

Methods


This buildout analysis is used to determine developable land area for both commercial and industrial zoning districts. Digital and hard copy data are collected. Digital zoning data is updated. Other existing digital data is gathered from a variety of sources including MassGIS, the community, Massachusetts Highway Department, and federal sources. Zoning, open space, land use, hydrography, environmentally sensitive areas, wetlands, Rivers Protection Act buffers, flood zones, slope, soil, orthophotography, rail lines, road networks, and political boundaries are utilized to different degrees. Additional layers are created that included miscellaneous features that were determined to be undevelopable, an update of the most recent MacConnell Land Use, and a layer of recent subdivisions since the last MacConnell update.

The developed land data is from the aggregated land use categories in the MacConnell Land Use layer provided by MassGIS. The aggregated developed land categories are spectator and water-based recreation, residential, commercial, industrial, transportation, and waste disposal.

The GIS analysis consisted of subtracting layers from zoning. The remaining developable land area represented on MAP 2 is aggregated by zoning category.

To determine the number of future buildable residential lots by zoning category a formula was developed to determine the land requirements of a typical lot in each category. The land requirements factor in required frontage multiplied by half the road right-of-way to determine road area. This figure varies from zone to zone. Additionally 10% is subtracted from each zone to cover miscellaneous variables such as odd lot shapes. Commercial and Industrial buildable lots were determined using an "effective" floor area ratio technique.

The analysis determines developable square feet of commercial and industrial areas. For each commercial and industrial zoning district, the major alternative land uses were examined in relation to the height limitations, maximum allowable percent lot coverage and parking requirements. An effective floor area ratio (FAR) for all use categories (e.g., offices, warehousing) in a particular district is developed for analysis purposes. An effective FAR for a district is estimated by averaging the FARs for the various potential land use types. Note that where FARs are not detailed for zoning districts in the by-laws an estimated FAR is derived for similar zoning districts by multiplying the percent lot coverage by the number of 10-foot-tall stories that could be constructed. Effective limitations on total square footages caused by the required amount of parking with each use is also factored in.




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Governor

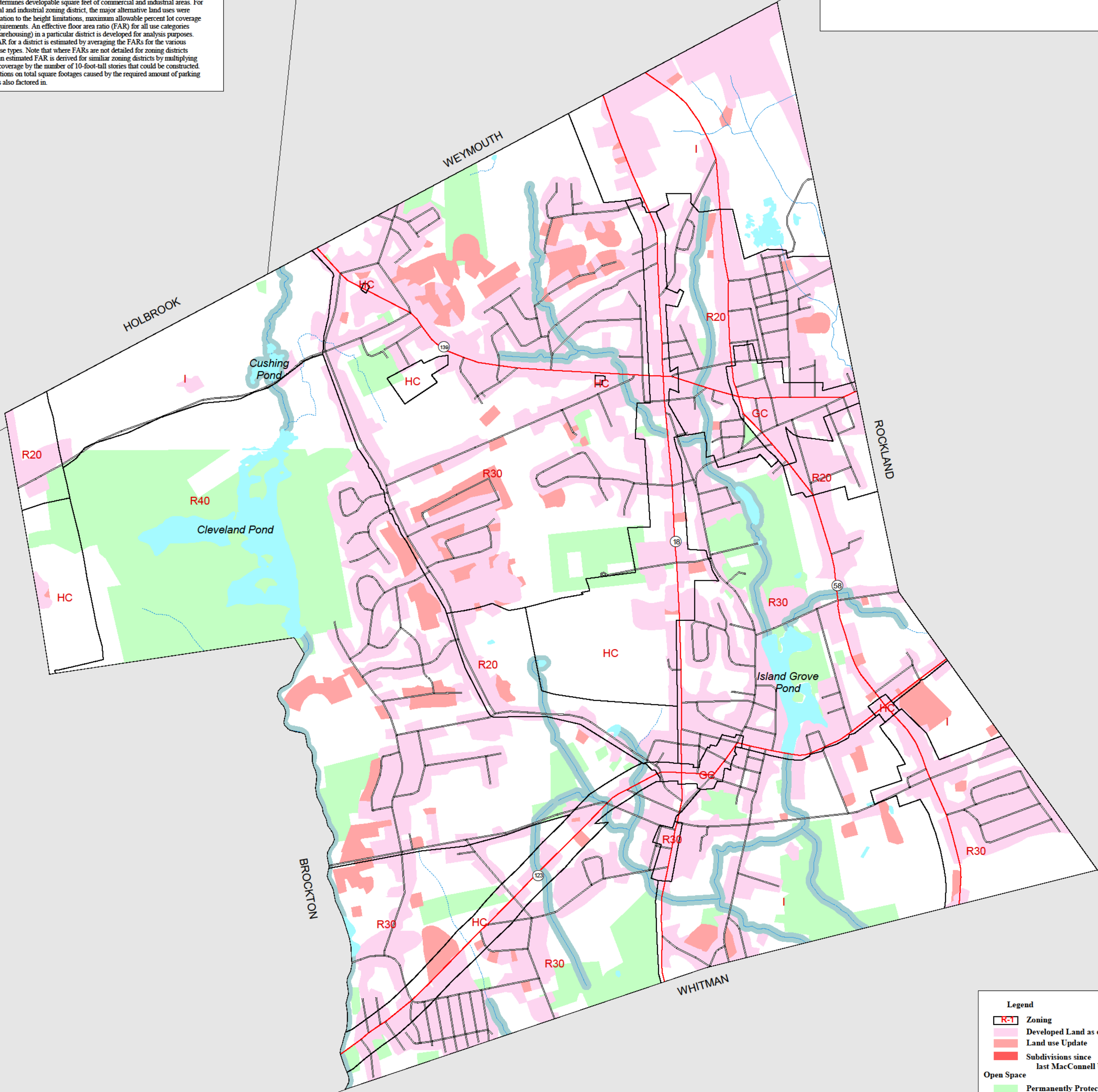
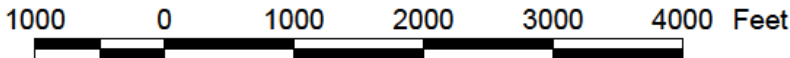
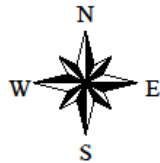
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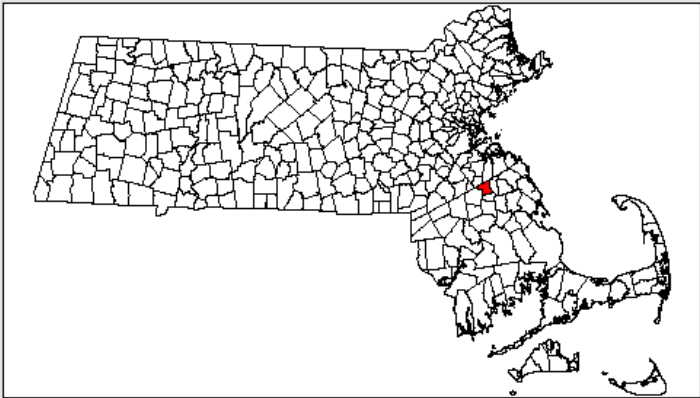
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



MAP 1  
ZONING AND ABSOLUTE  
DEVELOPMENT CONSTRAINTS  
ABINGTON, MASSACHUSETTS








Zoning Codes	Zoning Districts
R-20	High Density Residential
R-30	Medium Density Residential
R-40	Low Density Residential
GC	General Commercial
HC	Highway Commercial
I	Industrial
Overlay Districts	
FW	Flood Plain & Wetlands








Legend


-  Zoning
-  Developed Land as of 1991
-  Land use Update
-  Subdivisions since last MacConnell Update

Open Space


-  Permanently Protected
-  Water Bodies
-  Streams
-  Intermittent Streams
-  100' Rivers Protection Act Buffer

Transportation

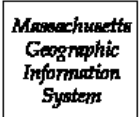
-  Local
-  Interstate
-  Arterial
-  Collector
-  Railroad




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MASS GIS  
Massachusetts Executive Office of Environmental Affairs - 2000



Massachusetts  
Geographic  
Information  
System



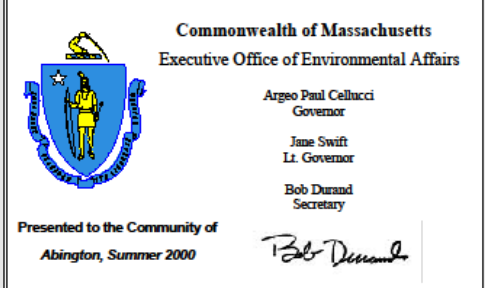
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Summary of Residential Build Out Impacts

	Raw Area (Acres)	Road/Odd Lot Factor	Net Land Area (Acres)	Build Factor	Net Buildable Area (Acres)	Buildable Lots	Units per Lot	Water Use (GPD)	New Students	New Population
<b>High Density Residential (R20) 100%</b>										
No Constraints	153.1	0.85	130.1	1.00	130.1	263.4	1	66,422	198	886
Wetlands Only-Partial Constraint	0.0	0.85	0.0	0.50	0.0	0.0	1	0	0	0
100 Year Flood Plains Only-Partial Constraint	19.0	0.85	16.1	0.50	8.1	17.6	1	4,120	12	55
100'-200' Rivers Protection Zone Only-Partial Constraint	12.4	0.85	10.5	0.50	5.3	11.5	1	2,690	8	36
Multiple Partial Constraints	5.9	0.85	5.0	0.50	2.5	5.5	1	1,280	4	17
Subtotal	190.4	N/A	161.8	N/A	146.0	317.9	N/A	74,512	223	993
<b>Medium Density Residential (R30) 100%</b>										
No Constraints	829.5	0.85	705.1	1.00	705.1	1,023.8	1	191,968	717	2,560
Wetlands Only-Partial Constraint	2.8	0.85	2.4	0.50	1.2	1.7	1	320	1	4
100 Year Flood Plains Only-Partial Constraint	46.6	0.85	39.6	0.50	19.8	28.8	1	5,397	20	72
100'-200' Rivers Protection Zone Only-Partial Constraint	30.1	0.85	25.5	0.50	12.8	18.5	1	3,478	13	46
Multiple Partial Constraints	61.0	0.85	51.9	0.50	25.9	37.7	1	7,062	26	94
Subtotal	970.0	N/A	824.5	N/A	764.8	1,110.5	N/A	208,225	777	2,776
<b>Low Density Residential (R40) 100%</b>										
No Constraints	374.9	0.85	318.7	1.00	318.7	347.1	1	65,075	243	868
Wetlands Only-Partial Constraint	15.9	0.85	13.6	0.50	6.8	7.4	1	1,384	5	18
100 Year Flood Plains Only-Partial Constraint	7.8	0.85	6.6	0.50	3.3	3.6	1	677	3	9
100'-200' Rivers Protection Zone Only-Partial Constraint	8.4	0.85	7.1	0.50	3.6	3.9	1	727	3	10
Multiple Partial Constraints	34.9	0.85	29.7	0.50	14.8	16.2	1	3,029	11	40
Subtotal	442.0	N/A	375.7	N/A	347.2	378.1	N/A	70,893	285	945
Grand Total	1,602.4	N/A	1,362.0	N/A	1,258.0	1,806.5	N/A	353,629	1,265	4,715



## MAP 2 DEVELOPABLE LANDS AND PARTIAL CONSTRAINTS ABINGTON, MASSACHUSETTS



1000 0 1000 2000 3000 4000 Feet

**Legend**

**Water**

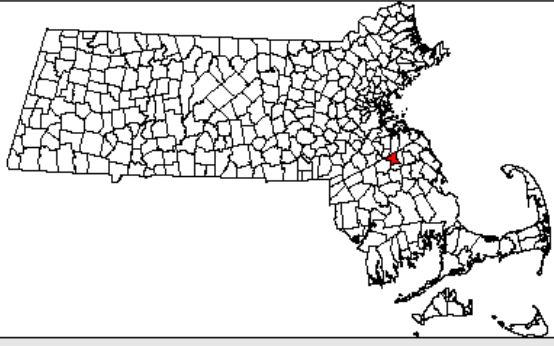
- 100 Year Zones
- Wetlands
- River Protection Act 100-200'
- Water Bodies
- Streams
- Intermittent Streams

**Transportation**

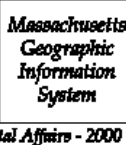
- Local
- Interstate
- Arterial
- Collector
- Railroad

**Zoning Categories**

- High Density Residential
- Medium Density Residential
- Low Density Residential
- General Commercial
- Highway Commercial
- Industrial



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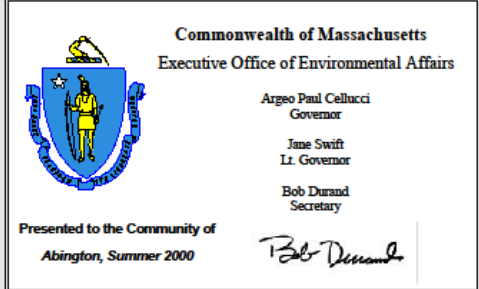
Summary of Commercial and Industrial Build-Out Impacts

	Raw Area (Acres)	Build Factor	Net Buildable Area (Acres)	Effective Floor Area Ratio (FAR)	Buildable Sqft.	Water Use (GPD)
<b>General Commercial (GC) 100%</b>						
No Constraints	9.3	1.00	9.3	0.405	164,016	12,301
Wetlands Only-Partial Constraint	0.0	0.50	0.0	0.405	0	0
100 Year Flood Plains Only-Partial Constraint	0.0	0.50	0.0	0.405	0	0
100'-200' Rivers Protection Zone Only-Partial Constraint	0.3	0.50	0.1	0.405	2,320	174
Multiple Partial Constraints	0.0	0.50	0.0	0.405	0	0
Subtotal	9.6	N/A	9.4	N/A	166,336	12,475
<b>Highway Commercial (HC) 100%</b>						
No Constraints	285.3	1.00	285.3	0.528	6,560,960	492,072
Wetlands Only-Partial Constraint	1.7	0.50	0.9	0.528	20,079	1,506
100 Year Flood Plains Only-Partial Constraint	4.2	0.50	2.1	0.528	48,691	3,652
100'-200' Rivers Protection Zone Only-Partial Constraint	6.0	0.50	3.0	0.528	68,666	5,150
Multiple Partial Constraints	6.0	0.50	3.0	0.528	69,299	5,197
Subtotal	303.2	N/A	294.3	N/A	6,767,694	507,577
<b>Industrial (I) 100%</b>						
No Constraints	638.7	1.00	638.7	0.671	18,668,160	1,400,112
Wetlands Only-Partial Constraint	22.6	0.50	11.3	0.671	329,833	24,737
100 Year Flood Plains Only-Partial Constraint	19.5	0.50	9.8	0.671	285,274	21,396
100'-200' Rivers Protection Zone Only-Partial Constraint	29.6	0.50	14.8	0.671	433,303	32,498
Multiple Partial Constraints	40.4	0.50	20.2	0.671	589,897	44,242
Subtotal	750.8	N/A	694.7	N/A	20,306,467	1,522,985
Grand Total	1,063.6	N/A	998.4	N/A	27,240,498	2,043,037

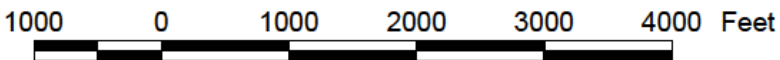


SUMMARY BUILD-OUT IMPACTS		
New Development and Associated Impacts		Totals
Developable Land (sqft.)	116,130,713	
Developable Land (acres)	2,666	
Total Residential Lots	1,807	
Commercial/Industrial Buildable Floor Area (sqft.)	27,240,498	
Residential Water Use (gallons per day)	353,629	
Commercial/Industrial Water Use (gallons per day)	2,043,037	
Municipal Solid Waste, Non-Recycled (tons)	4,055	
Municipal Solid Waste, Recycled (tons)	1,084	
New Residents	4,715	
New Students	1,265	
New Residential Subdivision Roads (miles)	23	

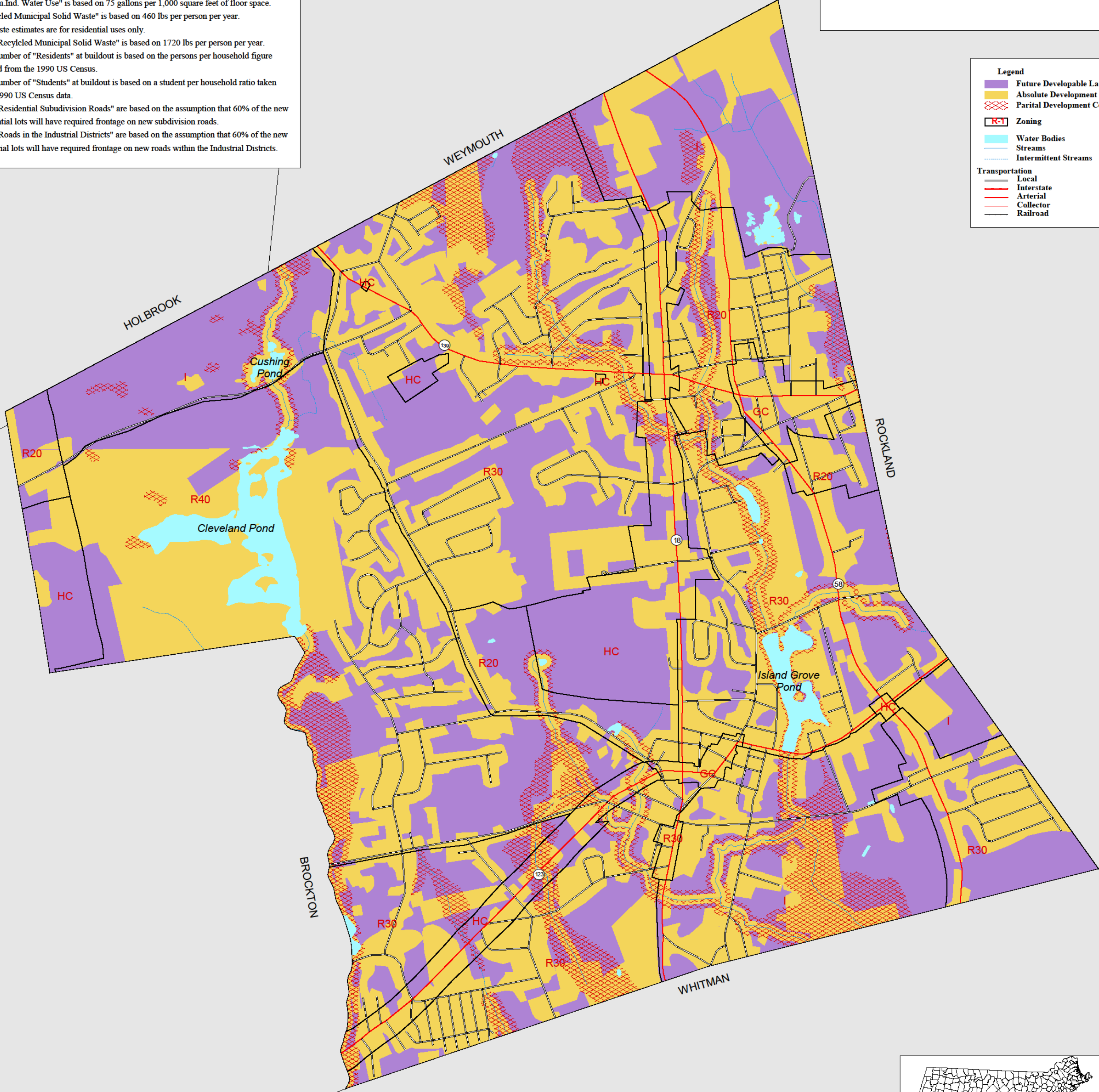
- Notes:
- "Residential Water Use" is based on 75 gallons per day per person.
  - "Comm.Ind. Water Use" is based on 75 gallons per 1,000 square feet of floor space.
  - "Recycled Municipal Solid Waste" is based on 460 lbs per person per year.  
All waste estimates are for residential uses only.
  - "Non-Recycled Municipal Solid Waste" is based on 1720 lbs per person per year.
  - The number of "Residents" at buildout is based on the persons per household figure derived from the 1990 US Census.
  - The number of "Students" at buildout is based on a student per household ratio taken from 1990 US Census data.
  - "New Residential Subdivision Roads" are based on the assumption that 60% of the new residential lots will have required frontage on new subdivision roads.
  - "New Roads in the Industrial Districts" are based on the assumption that 60% of the new industrial lots will have required frontage on new roads within the Industrial Districts.



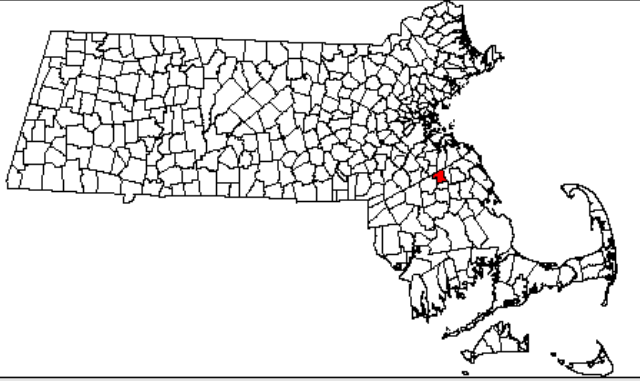
MAP 3  
COMPOSITE DEVELOPMENT  
ABINGTON, MASSACHUSETTS



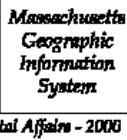
- Legend
- Future Developable Land
  - Absolute Development Constraints
  - Partial Development Constraints
  - Zoning
  - Water Bodies
  - Streams
  - Intermittent Streams
  - Transportation
    - Local
    - Interstate
    - Arterial
    - Collector
    - Railroad



Zoning Codes	Zoning Districts
R-20	High Density Residential
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GC	General Commercial
HC	Highway Commercial
I	Industrial
Overlay Districts	
FW	Flood Plain & Wetlands



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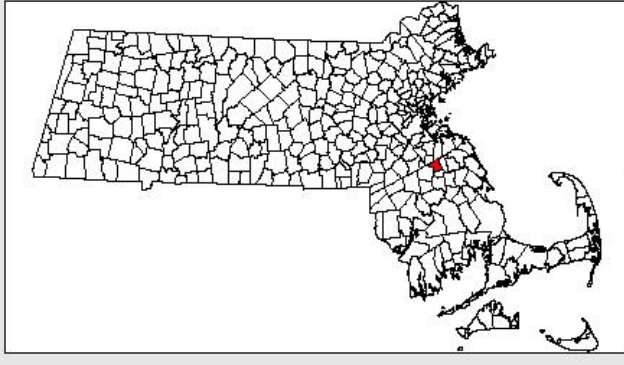


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MAP 4  
ORTHOPHOTO BASEMAP  
ABINGTON, MASSACHUSETTS




700 0 700 1400 2100 2800 Feet



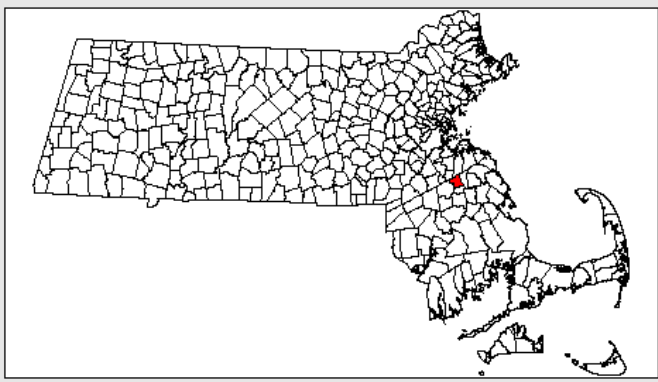
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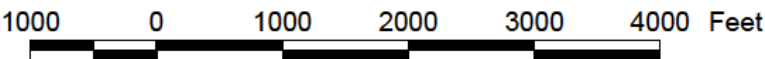
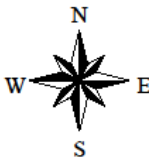





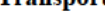




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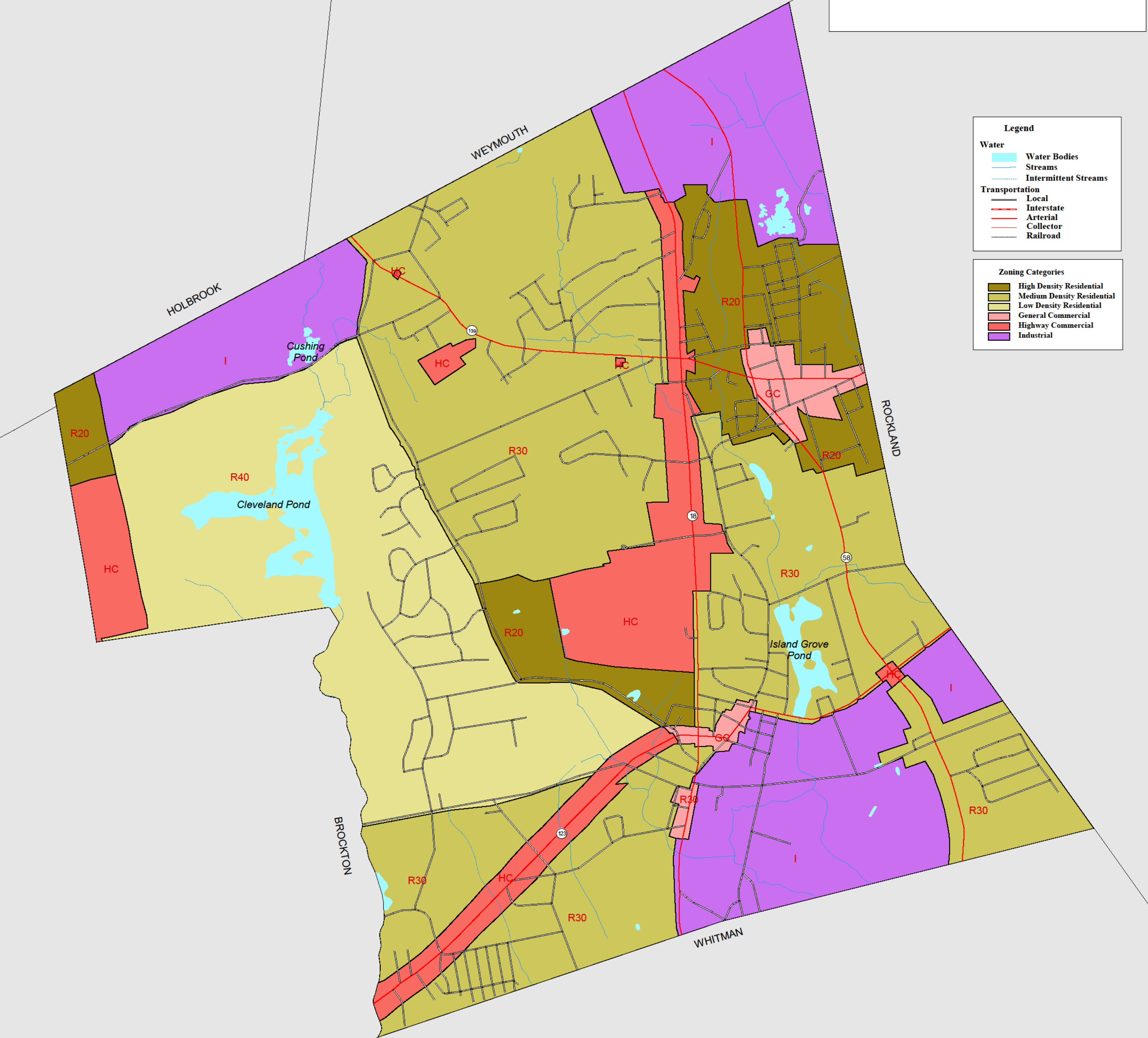
# ZONING MAP

## ABINGTON, MASSACHUSETTS




**Legend**  
**Water**  
 Water Bodies  
 Streams  
 Intermittent Streams  
**Transportation**  
 Local  
 Interstate  
 Arterial  
 Collector  
 Railroad


**Zoning Categories**  
 High Density Residential  
 Medium Density Residential  
 Low Density Residential  
 General Commercial  
 Highway Commercial  
 Industrial




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