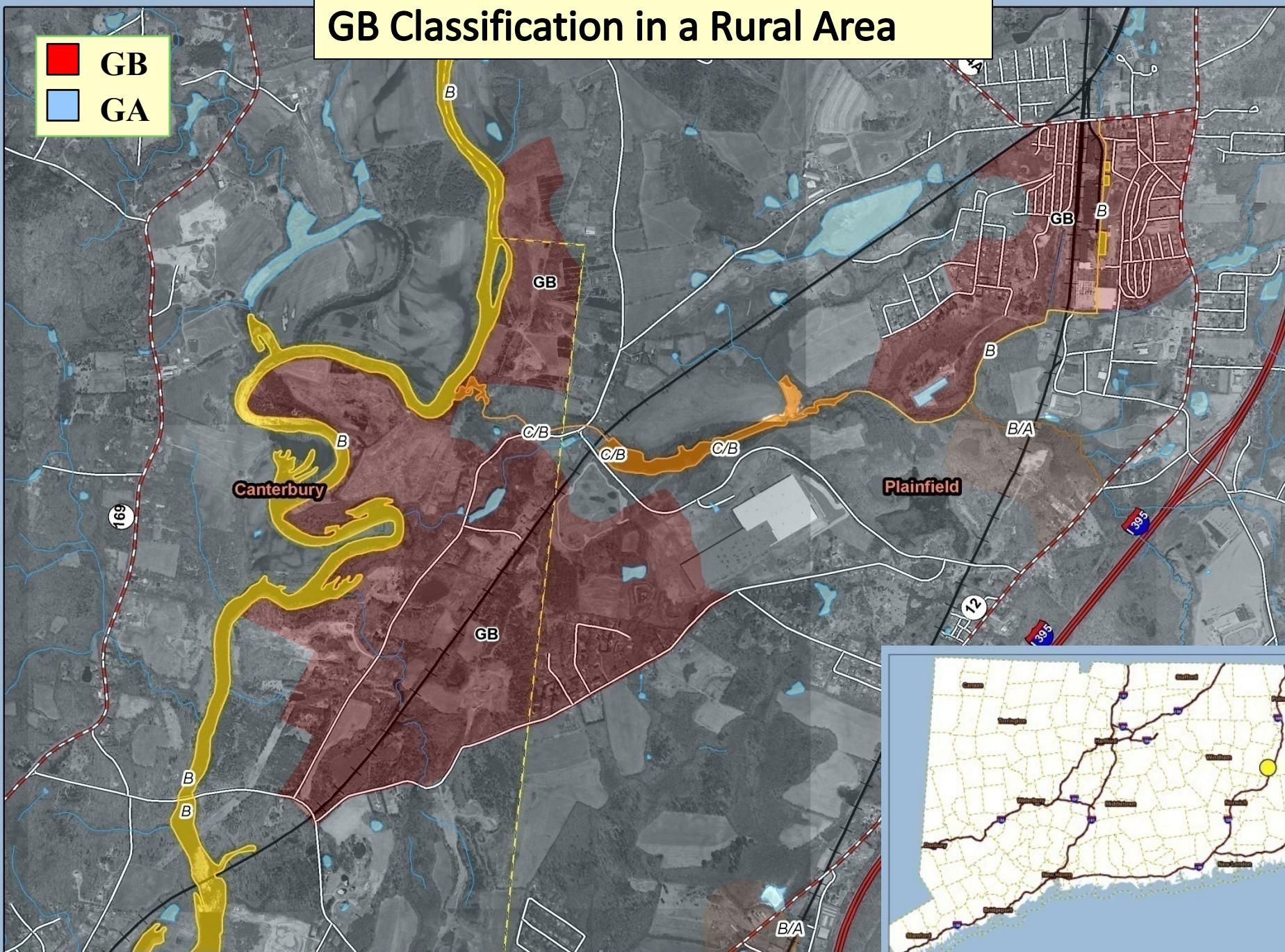


Approximately 90 % of state classified as GA, GAA or GA Impaired

# GA Classification in an Urban Area



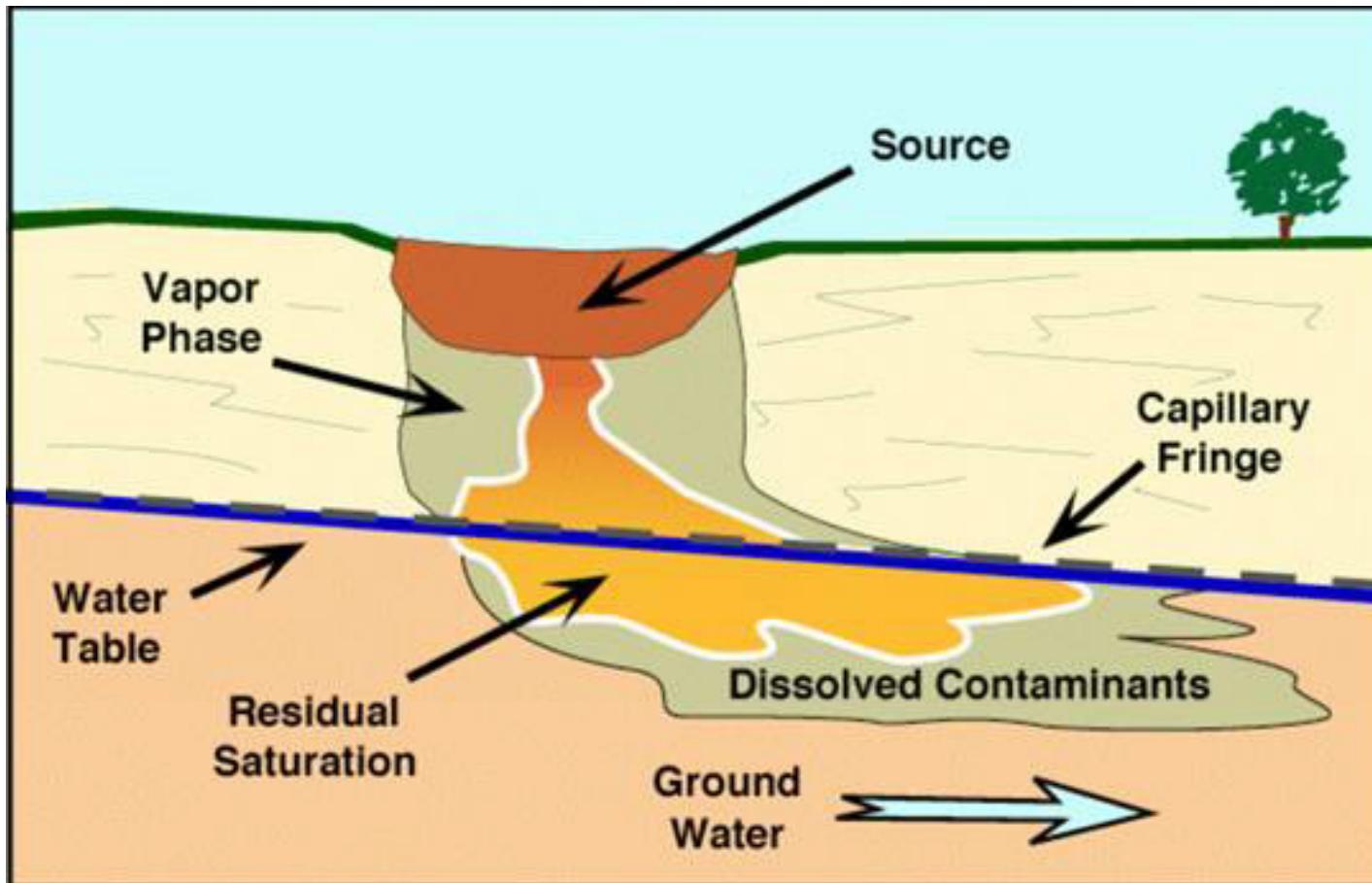
# GB Classification in a Rural Area



# Groundwater Remediation

## Standards *Important Concepts*

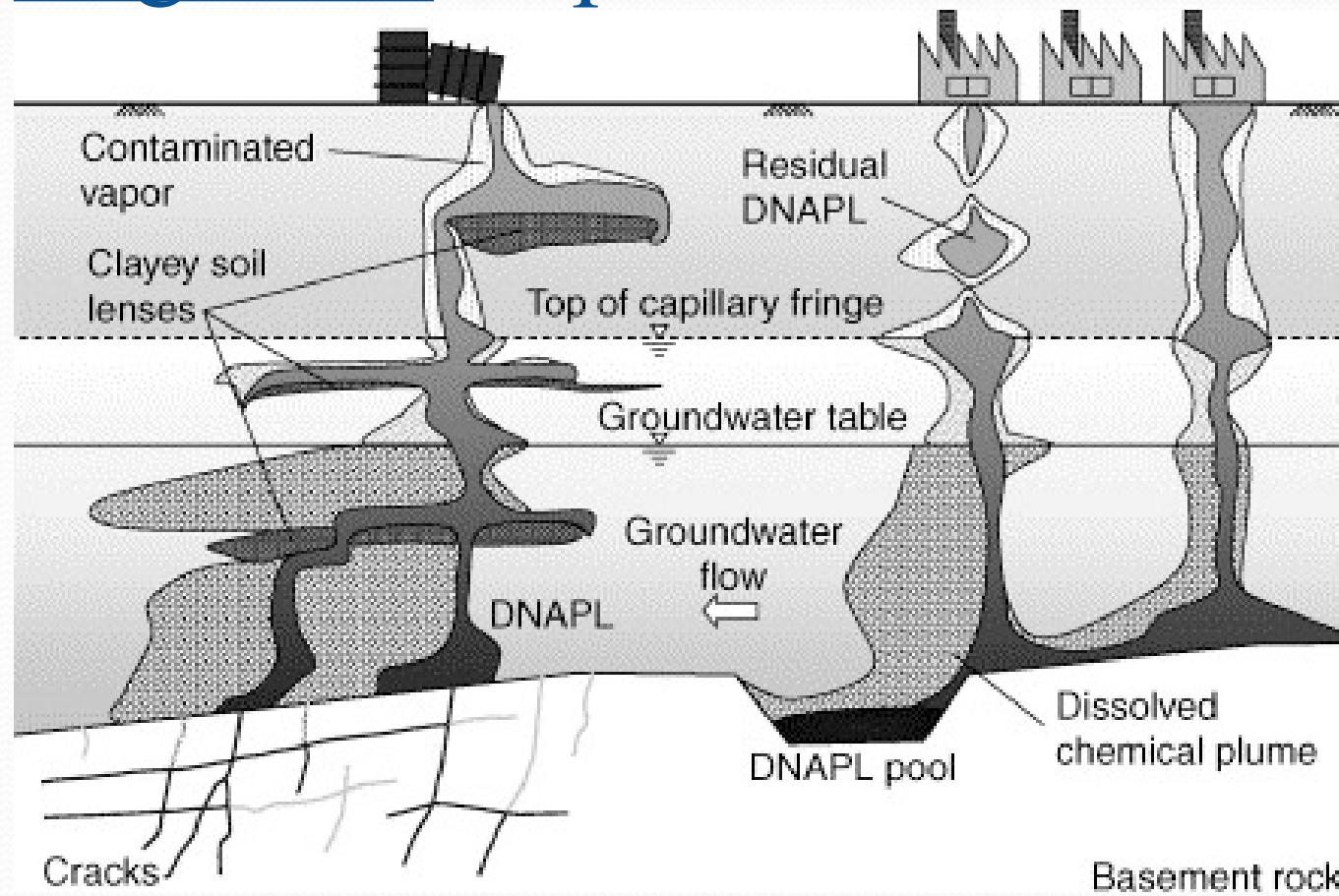
- ◆ Migration of plume



# Groundwater Remediation

## Standards *Important Concepts*

### ◆ Migration of plume



# Groundwater Remediation

## Standards *Important Concepts*

- ◆ Regulated by substance
  - ◆ Background or
  - ◆ Numerical criteria
    - ◆ GWPC
    - ◆ SWPC
    - ◆ VolC



# Overall Goals of Groundwater Remediation

- ◆ Protect and preserve groundwater in GA areas as a natural resource
- ◆ Protect existing use of groundwater regardless of groundwater classification
- ◆ Prevent further degradation of groundwater quality
- ◆ Prevent degradation of surface-water from discharges of contaminated groundwater
- ◆ Protect human health

# Representativeness of Sampling Program

- ◆ Key to correct application of RSRs
- ◆ Used in the decision-making process to represent the conditions in the environment
- ◆ Expect that all substances of concern
  - have been identified
  - distribution in the environment determined
- ◆ Refer to Site Characterization Guidance

# Representativeness of Sampling Program

- ◆ Elements that go into gathering representative samples
  - Utilizing all knowledge of the release
    - Size of release area
    - Size of the plume (3D)
    - Type of contaminant
  - Flow direction
  - Multiple rounds
    - Capture variability in water table
    - Diminishing state

# Major Components

- ◆ Criteria (GWPC, SWPC, and VolC)
- ◆ Background
- ◆ Alternative Criteria
- ◆ Applying the appropriate criteria
- ◆ Groundwater monitoring
- ◆ Technical Impracticability (TI)

# Key Groundwater Definitions

## ◆ **Background** concentration

- ◆ Validated with Conceptual Site Model
- ◆ Geographic vicinity
- ◆ Naturally occurring or minimally affected by humans

## ◆ **Groundwater plume** [3-D]

- ◆ Substance in groundwater from a release area present above laboratory reporting limit
- ◆ **Groundwater Flow Direction** – not a definition but very important to CSM

# Key Groundwater Definitions

## ◆ Diminishing State Groundwater Plume

- ◆ Validated with Conceptual Site Model
- ◆ Not migrating, or limited potential to migrate
- ◆ Substances have decreased and will continue to decrease
  - ◆ Exception for breakdown products – will not pose risk

## ◆ Replaced Steady State Plume

# Groundwater Remediation Requirements

- ◆ Attain goal for specific groundwater classification area (GA or GB)
- ◆ Attain goal for a groundwater plume discharging to a low-dilution surface water body

Only after soil and groundwater is characterized can you apply appropriate criteria

# Groundwater Remediation Goal in GA Area / GAA Area

Remediation to:

- ◆ BACKGROUND;
  - ◆ Except as provided for in GWPC subsection -3(d) or upgradient -3(h)(4)
  - ◆ SWPC (or background); and
  - ◆ VolC

# Groundwater Remediation Goal in GB Area

Remediation to:

- ◆ SWPC (or background);
- ◆ VolC;

AND

- ◆ When groundwater is being used, GWPC
- ◆ Groundwater plume in a GB area is migrating into a GA Area

# Groundwater Remediation Goal in GB Area

- ◆ Must consider that drinking water wells or other domestic uses may be present even though municipal water supply available
  - ◆ Importance of receptor survey in GB areas
  - ◆ Remediate the groundwater plume to concentration that does not interfere with any existing uses
  - ◆ Can connect all private wells so there is no existing use

# Groundwater Remediation Goal in GB Area

- ◆ If groundwater plume in a GB area is migrating into a GA Area
  - ◆ Portion of the plume within GA area must meet GA Goal
  - ◆ Could require remediation to background

# GW Applicability



Property Boundary

Scenario 1

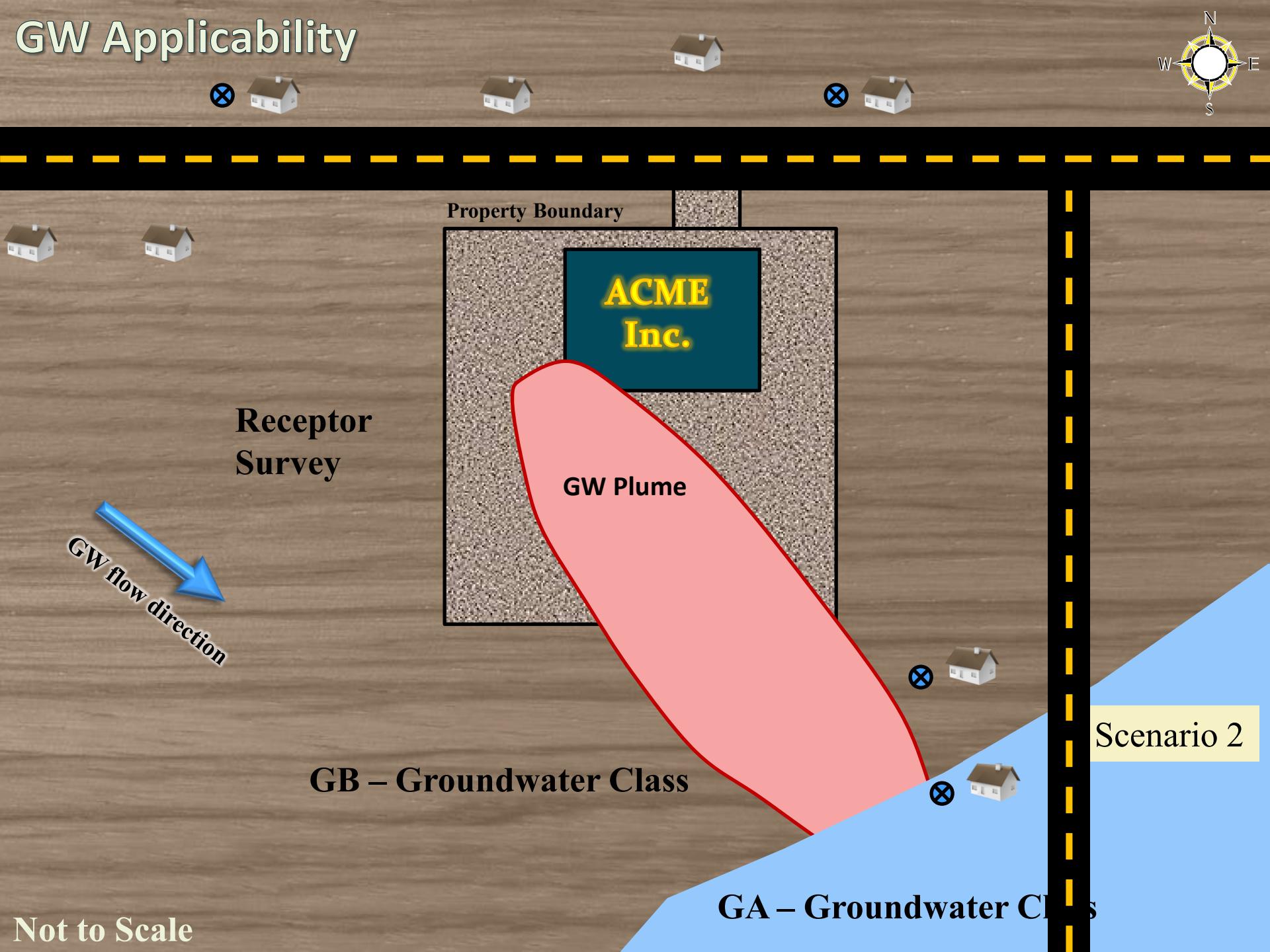
**Receptor  
Survey**

*GW flow direction*

**GB – Groundwater Class**

Not to Scale

# GW Applicability



# Groundwater Remediation Goal for Plume Discharging to Low-dilution Surface Water

Where a plume discharges to a:

- ◆ Wetland, tidal flat, intermittent watercourse, or
- ◆ Plume occupies more than 0.5% (or other approved percentage) of the upstream drainage basin



# Groundwater Remediation Goal for Plume Discharging to Low-dilution Surface Water

Remediation to:

- ◆ Applicable WQC
  - ◆ Lower of human health or aquatic life (definition)
- ◆ Alternative SWPC
  - ◆ Aquifer Dilution 22a-133k-3(b)(2)
  - ◆ Commissioner approval alternative 22a-133k-3(b)(3)

# Groundwater Background

# Background as Groundwater Remediation Goal

## Remediation to Background:

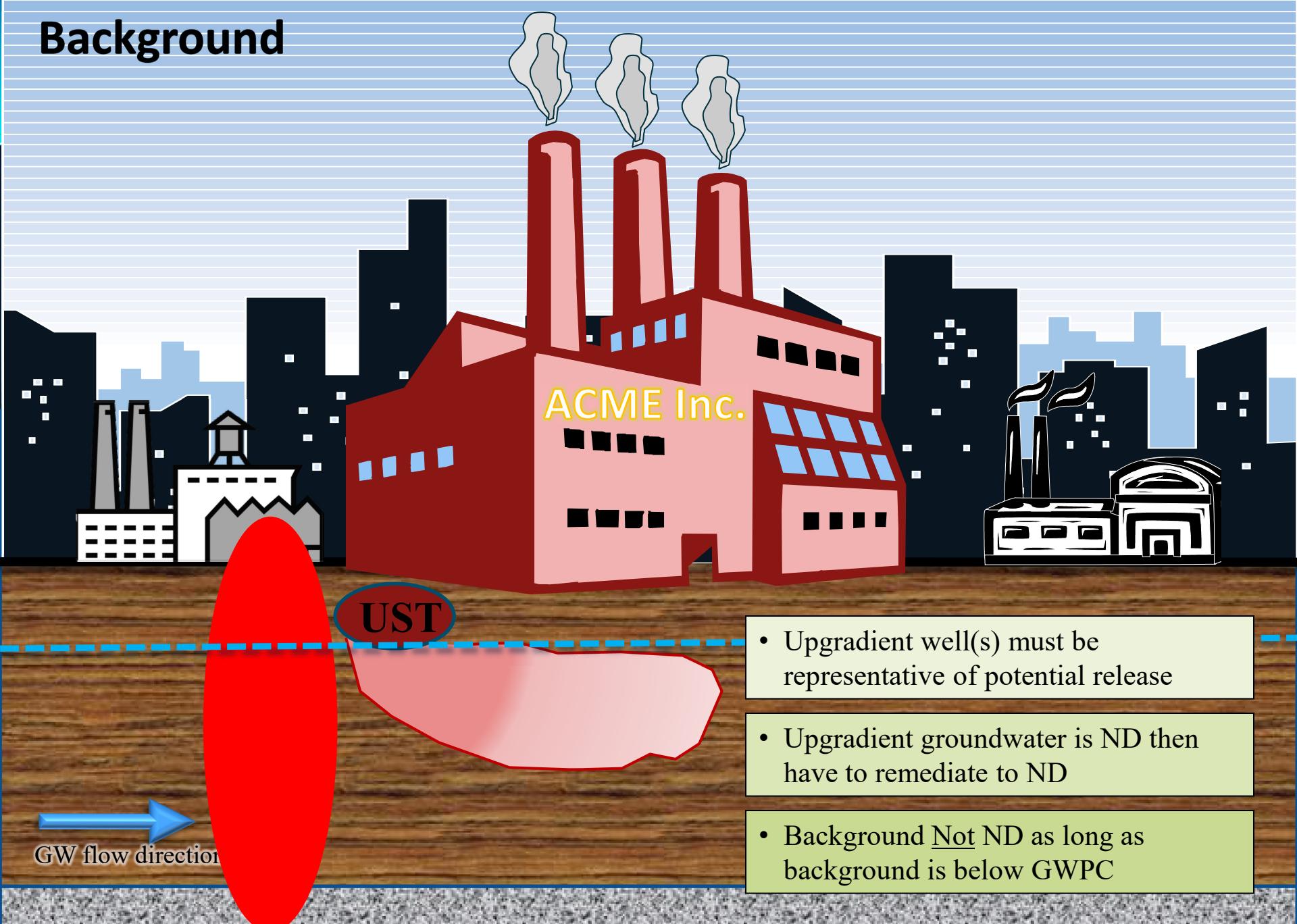
- ◆ Required in GA Areas (unless certain scenarios are met where GWPC can be the goal)
- ◆ Optional in GB Areas (instead of meeting promulgated criteria or requesting APS criteria)

# Background for Groundwater

[(5)] ["Background concentration for ground water" with respect to a particular release means the concentration of a substance in ground water (A) at the nearest location upgradient of and unaffected by the release; or (B) if such release occurred at or created a ground-water divide, at the nearest location representative of ground water quality unaffected by any release.]

- ◆ New definition focuses on the Conceptual Site Model to determine proper location to determine background in Groundwater
- ◆ Moved implementation to Applying GW Criteria 22a-133k-3(h)

# Background



Not to Scale

# Compliance with Background

- ◆ If never detected in groundwater, compliance monitoring for background is not required (only characterization to determine presence of a GW plume)
- ◆ Compliance monitoring required if ever detected in groundwater (definition of a groundwater plume), if background is the remediation goal

# Compliance with Background

## 22a-133k-3(a)

Unless otherwise specified in the RSRs, all substances in groundwater from a release shall be remediated to comply with the following, as applicable:

## 22a133k-3(h)

[Ground-water monitoring shall be conducted in accordance with this subsection for any groundwater plume and for any release area remediated ... except for those release areas remediated solely to address exceedances of direct exposure criteria]

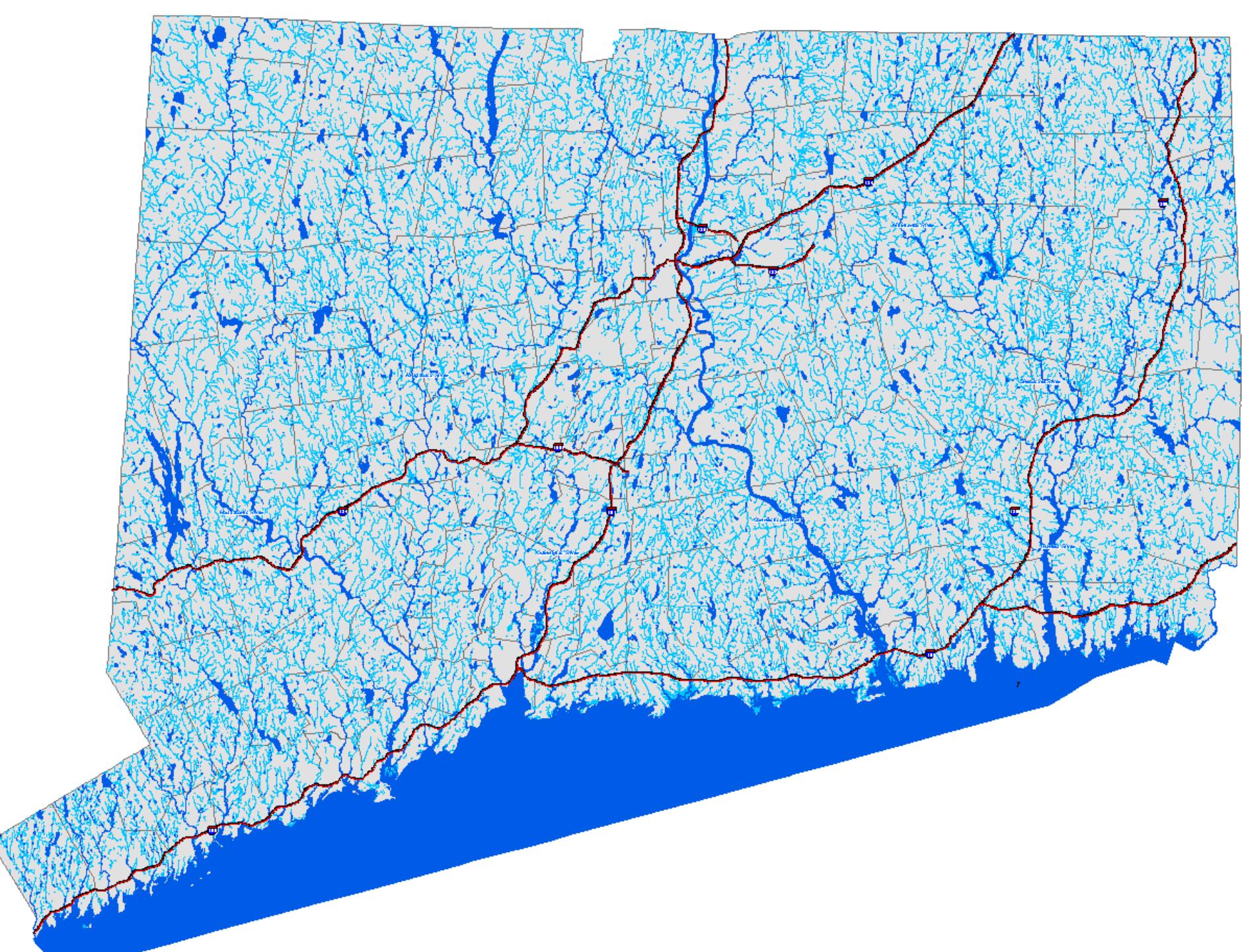
Compliance with the standards for groundwater in this section, or standards specified in section 22a-133k-2 of the RSRs that refer to or require groundwater monitoring, shall be based upon groundwater monitoring conducted in compliance with this subsection.

# Surface Water Protection Criteria

# Surface Water Protection Criteria



- ◆ SWPC Located in Appendix D in RSRs
- ◆ Groundwater plume which discharges to a surface water body must be remediated to surface water protection criteria





# Development of SWPC

- ◆ Based on State's Ambient Water Quality Criteria & applied dilution factor
- ◆ No dilution applied for wetlands and water bodies w/ intermittent flow  
(no water = no dilution)



# 4 Alternative SWPC options

1. Discharge to inland watercourse
  - AA, A, or B watercourse
2. Discharge to coastal watercourse
  - SA or SB watercourse
3. Aquifer Dilution, or
4. Commissioner Approval

*\*Only one alternative can be used*

## Inland Watercourse

Dilution factor (DF) can be applied to the applicable WQC in the WQS (Table 3): (lower of human health and aquatic life)

$$DF = (0.25 \times Q99) / Q_{\text{plume}}$$

- ◆  $Q99$  = Daily stream flow exceeded 99% of the days in a year
- ◆  $Q_{\text{plume}} = KiA$   
(Hydraulic conductivity x Hydraulic Gradient x Area) (Area = Thickness of Plume x Width of Plume)

# Inland & Coastal Alt SWPC

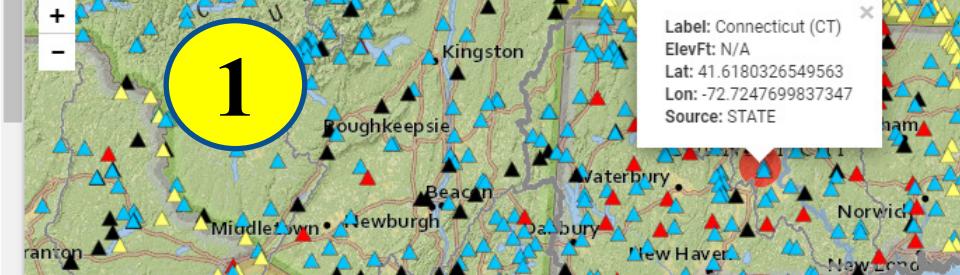
## (Cap on Dilution Factor)

Cap on the Alternative SWPC based on distance:

Distance from compliance point to nearest downgradient surface water	Maximum Allowable Alternative SWPC
Less than or equal to 100 feet	100 times WQC
Greater than 100 feet to 200 feet	200 times WQC
Greater than 200 feet to 300 feet	300 times WQC
Greater than 300 feet to 400 feet	400 times WQC
Greater than 400 feet to 500 feet	500 times WQC
Greater than 500 feet to 600 feet	600 times WQC
Greater than 600 feet to 700 feet	700 times WQC
Greater than 700 feet to 800 feet	800 times WQC
Greater than 800 feet to 900 feet	900 times WQC
Greater than 900 feet	1,000 times WQC

- USGS Streamstats
- Select the appropriate state or regional study area (likely “Connecticut”)
- Zoom in to plume discharge location, select “Delineate”, and choose the discharge location
- Wait for delineation of basin and then select “Continue”
- Select “Flow-Duration Statistics” as the “Scenario” and then select “Continue”
- Under “Build a Report”, select “Continue” and the reports will be generated. The “99 Percent Duration” at the bottom of the report will be the Q99

**Step 2:** You have zoomed in sufficiently to select a state or regional study area. Your selection will dictate the data used to perform basin delineation and flow statistics calculation.



Click to select a State or Regional Study Area

**Connecticut**

**Massachusetts**

**Mystic River Basin**

**SELECT A STATE / REGION**  
Connecticut *i* **Delineated** *>*

**3**

**Step 5:** Your delineation is complete. You can now clear, edit, or download your basin, or choose a state or regional study specific function (if available). Click **continue** when you are ready.

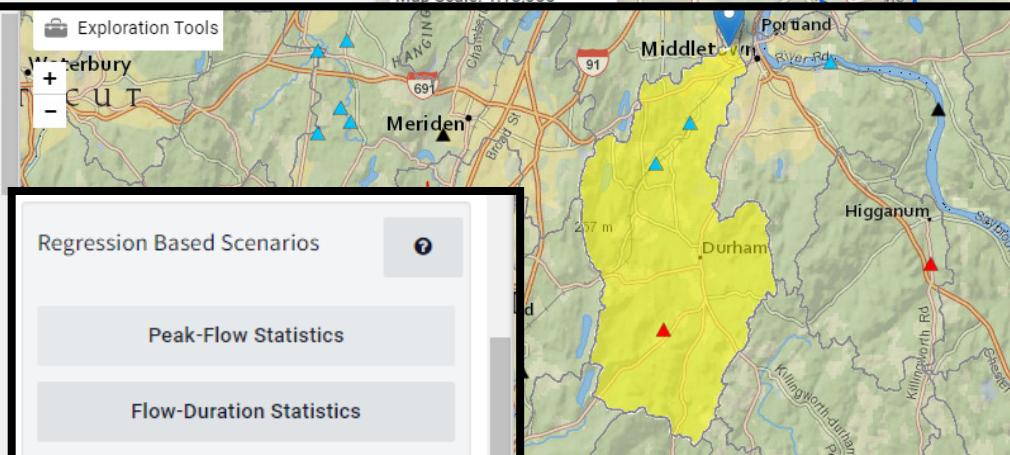
**Clear Basin**

**Edit Basin**

**IDENTIFY A STUDY AREA** *>*

Step 2: Click the 'Delineate' button to activate the delineation tool

**Delineate**



#### Regression Based Scenarios

Peak-Flow Statistics

Flow-Duration Statistics

Seasonal Flow Statistics

May Flow-Duration Statistics

Duration Statistics

November Flow-Duration Statistics

Peak-Flow Statistics

Flow-Duration Statistics

Seasonal Flow Statistics

May Flow-Duration Statistics

Duration Statistics

November Flow-Duration Statistics

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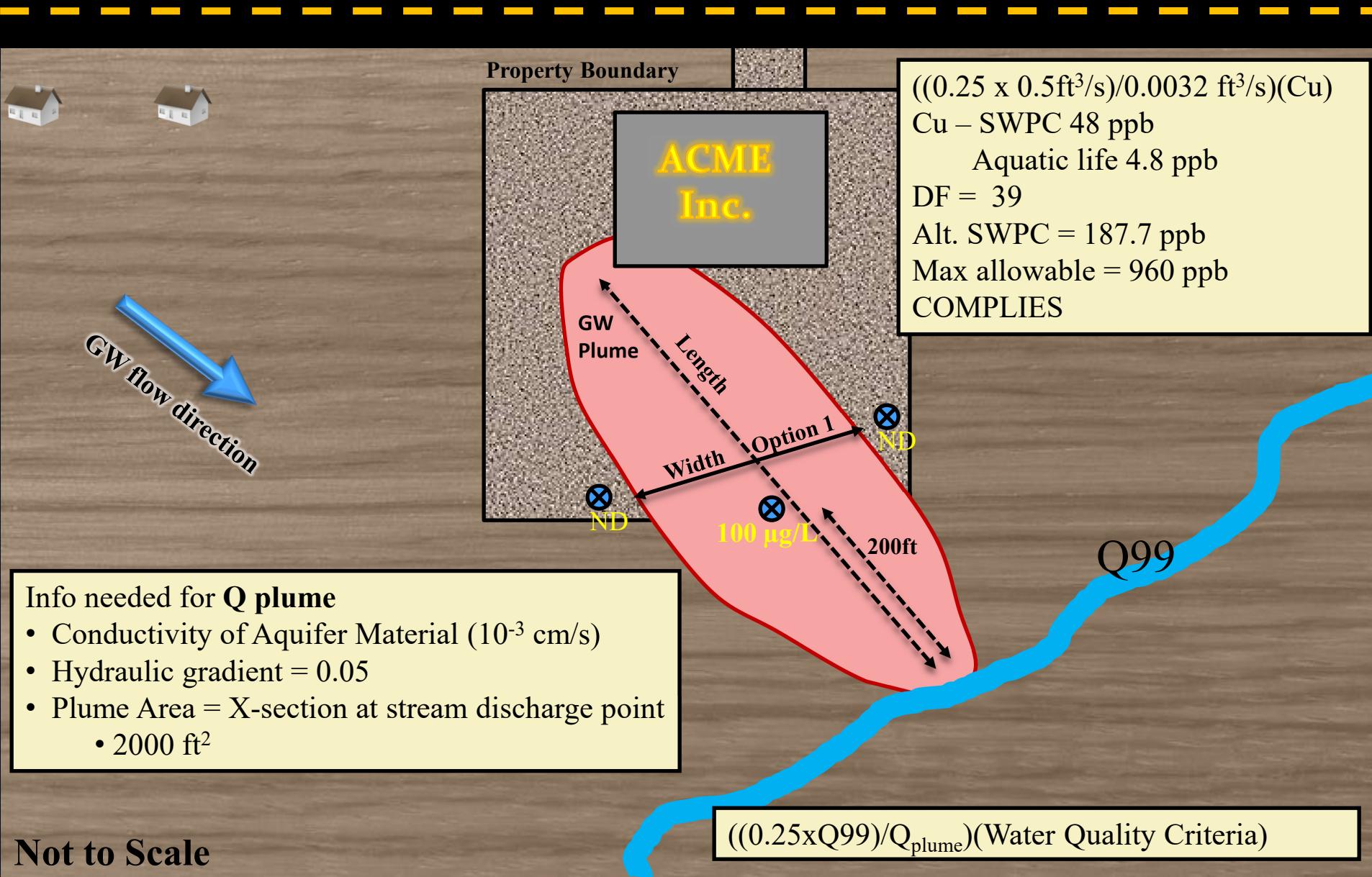
Duration Statistics

November Flow-Duration Statistics

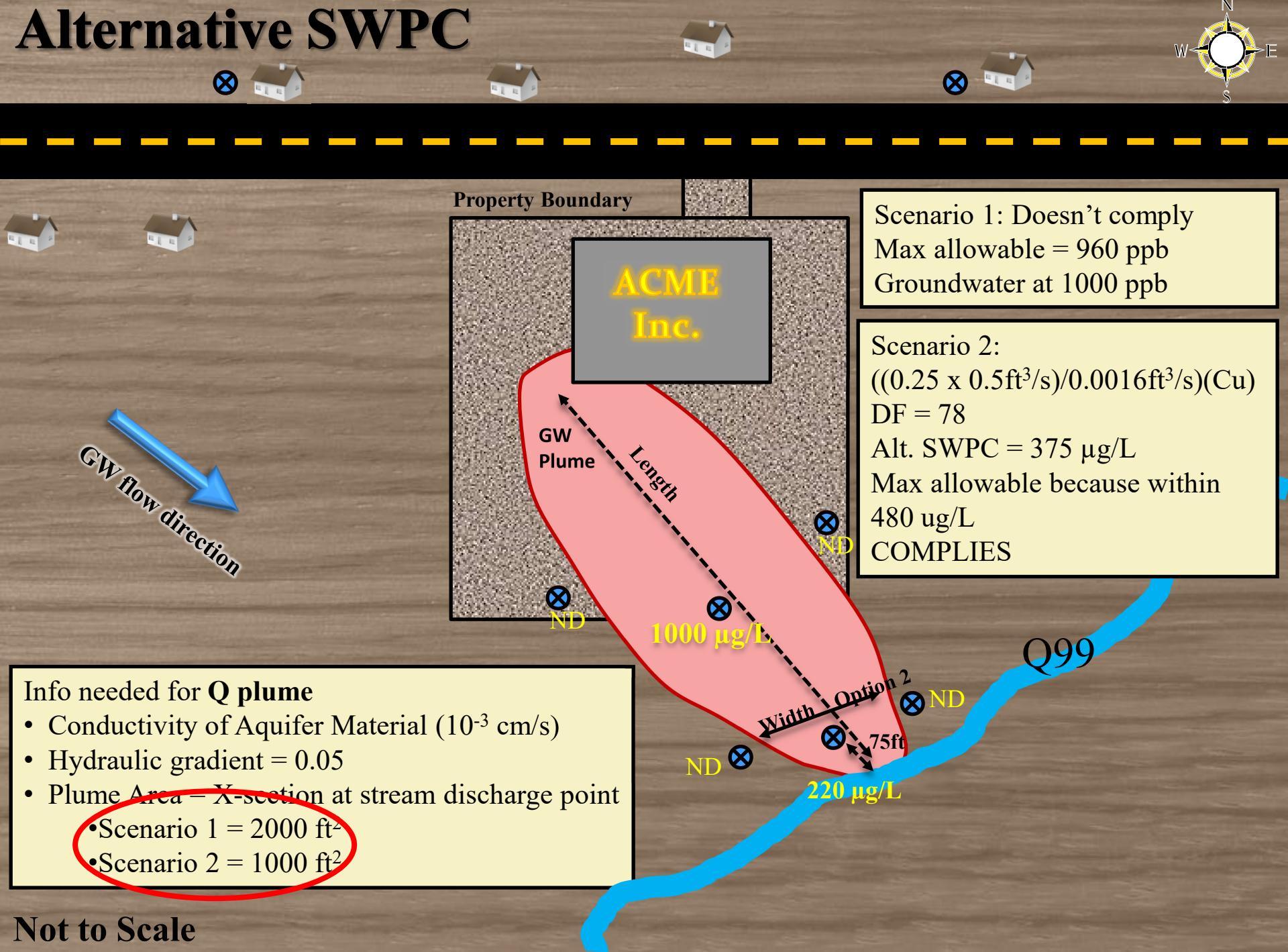
Peak-Flow Statistics

Flow-Duration Statistics

# Alternative SWPC



# Alternative SWPC



# 2<sup>nd</sup> Alt. SWPC – Coastal Watercourse

Dilution factor (DF) can be applied to the applicable WQC (lower of human health and aquatic life) in the WQS (Table 3):

$$DF = ((W \times 0.25) \times L \times D) / (T \times Q_{\text{plume}})$$

- ◆ D = Mean depth of watercourse at discharge point
- ◆ L = Length of discharge along shore
- ◆ W = 0.25 x watercourse width (capped at 100 ft)
- ◆ T = Daily discharge location (1/2 day)

# 3<sup>rd</sup> Alt. SWPC - Aquifer Dilution

A dilution factor (DF) can be applied to the SWPC, provided that:

- ◆ Location in GW plume where compliance is being demonstrated is at least 500' from surface water discharge location
- ◆ Calculated dilution ratio (DR) is greater than 5:

$$DR = RC/DC$$

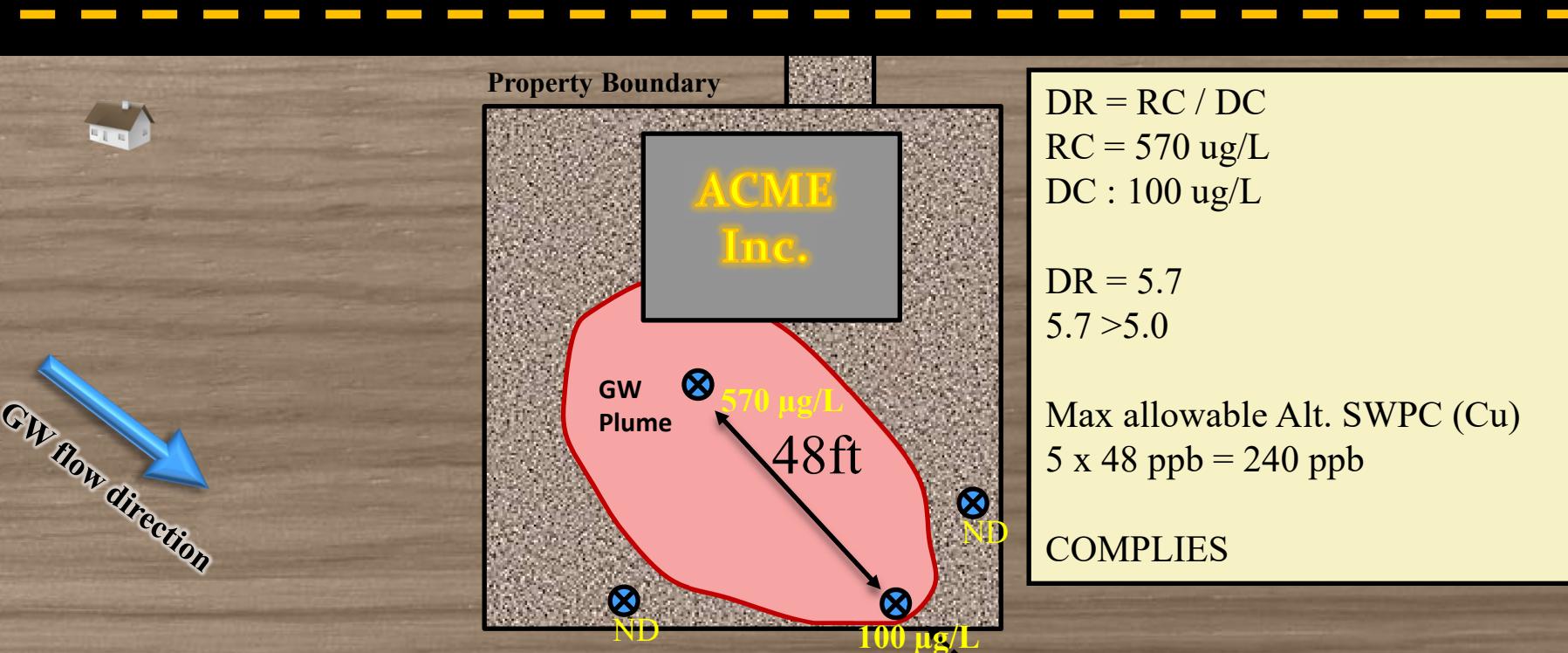
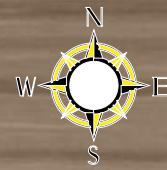
- RC = release area concentration
- DC = downgradient concentration (no more than 50' from where RC was collected)

# 3<sup>rd</sup> Alt. SWPC - Aquifer Dilution

Cap on the Aquifer Dilution Factor based on distance:

Distance to nearest downgradient surface water	Dilution factor
Greater than 500 feet to 600 feet	5
Greater than 600 feet to 700 feet	6
Greater than 700 feet to 800 feet	7
Greater than 800 feet to 900 feet	8
Greater than 900 feet to 1000 feet	9
Greater than 1,000 feet	10

# Alternative SWPC



Not to Scale

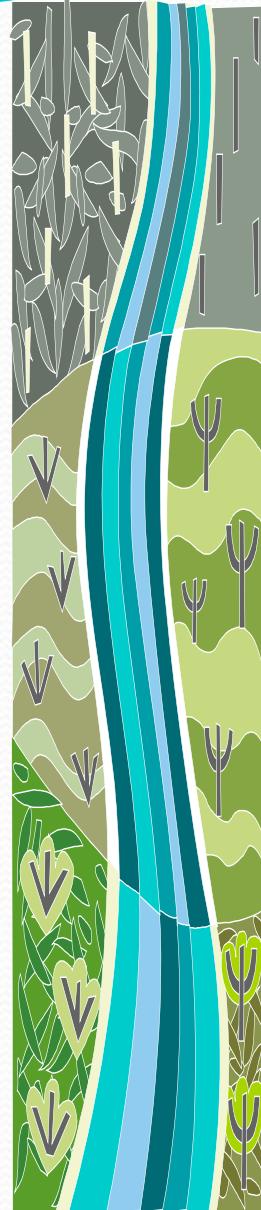
# Alternative SWPC (Notice)

Notice shall be provided (can be at Verification) and shall include:

- ◆ What is required in 22a-133k-1(g)
- ◆ Alt. SPWC calculation
- ◆ Values and basis of terms used
- ◆ Dilution factor that was calculated
  - ◆ Including the basis of the cap value that was used

# Commissioner Approval Release-Specific SWPC

- Can be used for both alternative criteria and alternative method of demonstrating compliance
  - Ensure protect human health and the environment
  - Submitted in accordance with 22a-133k-1(g)
- Commissioner may also require:
  - Q99 of surface water body
  - Other SW or GW discharges within ½-mile
  - Instream water quality (TMDL)
  - Flow rate of plume discharge

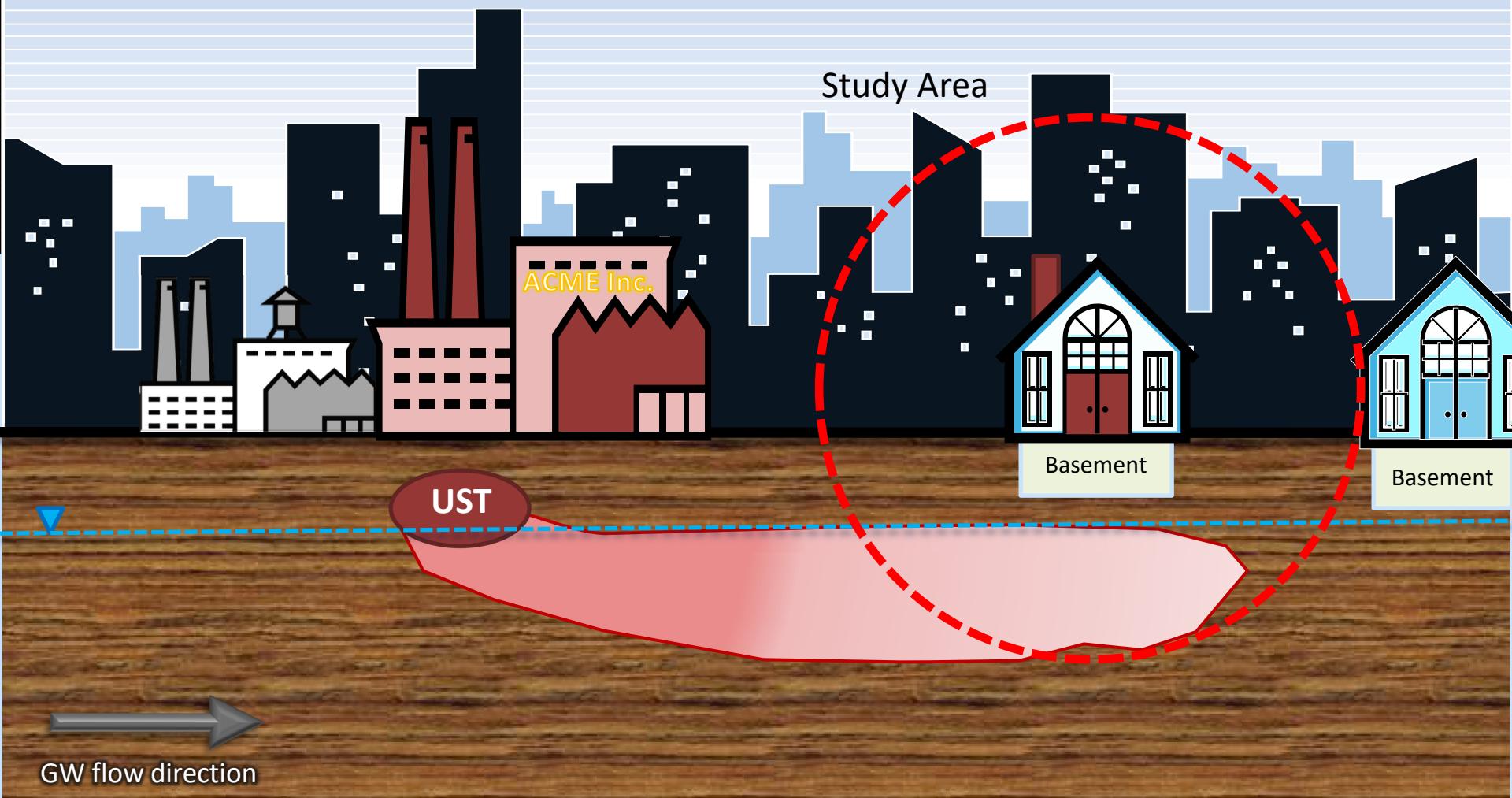


# Volatilization Criteria

# Volatilization Criteria – Basic Concepts

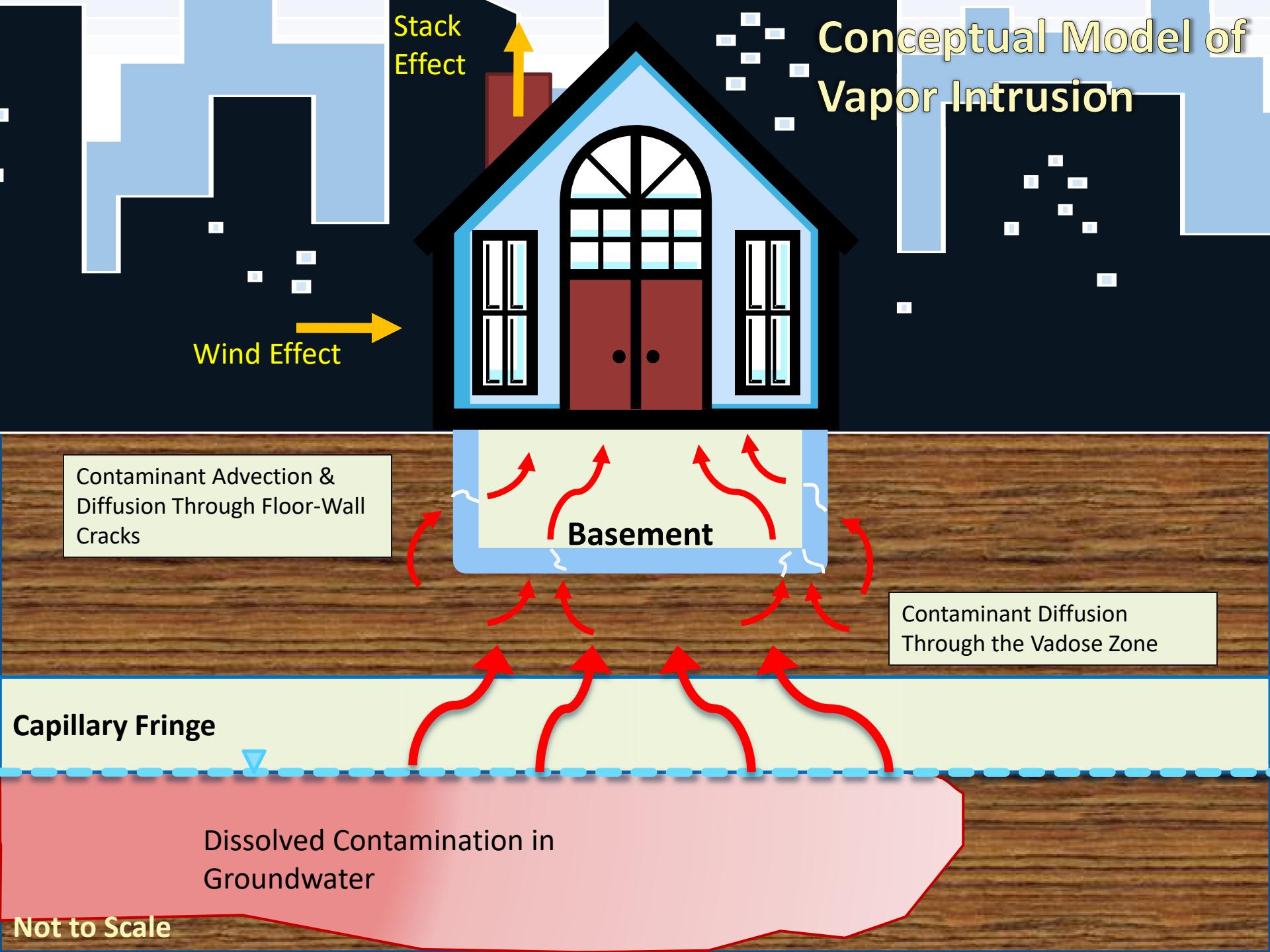
- ◆ Groundwater plumes polluted with VOCs can pose risks to indoor air quality
- ◆ VOCs in groundwater volatilize at water table and accumulate in soil vapor
- ◆ Soil vapor can be drawn in or diffuse into buildings

# Conceptual Model of Vapor Intrusion



Not to Scale

# Conceptual Model of Vapor Intrusion



# **Default Groundwater Volatilization Criteria**

- ♦ Unless otherwise specified, groundwater shall be remediated to a concentration that is equal to or less than the residential volatilization criteria

# Exception to Groundwater Volatilization Criteria

- ♦ If a parcel (subject area) is used solely for industrial or commercial activity (access limited) and an EUR is in place ensuring no residential use and limited access, then groundwater may be remediated the industrial/commercial volatilization criteria

# General Volatilization Criteria (VolC) Applicability

The VolC applies to volatile organic substances (other than petroleum organic substances) within 30 feet of the ground surface (or within 30 feet beneath the lowest level of a building)

# General Volatilization Criteria (VolC)

## Applicability cont'd

The VolC applies to petroleum organic substances within 10 feet of the ground surface (or within 10 feet beneath the lowest level of a building)

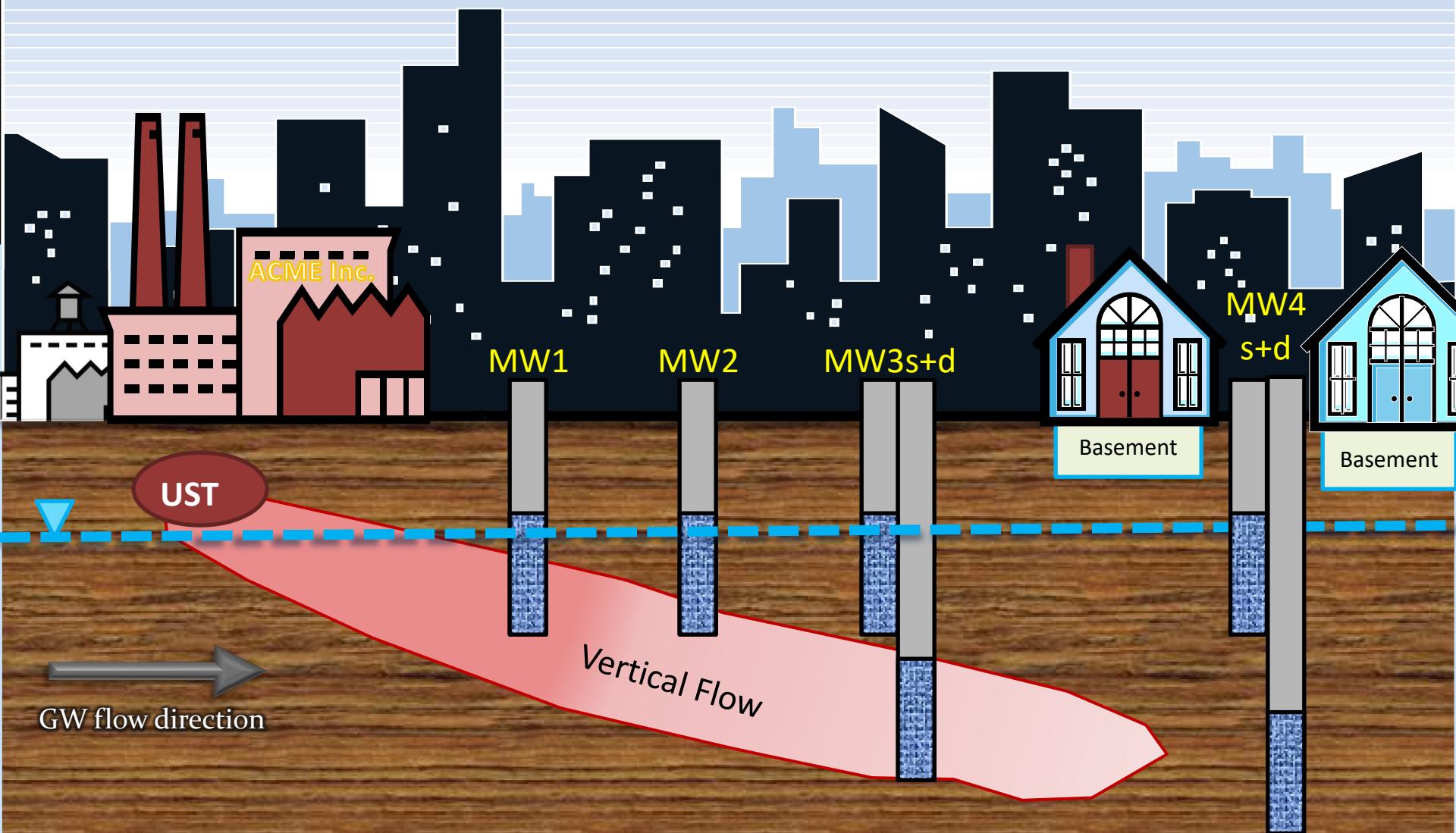
# Alternative Demonstration of Compliance for Volatilization Criteria

- ◆ If soil gas *beneath a building* is below the residential vapor criteria, remediation may not be required
- ◆ If soil gas *beneath a building* is below the industrial/commercial vapor criteria, and the building is not used for residential activities and access is limited then remediation may not be required (EUR must be recorded)

# Alternative Demonstration of Compliance for Volatilization Criteria cont'd

- ◆ If the concentrations of a volatile organic substance that are exceeding the volatilization criteria are not at the water table, remediation may not be required
- ◆ Seasonally demonstrated (compliance monitoring) for the uppermost portion of the water column
- ◆ Can be Residential or Industrial/Commercial

Risk from vapor intrusion only pertains when groundwater is polluted with VOCs at the water table – Standard wells (with representative screens bisecting the water table) are necessary to demonstrate

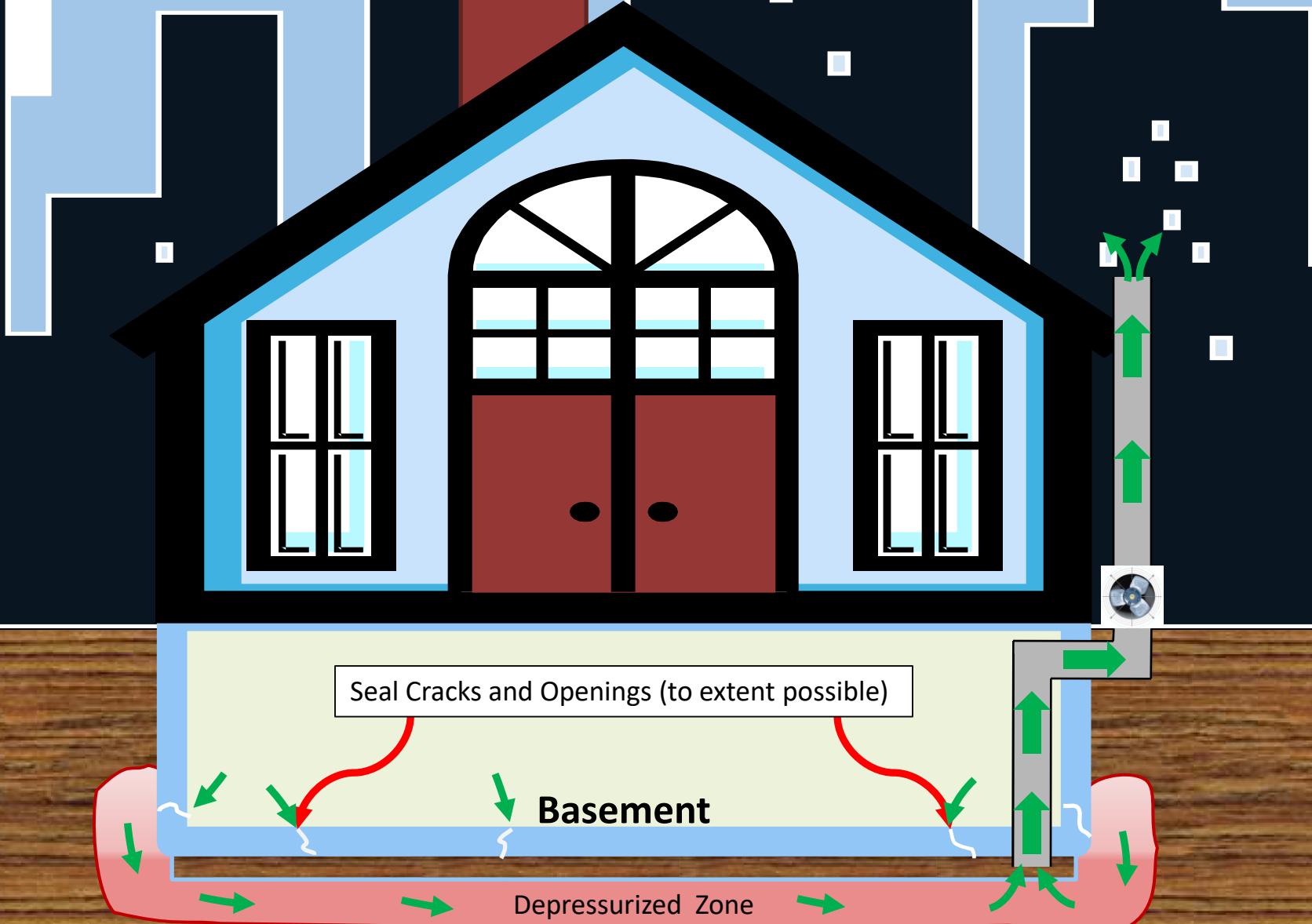


# Exemption to Volatilization Criteria – Mitigation

- ◆ Remediation of groundwater is not required if measures acceptable to the Commissioner are taken to prevent the migration of vapors into an overlying building (exemption only applies beneath a building)
- ◆ System must be maintained and monitored
- ◆ EUR must be recorded requiring system to remain operating & restrict demolition of the building (or *other permanent measure needs to be in place*)
- ◆ Notice must be provided (can be on Verification Form) – demonstration of effectiveness

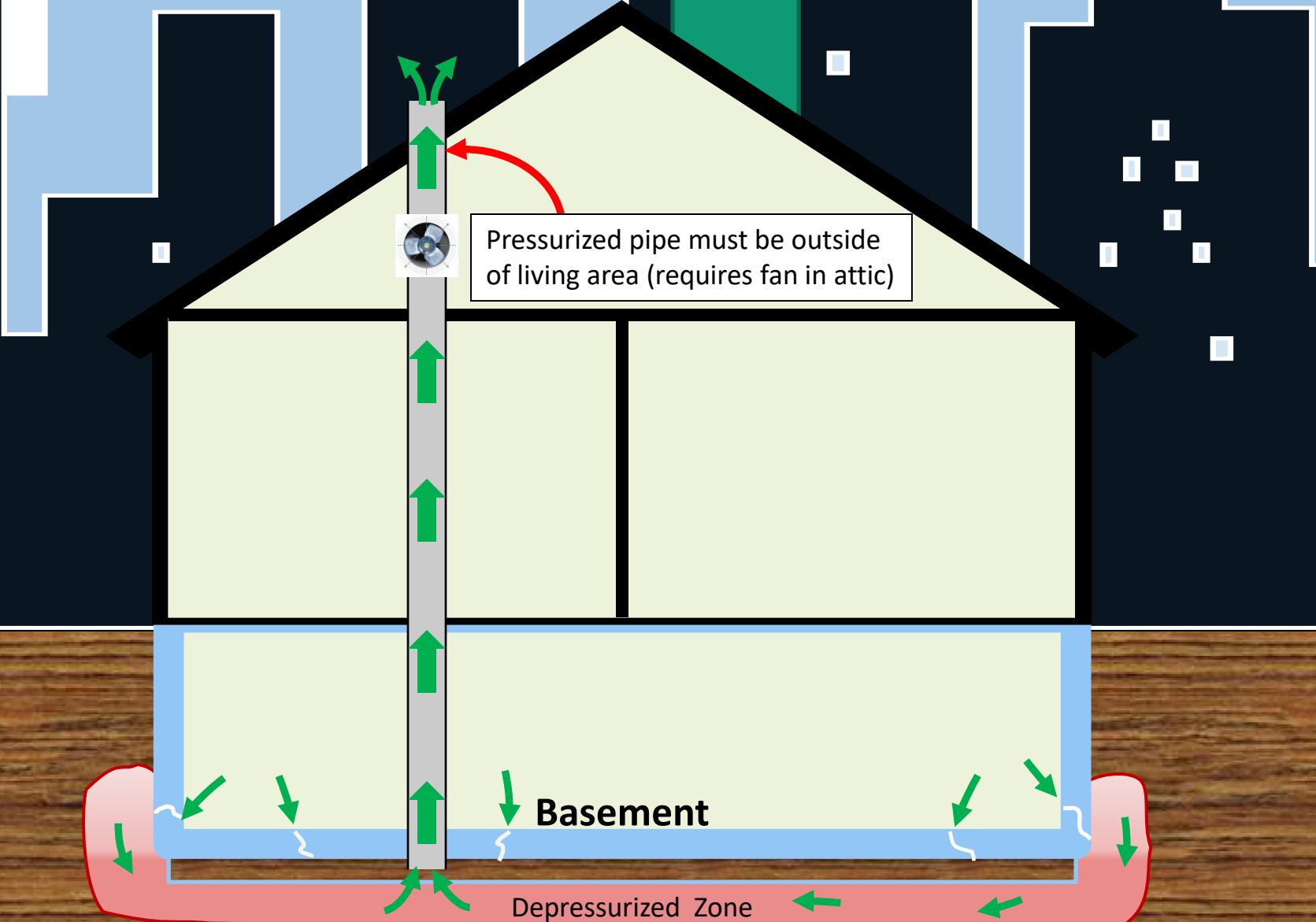
# Classic Conceptual Model of a Sub-

## Slab Depressurization System



Not to Scale

# Alternative Conceptual Model of a Sub-Slab Depressurization System



Not to Scale

# Alternative Volatilization Criteria

Commissioner may approve alternative criteria and/or an alternative demonstration of compliance, provided:

- ◆ Must demonstrate that vapors will not accumulate in structures at a concentration which would exceed risk of  $10^{-6}$  for any carcinogenic substance and a hazard index of 1 for any non-carcinogenic substance

AND

- ◆ For **multiple substances** (10 or more) cumulative risk cannot exceed  $10^{-5}$  for carcinogenic substances (same target organ) and a cumulative hazard index of 1 for non-carcinogenic substances

# Alternative Volatilization Criteria cont'd

- ◆ Will include Department of Public Health as part of the review (will require the use of current toxicology information and exposure pathway assumptions)
- ◆ EUR may be required as part of the approval:
  - ◆ Provides the option to approve a greater range of scenarios
  - ◆ Would be focused on maintaining exposure/transport assumptions
  - ◆ Would not be needed if Alternative is based solely on updated toxicology

## **VolC Exemption - No Building**

- ◆ If no building exists above plume and either:
  - 1) EUR is recorded to ensure no building will be constructed over plume, or
  - 2) Commissioner has approved a demonstration that no building can be built, or
  - 3) Commissioner has approved a demonstration that natural attenuation will reduce concentration over 5 years to below applicable volatilization criteria
- ◆ If plume is within 30' of a building, the vapor intrusion pathway into the building shall be thoroughly evaluated

# Exemption from the Volatilization Criteria Through Indoor Air Monitoring

- ◆ Requires Commissioner Approval of the monitoring plan (request needs to include listed information)
- ◆ Review of the plan will include DPH (which will require the use of current toxicology information and exposure pathway assumptions)

# Exemption from the Volatilization Criteria Through Indoor Air Monitoring cont'd

- ◆ Commissioner may impose conditions as part of the approval, such as:
  - ◆ Air handling changes
  - ◆ Occupancy limitations
- ◆ Requires ELUR to be recorded which requires that the compliance with the indoor air monitoring program (and any other conditions added in the approval)

# Volatilization Criteria - Additional Polluting Substances

- ◆ For substances for which a VolC does not exist, remediation shall be to background or a Commissioner approved VolC
- ◆ Formulas are in Appendix G
- ◆ Fast Track criteria (as discussed previously) are available for approval
- ◆ Other criteria can be proposed (will include DPH in the review)

# Recap for Evaluating Compliance with Volatilization Criteria (w/ building)

- ◆ Groundwater results from defined plume compared to RSR criteria (GW Volatilization Criteria – Compliance)
- ◆ Concentrations at Water Table compared to RSR criteria (Exemption)
- ◆ Soil Vapor results compared to RSR criteria (SV Volatilization Criteria – Alternative Demonstration of Compliance)
- ◆ Undertake mitigation (Exemption)
- ◆ Conduct indoor air monitoring (Exemption)

# Recap for Evaluating Compliance with Volatilization Criteria (w/o building)

- ◆ Groundwater results from defined plume compared to RSR criteria (GW Volatilization Criteria – Compliance)
- ◆ Concentrations at Water Table compared to RSR criteria (Exemption)
- ◆ No Building Restrictions (Exemption)
  - ◆ EUR (prohibit construction), or
  - ◆ Commissioner Approval (nothing can be built or concentrations will meet criteria in 5 years)

# Groundwater Protection Criteria

# Development of GWPC

- ◆ Risk based number protects people drinking groundwater ( $10^{-6}$  carcinogens; HI = 1)
- ◆ Basis – Federal MCL, State Action Level, or risk-based calculated using RSR formula
- ◆ Adjusted upward based on detection limit
- ◆ Adjusted downward based on ceiling level

# Exception from Background in a GA Area (Public Water Available)

Can use GWPC when certain conditions are met:

- ◆ A public water system is available within 200' of parcel, adjacent parcels, and any parcel within the area of the plume
- ◆ Not an aquifer protection area
- ◆ Not within area of influence of public supply well

# Exception from Background in a GA Area (Meets GWPC Before Remediation)

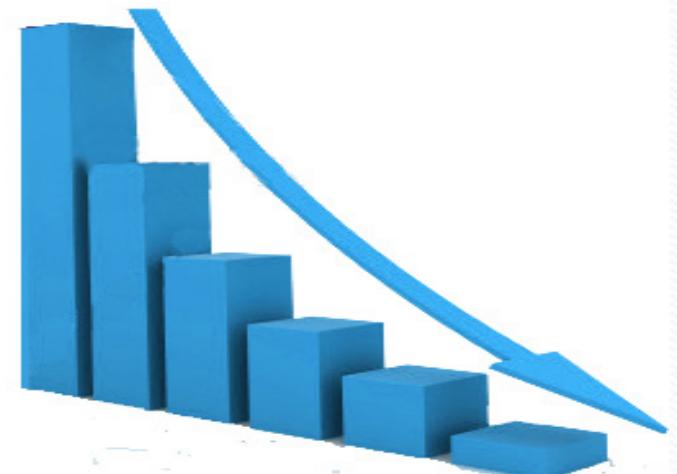
Can use GWPC if prior to any soil or groundwater remediation, the concentration in the plume was less than or equal to the GWPC:

- ◆ The plume must be diminishing state
- ◆ Any remediation will remove more source material, improving conditions
  - Expected groundwater will be restored, eventually reaching background

# Exception from Background in a GA Area (Technical Impracticability)

- ◆ Remedial goal in a GA area is background:
  - ◆ Measures have reduced the concentration below GWPC but not to background
  - ◆ Technically impracticable to further reduce the concentration to background

THEN:



# Exception from Background in a GA Area (Technical Impracticability cont'd)

- ◆ Exemption not designed to be used if MNA will achieve background in the near future
  - ◆ Not an exit from additional monitoring
- ◆ If plume can and will reach background, it is expected background is applicable criteria
- ◆ Used when plume is no longer steadily degrading but plume shown to be in a diminishing state

# Exception from Background in a GA Area (Technical Impracticability cont'd)

- ◆ No further remediation required, as long as
  - ◆ All applicable GW monitoring has been conducted
  - ◆ Understanding of why plume can not meet background
  - ◆ Will need to be explained at Verification

# Alternative GWPC

An alternative GWPC may be calculated for substances:

- ◆ LEP-calculation of the Alt. GWPC (specific scenario)
- ◆ Commissioner approval of the Alt. GWPC (may allow use outside of the LEP specified scenario)

## LEP-calculated Alternative GWPC

An LEP may calculate an alternative GWPC provided that:

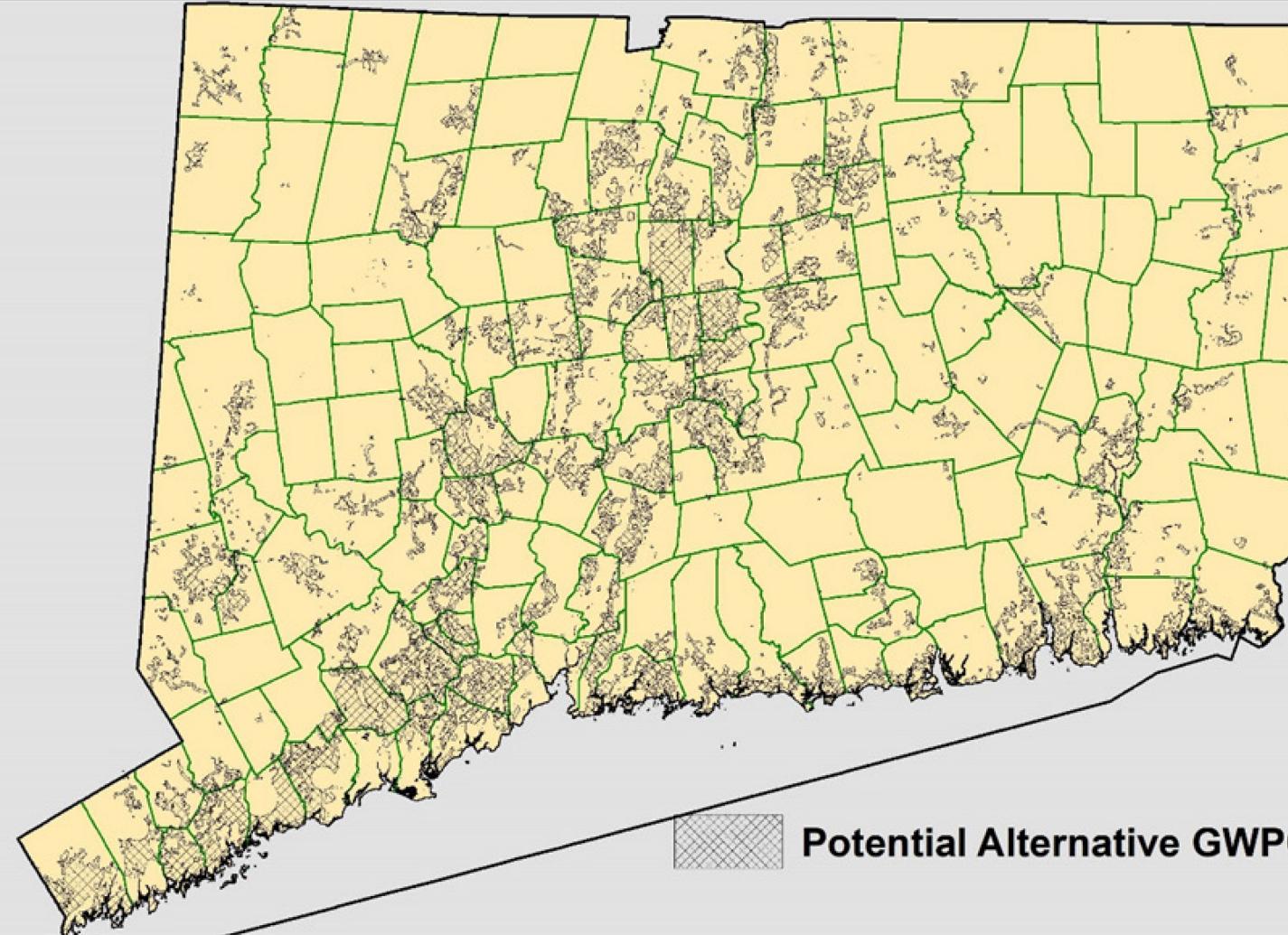
- ◆ The plume is in an area designated on “Potential Alternative Groundwater Protection Criteria Map” in Appendix I
- ◆ No public/private drinking water wells (receptor survey)
- ◆ Public water is available (prevents new wells)
- ◆ All releases have been remediated

## LEP-calculated Alternative GWPC cont'd

- ◆ No alternative PMC is used for the same substance (prevents stacking)
- ◆ Plume is in a diminishing state
- ◆ Plume is not in bedrock
- ◆ Calculated using following formulas (next slides)
- ◆ Capped at Residential VolC and 100x GWPC
- ◆ Notice is provided (can be at Verification)

# Appendix I – Potential Alternative Groundwater Protection Criteria Map

Potential Alternative Groundwater Protection Map





City of Hartford, CT, MDC, Missouri, 63000-1369

# LEP-calculated Alternative GWPC

## Volatile Organic Substances

$$\text{Alternative GWPC} = \frac{\text{TAC} \times \text{HV} \times \text{ER} \times \text{MC}}{\text{f} \times \text{WFR}}$$

- TAC = Target Indoor Air Concentration
- f = Fraction of substance concentration volatized (0.5)
- HV = House Volume (1,000 m<sup>3</sup>)
- ER = Air exchange rate (134 per day)
- WFR = Water flow rate (3,183 L/day)
- MC = mixing coefficient (0.33)

TAC must be approved by the Commissioner. Currently working on a Fast Track process (similar to APS)

# LEP-calculated Alternative GWPC SVOCs, Inorganics, and Pesticides

Alternative GWPC = WSF × RSC × DEC × UCF

- WSF = Water to soil concentration factor (0.02 mg/L)
- RSC = Relative source contribution (0.2)
- DEC = Residential DEC (Appendix A or APS)
- UCF = Unit Conversion Factor (1000 µg/mg)

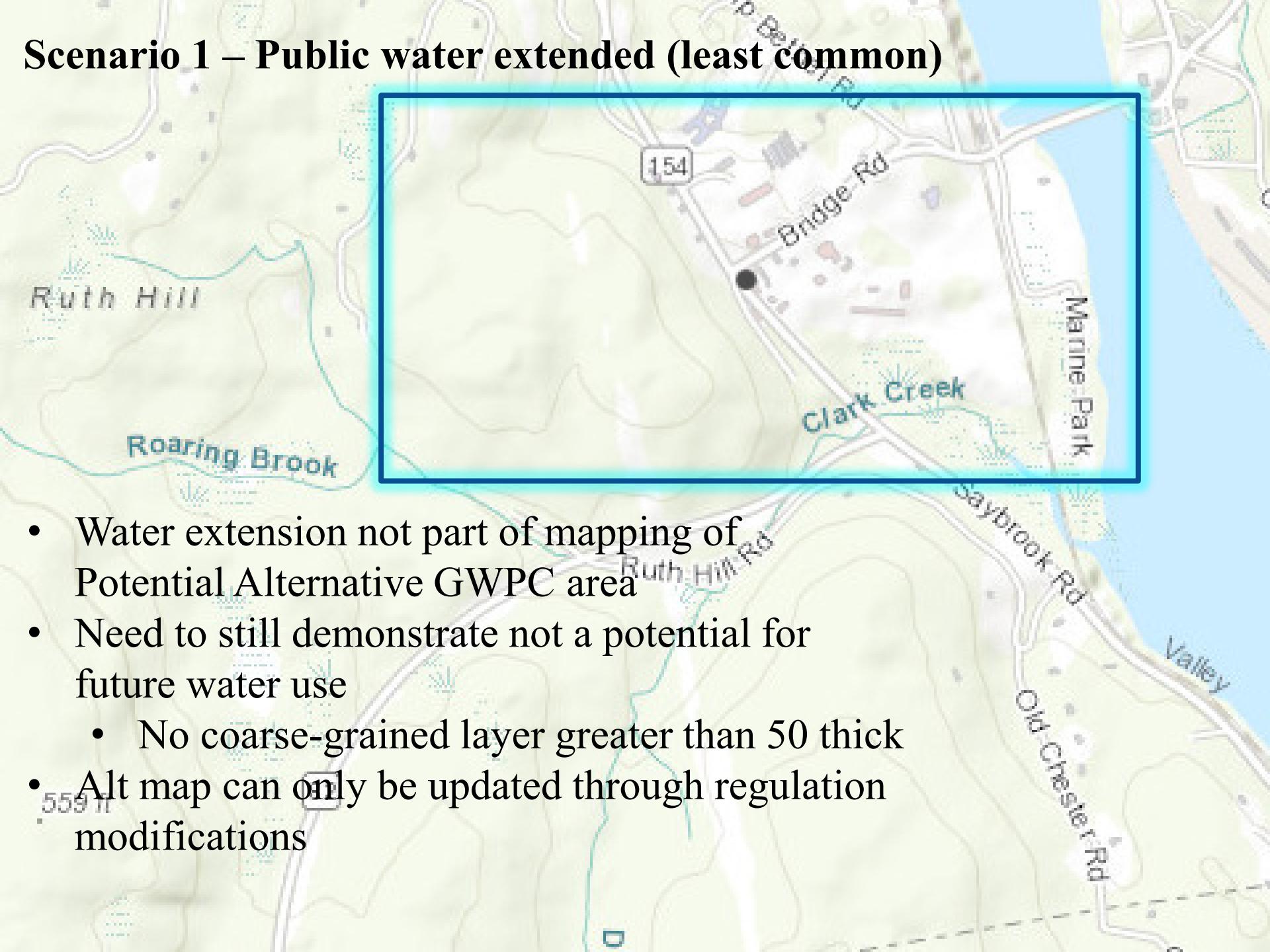
# Commissioner Approval Alternative GWPC

## Not In Mapped Area

The Commissioner may approve an Alt. GWPC for plumes outside the mapped area, provided that:

- ◆ All requirements listed for the mapped area are met
- ◆ Calculated using the above formulas
- ◆ Depending on why the area was not in the mapped area, a demonstration that:
  - ◆ Public water is available in the area (and not in APA)
  - ◆ Aquifer is not suitable as public water supply (based on nature of aquifer or sustainable pumping rates)

## Scenario 1 – Public water extended (least common)



- Water extension not part of mapping of Potential Alternative GWPC area
- Need to still demonstrate not a potential for future water use
  - No coarse-grained layer greater than 50 thick
- Alt map can only be updated through regulation modifications

## Scenario 2— Potential Future water source (more common)

- Public water is available but not in mapped area
- Area typically surrounded by Alt GWPC
- Not mapped Alt GWPC because thick course-grained stratified layer identified as potential future use



- Demonstrated no future use:
- No thick coarse-grained aquifer
- No yield or sustainability

## Scenario 3 – Plume Splits Alt GWPC



- Demonstrate no current use threatened by plume outside mapped areas
- Not a coarse-grained aquifer

- Alt GWPC used 200 ft buffer from public water distribution system
- 1/2 plume falls in mapped area other 1/2 outside
- Potential Commissioner approval for area outside mapped area

# **Commissioner Approval Alternative GWPC**

## **Bedrock Plume**

The Commissioner may approve an Alt. GWPC for plumes in bedrock, provided that:

- ◆ Plume is in mapped area
- ◆ All requirements listed for the mapped area are met
- ◆ Demonstration that the groundwater plume that exceeds the GWPC will not pose a risk to human health and the environment

# GWPC for Additional Polluting Substances

- ◆ For substances for which a GWPC does not exist, remediation shall be to background or a Commissioner approved GWPC
- ◆ Formulas are in Appendix G
- ◆ Fast Track criteria (as discussed previously) are available for approval
- ◆ Other criteria can be proposed (will include DPH in the review)

# GW Variances & Exemptions (Technical Impracticability, Incidental Sources, & Pesticides)

# Technical Impracticability (TI) of Groundwater Remediation

- ◆ **Variance for GWPC/SWPC due to Technical Impracticability of Groundwater Remediation**
- ◆ **Requires Commissioner's Approval**

# Technical Impracticability (TI)

- ◆ “Technically impracticable” means, a determination by the commissioner, that further reduction of the concentration of a substance in soil or groundwater cannot be achieved using sound engineering and hydrogeologic remediation practices

# Technical Impracticability Variance

- ◆ Optional groundwater remedial approach (EC for groundwater)
  - Not a waiver for source area remediation or for addressing potential risks to receptors
  - Need to address the source of the pollution to the maximum extent practicable
  - Mechanism to manage risk where there is no readily available technology to complete remediation
- ◆ Must demonstrate that variance will protect human health and the environment

# Technical Impracticability Variance

## 1<sup>st</sup> Scenario - Residual Source

- ◆ Groundwater impacts resulting from NAPL, smears, or discontinuous residuals
- ◆ Cannot be effectively removed or degraded
- ◆ Typically applies to DNAPL
- ◆ Contamination removed to the maximum extent practicable (where can be found)
- ◆ Groundwater contamination will not extend outside TI Zone

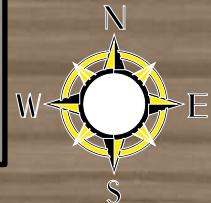
# Technical Impracticability Variance

## 2<sup>nd</sup> Scenario - Persistent Plume

- ◆ Steady state or slowly diminishing plumes that persist at unacceptable levels
  - ◆ Above GWPC, or SWPC, or both
- ◆ Plume fully characterized (3D)
- ◆ Will not dissipate within a reasonable timeframe
- ◆ Source area(s) remediated

# Steady State Condition

ACME Inc.



ND

UST

50 ppb

GW Monitoring Well



ND

20 ppb

October

January

February

March

April

May



ND

ND

GW flow direction



ND



ND

Not to Scale

# Technical Impracticability Variance

## TI Zone – Definition (92)

- ◆ Geographic area where groundwater contamination exceed the applicable criteria
- ◆ Contaminant Specific
- ◆ Public Input prior to DEEP approval
- ◆ Two-part approval
  - ◆ Approval of Eligibility (Step 1)
  - ◆ Approval of Final Variance (Step 2)

# TI Variance Request - Eligibility

## Step 1

- Submit the requested information identified in 22a-133-(3)(e)(1)(A) - **(10 Total)**
- Commissioner will “indicate in writing” if
  - Groundwater doesn’t qualify for the TI variance, or
  - Submit “Additional Information” (Step 2) in accordance with 22a-133-3(e)(2)
    - May required additional conditions

# 10 Eligibility Clauses

1. Substance and concentration in GW plume
2. 3D Map showing extent of GW plume exceeding criteria
3. Demonstrate compliance with soil (22a-133k-2)
  - Or that soil remediation is not technically practicable
4. All actions taken to remediate the GW plume (including laboratory analytical results)
5. Feasibility study that achieving compliance within a reasonable timeframe is not technically practicable

# 10 Eligibility Clauses

6. Plume is steady or diminishing state (or otherwise hydraulically controlled)
7. Map of the proposed TI Zone with:
  - Current and potential GW withdrawals and their potential to affect plume migration and protectiveness
8. Study evaluating risks of remaining polluted groundwater plume
  - If risk a contingency plan to minimize risk

# 10 Eligibility Clauses

9. Long-term monitoring, operation, maintenance, and reporting to show:
  - ◆ GW plume is not increasing in size or concentration
    - ◆ or no alterations in the risk assumptions
  - ◆ Unacceptable risks is not occurring
    - ◆ Land or water use change
    - ◆ If risk occurred contingency actions conducted
  - ◆ Any proposed controls continue to work and remain effective
10. Type and estimated amount of FA to maintain long-term provisions

# Technical Impracticability Variance

- ◆ Possible long-term obligations
  - ◆ Five-year status reports
  - ◆ Continuation of O & M
  - ◆ Long-term monitoring program
  - ◆ Land use monitoring inspections
  - ◆ Receptor updates



# TI Additional Information

After initial request qualifies for the variance (Step 1) the following information shall be submitted (as requested) within 120 days:

1. Public Notice has been provided
2. Written notice has been provided to each parcel owner and local health within the TI Zone
3. If ELUR is required, consent from the owner of each parcel
4. Demonstration that FA has been obtained

# TI Additional Information

## 5. ELUR or other permanent control is in place:

“Other permanent controls” - town ordinance or design districts

ELUR or permanent control shall:

- ◆ Require compliance with the plan and measures
- ◆ Include any conditions added by the Commissioner
- ◆ 5-year Reports with updating conditions
- ◆ If variance is for GWPC, prohibit drinking of groundwater use and withdrawal of groundwater

\*TI variance approval after all additional information is received

# Groundwater Exemption Incidental Sources

Compliance with GW criteria not required for GW impacted with:

- Trihalomethanes (or any other substance within drinking water) from a public water system
- Metals, petroleum hydrocarbons, and SVOCs, if:
  - ◆ Groundwater polluted by normal operation of motor vehicles (not from spill, refueling, repair, or maintenance of motor vehicles); or
  - ◆ Normal paving and maintenance of asphalt, providing that such pavement has been maintained for its intended purpose

Guidance available on DEEP Website

# Conditional Exemption - Pesticides

Exempted from Pesticide GW criteria if:

- ◆ Pesticides are solely as a result of “application of pesticides”
- ◆ Compliance has been achieved with DEC/PMC
  - ◆ Can use exceptions/exemptions/variances
- ◆ The nature & extent of the pesticides in GW evaluated
- ◆ Potable water at parcel sampled and if human health concern
  - ◆ Mitigated with treatment (GAC filter), or
  - ◆ Eliminate by connection to public water

# Conditional Exemption (cont'd) - Pesticides

Exempted from Pesticide GW criteria if:

- ◆ Potable well receptor survey conducted
- ◆ Notice on the land record for the parcel
  - ◆ Identifying GW exceedance for pesticides
- ◆ If identified on surrounding parcels, “best efforts” have been made to record an EUR on other affected parcels
- ◆ Notice submitted to the Commissioner and Local Health (at time of Verification) which documents all of the above

# Applying the Groundwater Criteria



# Groundwater Monitoring

- ◆ When should groundwater monitoring be conducted?
- ◆ What is groundwater monitoring designed to determine?
- ◆ When can groundwater monitoring start?
- ◆ What is required prior to conducting monitoring?
- ◆ How long is Compliance monitoring timeframe?

# Groundwater Monitoring (General)

## Shall be capable of determining:

- ◆ The conceptual site model (so for any release area suspected to impact groundwater)
- ◆ Background concentrations
- ◆ The effectiveness of any release area remediation
- ◆ The effectiveness of any measures to render soil environmentally isolated

# Groundwater Monitoring (General cont'd)

- ◆ Effectiveness of any remediation taken to eliminate or minimize any risk (TI variance)
- ◆ Whether applicable criteria have been met:
  - SWPC, Alternative SWPC, or background
  - VolC or Alternative VolC
  - Background, GWPC, or Alt GWPC
- ◆ In GB areas, whether the plume interferes with any existing use
- ◆ The effectiveness of MNA to achieve GW compliance within a reasonable timeframe

# Compliance Monitoring

- ◆ When is compliance monitoring required?
  - GW Compliance monitoring is required for any groundwater plume (any detection in groundwater)
  - "Groundwater plume" means groundwater that has been polluted by a release and is emanating from a release area and in which one or more substances from such release is present at a concentration above the laboratory reporting limit.

# Compliance Monitoring Applicability

- ◆ Compliance monitoring not triggered by soil remediation
- ◆ Groundwater monitoring is needed:
  - To characterize there is no plume
  - No plume - no compliance monitoring

# Compliance Monitoring Concepts

- ◆ Characterization of source of plume complete:
  - Without complete release area characterization, don't know where to look for the plume (and therefore, whether compliance monitoring will be necessary)
- ◆ GW sample locations must also represent extent and degree of plume:
  - Without representative sample locations, it is difficult to characterize plume and determine effectiveness of remediation

# Compliance Monitoring Starts After:

“Groundwater samples that will be used in determining compliance with an applicable criteria shall be collected after”:

- ◆ All monitoring events used for compliance must occur “**after**” the specified remedial actions **“have been concluded”**
- This includes all remedial effects of in-situ treatments

# Compliance Monitoring Starts After:

- ◆ All remedial actions to achieve compliance with the PMC and GW criteria have been concluded:
  - ◆ Except other than natural attenuation of groundwater plume or recording an EUR
  - ◆ Pertains to the continued decrease in concentration (attenuation) during Compliance Monitoring not MNA as a remedial measure

# Compliance Monitoring Starts After:

- ◆ If a site-wide clean up is the goal, or commingled plume, site-wide groundwater monitoring can be performed:
  - As long as wells are representative of all releases
  - All PMC/GW remedial actions for the site have been concluded (other than above)

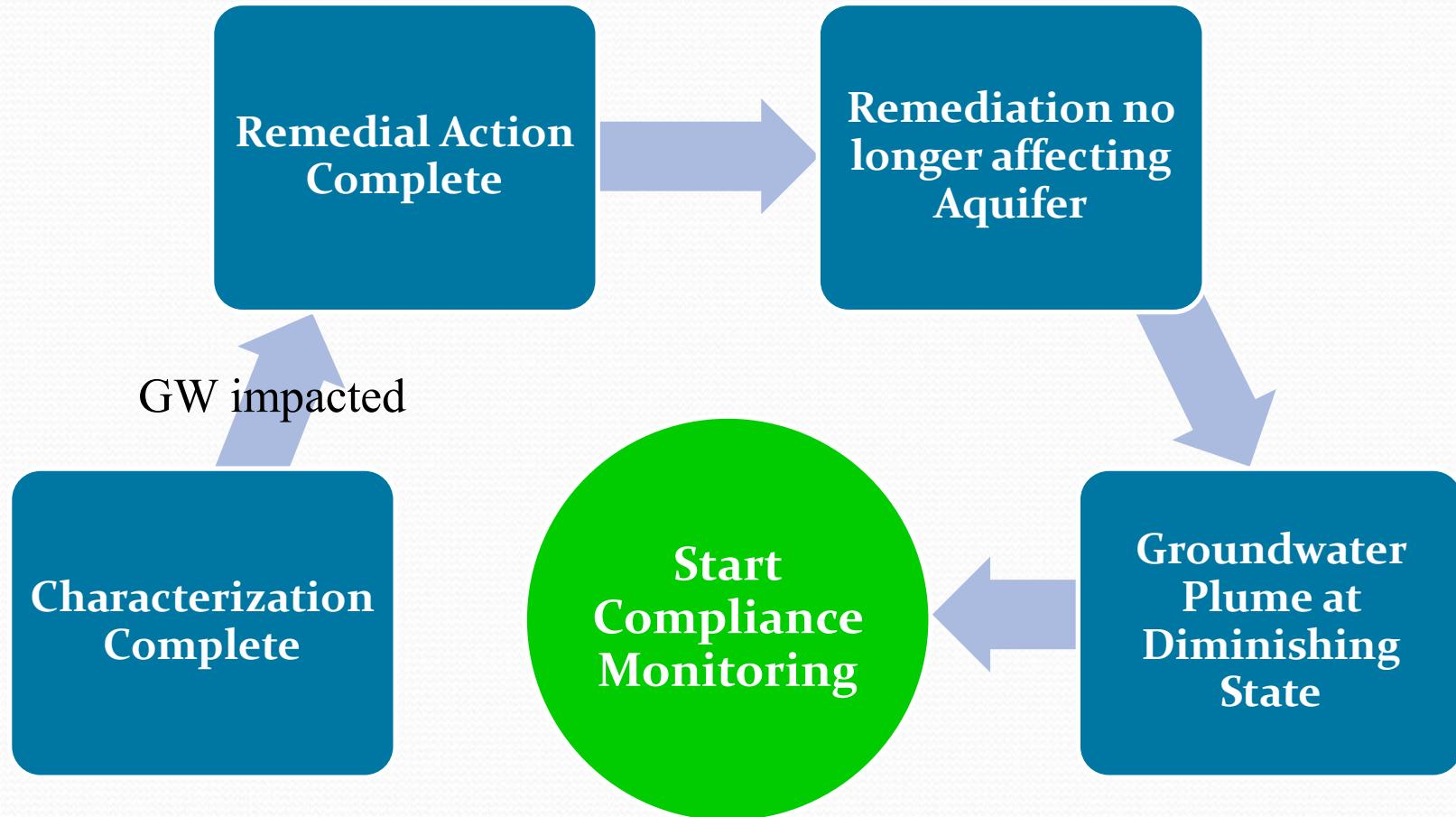
# Compliance Monitoring Starts After:

- ◆ Aquifer is no longer affected by withdrawal or injection (or other transient effects):
  - Monitoring wells need to be properly located to detect groundwater conditions both before and after remediation
- ◆ Geochemical changes from remediation have stabilized:
  - It may be difficult without proper baseline groundwater conditions to conclude the effects of remediation on groundwater conditions have ended and compliance monitoring can commence

# Compliance Monitoring Starts After:

- ◆ Groundwater plume is in diminishing state (not migrating and concentrations decreasing except for breakdown components):
  - Knowledge of the groundwater flow direction
  - Proper well screening to determine the 3D extent of the plume
  - Multiple sampling events are needed to document diminishing state conditions are occurring
  - Increasing concentration cannot occur over time in any monitoring well representing the plume

# Compliance Monitoring Summary



# Compliance Monitoring Timeframe

After groundwater reached applicable criteria:

- ◆ Compliance monitoring shall be a minimum of **four sampling** events **seasonally** on a quarterly basis within **two years**
  - except for
- ◆ 95% UCL options for GWPC/SWPC and Soil Vapor for VolC (to be discussed on later slides)

# Compliance Monitoring Timeframe

- ◆ 2-year window is between the first and last event (should be same season), so effectively only 8 quarters (9<sup>th</sup> quarter will be out of the window)
- ◆ Not necessarily consecutive, but representative of seasonal variation
- ◆ Samples must represent all four seasons:
  - ◆ Cover high and low water table events
- ◆ Allows for access or logistical issues (snow/ice)
- ◆ Does not prevent sampling for four quarters over a one-year period

# **Application of 2-year Compliance Monitoring Time Frame**

- ◆ If during the first year of compliance monitoring there are exceedances of applicable criteria during one sample round, it may be acceptable to collect another sample during the same quarter the following year. If that sample and three other quarterly samples meet the applicable criteria, compliance monitoring may be complete

as long as:

# Application of 2-year Compliance Monitoring Time Frame (cont'd)

- ◆ The anomalous exceedance was consistent with the goal of confirming the effectiveness of any soil or groundwater remediation
- ◆ The exceedance can be explained through secondary lines of evidence
- ◆ The difference between the exceedance and the subsequent compliance round is not due to differences in water table elevation (that would be a sign of an issue)
- ◆ If compliance is sought for a site-wide closure the exceedance is not due to a new source area

# Demonstrating Compliance with GWPC/Background

- ◆ All sampling location are equal to or less than GWPC/Background
- ◆ OR
- ◆ 95% UCL of no less than 12 consecutive monthly samples, calculated individually for each well, is equal to or less than GWPC/Background

# Demonstrating Compliance with SWPC/WQC

- ◆ Compliance with SWPC/WQC can be demonstrated at two different compliance points:
  - ◆ Most downgradient location (1st compliance point)

OR

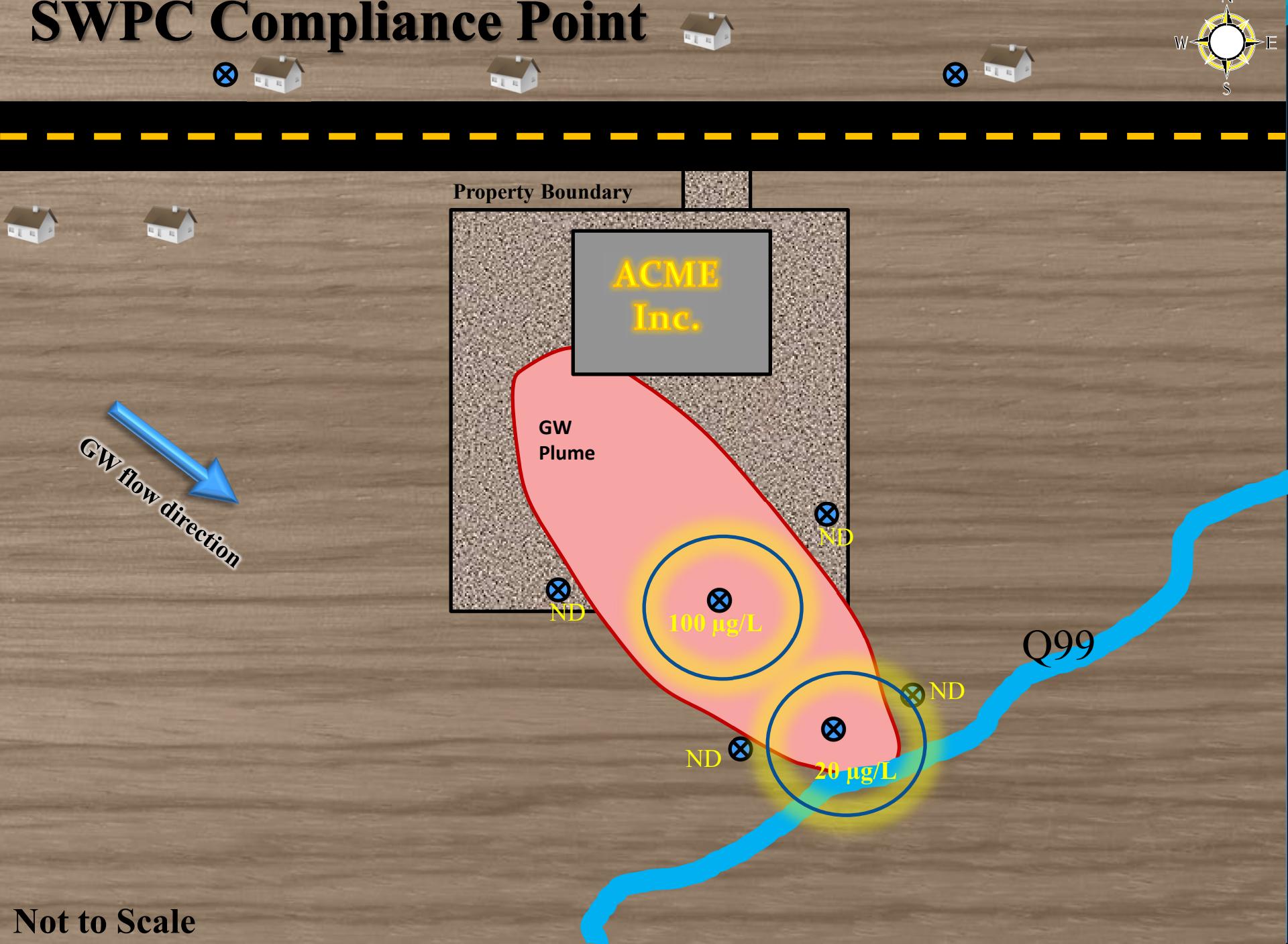
- ◆ Whole plume (2nd compliance point)

# Demonstrating Compliance with SWPC/WQC cont'd

## ◆ 1<sup>st</sup> Compliance Point

- Sample locations upgradient of groundwater discharge to surface water body
  - Does not have to be at the edge of the water
  - Could be most downgradient extent of the plume that complies
- All samples below SWPC/WQC, or
- 95% UCL of 12 consecutive monthly samples, calculated individually for each location, is equal to or less than SWPC/WQC

# SWPC Compliance Point



# Demonstrating Compliance with SWPC/WQC cont'd

## ◆ 2<sup>nd</sup> Compliance Point

- Quarterly samples collected from entire plume – representative of seasonal variability
- 95% UCL of representative samples of entire plume (using all wells within the plume) is equal to or less than SWPC/WQC
- Use all compliance sampling rounds in calculation – not limited to 2-year window (go back as far as needed to strengthen data set)

# Demonstrating Compliance with VolC

- ◆ All groundwater sampling location are equal to or less than GW VolC (4 quarterly seasons)
- OR
- ◆ All soil vapor sampling locations beneath a building are equal to or less than SV VolC
- ◆ 2 seasons – Heating & Cooling

# Alternative Methods to Determine GW Compliance – Commissioner Approval

- ◆ Commissioner may approve an alternative method of demonstrating compliance
  - The provision for approval of “**an alternative method for demonstrating compliance**” is to provide the ability to allow use of **innovative approaches** that might be developed in the future
  - Guidance, standard, or industrial code published by regulatory agency, governmental advisory group, or other professional organization

# Additional Remediation of Groundwater

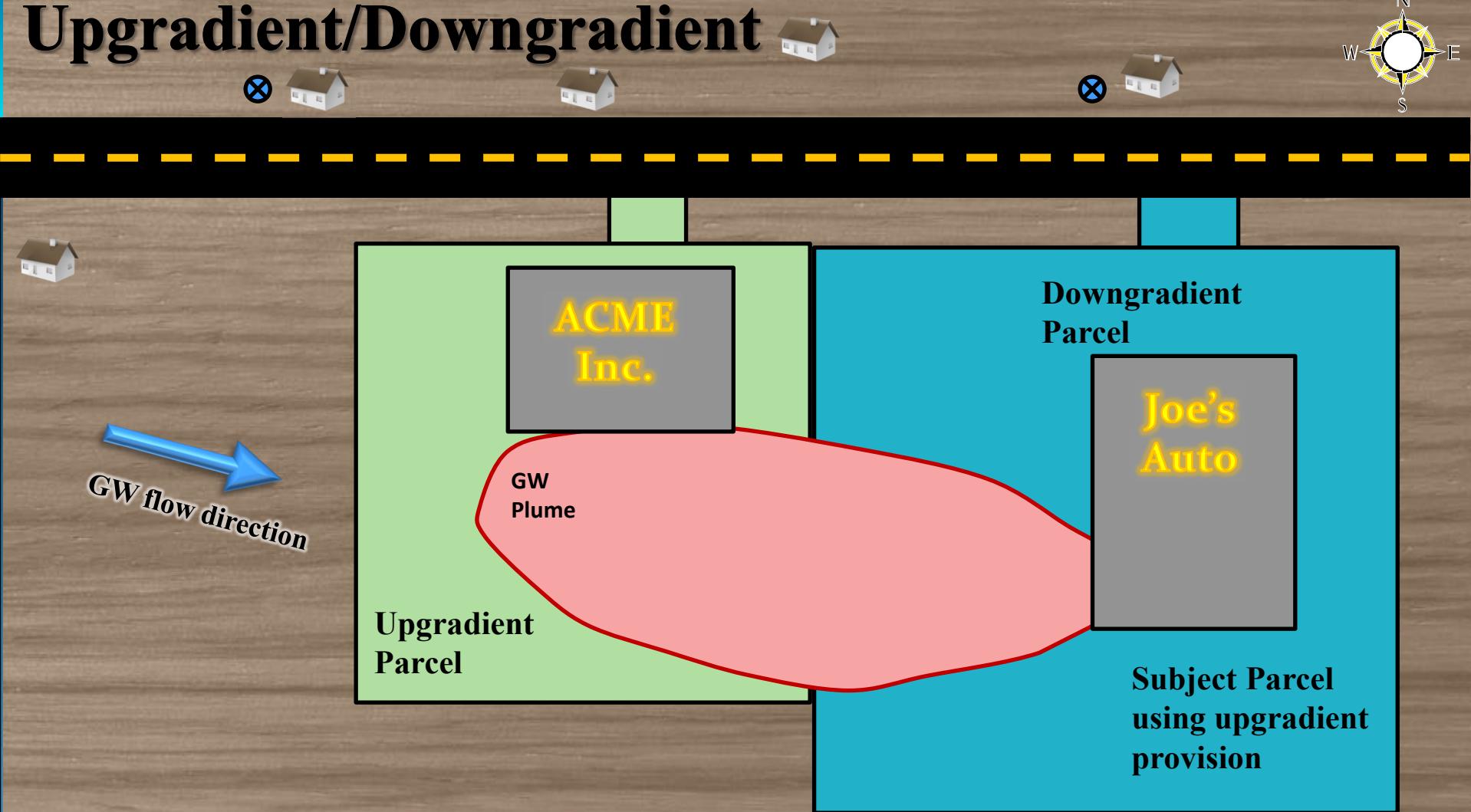
- ◆ Commissioner may take any action necessary to prevent or abate any threat to human health or the environment
- ◆ Additionally, may require remediation if the presence of a substance impairs the aesthetic quality of groundwater which limits the use as water for drinking or other uses

# Compliance Monitoring Recap

- ◆ Need to characterize release and extent of plume
- ◆ Groundwater monitoring still needs to determine the effectiveness of any remediation
- ◆ Remediation concluded (any for GW/PMC)
- ◆ Groundwater stabilized prior to compliance monitoring
- ◆ Any groundwater plume must be in diminishing state
- ◆ Compliance monitoring is 4 quarters within a 2-year window of monitoring

# Upgradient Groundwater Plume

# Upgradient/Downgradient



Not to Scale

# Upgradient Groundwater Plume

If substances in groundwater are coming solely from an upgradient parcel, the concentrations of such substances may be equal to or less than the concentrations coming onto the downgradient parcel, provided that:

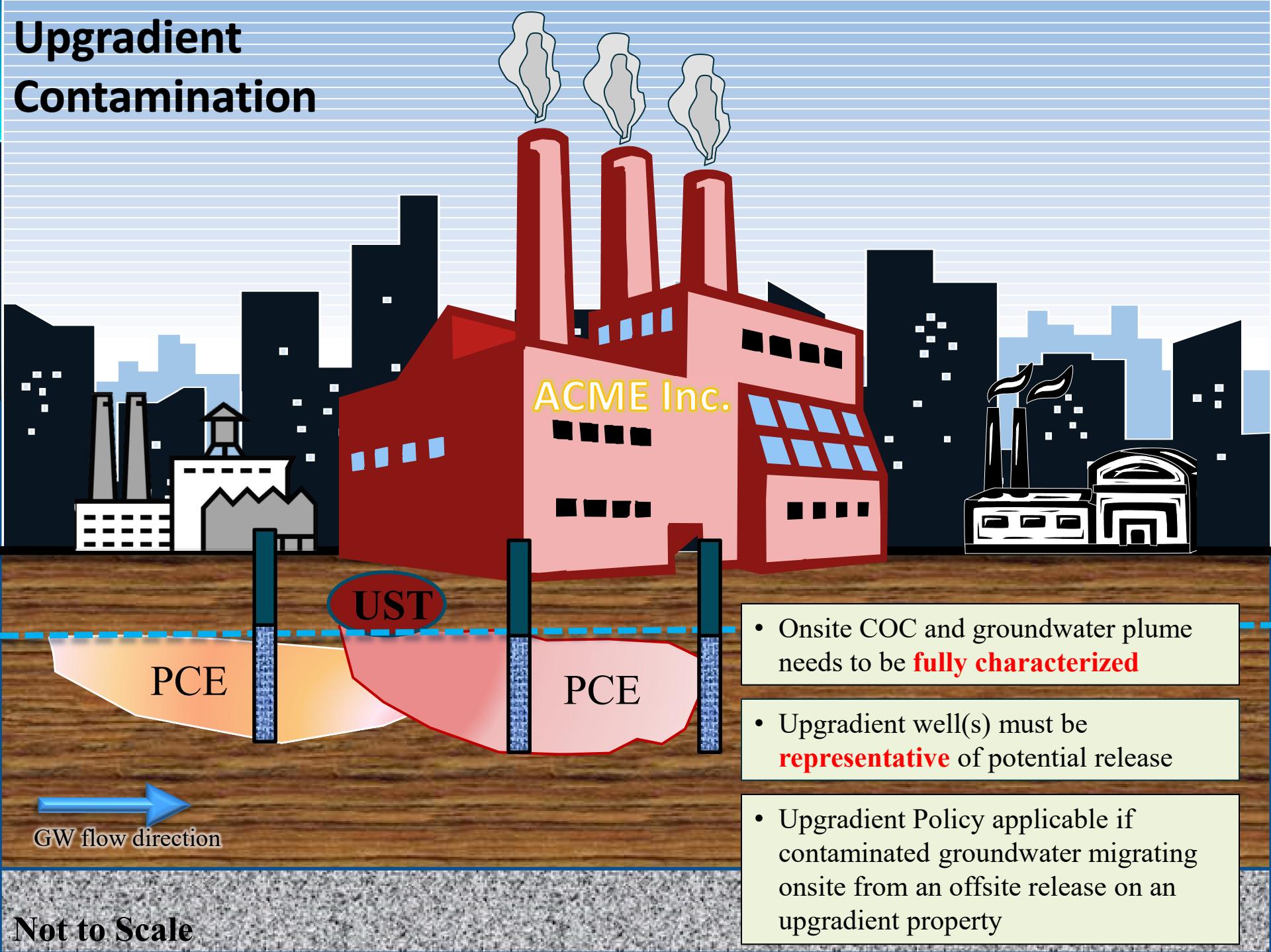
- ◆ Downgradient parcel soil is in compliance with 22a-133k-2
- ◆ Downgradient parcel exposure pathways (drinking & vapors) have been eliminated & mitigated
- ◆ Such substances are not already present in a plume at the downgradient parcel

# Co-mingled Groundwater Plume

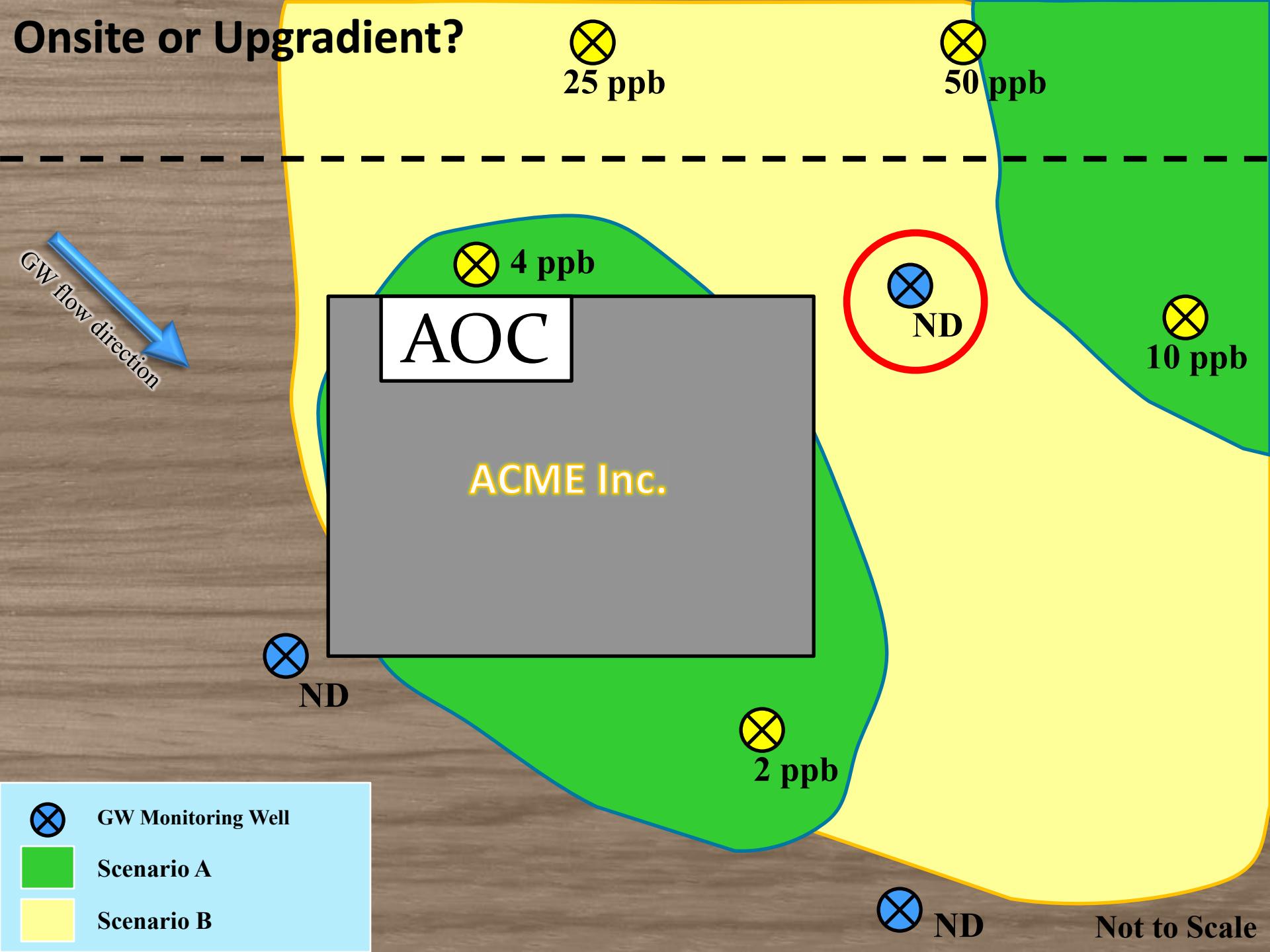
If substances in groundwater are coming from an upgradient parcel and co-mingling with an on-site plume, the concentrations of such substances may be equal to or less than the concentrations coming onto the parcel, provided that:

- ◆ Everything in 22a-133k-3(h)(4)(A) (previous slide)
- ◆ All exposure pathways (drinking & vapors) have been eliminated or mitigated for downgradient parcels, as well

# Upgradient Contamination



# Onsite or Upgradient?





# RSR TRAINING 2023

## ENVIRONMENTAL USE RESTRICTIONS

Presented by Amanda Limacher and Jade Barber  
Bureau of Water Protection and Land Reuse Remediation Division

# Environmental Use Restriction

Environmental  
Use Restriction  
(EUR)

Environmental  
Land Use  
Restriction (ELUR)

Notice of Activity  
and Use  
Limitation (NAUL)

# ENVIRONMENTAL LAND USE RESTRICTION

Approved by  
Commissioner

Approved by  
LEP (22a-  
133y)

Recorded on  
municipal land  
records

Easement  
granted to the  
Commissioner  
by the  
property  
owner

# NOTICE OF ACTIVITY AND USE LIMITATI ON

Approved by  
LEP

Approved by  
Commissioner

Recorded on  
municipal land  
records

NOT an  
easement  
granted to the  
Commissioner

# NAUL



# Connecticut General Statutes

(CGS) section 22a-133n through 22a-133s

## Authorize

- Commissioner to approve ELURs and NAULs
- LEP to approve NAULs and ELURs pursuant to section 22a-133y

## Specify circumstances in which EURs are applicable

# Remediation Standard Regulations

(RSRs) sections 22a-133k-1 through 22a-133k-3 of RCSA

- **S**pecify circumstances in which EURs are required
- **S**ummarize the types of EURs available

# EUR Regulations

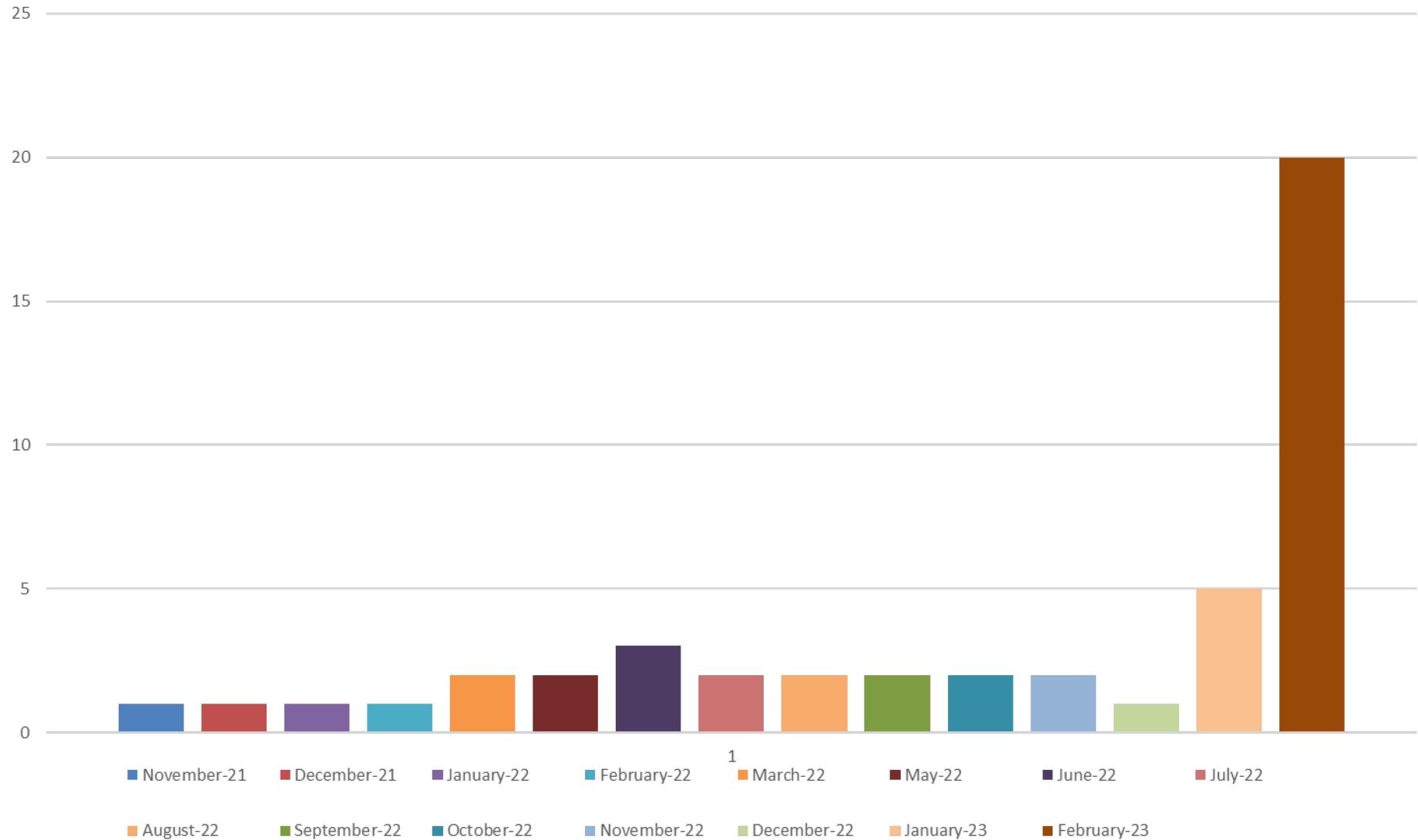
sections 22a-133q-1 through 22a-133q-9 of RCSA

**D**escribe the process of preparation, approval, and recording of

- EURs
- allowable disturbances, releases, and terminations

**O**utline post-recording requirements

# EUR Submittals since September 8, 2021



# ENVIRONMENTAL USE RESTRICTIONS - SOIL

Residential Use  
Restriction – Soil  
(Non-PCBs)

- Exceeds Res DEC and Meets I/C DEC at <15 feet below ground surface (bgs)
- Site-wide restriction

Inaccessible Soil  
(Non-PCBs)

- Exceeds applicable DEC at <15 feet bgs
- Prevents disturbance of soil / demo of building or permanent structure
- Requires maintenance of cover
- Limited disturbance option

Environmentally  
Isolated Soil

- Exceeds PMC beneath existing building
- Prevents infiltration of liquid / demo of building or permanent structure\*

Engineered  
Control Variance

- LEP Certified – DEC EC or DEEP Approved – PMC and DEC EC
- Prevents disturbance of EC and soil
- Requires maintenance & inspections

\* DEEP approval

# ENVIRONMENTAL USE RESTRICTIONS - GROUNDWATER

---

## Residential Activity

### Residential Activity Restriction Groundwater:

VOCs exceed Res VolC and Meet I/C VolC at <30 ft bgs

### Soil Vapor Below a Building:

VOCs exceed RSVVC and Meet I/C SVVC

### Concentrations at Water Table:

Uppermost portion of water column meets I/C VolC

Requires seasonally representative data

---

## Alternative Release-Specific Volatilization Criteria Alternative Method of Demonstrating Compliance with Volatilization Criteria

DEEP Approval of Alternative VolC or Alternative Method of Compliance

Requires compliance with conditions specified in Approval

---

## Groundwater Polluted with Pesticides

Pesticides originating from another parcel

No restrictions or obligations (notice only)

---

## No Build

VOCs exceed VolC at <30ft bgs

Prohibits construction of a building

---

## Vapor Mitigation

VOCs exceed VolC below building

Prohibits demolition of the building

Requires implementation of protective measures

---

## Residential Activity – Soil (PCBs)

- Subject area specific

---

## Inaccessible Soil and Residential Activity (PCBs)

- Subject area specific

---

## Non-Aqueous Phase Liquids (NAPL) Variance

- DEEP Approval
- Prevents disturbance/exposure of NAPL

---

## Indoor Air Monitoring

- VOCs in groundwater below building
- Ensures indoor air monitoring program is in effect

---

## Technical Impracticability Variance

- DEEP Approval
- SWPC or GWPC
- Requires measures to eliminate risk to human health/environment

# NAUL Statutory LIMITATIONS

---

**Residential Use Restriction:**  
Zoning permits Industrial/Commercial uses

---

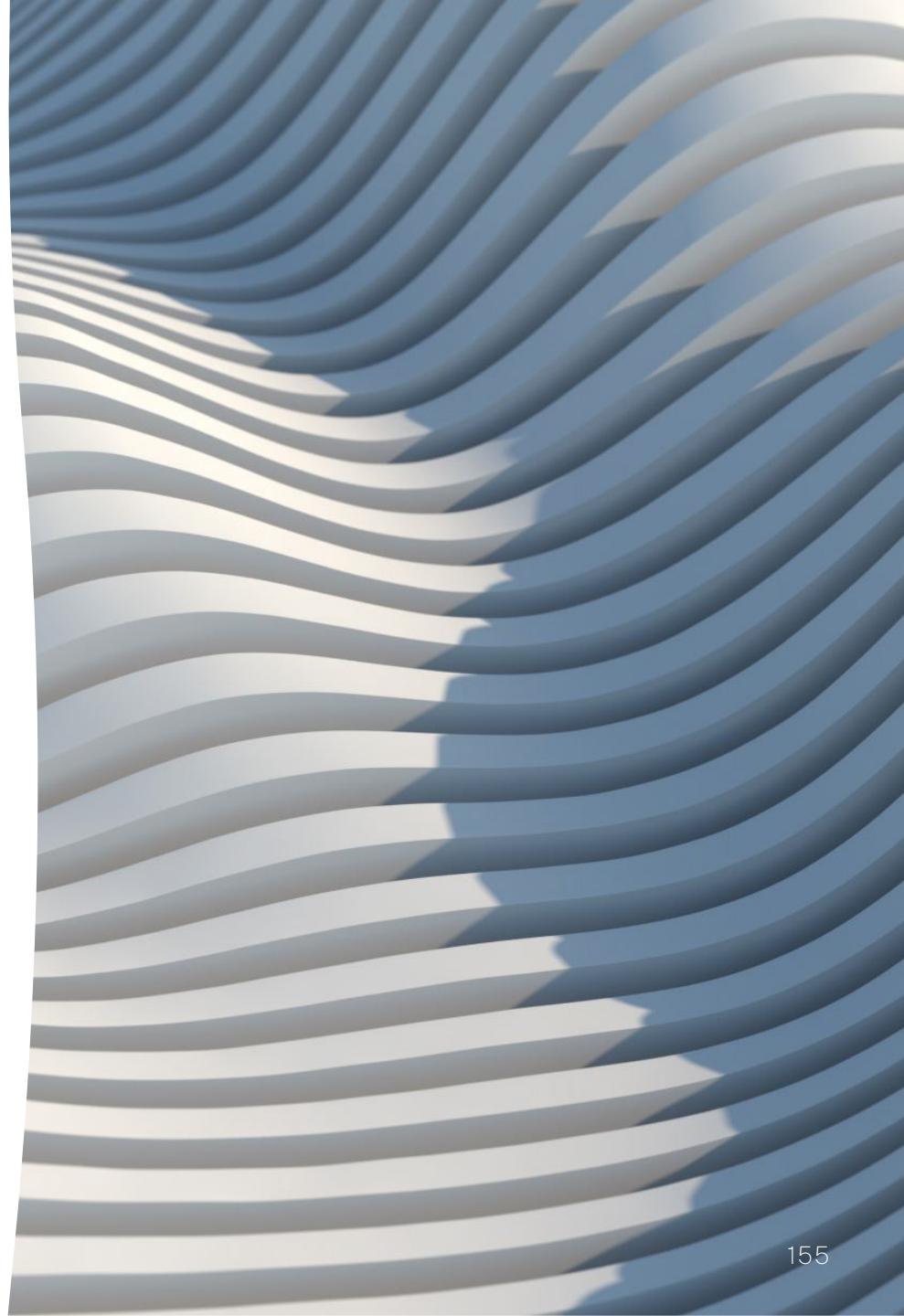
**Inaccessible Soil Restriction:**  
Concentrations less than 10x applicable DEC

---

**Engineered Control Disturbance Restriction:**  
Concentrations less than 10x applicable DEC

---

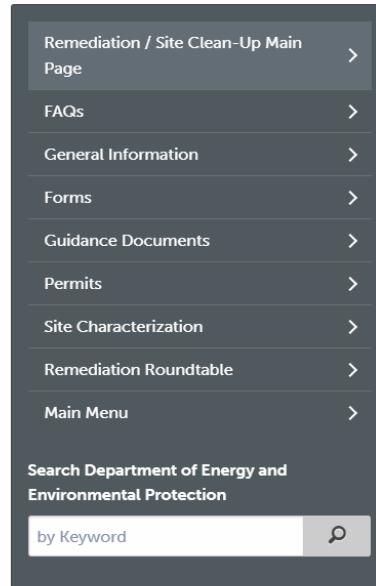
**Environmentally Isolated Soil Restriction:**  
Concentrations less than 10x applicable DEC and PMC, or total volume of soil greater than 10x DEC and PMC is less than or equal to 10 cubic yards.



# EUR WEBPA GE

[http://www.ct.gov/deep/  
EUR](http://www.ct.gov/deep/EUR)

[CT.gov Home](#) / [Department of Energy and Environmental Protection](#) / [Remediation Site Clean Up](#) / [Environmental Use Restrictions](#)



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by Keyword

## Environmental Use Restrictions

The purpose of an **Environmental Use Restriction** (EUR) is to minimize the risk of human exposure to pollutants and hazards to the environment by preventing specific uses or activities at a property or a portion of a property. There are two types of EUR, the Environmental Land Use restriction (ELUR) and Notice of Activity and Use Limitation (NAUL), both are recorded on the municipal land records.

**Environmental Land Use Restrictions (ELUR)** – forms, fees, and instructions

**Notices of Activity and Use Limitation (NAUL)** – forms, fees, and instructions

**Emergency and Non-Emergency EUR Releases** – allow for activities that are prohibited by EURs, such as excavation and utility work

[EUR Map](#)

[EUR FAQs](#) 

[March 2021 Remediation Roundtable Presentation](#)  (EUR presentation begins on slide 20)

### Inspections

Inspection reports shall be completed in compliance with [Section 22a-133q-8 of the RCSA](#), shall be maintained by the parcel owner, and shall be provided to the Commissioner upon request.

**Annual Inspection.** Between April 1<sup>st</sup> and July 31<sup>st</sup> of each year, an annual inspection shall be conducted and within 30 days a report of such inspection shall be completed and signed by the owner of the parcel.

**Five-Year Comprehensive Inspections.** Between April 1<sup>st</sup> and September 30<sup>th</sup> *beginning in the year 2025*, the owner of the parcel shall retain an LEP to conduct a comprehensive inspection. Within 30 days, a report of such inspection shall be completed, signed and sealed by the LEP and signed by the owner of the parcel. An annual inspection is not required the year a five-year comprehensive inspection is conducted.

# ELUR AND NAUL WEBPAGES

## *Environmental Land Use Restriction*

CT.gov Home / Department of Energy and Environmental Protection / Remediation Site Clean Up / Environmental Land Use Restrictions

- Remediation / Site Clean-Up Main Page
- FAQs
- General Information
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- Site Characterization
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Search Department of Energy and Environmental Protection

### Environmental Land Use Restrictions

An **Environmental Land Use Restriction** (ELUR) is a type of Environmental Use Restriction (EUR) that complies with the requirements of section 22a-133o of the Connecticut General Statutes, section 22a-133q of the Regulations of Connecticut State Agencies, and the RSRs. An ELUR is an easement granted to the Commissioner by the property owner and is recorded on the municipal land records. The purpose of an ELUR is to minimize the risk of human exposure to pollutants and hazards to the environment by (1) preventing the use of specified real property for certain purposes, or (2) prohibiting or requiring certain activities on such property.

**EUR Fee Transmittal Form** - Complete this form and submit to DEEP CPPU with the required fee.

- **Commissioner Approved ELUR** - \$5,000 (\$2,500 until February 15, 2023)
- **LEP Approved ELUR 133y** **Commissioner approval of subordination waiver(s)** - \$2,500 (\$1,250 until February 15, 2023)

The **Electronic Transmittal Form** must be completed and attached as the cover page of the ELUR package. The ELUR **must** be submitted in Word. Upload to the [Connecticut Secure File Transfer](#) website per the instructions on [Transmittal-of-Documents](#).

**EUR Submittal Form** - documents the construction of an EUR from draft to recordation on the land records. The **EUR Submittal Form houses the documents listed below**, as applicable (see [Instructions to Embed Documents](#)).

[Affirmative LEP Statement for 133y](#)

[Declaration of Environmental Land Use Restriction and Grant of Easement and Exhibit A: Parcel Description \(Metes and Bounds\)](#)

[Exhibit B: EUR Opinion Overview](#)

## *Notice of Activity and Use Limitation*

CT.gov Home / Department of Energy and Environmental Protection / Remediation Site Clean Up / Notices of Activity and Use Limitation

- Remediation / Site Clean-Up Main Page
- FAQs
- General Information
- Forms
- Guidance Documents
- Permits
- Site Characterization
- Remediation Roundtable
- Main Menu

Search Department of Energy and Environmental Protection

### Notices of Activity and Use Limitation

A **Notice of Activity and Use Limitation** (NAUL) is a type of Environmental Use Restriction (EUR) that complies with the requirements of section 22a-133o of the Connecticut General Statutes, section 22a-133q of the Regulations of Connecticut State Agencies, and the RSRs. Unlike an ELUR, a NAUL is a notice recorded on the municipal land records that does not create an easement on the parcel granted to the Commissioner. The purpose of a NAUL is to minimize the risk of human exposure to pollutants and hazards to the environment by (1) preventing the use of specified real property for certain purposes, or (2) prohibiting or requiring certain activities on such property.

**EUR Fee Transmittal Form** - Complete this form and submit to DEEP CPPU with the required fee.

- **Commissioner Approved NAUL** - \$5,000 (\$2,500 until February 15, 2023)
- **LEP Approved NAUL** - \$1,500 (\$750 until February 15, 2023)

The **Electronic Transmittal Form** must be completed and attached as the cover page of the NAUL package. The NAUL **must** be submitted in Word. Upload to the [Connecticut Secure File Transfer](#) website per the instructions on [Transmittal of Documents](#).

**NAUL forms prescribed by the Commissioner**

**EUR Submittal Form** - documents the construction of an EUR from draft to recordation on the land records. The **EUR Submittal Form houses the documents listed below**, as applicable (see [Instructions to Embed Documents](#)).

[Affirmative LEP Statement for NAUL](#)

[Declaration of Notice of Activity and Use Limitation and Exhibit A: Parcel Description \(Metes and Bounds\)](#)

[Exhibit B: EUR Opinion Overview](#)

# REQUESTING AN EUR

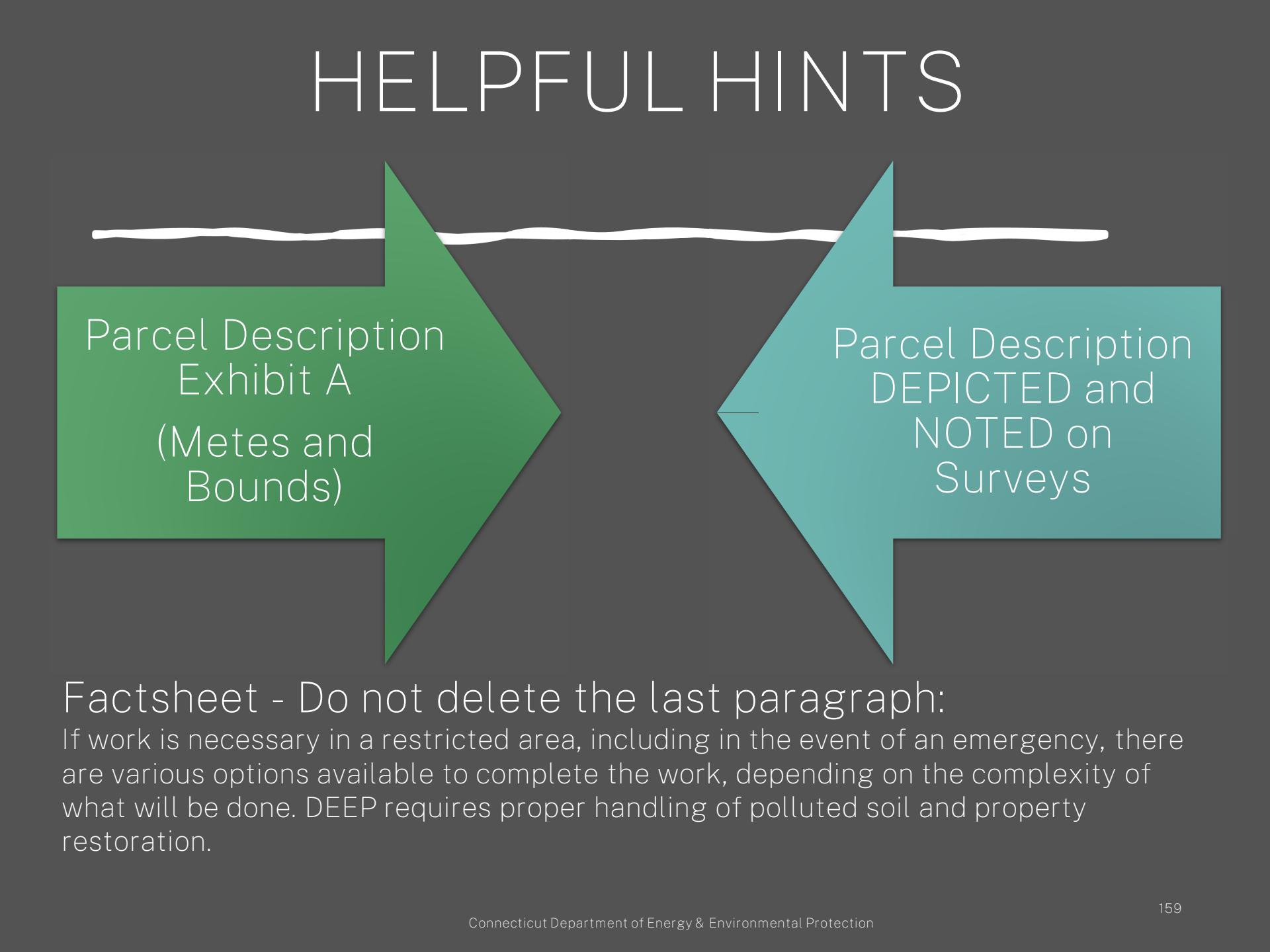
## Declaration of EUR

- Restricts certain activities and imposes obligations on a property
  - NAUL and ELUR specific
  - Includes Exhibit A: Parcel Description (Metes and Bounds)

## EUR Factsheet

- Summarizes the EUR restrictions and obligations
- Maintained at the parcel or by person responsible for maintenance
- Must be provided to person responsible for overseeing health & safety of workers prior to any work on the site

# HELPFUL HINTS



Parcel Description  
Exhibit A  
(Metes and  
Bounds)

Parcel Description  
DEPICTED and  
NOTED on  
Surveys

Factsheet - Do not delete the last paragraph:

If work is necessary in a restricted area, including in the event of an emergency, there are various options available to complete the work, depending on the complexity of what will be done. DEEP requires proper handling of polluted soil and property restoration.

# REQUESTING AN EUR

## Exhibit C: Survey and Simplified Survey

- Revision date less than 90 days prior to EUR submittal

### Title Search

- List of all legal interests and claims on a property derived from a search of public records
- Dated less than 90 days prior to EUR submittal

### Table 1 – Evaluation of recorded interests by an attorney

- **ELUR:** Interests that interfere with the ELUR must be subordinated
  - Commissioner may waive requirement for subordination agreement for certain interests
- **NAUL:** Owners of interests that interfere with the NAUL must subject interest to NAUL by signing the Declaration

### Table 2 – Evaluation of survey and property owner affidavit

# TABLE 1 ELUR

Item #	Volume/Page	Description	ELUR - Interest in Land Review and Evaluation
14	Vol. 10320, Pg. 186	<p>Open-End Mortgage, Assignment of Leases and Rents, Assignment of Contracts, Security Agreement, and Fixture Filing from 100 Wheeler Street Industrial LLC to CP PL Holding, LLC in the original principal amount of \$17,117,147.00, dated as of January 21, 2022 and recorded in the New Haven Land Records.</p>	<p>Is this an interest in Land?</p> <p><input checked="" type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p>Rationale why it is not an interest: <a href="#">Enter Rationale</a></p> <p>Will the interest be released?</p> <p><input type="checkbox"/> YES</p> <p><input checked="" type="checkbox"/> NO</p> <p>Will a subordination be obtained?</p> <p><input checked="" type="checkbox"/> YES</p> <p>(embed proposed subordination and interest holder agreement below)</p> <p><input type="checkbox"/> NO A waiver of the subordination requirement is requested.</p> <p>(embed copy of interest below)</p> <p>The interest is so minor as to be unaffected by ELUR or when acted upon is not capable of creating a condition contrary to the purpose of the ELUR because:</p> <p><input checked="" type="checkbox"/> Interest is located outside of the ELUR Subject Area(s):</p> <p><a href="#">Enter Subject Area(s)</a></p> <p><input type="checkbox"/> Other: <a href="#">Explanation</a></p>
Embed the following (as applicable):		<p>Subordination agreement</p> 	
Proposed subordination:		  Lender Subordination Agree	
Interest holder agreement to subordinate:		  Agreement to Subordinate	
Copy of interest:		  Vol. 10320, Pg. 186	

Item #	Volume/Page	Description	ELUR - Interest in Land Review and Evaluation
11	250/31	<p>Easements concerning the installation and maintenance of an endwall and ripcap.</p>	<p>Is this an interest in Land?</p> <p><input checked="" type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p>Rationale why it is not an interest: <a href="#">Enter Rationale</a></p> <p>Will the interest be released?</p> <p><input type="checkbox"/> YES</p> <p><input checked="" type="checkbox"/> NO</p> <p>Will a subordination be obtained?</p> <p><input checked="" type="checkbox"/> YES</p> <p>(embed proposed subordination and interest holder agreement below)</p> <p><input checked="" type="checkbox"/> NO A waiver of the subordination requirement is requested.</p> <p>(embed copy of interest below)</p> <p>The interest is so minor as to be unaffected by ELUR or when acted upon is not capable of creating a condition contrary to the purpose of the ELUR because:</p> <p><input checked="" type="checkbox"/> Interest is located outside of the ELUR Subject Area(s):</p> <p>A, B, C, and D</p> <p><input type="checkbox"/> Other: <a href="#">Explanation</a></p>
Embed the following (as applicable):			
Proposed subordination:			
Interest holder agreement to subordinate:			
Copy of interest:		  250-31.pdf	

# TABLE 1 NAUL

Item #	Volume/Page	Description	NAUL - Interest in Land Review and Evaluation	
13	V. 908/P.167	Mortgage from 126 Bradley Road, LLC to the State of Connecticut  Is this an interest in Land? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Will the interest be released? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Provide copy of interest, notice to interest holder, interest holder's agreement to sign the NAUL, and, if applicable, interest holder's waiver of 60-day notice period below.
Rationale why it is not an interest: <a href="#">Enter Rationale</a>				
Embed the following (as applicable): Notice to interest holder and interest holder agreement:   NAUL Notice to Conflicting Interest NAUL Interest Owner  Interest holder waiver:  (DECD executed) NAUL Waiver of Sixt				
Copy of Interest:  DECD Mortgage(3679101.1)				

# Conflicting Interest

Item #	Volume/Page	Description	NAUL - Interest in Land Review and Evaluation	
15	V.195/P.469	Rights and easements set forth in certificate of condemnation  Is this an interest in Land? <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Will the interest be released? <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Provide copy of interest, notice to interest holder, interest holder's agreement to sign the NAUL, and, if applicable, interest holder's waiver of 60-day notice period below.
Rationale why it is not an interest: Right of access being taken is not an interest land; right to discharge water does not impact NAUL area and right to relocate/excavate channel and slope have been terminated by the terms of the document				
Embed the following (as applicable): Notice to interest holder and interest holder agreement:  NAUL Notice to Non-Conflicting Int				
Interest holder waiver: Copy of Interest:  C Cowles Certificate of Taking V195P469				

# Non-Conflicting Interest

# TABLE 2 EUR

	Item	Description	Location of Item	Impact Analysis	
<input type="checkbox"/> Evidence of an encroachment <input type="checkbox"/> Evidence of utility with no recorded easement <input type="checkbox"/> Evidence of a boundary line dispute <input checked="" type="checkbox"/> Evidence of monitoring wells <input type="checkbox"/> Other activities/features that may be identified on the Survey <input type="checkbox"/> Unrecorded Remediation Agreement <input type="checkbox"/> Other activities that may be identified in the Preliminary Property Owner Affidavit (i.e. Lease)	All of the wells are controlled by the property owner.		<input type="checkbox"/> Item is located outside of the EUR Subject Area(s) <input checked="" type="checkbox"/> Item is located inside of the EUR Subject Area(s)	Will the item affect the EUR? <input type="checkbox"/> Yes → <input checked="" type="checkbox"/> No, rationale: <input type="checkbox"/> Item is subject to Section 16-237 of the CGS— and notice of recorded EUR to be provided to utility <input checked="" type="checkbox"/> Property Owner is responsible for the item <input type="checkbox"/> Other: <i>Describe Other</i>	The item shall be recorded on the land records and Table 1 will be updated to reflect the change.
<input type="checkbox"/> Evidence of an encroachment <input checked="" type="checkbox"/> Evidence of utility with no recorded easement <input type="checkbox"/> Evidence of a boundary line dispute <input type="checkbox"/> Evidence of monitoring wells <input type="checkbox"/> Other activities/features that may be identified on the Survey <input type="checkbox"/> Unrecorded Remediation Agreement <input type="checkbox"/> Other activities that may be identified in the Preliminary Property Owner Affidavit (i.e. Lease)	The rights to the utility terminated upon construction – See 250-31		<input type="checkbox"/> Item is located outside of the EUR Subject Area(s) <input checked="" type="checkbox"/> Item is located inside of the EUR Subject Area(s)	Will the item affect the EUR? <input type="checkbox"/> Yes → <input checked="" type="checkbox"/> No, rationale: <input type="checkbox"/> Item is subject to Section 16-237 of the CGS— and notice of recorded EUR to be provided to utility <input checked="" type="checkbox"/> Property Owner is responsible for the item <input type="checkbox"/> Other: <i>Describe Other</i>	The item shall be recorded on the land records and Table 1 will be updated to reflect the change.



# REQUESTING AN EUR

## EUR Exhibit B: EUR Opinion Overview Form

- Summary of Restrictions and Obligations
- Historical Use Narrative
- Pollutant Types
- Proposed Restrictions
- Pollutant Concentrations
- Pollutant Location and Extent
- Applicable Criteria Exceeded

# REQUESTING AN EUR

## EUR Opinion – Restrictions and Obligations

- fka Decision Documents
- Restriction
- Outlines site-specific measures or conditions

## EUR Opinion – Supplemental Information

### DO Include:

- Figures with Subject Areas and sample locations
- Data tables to support the EUR restrictions (i.e., confirmation samples following excavation)

### DON'T Include:

- Historical data (i.e., sample results for soil excavated from the subject area)
- Unrelated data (i.e., sample results from AOC not addressed by EUR)

# REQUESTING AN EUR

## Preliminary Parcel Owner Affidavit

- Attests to truth and accuracy of information in EUR

## Public Notice

- Section 22a-133k-1(d) Public Participation
- Ensure appropriate restrictions are included in public notice
- Certified affidavit of publication

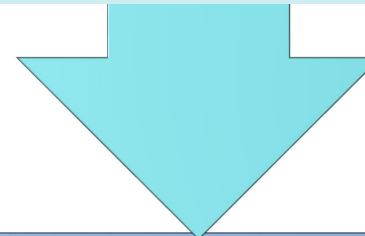
# LEP APPROVED NAUL & ELUR 133y

Submit EUR  
Form post-  
recordation\*

## Attorney Statement of Compliance

Licensed in CT

Certifies that 1) no recorded interests interfere with EUR; and 2) owners of such interests have irrevocably subordinated the interest (133y) or have agreed to sign the NAUL



## Affirmative LEP Statement

Determines 1) applicability of EUR; 2) a CT attorney completed a Statement of Compliance (NAUL); 3) EUR complies with legal requirements; and 4) EUR is protective of human health and environment

# RECORDING AN EUR

## Declaration

Declaration of ELUR & Grant of Easement

Declaration of NAUL



**Exhibit A: Property Description (Metes and Bounds)**



**Exhibit B: EUR Opinion Overview Form**

Applicable Opinions (Restrictions and Obligations)



**Exhibit C: Survey and Simplified Survey**



**ELUR-specific (separately, as applicable)**

Subordination Agreements

Subordination Waiver Approval



# HELPFUL HINTS

Title Search  
Bringdown

- Do not record if new interests are identified

Date of  
Declaration

- Last party to execute EUR dates the 1<sup>st</sup> page

Record Surveys  
First

- Enter survey information on Exhibit A of Declaration prior to recording EUR

Edit Opinion  
Overview Form

- Only include applicable Opinions

LEP NAULs

- LEP → **7 Days** Property Owner → Record
- DEEP is available to review draft before recording

# EUR FORM SUBMITTAL



# EUR Form Instructions

Documents the EUR from proposal to recordation

- Embed documents in the squares provided per the instructions
- All fillable EUR form documents must be embedded in Word *unless signatures required*
- PDFs must be embedded in Adobe Acrobat

 Factsheet:	 EUR Factsheet REMD 10597 385 Lc	 EUR Opinion (Exhibit B) AND Supplemental Information (SI)	 EUR Opinions (Exhibit B) AND Supplemental Information (SI)
Residential Activity – Soil (Non-PCBs)	 1 Res Soil Supp Info REMD 10597 385 Lc  EUR Opinion EUR Res Soil.docx	Residential Activity – Soil (PCBs)	

# DEEP APPROVED ELUR

Additional information requested by DEEP

90 Days

90 Days\*

Rejected waiver request:  
Obtain Subordination Agreements

180 Days

Submit approved ELUR signed by Owner

14 Days

30 Days

90 Days  
Subordinations

Record fully executed ELUR

7 Days

(Section 22a-133q-2(e)(5) provides instructions if statutory deadline is missed)

Provide Certificate of Title

7 Days

(Section 22a-133q-2(e)(5) provides instructions if statutory deadline is missed)

RED: Extension deadline  
133q-2

\*Granted automatically

Failure to meet either deadline will result in automatic DISAPPROVAL

Department of Energy Circular M-100

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# 133Y ELUR

ELUR signed by  
Owner submitted  
to LEP for  
signature

14 Days

30 Days

90 Days  
Subordinations

Record fully  
executed ELUR

7 Days

(Section 22a-133q-  
2(e)(5) provides  
instructions if statutory  
deadline is missed)

Provide  
Certificate of  
Title

7 Days

(Section 22a-133q-  
2(e)(5) provides  
instructions if statutory  
deadline is missed)

RED: Extension deadline  
22a-133q-2

Failure to meet either deadline will result in automatic DISAPPROVAL

Connecticut Department of Energy & Environmental Protection

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# DEEP APPROVED NAUL

Additional information requested by DEEP\*

90 Days

90  
Days\*

Obtain  
Interest  
Holder  
Agreement(s)  
to Sign\*

180  
Days

Record Fully  
Executed  
NAUL

7 Days

Provide Post-  
Recording  
Submittals

30 Days

RED: Extension deadline  
133q-3

\*Failure to meet either deadline will result in automatic DISAPPROVAL

\*Granted automatically

22a-

# LEP APPROVED NAUL

Record Fully  
Executed NAUL

7 Days

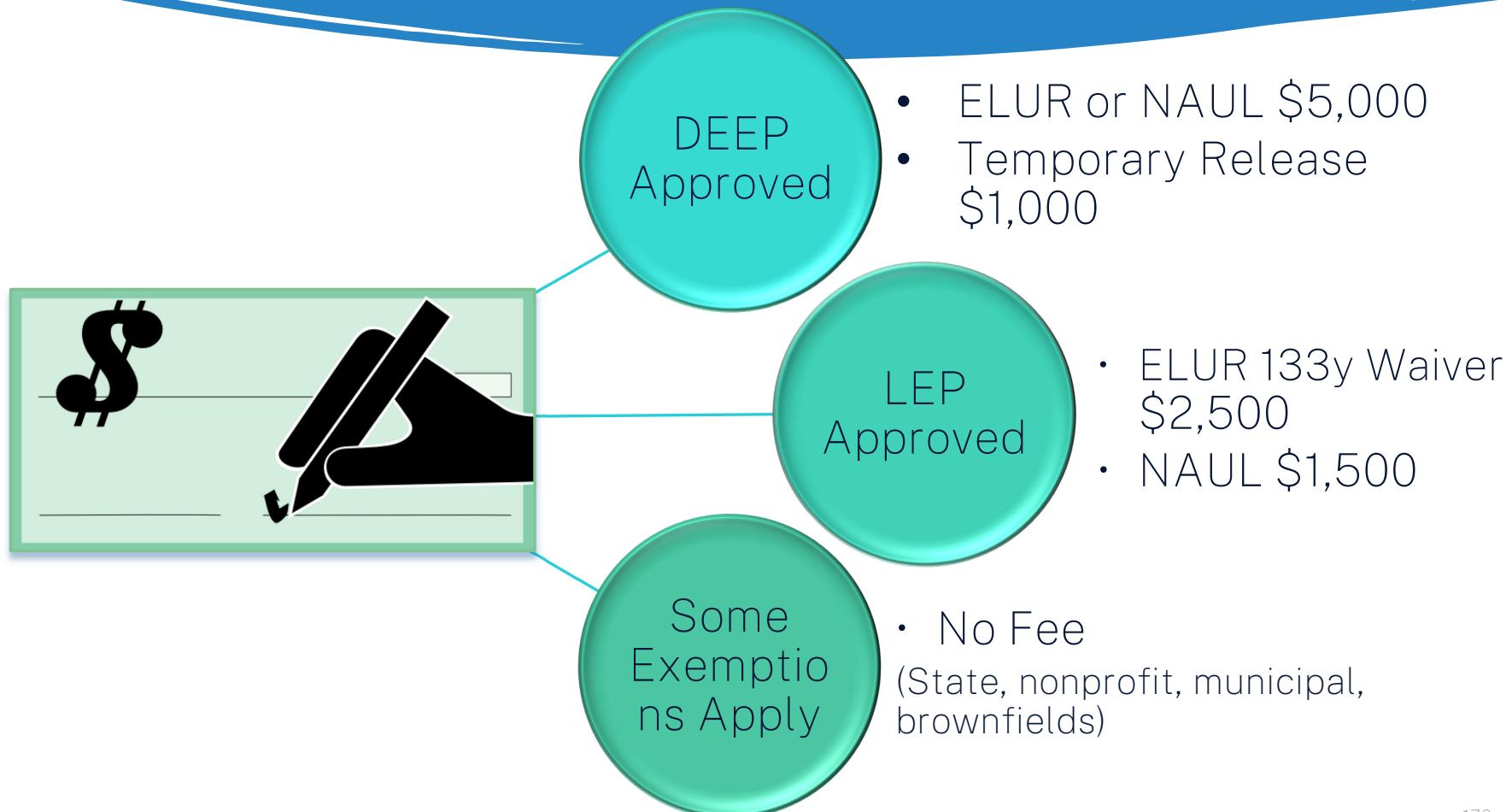
Provide Completed  
EUR Form and Post-  
Recording Submittals

30 Days

\*Failure to meet deadline will result in automatic DISAPPROVAL  
133q-3

22a-

# EUR FEES



# SURVEYS AND SIMPLIFIED SURVEYS

## Surveys

- (b) 50-100%,
- (c) <50%, OR
- (d) Residential Rest. Only

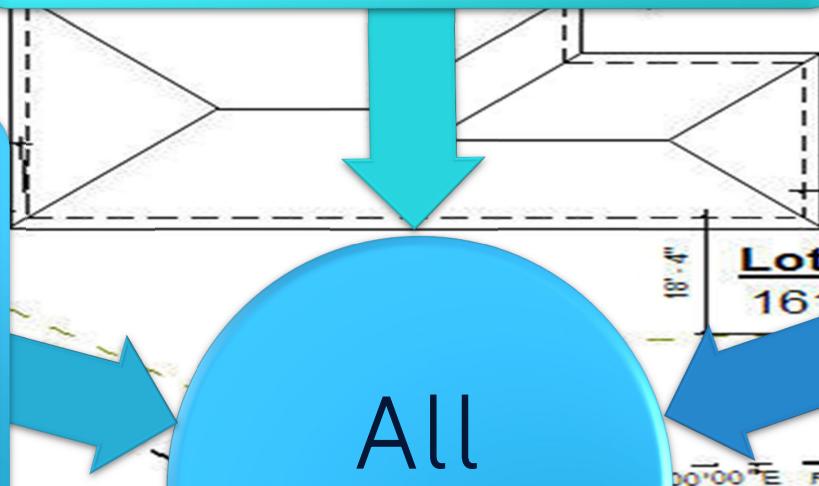
## Surveys

- (a) General standards & requirements

## (e)

Simplified survey

All  
EURs



22a-133q-4

# SURVEYS AND SIMPLIFIED SURVEYS

## Sec. 22a-133q-4. Surveys

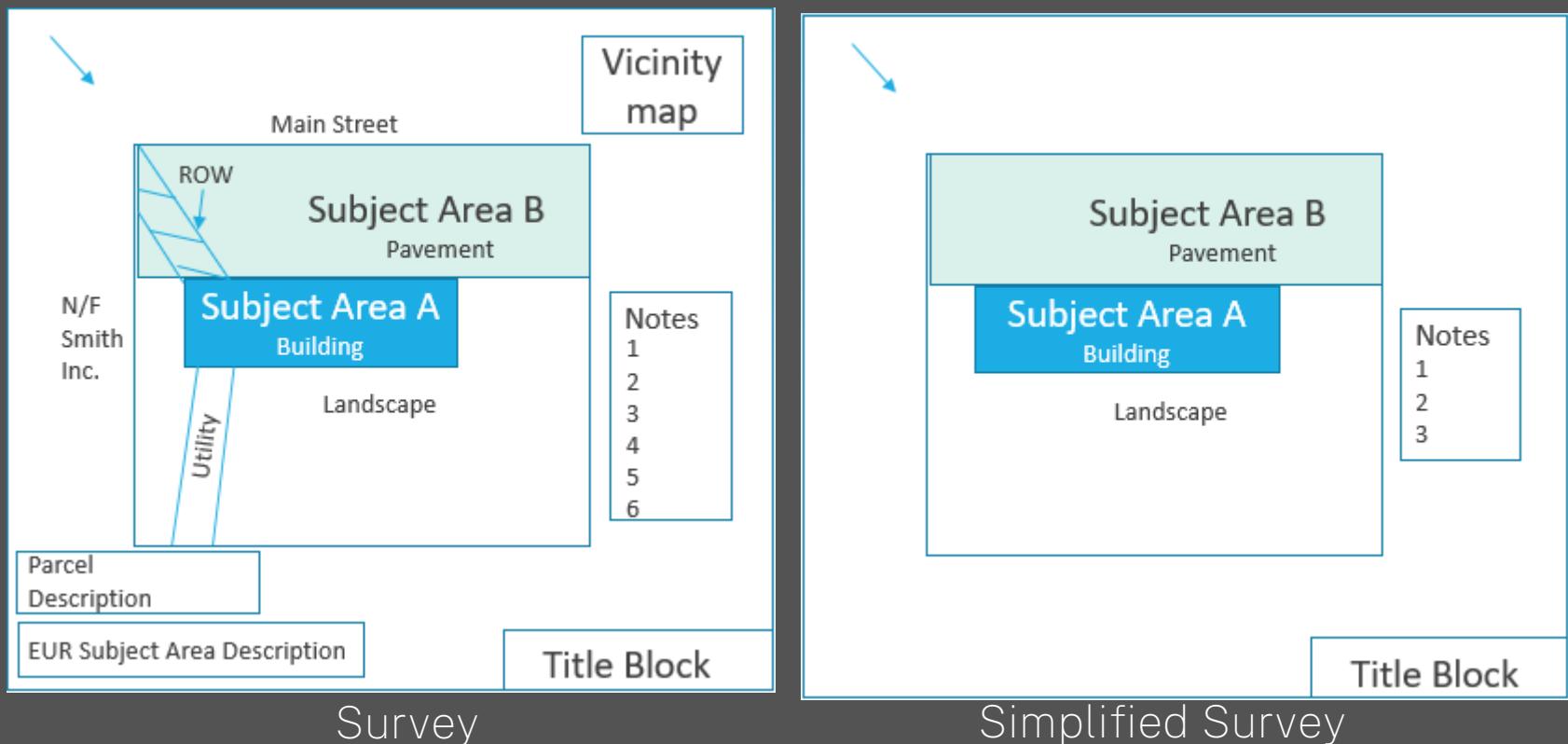
This checklist may be used in the preparation of the survey and simplified survey required for both ELUR and NAUL.

Surveys must include items listed in section (a), and as appropriate, sections (b), (c), or (d).

Simplified surveys must include items listed in section (e). The simplified survey is compiled from the information used to create the survey. The corresponding requirements from section (e) are highlighted in green throughout sections (a), (b), (c), and (d).

22a-133q-4 (a) - General standards and requirements for surveys	
The survey of a parcel prepared pursuant to this section shall:	
<input checked="" type="checkbox"/> Sec. 22a-133q-4(a)(1) - Be performed by a surveyor with a current and effective license issued by the Commissioner of Consumer Protection;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(2) - For survey maps and plans, comply with map drafting standards in section 20-300b-18 of the RCSA;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(3) - Include a vicinity map showing the approximate location and configuration of the parcel in reference to nearby highways or major street intersections;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(4) - Depict the latitude and longitude of a point on the parcel, plotted and labeled in decimal degrees and referenced to a known datum, with an accuracy within 5 meters;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(5) - Include a description of the parcel under the heading "Parcel Description" that shall be a metes and bounds description if the property boundaries are required to be surveyed pursuant to this section or, if portions of the boundary are not required to be surveyed, a metes and bounds description if found on the land records in the chain of title for the parcel;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(6) - Depict adjoining properties and annotate with the most recently recorded owners' names (N/F, now or formerly) or by subdivision map and lot numbers;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(7) - Depict the boundaries of each proposed subject area by metes and bounds;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(8) - Fix each proposed subject area to a parcel boundary to the Horizontal Accuracy Class A-2 or the Global Relative Positional Accuracy Class G-2 standards specified in section 20-300b-11(b) of the RCSA;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(9) - For each subject area with the characteristics specified in this subdivision, mark or monument such subject area pursuant to sections 20-300b-12 to 20-300b-14, inclusive, of the RCSA:	
<input type="checkbox"/> Sec. 22a-133q-4(a)(9)(A) - A subject area that does not have at least one contiguous boundary with the boundary of the parcel;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(9)(B) - A subject area that does not share a point in common with a structure or feature located on the parcel; or	
<input type="checkbox"/> Sec. 22a-133q-4(a)(9)(C) - A subject area that an LEP, surveyor, or the commissioner, deems appropriate to be located pursuant to the method specified in this subdivision;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(10) - Label each subject area as "Proposed ELUR Subject Area" or "Proposed NAUL Subject Area" as applicable, and if there is more than one subject area, identify each subject area alphabetically, e.g., as "Proposed ELUR Subject Area A", "Proposed ELUR Subject Area B", "Proposed ELUR Subject Area C"; or "Proposed NAUL Subject Area A", "Proposed NAUL Subject Area B", "Proposed NAUL Subject Area C" and indicate by note each restriction imposed by the proposed EUR for each subject area;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(11) - For each subject area labeled under subdivision (10) of this subsection, include a metes and bounds description under the heading "Proposed ELUR Subject Area Description" or "Proposed NAUL Subject Area Description";	
<input type="checkbox"/> Sec. 22a-133q-4(a)(12) - Indicate by note all recorded interests, including, but not limited to, easements. For all such interests, specify the volume and page in the municipal land records of the instrument granting the same, and label each as either plottable or non-plottable;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(13) - Indicate by note all of the current zoning classifications of the parcel, and the revision date of the zoning regulations in effect at the time of the survey;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(14) - Indicate by note the standards to which the survey was prepared. If a resurvey is conducted, identify by note each map referenced;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(15) - Include in the title block: "Proposed Declaration of Environmental Land Use Restriction and Grant of Easement, Exhibit C" or "Proposed Notice of Activity and Use Limitation, Exhibit C", the name of the parcel owner, the parcel address, the type of survey, the scale of the survey, and survey date;	
<input type="checkbox"/> Sec. 22a-133q-4(a)(16) - Be signed and sealed in accordance with section 20-300b-20 of the RCSA; and	
<input type="checkbox"/> Sec. 22a-133q-4(a)(17) - Include a simplified survey prepared in accordance with subsection (e) of this section.	

# HELPFUL HINTS



## Drafts:

- Add “Proposed” to appropriate locations
- Signed and sealed
- Revision date < 90 days of submittal

## Final Version:

- Remove “Proposed”
- Signed and sealed

22a-133q-4

# EMERGENCY AND NON-EMERGENCY EUR RELEASES

CT.gov Home / Department of Energy and Environmental Protection / Remediation Site Clean Up / Emergency and Non-Emergency EUR Releases

**Emergency and Non-Emergency EUR Releases**

**Reporting Environmental Emergencies and Spills**

An [environmental emergency](#) is a situation that poses an immediate threat to public health or the environment resulting from the release or potential release of oil, hazardous chemicals or radioactive materials into the air, land, or water.

Environmental emergencies and spills must be reported to DEEP Emergency Dispatch Center at **860-424-3338** or Toll Free at **1-866-377-4475**.

**Emergency Suspension of EURs**

In the event of an emergency that presents a significant risk to human health or the environment, an EUR may be suspended, provided such risk cannot be abated without suspending the EUR. The owner must immediately notify DEEP of the emergency and follow the other requirements of paragraph 4 of the Declaration of EUR presented in [Section 22a-133q, Appendix 1 and 2](#). An EUR emergency typically involves the disturbance of contaminated soil to repair utilities when the EUR prohibits disturbance of soil.

Report the emergency suspension of the EUR to the Remediation Division at **860-424-3705** and via email at [deep.eur@ct.gov](mailto:deep.eur@ct.gov).

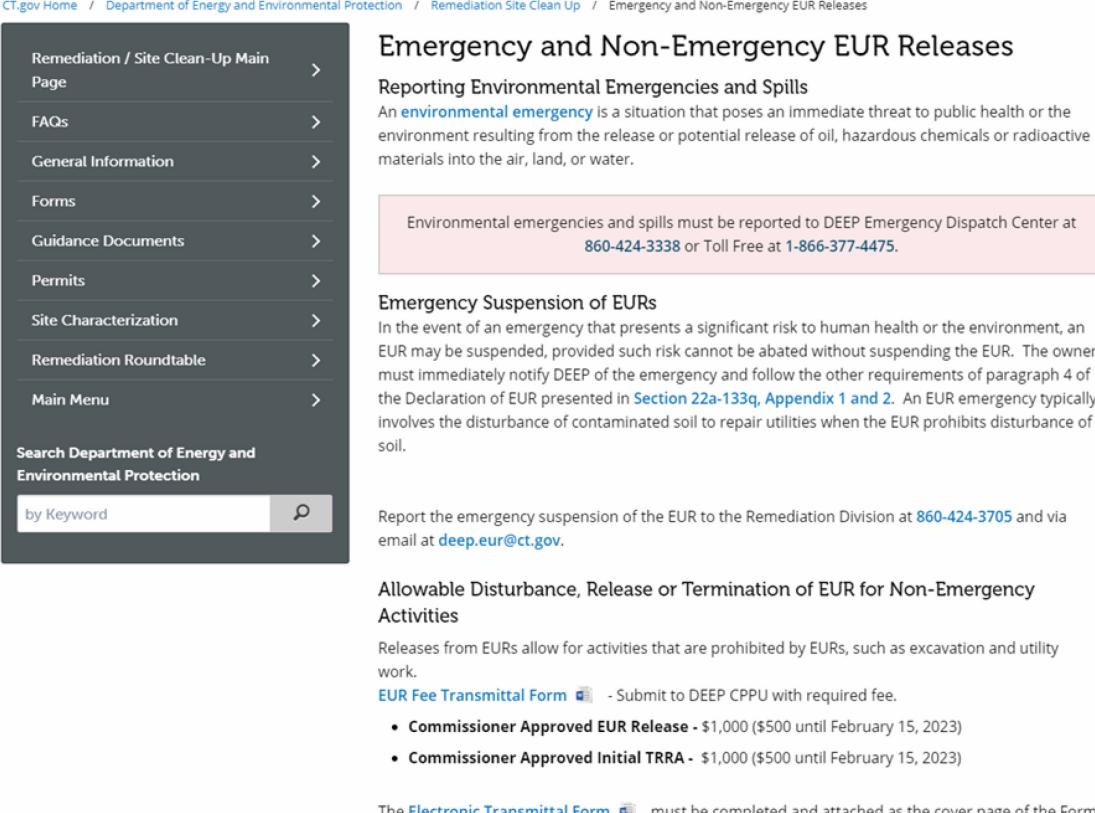
**Allowable Disturbance, Release or Termination of EUR for Non-Emergency Activities**

Releases from EURs allow for activities that are prohibited by EURs, such as excavation and utility work.

[EUR Fee Transmittal Form](#) - Submit to DEEP CPPU with required fee.

- **Commissioner Approved EUR Release** - \$1,000 (\$500 until February 15, 2023)
- **Commissioner Approved Initial TRRA** - \$1,000 (\$500 until February 15, 2023)

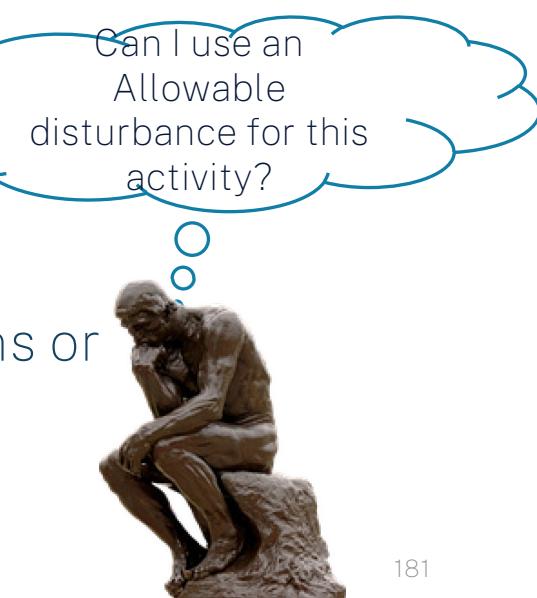
The [Electronic Transmittal Form](#) must be completed and attached as the cover page of the Form



# EUR ALLOWABLE DISTURBANCE LIMITATIONS

\*Allowable Disturbance section is organized like a checklist

- ✓ Not one phase of a multi-phased project, continuous, or on-going project;
- ✓ Supervised by an LEP;
- ✓ Not exceed 90 days, and no new allowable disturbance in same subject area until 90 days has passed since the completion of previous activities;
- ✓ Excavation material limited to 250 cubic
- ✓ Not exceed 1000 square feet of disturbance,
- ✓ No disturbance of PCBs;
- ✓ Not violate other EUR restrictions/obligations or regulations.



# EUR ALLOWABLE DISTURBANCE



Notification to DEEP prior to commencement of activities

- Not recorded on land records
- Soil management and restoration outlined
- Record of activities and submittal of Completion Report
- *Environmental Use Restriction Form for: Allowable Disturbance, Release, Termination, or Post Emergency Abatement Remediation* (Release Form) used for submittals and documentation storage



22a-133q-6

# EUR RELEASES AND TERMINATIONS

## Temporary Release

- Temporary Release of NAUL by LEP
- Temporary Release of EUR by DEEP
- Temporary Releases for Recurring Activities (TRRA)

## Permanent Release

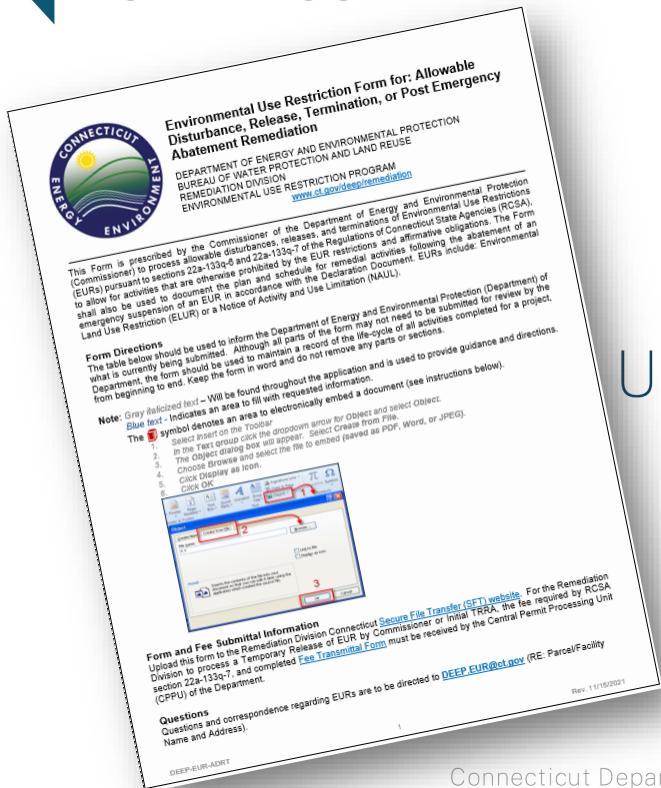
- Permanent Release of ELUR or Termination of NAUL by DEEP



22a-133q-7

# EUR RELEASES AND TERMINATIONS

Recorded on the land record  
prior to commencement of  
Activities



This Form is prescribed by the Commissioner of the Department of Energy and Environmental Protection (Commissioner) to process allowable disturbances, releases, and terminations of Connecticut State Agencies (CSA) EURs pursuant to sections 22a-133a-5 and 22a-133q-7 of the Regulations of Connecticut State Agencies (RCSA) to allow for activities that are otherwise prohibited by the EUR restrictions and affirmative obligations. The Form shall also be used to document the plan and procedure for remedial activities following the abatement of an emergency suspension of an EUR in accordance with the Declaration Document. EURs include: Environmental Land Use Restriction (ELUR), or a Notice of Activity and Use Limitation (NAUL).

**Form Directions**  
The table below should be used to inform the Department of Energy and Environmental Protection (Department) what is currently being submitted. Although all parts of the form may need to be submitted for review by the Department, the form should be used to maintain a record of the life-cycle of all activities completed for a project, from beginning to end. Keep the form in word and do not remove any parts or sections.

**Note:** Gray italicized text – Will be found throughout the application and is used to provide guidance and directions.

**Blue text** - Indicates an area to electronically embed a document (see instructions below).

The  symbol denotes an area to electronically embed a document and select Object.

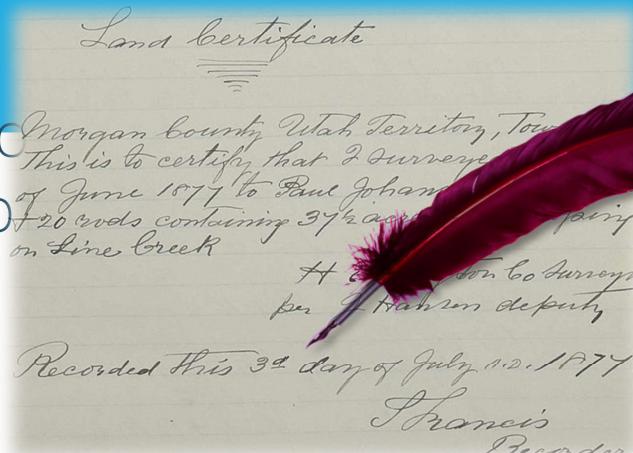
1. Select Insert on the Toolbar.
2. In the Text Group click the dropdown arrow for Object and select Create from File.
3. The Select dialog box will appear. Select Create from File.
4. Choose Browse and select the file to embed (saved as PDF, Word, or JPEG).
5. Click Display as Icon.
6. Click OK.

**Form and Fee Submittal Information**  
Upload this form to the Remediation Division Connecticut Secure File Transfer (SFT) website. For the Remediation Division to process a Temporary Release of EUR by Commissioner or Initial TERA, the fee required by RCSA section 22a-133q-7, and completed [Fee Transmittal Form](#) must be received by the Central Permit Processing Unit (CPPU) of the Department.

Questions and correspondence regarding EURs are to be directed to [DEEP.EUR@ct.gov](mailto:DEEP.EUR@ct.gov) (RE: Parcel/Facility)

Rev. 1/19/2021

DEEP-EUR-01



Use the Release Form for all  
submittals and documentation  
storage

22a-133q-7

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# TEMPORARY RELEASE OF NAUL BY LEP – LIMITATIONS



DELAYED  
GREEN

Notification to  
DEEP at least 14  
days before start  
of activities

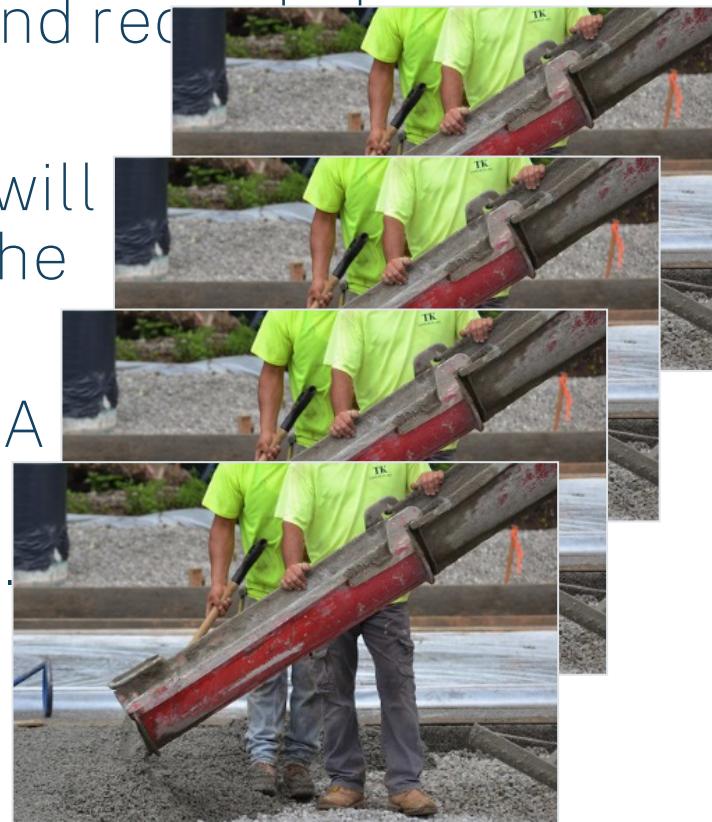
Activities  
completed  
within 180 days  
of recordation of  
release

Release of  
NAUL by  
LEP -  
Limitations

LEP has not  
approved a  
temporary release  
in same subject  
area in last 2 years

# TEMPORARY RELEASE FOR RECURRING ACTIVITIES (TRRA)

- Approved by DEEP in advance and recorded on the land records
- For site-specific activities that will be conducted in the same way, at the same location, multiple times
- Application of an approved TRRA requires notification to DEEP prior to commencement of work.

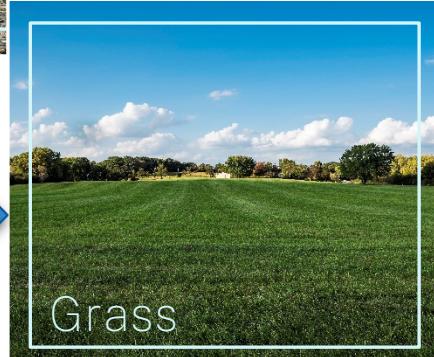
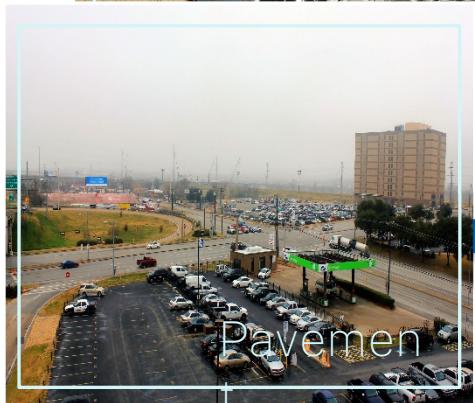


# PERMANENT RELEASE OF ELUR /TERMINATION OF NAUL BY DEEP

Approved by DEEP

Recorded on land records

Changes to site that conflict with  
FIIR



# DEEP APPROVED RELEASES



Additional Information  
Requested by DEEP\*

30 Days

60 Days

Record Approved  
Release

7 Days

RED: Extension deadline

\*Failure to meet either deadline will result in automatic

# EUR EMERGENCY RELEASES

- ! Emergency release protocol outlined in paragraph 4 of the Declaration Document
- ! Subsequent abatement approval and reporting for an emergency release should be submitted on the Release Form



# HELPFUL HINTS

Table of Submitted Documents <small>(Ctrl+click underlined text in Required Submittals to copy)</small>			
Submittal Date	Type of Submittal	Required Submittals	
		Section A	Section B
<input type="checkbox"/> Date	Approval Request Post emergency abatement	All	Pa
<input type="checkbox"/> Date	Completion Report	All	

**Post Emergency Abatement Remediation Declaration of EUR** paragraph 4 - In the event of combination of circumstances or the resulting state that calls for immediate action to prevent a significant or the environment, the destruction of property, or the disruption of public utility service, the application is suspended, provided such risk cannot be abated without suspending the EUR and:

- o The Department is immediately notified of the emergency;
- o The extent and duration of the suspension are limited to the minimum reasonably necessary to the emergency;
- o All measures necessary to limit actual and potential present and future risk to human health and resulting from such suspension are implemented; and
- o After the emergency is abated, a plan approved in writing by the Department is implemented, on schedule, to ensure that the Subject Area is remediated in accordance with sections 22a-133q-5 through 22a-133q-8, inclusive, of the RCSA and restored to the condition described in the EUR.

**Allowable Disturbance** Section 22a-133q-5 of the RCSA describes eligible activities, and the process for allowable disturbances. An allowable disturbance does not require an approval, but must meet the following limitations:

- o Comprise a discrete singular project, minimized to the greatest extent practicable and not be one phase of a multi-phased project or a continuous or on-going project;
- o Be supervised by a Licensed Environmental Professional (LEP). If the subject area is on parcels under the custody and control of the Department, either an LEP or the Commissioner or may supervise such activities;
- o Not exceed 90 days, and no new allowable disturbance in the same subject area may commence until 90 days has passed since the completion of activities performed pursuant to a previous allowable disturbance;
- o Not result in the excavation of more than 260 cubic yards of soil, other excavated material or debris;
- o Not exceed 1000 square feet of disturbance at any one time; and
- o Not result in the disturbance of any subject area containing PCBs.

Submittal Date	Type of Submittal	Required Submittals		
		Section A	Section B	Section C
<input type="checkbox"/> Date	Notification of Temporary Allowable Disturbance Intended Start Date: <u>Date</u> At least 14 days after submittal Expiration Date: <u>Date</u> No more than 90 Days	All	Excluding Part IV	
<input type="checkbox"/> Date	Notification of Unexpected Condition to EUR Program within 72 hours of identification	All	Part V	
<input type="checkbox"/> Date	Completion Report within 60 days of completion of activities	All		All

**Temporary Release of NAUL by LEP** Section 22a-133q-7 of the RCSA describes the process or activities which are eligible for release of the restrictions and affirmative obligations in an NAUL. All releases must be approved and recorded on the municipal land records. The LEP should complete the Approval Form in Appendix A for recording on the municipal land records.

Temporary releases of NAULs may be approved by an LEP, provided they meet the following limitations:

- o Not more than 180 days after the temporary release is recorded, any subject area disturbed by the activities authorized by the temporary release is returned to the condition described in the NAUL or if a new EUR is going to be placed on the subject area, to a condition that complies with the RSRs; and
- o An LEP has not approved a temporary release authorizing activities within the same subject area within the previous 2 calendar years.

Submittal Date	Type of Submittal	Required Submittals		
		Section A	Section B	Section C
<input type="checkbox"/> Date	Notification of LEP approval Intended Start Date: <u>Date</u> At least 14 days after submittal Expiration Date: <u>Date</u> No more than 180 Days	All		
<input type="checkbox"/> Date	Submittal of Work Plan for LEP Approved Temporary Release of NAUL Only required if requested by the Commissioner	All	Parts I-III	

**Part II. Summary of Proposed Activities**  
Briefly summarize the proposed activities to take place. Include Subject Areas affected by activities, approximate disturbance area, approximate volume of soil to be disturbed, if an engineered control will be disturbed, contaminants within the area, what activities will be taking place, and any other pertinent information: [Enter Summary](#)

**Part III. Existing EURs Recorded on the Municipal Land Records**  
Date ELUR to be released was recorded on the municipal land records: [Date](#)

Volume/Page: [Vol/Pg](#)

Provide the existing EUR(s) recorded on the land record:

EURs

Provide a copy of the most recent survey or simplified survey:

Photographs

**Section C. Completion Report**

**Part I. Elements of Report**

Briefly describe any changes to the anticipated release closure: [Brief Description](#)

Provide a summary of the work performed: [Summary](#)

Provide dates activities were initiated and completed: [Dates](#)

Describe how engineered control and inaccessible soil areas were restored, and how soils meet requirements of restrictions and affirmative obligations: [Description](#)

Explain how the subject area meets the requirements of the EUR as recorded: [Explanation](#)

Explain how the subject area meets the requirements of the RSRs, if the EUR is going to be replaced, or permanently released or terminated: [Explanation](#)

Explain the need for laboratory analysis: [Explanation](#)

Provide time dated photographs of the activities in progress and after completion (unless prohibited by law):

Photographs

Provide copies of the records or waste manifests documenting the final disposition of excavated soils.

- Add submittal dates to the table
- Brief summary should capture all pertinent details of the project
- Section C is the Completion Report - no separate report needed

# INSPECTION S

## Annual Inspection

- Conducted by Owner (between April 1<sup>st</sup> & July 31<sup>st</sup>)
- Report completed within 30 days of inspection
- Not required on years of Five-Year Inspection



## Five-Year Inspection Beginning in 2025

- Conducted by LEP (between April 1<sup>st</sup> & September 30<sup>th</sup>)
- Report completed within 30 days of inspection



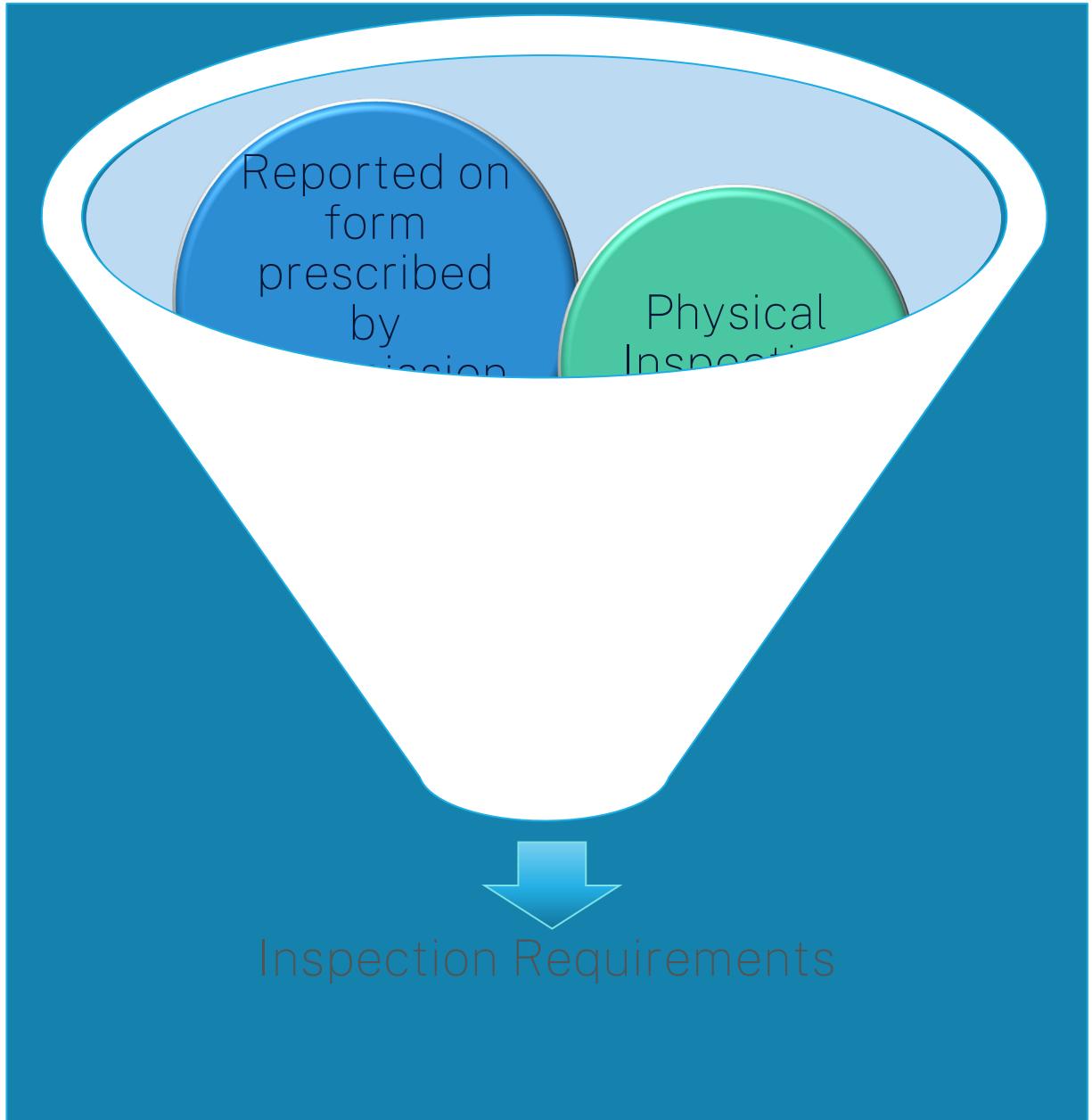
## DEEP-Required Inspection

- Written notification by 22a-133g-

8(a)  
Connecticut Department of Energy & Environmental Protection

Conducted by LEP

# INSPECTION S



# EUR CORRECTIVE ACTION



Owner learns  
EUR is out of  
compliance

LEP  
determines  
EUR is out of  
compliance

Correct in  
less than 90  
days

Submit plan  
on Release  
Form within  
30 days  
(if  
non-compliance cannot  
be corrected in 90 days)

Notifies  
Owner in  
writing

# MISCELLANEOUS

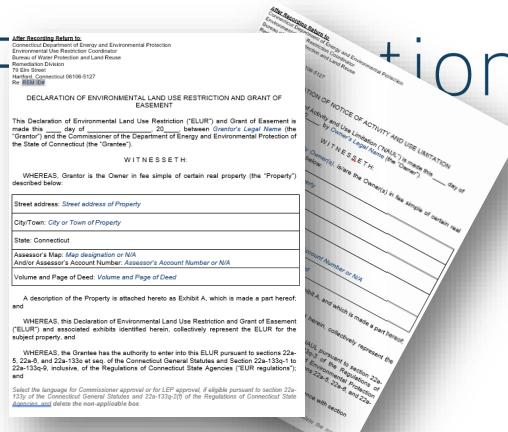
Lists requirements for the property owner to comply with for life of the FUR, for example:



- Maintenance of EUR Factsheet
- Health & Safety Notification
- Document Retention
- Transfer of Interest requirement

# Temporary from Fees

# +ion & Exemp

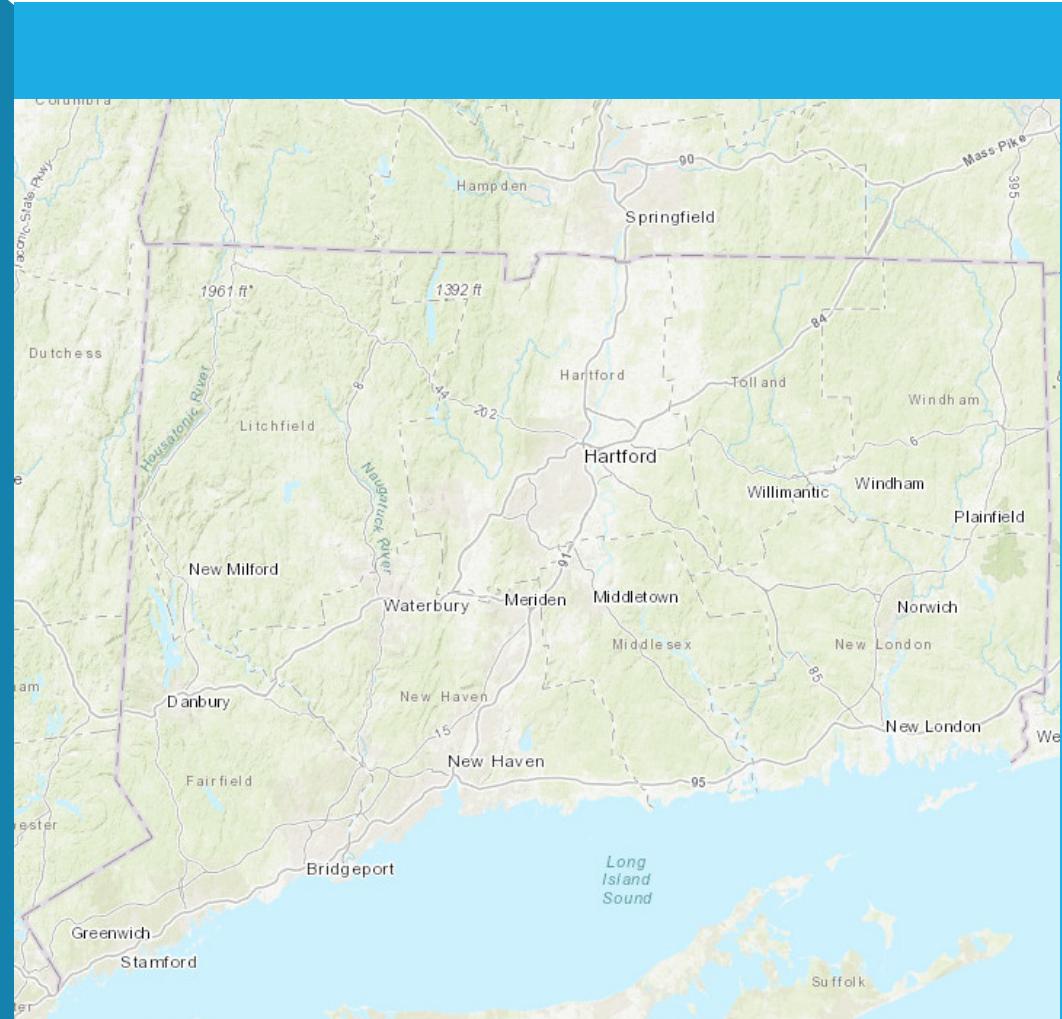


## Declarations

# EUR GIS MAP

- Depicts location, type, and name of recorded EURs across Connecticut.
- Great reference for evaluating conditions at a property prior to transfer, construction, or any other subsurface work.

## Use Restrictions (arcgis.com)



# QUESTIONS

Kevin Neary [Kevin.Neary@ct.gov](mailto:Kevin.Neary@ct.gov)

Carl Gruszczak [Carl.Gruszczak@ct.gov](mailto:Carl.Gruszczak@ct.gov)

Craig Bobrowiecki [Craig.Bobrowiecki@ct.gov](mailto:Craig.Bobrowiecki@ct.gov)

Amanda Limacher [Amanda.Limacher@ct.gov](mailto:Amanda.Limacher@ct.gov)

Jade Barber [Jade.Barber@ct.gov](mailto:Jade.Barber@ct.gov)

EUR Program [DEEP.EUR@ct.gov](mailto:DEEP.EUR@ct.gov)

Feel free to contact us!