G:\Arcgis\Map Documents\Map Series\Potential_Town_AR(P).mxd

Projected Bedrock Water Quality

METHUEN

Arsenic Probability

% Probability of Exceeding the Public Drinking Water Standard of 10 micrograms per liter (10 PPB)	City/Town Statistics Acres	Percent
< 1.0%	0	0
1.0% to 4.0%	0	0
5.0% to 10.0%	0	0
10.0% to 25.0%	14381.6	97.7
No Data	341	2.3
Total	14722.6	

This map is intended to compliment the USGS Scientific Investigations Report 2011-5013, Arsenic and Uranium in Water from Private Wells Completed in Bedrock of East-Central Massachusetts: Concentrations, Correlations with Bedrock Units, and Estimated Probability Maps. That report presents the results of a statistical study of bedrock water quality based primarily on 478 samples from private wells. This is a relatively small number of samples for such a large and diverse study area. The confidence intervals around probabilities used here are broad. Users are urged to carefully read the original report.

The geologic map underlying this work is at a scale of 1:250,000 or about 4 miles per inch. Although presented on a two dimensional map, bedrock geology is a three dimensional phenomenon. Contact zones almost never go straight down. Because this town map is at a much larger scale than the original, the necessity of presenting 3D geology in only two dimensions, and the wide confidence intervals in the statistical analysis, users should interpret this map as a general indicator of expected water quality. The only way to be sure of the quality of water in any given well is to have that water tested.

MassDEP GIS

Massachusetts Department of Environmental Protection

Deval Patrick
Governor
Richard K. Sullivan Jr.
Secretary of Energy and Environmental Affairs

MAP LEGEND

- Reservoir
- Pond, Lake or Ocean
- Fresh Water Wetlands
- Cranberry Bog
- Salt Water Wetlands
- Perennial Stream; Shoreline
- Intermittent Stream
- Intermittent Shoreline
- Ditch/Canal
- Aqueduct
- Dam
- Active Rail Lines
- Pipeline
- Powerline
- Limited Access Highway
- Multi-lane Hwy, Not Limited Access
- Other Numbered Highway
- Major Road, Collector
- Minor Road, Ramp
- MA Town Boundary
- MA Interstate Boundary
- County Boundaries
- DEP Region Boundary

Contour Interval 3 Meters

N

- Local Police Station
- State Police Station
- County Sheriff Station
- Fire Stations
- Town Halls
- Libraries
- Public School
- Private School
- Charter School
- Collaborative Program School
- Special Education School
- Private College
- Public College
- Hospital with ER
- Hospital
- Nursing Home
- Rest Home
- Prisons
- Airports
- MBTA Station
- Seaports
- Camp
- Campground
- Cemetery
- Convention Center
- Court House
- Field - Playground
- Fish Hatchery
- Golf Course
- Industrial Park
- Lighthouse
- Marina
- Monument
- Museum
- Park
- Pier - Wharf
- Places of Worship
- Post Office
- Public Pool
- Shopping Center
- Ski Area
- Sports Facility
- Theater
- Tower

Mass StatePlane NAD83 Coordinates shown in RED

Map Scale 1:2400010000

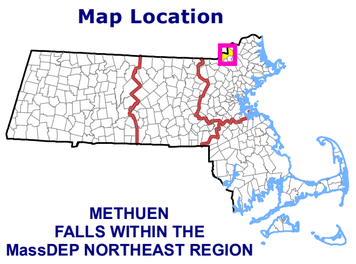
0 2,000 4,000 6,000 8,000 10,000 Feet

0 1 2 Miles

0 1 2 3 Kilometers

1 inch = 2,000 feet 1 inch = 610 meters

Map Location



METHUEN FALLS WITHIN THE MassDEP NORTHEAST REGION

This map is for illustrative purposes only. It represents the best statewide data available at the date of printing. There are other important natural resources that are not shown on this map because the digital spatial data do not exist.

DATA SOURCES

HYDROGRAPHY: USGS/MassGIS, 1:25,000 or less. Hydrography from the USGS National Hydrography Database except within public water supply watersheds where the resolution is approximately 1:10000.

TOPOGRAPHIC CONTOURS: MassGIS, 1:5,000. 3 Meter contour elevations generated from digital ortho DTM's.

POLITICAL BOUNDARIES: MassGIS. This political boundary datalayer has been created from latitude and longitude coordinates found in the 68 volume Harbor and Lands Commission Town Boundary Atlas

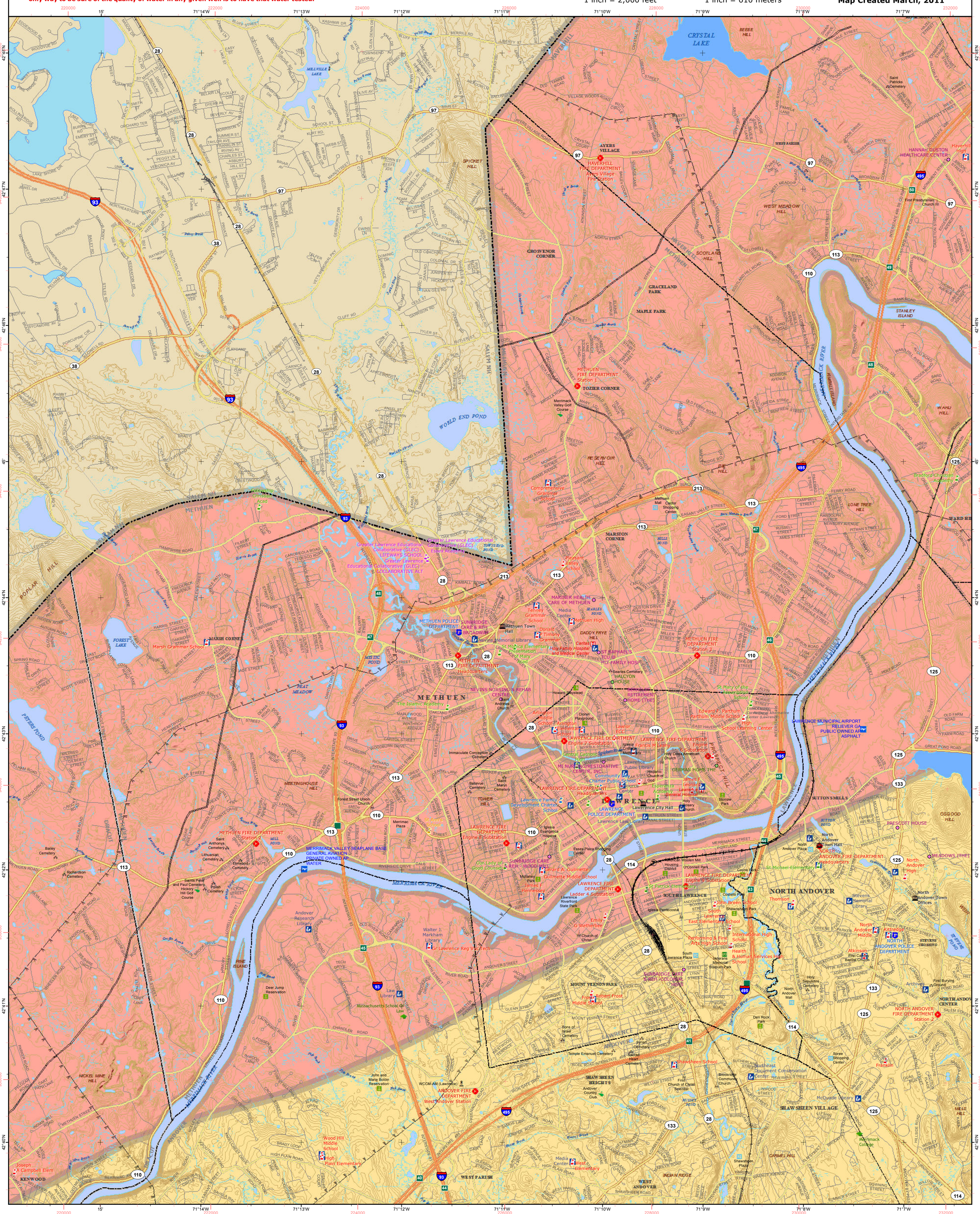
ROADS: Mass Department of Transportation 1:5000. Road centerlines aligned with 1:5000 OrthoPhotos. Attributes from DOT roads database.

TRAINS AND TRANSLINES: Mass Department of Transportation Trains @ 1:5000, Pipelines and Powerlines @1:25000

GEOGRAPHIC FEATURES: USGS/MassDEP. USGS Geographic Names Information System(GNIS) features matched to parcel data or orthophoto. Hydrography names taken from NHD features and placed using Maplex.

WETLANDS: UMass Resource Mapping Project/USGS/MassDEP/MassGIS, Source Scale 1:12,000 to 1:40,000. Wetland information shown on this map consists of several wetlands datasets, including DEP Orthophoto Wetlands (1:12,000) and USGS Hydrology wetlands (1:25,000).

Map Created March, 2011


CRYSTAL LAKE
MELVILLE LAKE
WORLD END POND
FOREST LAKE
PETERS POND
MERRIMACK RIVER
METHUEN
HAVERHILL
LAWRENCE
ANDOVER
NORTH ANDOVER
SALEM NH
AYERS VILLAGE
HAVERHILL FIRE DEPARTMENT Ayers Village Fire Station
METHUEN FIRE DEPARTMENT Station 1
TOZIER CORNER
METHUEN FIRE DEPARTMENT Headquarters
METHUEN FIRE DEPARTMENT Station 2
METHUEN FIRE DEPARTMENT Station 3
LAWRENCE FIRE DEPARTMENT Engine 7 Substation
LAWRENCE FIRE DEPARTMENT Engine 8 Substation
LAWRENCE FIRE DEPARTMENT Engine 9 Substation
LAWRENCE FIRE DEPARTMENT Headquarters
LAWRENCE FIRE DEPARTMENT Ladder 4 Substation
LAWRENCE POLICE DEPARTMENT
ANDOVER FIRE DEPARTMENT Headquarters
ANDOVER FIRE DEPARTMENT West Andover Station
NORTH ANDOVER FIRE DEPARTMENT Headquarters
NORTH ANDOVER FIRE DEPARTMENT Station 2
METHUEN POLICE DEPARTMENT
NORTH ANDOVER POLICE DEPARTMENT
HANNAH DUSTON HEALTHCARE CENTER
Haverhill High
Methuen High
Methuen Town Hall
North Andover Town Hall
Merrimack Valley Golf Course
MERRIMACK VALLEY SEAPLANE BASE GENERAL AVIATION PRIVATE OWNED AP WATER
LAWRENCE MUNICIPAL AIRPORT RELIEVER GA PUBLIC OWNED AP ASPHALT
Greater Lawrence Educational Collaborative (GLEC) LIFEWAYS SCHOOL
Greater Lawrence Educational Collaborative (GLEC) COLLABORATIVE ALT
Greater Lawrence Educational Collaborative (GLEC) Essex Academy
Fellowship Christian Acad
Marsh Grammar School
Comprehensive Grammar School
Pleasant Valley School
Tenney Grammar School
Donald Timony Grammar
Nevins Memorial Library
St Monica Elementary
Presentation of Mary Acad
Holy Family Hospital and Medical Center
ST RAPHAEL'S TCU @ HLY FAMILY HOSP
METHUEN HIGH
Media Center
MARINER HEALTH CARE OF METHUEN
SUNBRIDGE CARE & REH BROADWAY
NEVINS NURSING & REHAB CENTRE
The Islamic Academy
Arlington Middle School
Arlington Elementary School
Lawlor ECC
Edward F. Parthum Parthum Middle School
Central Catholic High
MI NURSING/RESTORATIVE CENTER, INC.
Lawrence Public Library
Community Charter Public School
Esperanza Academy
Lawrence Family Development Charter School
Lawrence City Hall
Lawrence Law Library
Essex Plaza Shopping Center
Our Lady of Good Counsel
SUNBRIDGE CARE & REH - WOOD MILL
Gerard A. Guilmette
Guilmette Middle School
James F Hennessey
Lawrence Riverfront State Park
Emily G Wetherbee
Andover Research Library
Walter J. Markham Library
Gr Lawrence Reg Voc Tech
Law Library
Massachusetts School Of Law
Wood Hill Middle School
High Plain Elementary
Media Center
West Elementary
Thomson
Stevens Memorial Library
North Andover Middle
Kittredge
Atkinson
Archives
NORTH ANDOVER CENTER
Franklin
McQuade Library
Merrimack College
Northeast Document Conservation Center
Shawsheen School
Robert Frost Middle School
Frost
Shawsheen Village
Shawsheen Heights
Andover Country Club
Shawsheen Plaza
Spree Shopping Center
Den Rock Park
Veterans Memorial Stadium Park
Lawrence Plaza
Costello Park
Shawsheen Park
O'Connell Park
Coyne Park
Storrow Park
Methuen Mall
Caldor Shopping Center
Saint Patricks Cemetery
First Presbyterian Church
Merrimack Plaza
Essex Plaza Shopping Center
Lawrence Riverfront State Park
Holy Sepulchre Cemetery
Holy Rosary Church
Holy Cross Armenian Church
Saint Andrews Church
Immaculate Conception Cemetery
Bellevue Cemetery
Saint Marys Cemetery
Forest Street Union Church
Bailey Cemetery
Richardson Cemetery
Saints Peter and Paul Cemetery
Hickory Hill Golf Course
Polish Cemetery
Lithuanian Cemetery
Saint Anthonys Cemetery
Elmwood Cemetery
Joseph A Campbell Elem
Bradford Christian Academy
Deer Jump Reservation
John and Marie Boloin Reservation
WCCM-AM (Lawrence)
Sons of Israel Cemetery
Temple Emanuel Cemetery
Syrian Cemetery
Sacred Heart Cemetery
Holy Sepulchre Cemetery
Den Rock Park
Merrimack College
Shawsheen Plaza
Spree Shopping Center
Northeast Document Conservation Center
McQuade Library
Franklin
Archives
First Burying Ground
Atkinson
Stevens Memorial Library
Thomson
North Andover Town Offices
North Andover High
PRESCOTT HOUSE
MEADOWS (THE)
Saint Patricks Cemetery
First Presbyterian Church
Hannah Duston Healthcare Center
Haverhill High
Methuen Mall
Caldor Shopping Center
Holy Rosary Church
Holy Cross Armenian Church
Storrow Park
Coyne Park
O'Connell Park
Costello Park
Shawsheen Park
Veterans Memorial Stadium Park
Lawrence Plaza
Essex Plaza Shopping Center
Lawrence Riverfront State Park