

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Elevation Tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The projection used in the presentation of this map was Massachusetts State Plane Meters Zone (FIPS zone 2001). The horizontal datum was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NOAA Information Services
NOAA, NNGS12
National Geodetic Survey
5360-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from orthophotography provided by MassGIS at a scale of 1:500 from photography dated April 2008.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

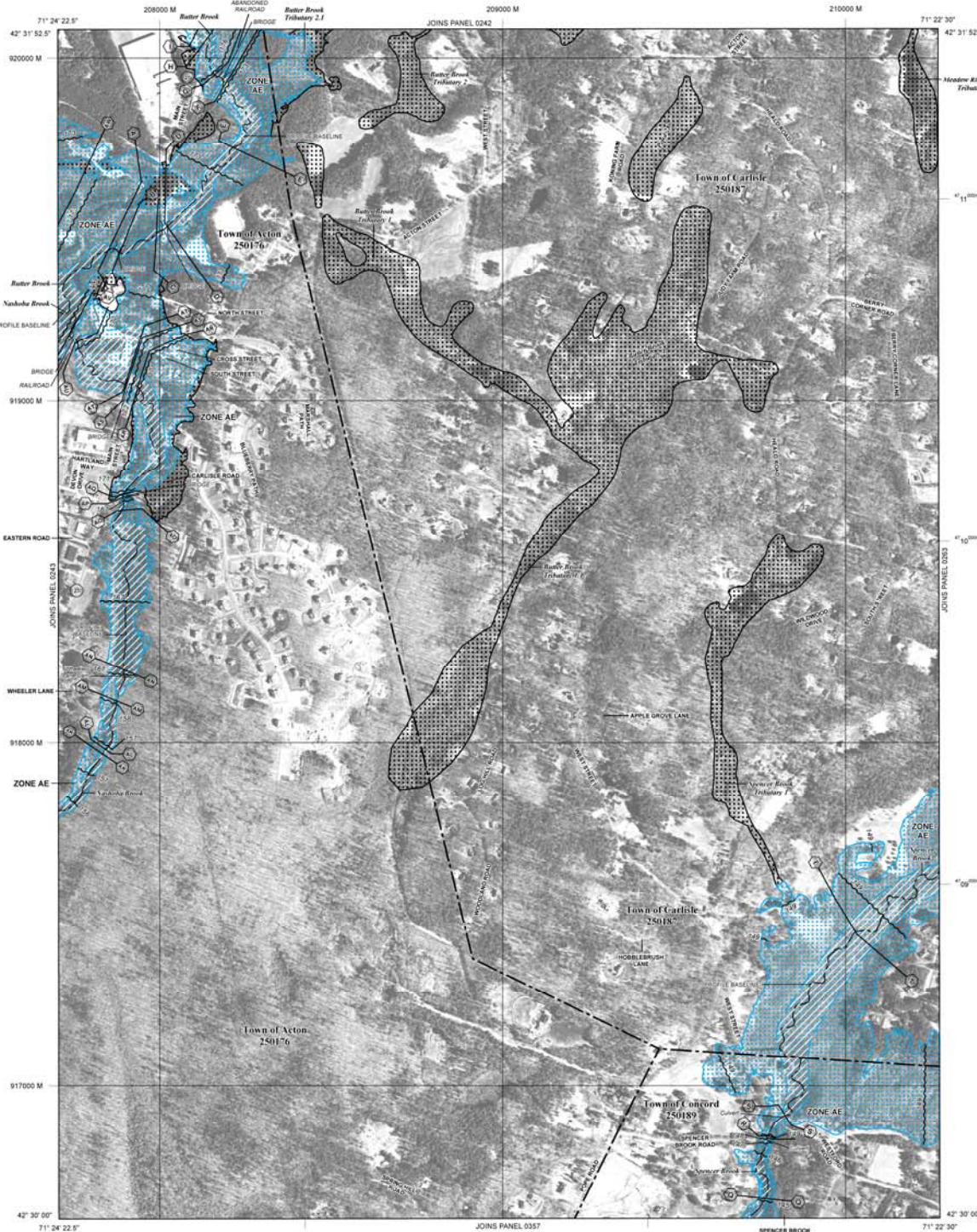
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information Exchange (PMX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/info>.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, AR, AV, and V. The base flood elevation is the water surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined. No Base Flood Elevations determined.

ZONE AE Flood depths of 1 to 3 feet (usually areas of ponding). Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of elevated flow flooding, velocities also determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of elevated flow flooding, velocities also determined.

ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR includes the former flood control system in being retained to provide protection from the 1% annual chance flood.

ZONE AV Area to be protected from 1% annual chance flood by a Federal Flood protection system under construction. No Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodway areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood height.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with flood depths of less than 1 foot or with average areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

ZONE D COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary
0.2% Annual Chance Floodplain Boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988.

⊕ Cross section line
⊖ Transect line
42° 02' 00" - 42° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Water Meters
489000 M 1000 meter ticks; Massachusetts State Plane Meters Zone (FIPS Zone 2001); Lambert Conformal Conic projection
42510 M 1000 meter Universal Transverse Mercator grid values, Zone 19
⊗ Bench mark (see explanation in Notes to Users section of this FIS Report)
⊙ Water well
MAP REPOSITORIES
Refer to Map Repository list on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 4, 2010
EFFECTIVE DATES OF REVISIONS TO THIS PANEL
July 7, 2014 - To update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to add roads and road names, and to incorporate previously issued Letters of Map Change.

For community map revision history prior to countywide mapping refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6020.

MAP SCALE 1" = 600'
250 0 500 1000
150 0 150 300
FEET
METERS

NFP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0244F

FIRM
FLOOD INSURANCE RATE MAP
MIDDLESEX COUNTY,
MASSACHUSETTS
(ALL JURISDICTIONS)

PANEL 244 OF 656
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COUNTY	COMMUNITY	NUMBER	PANEL	REVISION
MIDDLESEX	ACTON	250176	0244	1
MIDDLESEX	CARLISLE	250187	0244	1
MIDDLESEX	CONCORD	250189	0244	1

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
25017C0244F
MAP REVISED
JULY 7, 2014

Federal Emergency Management Agency