Technical Impracticability for Ground Water

Mary Anne Kuserk, NJDEP
Bureau of Ground Water Pollution Abatement

Definition

- **TI Definition from Guidance**
  - A condition where remediation of ground water to the applicable standards is not feasible from an engineering perspective because of the limitations in the currently available ground water remediation system engineering methods or technologies at the time the remedy is being designed.

Guidance

- TECHNICAL IMPRACTICABILITY Guidance for Ground Water December 3, 2013

- The 1993 United States Environmental Protection Agency (USEPA) guidance document, USEPA Office of Solid Waste and Emergency Response (OSWER) Directive 9234.2-25,

- TI does not equate to "no action."

- The responsible person must implement measures to safeguard potential receptors in accordance with Technical Requirements for Site Remediation (Technical Rules) at N.J.A.C. 7:26E-5 and must apply for a classification exception area (CEA) and a ground water remedial action permit in accordance with the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) at N.J.A.C. 7:26C-7.

- The Department will include requirements for monitoring the ongoing protectiveness of the remedy in the ground water remedial action permit.

When might a TI determination be appropriate?

- Hydrogeologic conditions are:
  - complex (e.g., highly heterogeneous)
  - sedimentary deposits include low permeability strata
  - fractured bedrock
- contaminants may include non-aqueous phase liquids (NAPLs), particularly dense non-aqueous phase liquids (DNAPLs)
- site constraints
- remedial technology limitations

Information Required

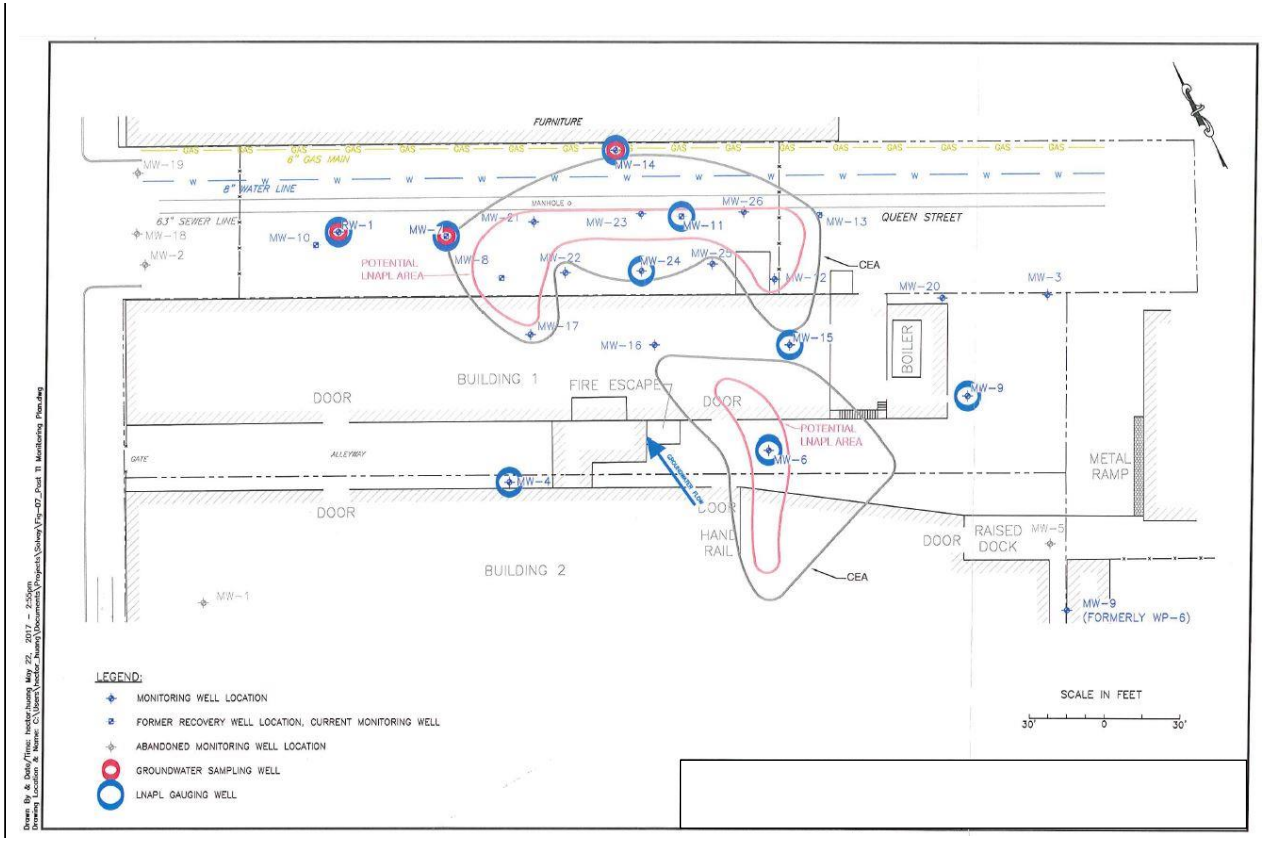
- Detailed Conceptual Site Model
  - the nature and extent of contamination
  - presence of free and/or residual product
  - direction and gradient of ground water flow
  - evaluation of natural and anthropogenic preferential pathways
  - bedrock structure
  - identification of water bearing
  - the presence and location of sensitive receptors.

- Evaluation of remedial techniques and options
  - what methods were used and why it did not reach the remediation objectives.
  - what other metrologies were evaluated and why can't be effective

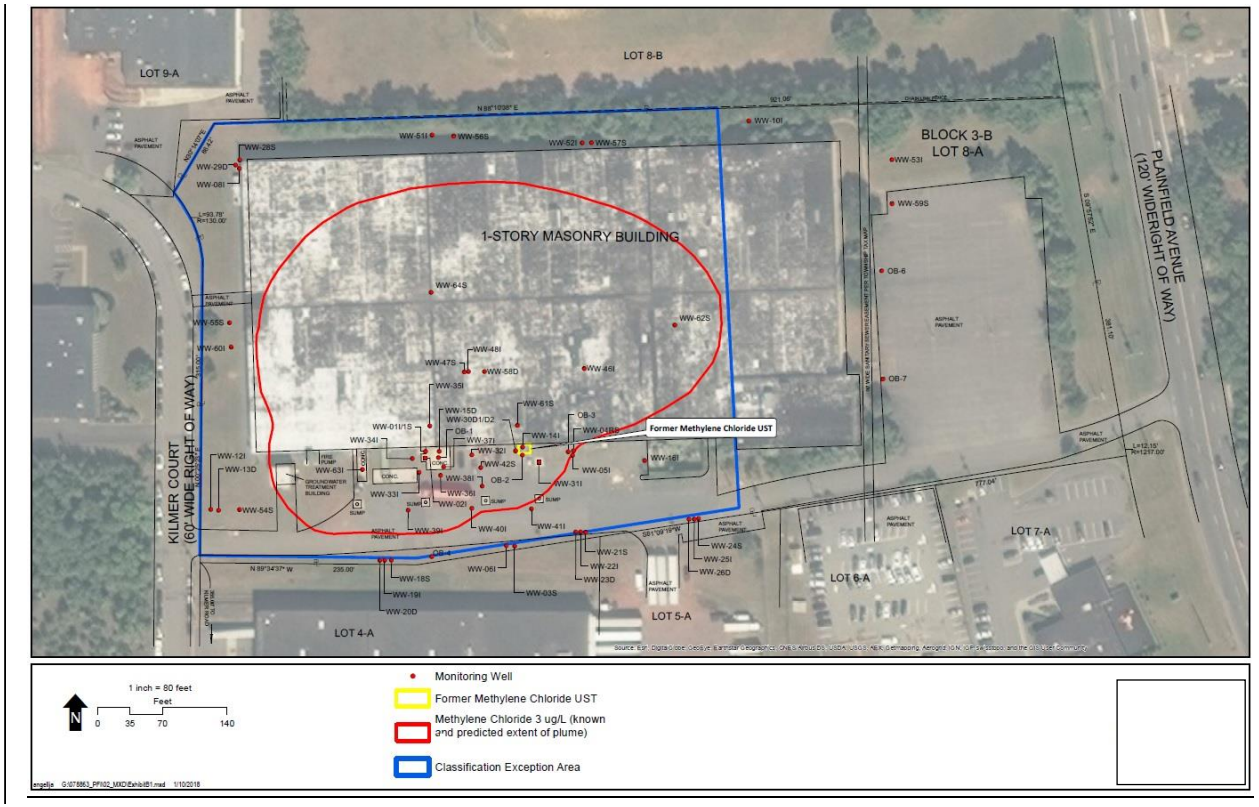
TI submittals

- Currently BGWPA has reviewed 19 TI proposals:
  - 9 approved
  - 10 denied

Example 1 - approval



Example 2 - approval



Why not approved?

- Contamination not fully delineated
- Free Product not being contained
- Evaluation of remedial techniques not complete
- Remediation on-going (source control)