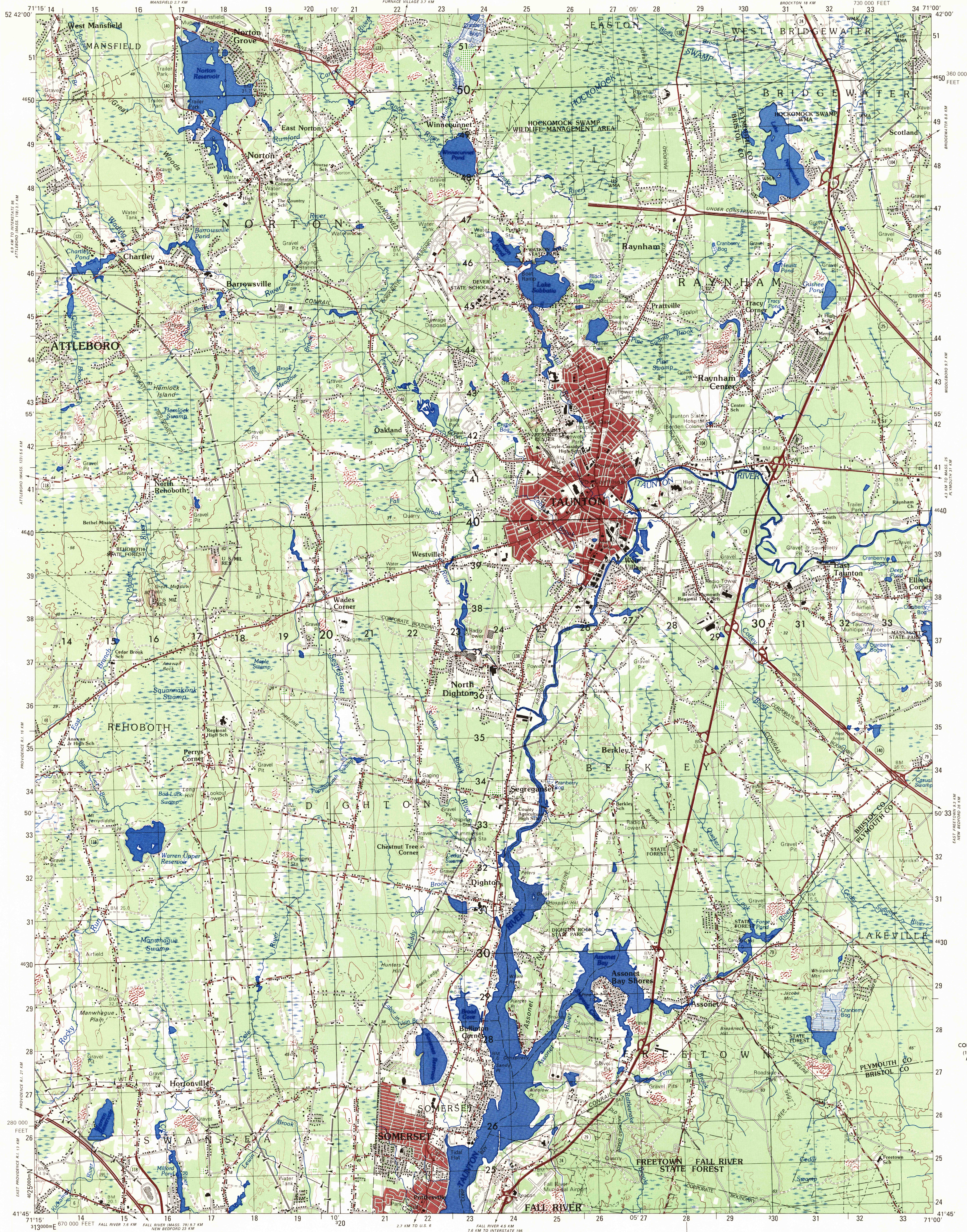


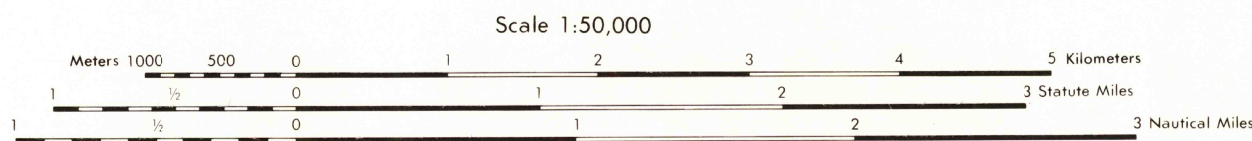


Prepared by the U. S. Geological Survey for publication by the  
Defense Mapping Agency Hydrographic/Topographic Center, Washington, D. C.

LEGEND

ON THIS MAP, A LANE IS GENERALLY CONSIDERED AS BEING A MINIMUM OF 2.5 METERS (8 FEET) IN WIDTH  
IN DEVELOPED AREAS, ONLY THROUGH ROADS ARE CLASSIFIED

|                                                              |                                                              |                                                              |                                                              |
|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| <b>ROADS</b>                                                 | <b>RAILROADS</b>                                             | <b>RAILROADS</b>                                             | <b>RAILROADS</b>                                             |
| Divided highway with median strip                            | Standard gauge 1.44m (4'8 1/2")                              | Standard gauge 1.44m (4'8 1/2")                              | Standard gauge 1.44m (4'8 1/2")                              |
| Primary, all weather, hard surface                           | Nonstandard gauge                                            | Nonstandard gauge                                            | Nonstandard gauge                                            |
| Secondary, all weather, hard surface                         | Nonoperating                                                 | Nonoperating                                                 | Nonoperating                                                 |
| Light duty, all weather, hard or improved surface            | Location known, location unknown                             | Location known, location unknown                             | Location known, location unknown                             |
| Fair or dry weather, unimproved surface                      | Car line                                                     | Car line                                                     | Car line                                                     |
| Trail                                                        | Trail                                                        | Trail                                                        | Trail                                                        |
| Route markers: Interstate, Federal, State                    | Route markers: Interstate, Federal, State                    | Route markers: Interstate, Federal, State                    | Route markers: Interstate, Federal, State                    |
| Bridge, with superstructure, without superstructure          | Bridge, with superstructure, without superstructure          | Bridge, with superstructure, without superstructure          | Bridge, with superstructure, without superstructure          |
| RAILROADS (Standard gauge 1.44m (4'8 1/2"))                  | RAILROADS (Standard gauge 1.44m (4'8 1/2"))                  | RAILROADS (Standard gauge 1.44m (4'8 1/2"))                  | RAILROADS (Standard gauge 1.44m (4'8 1/2"))                  |
| Single track                                                 | Single track                                                 | Single track                                                 | Single track                                                 |
| Multiple track                                               | Multiple track                                               | Multiple track                                               | Multiple track                                               |
| Nonoperating                                                 | Nonoperating                                                 | Nonoperating                                                 | Nonoperating                                                 |
| Railroad station, location known, location unknown           | Railroad station, location known, location unknown           | Railroad station, location known, location unknown           | Railroad station, location known, location unknown           |
| Car line                                                     | Car line                                                     | Car line                                                     | Car line                                                     |
| Railroad bridge, with superstructure, without superstructure | Railroad bridge, with superstructure, without superstructure | Railroad bridge, with superstructure, without superstructure | Railroad bridge, with superstructure, without superstructure |
| Tunnel, highway, railroad                                    | Tunnel, highway, railroad                                    | Tunnel, highway, railroad                                    | Tunnel, highway, railroad                                    |
| <b>BOUNDARIES</b>                                            | <b>BOUNDARIES</b>                                            | <b>BOUNDARIES</b>                                            | <b>BOUNDARIES</b>                                            |
| National, with monument                                      | National, with monument                                      | National, with monument                                      | National, with monument                                      |
| State, territory                                             | State, territory                                             | State, territory                                             | State, territory                                             |
| County, parish                                               | County, parish                                               | County, parish                                               | County, parish                                               |
| Civil township, town                                         | Civil township, town                                         | Civil township, town                                         | Civil township, town                                         |
| Incorporated city, village, town                             | Incorporated city, village, town                             | Incorporated city, village, town                             | Incorporated city, village, town                             |
| Reservation: National, State, Military                       | Reservation: National, State, Military                       | Reservation: National, State, Military                       | Reservation: National, State, Military                       |
| Power transmission line                                      | Power transmission line                                      | Power transmission line                                      | Power transmission line                                      |
| Buildings                                                    | Buildings                                                    | Buildings                                                    | Buildings                                                    |
| Church, school                                               | Church, school                                               | Church, school                                               | Church, school                                               |
| Power substation                                             | Power substation                                             | Power substation                                             | Power substation                                             |
| Windmill, watermill                                          | Windmill, watermill                                          | Windmill, watermill                                          | Windmill, watermill                                          |
| Well, tank                                                   | Well, tank                                                   | Well, tank                                                   | Well, tank                                                   |
| Open pit mine or quarry                                      | Open pit mine or quarry                                      | Open pit mine or quarry                                      | Open pit mine or quarry                                      |
| Horizontal control station                                   | Horizontal control station                                   | Horizontal control station                                   | Horizontal control station                                   |
| Bench mark, monument                                         | Bench mark, monument                                         | Bench mark, monument                                         | Bench mark, monument                                         |
| Bench mark, non-monumented                                   | Bench mark, non-monumented                                   | Bench mark, non-monumented                                   | Bench mark, non-monumented                                   |
| Spot elevations in meters                                    | Spot elevations in meters                                    | Spot elevations in meters                                    | Spot elevations in meters                                    |
| Leaves, rims, dikes                                          | Leaves, rims, dikes                                          | Leaves, rims, dikes                                          | Leaves, rims, dikes                                          |
| Bluffs, cliffs                                               | Bluffs, cliffs                                               | Bluffs, cliffs                                               | Bluffs, cliffs                                               |
| Woodland                                                     | Woodland                                                     | Woodland                                                     | Woodland                                                     |
| Scattered trees, scrub                                       | Scattered trees, scrub                                       | Scattered trees, scrub                                       | Scattered trees, scrub                                       |
| Vineyard, orchard, plantation                                | Vineyard, orchard, plantation                                | Vineyard, orchard, plantation                                | Vineyard, orchard, plantation                                |
| Intermittent lake, dam, earthen, masonry                     | Intermittent lake, dam, earthen, masonry                     | Intermittent lake, dam, earthen, masonry                     | Intermittent lake, dam, earthen, masonry                     |
| Stream, perennial, intermittent                              | Stream, perennial, intermittent                              | Stream, perennial, intermittent                              | Stream, perennial, intermittent                              |
| Marsh, swamp                                                 | Marsh, swamp                                                 | Marsh, swamp                                                 | Marsh, swamp                                                 |
| Small rapids, small falls                                    | Small rapids, small falls                                    | Small rapids, small falls                                    | Small rapids, small falls                                    |
| Large rapids, large falls                                    | Large rapids, large falls                                    | Large rapids, large falls                                    | Large rapids, large falls                                    |



ELEVATIONS IN METERS

CONTOUR INTERVAL 10 METERS

SPHEROID ..... CLARKE 1866  
GRID ..... 100,000-FOOT STATE GRID TICS MASSACHUSETTS (MAINLAND ZONE)  
PROJECTION ..... TRANSVERSE MERCATOR  
VERTICAL DATUM ..... 1929 NORTH AMERICAN DATUM  
HORIZONTAL DATUM ..... 1929 NORTH AMERICAN DATUM  
CONTROL BY ..... U.S. GEOLOGICAL SURVEY  
PREPARED BY ..... DMAHC 7-82

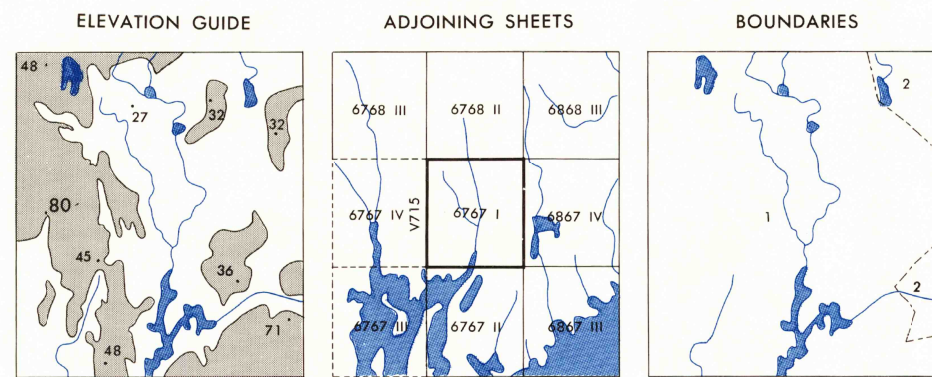
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|                                                                                                                                                 |                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>100 METER REFERENCE</b>                                                                                                                      | <b>100 METER REFERENCE</b>                                                                                                                      |
| 1. Read large numbers labeling the VERTICAL grid lines of point and estimate north (100 meters) from grid line to point. 12 12.2                | 1. Read large numbers labeling the VERTICAL grid lines of point and estimate north (100 meters) from grid line to point. 12 12.2                |
| 2. Read large numbers labeling the HORIZONTAL grid line below point and estimate north (100 meters) from grid line to point. 45.6               | 2. Read large numbers labeling the HORIZONTAL grid line below point and estimate north (100 meters) from grid line to point. 45.6               |
| Example: 123456                                                                                                                                 | Example: 123456                                                                                                                                 |
| WHEN REPORTING OUTSIDE THE 100,000 METER SQUARE AREA IN WHICH THE POINT LIES, PREFIX THE 100,000 METER SQUARE IDENTIFICATION. Example: C5123456 | WHEN REPORTING OUTSIDE THE 100,000 METER SQUARE AREA IN WHICH THE POINT LIES, PREFIX THE 100,000 METER SQUARE IDENTIFICATION. Example: C5123456 |
| WHEN REPORTING OUTSIDE THE GRID ZONE DESIGNATION AREA IN WHICH THE POINT LIES, PREFIX THE GRID ZONE DESIGNATION. Example: 19T C5123456          | WHEN REPORTING OUTSIDE THE GRID ZONE DESIGNATION AREA IN WHICH THE POINT LIES, PREFIX THE GRID ZONE DESIGNATION. Example: 19T C5123456          |

TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH  
SUBTRACT G-M ANGLE

TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH  
ADD G-M ANGLE

GRID CONVERGENCE  
FOR CENTER OF SHEET



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