
APPENDIX 1 – MAP ATLAS

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Boating Facilities	1-8
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Boating Facilities Along the Merrimack River	1-16
<i>Boating facilities were identified from boaters guides, aerial photographs, GIS data and site visits.</i>	
Zoning	1-17
<i>A hardcopy zoning map was provided by the Town of Salisbury. At this time zoning data is not available in GIS format.</i>	
Salisbury Land Use	1-18
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Atlantic Coast Land Use	1-19
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<i>This information is available online through MassGIS.</i>	

Roads and Existing Development 1-22

This information is available online through MassGIS and combines land use and road data.

Waterfront Property Use Along the Merrimack River 1-23

Parcel data produced by Merrimack Valley Planning Commission (MVPC) Regional GIS Service Center. This data has been developed according to the MassGIS property parcel mapping standard Level II. While every effort has been made to ensure accuracy MVPC assumes no liability for errors or omissions. This data has generally been prepared for planning purposes only and may not be adequate for legal boundary definition or regulatory interpretation.

Property use was derived from the Assessor's online database.

Salisbury Wetlands and Coastal Systems 1-24

The wetlands are interpreted from 1:12,000 scale, stereo color-infrared (CIR) photography by staff at UMASS Amherst. The photography was captured in 1990, 1991, 1992, 1993, 1999 and 2000.

The interpretation is field checked by Department of Environmental Protection (DEP) Wetlands Conservancy Program (WCP). Completed interpretations are then scanned and converted into rectified polygons and lines using standard photogrametric techniques by a consultant under contract to the WCP. Final quality control is performed by WCP GIS staff. The polygons and arcs are merged into a single layer (in coverage format) and additional attributes are added for the polygon features. The arc features are coded based on the adjacent polygon types, and attributes are added to the annotation subclass wet.

Atlantic Coast Wetlands and Coastal Systems 1-25

Blackwater River Wetlands and Coastal Systems 1-26

Shellfish Suitability Areas 1-27

The Shellfish Suitability Areas layer comprises polygons representing habitats suitable for ten species of shellfish along the coast of Massachusetts. It delineates areas that are believed to be suitable for shellfish based on the expertise of the Massachusetts Division of Marine Fisheries (DMF), the opinion of local Massachusetts Shellfish Constables, and information contained in maps and studies of shellfish in Massachusetts. The areas covered include sites where shellfish have historically been sighted, but may not currently support any shellfish. The shellfish suitability areas were not verified in the field and the boundaries were not surveyed. For these reasons, the areas should be used only as guides to the approximate locations of potential habitats.

Designated Shellfish Growing Areas 1-28

The Designated Shellfish Growing Area (DSGA) datalayer was compiled by the Department of Fisheries, Wildlife and Environmental Law Enforcement's (DFWELE) Division of Marine Fisheries (DMF). Growing areas are managed with respect to shellfish harvest for direct human consumption, and comprise at least one or more classification areas. This layer reflects classification areas as of July 1, 2000.

NHESP Living Waters Core Habitats & Critical Supporting Watersheds 1-29

Core Habitats were delineated by Natural Heritage biologists in the ArcView 3.2 environment, using the MassGIS digital topographic quadrangles or 1:5,000 black and white orthophotos as a base map. Where available, GPS data from site visits were used to guide Natural Heritage biologists as they clipped out Core Habitats from the 1:25,000 River Centerlines and the 1:25,000 MassGIS Hydrography. Where the centerlines did not exist or were not available, only the 1:25,000 MassGIS Hydrography was used. In some instances, field sites visited by project scientists were not present in the existing hydrographic data, and so the Core Habitats

for these locations were created using onscreen digitizing from the black and white orthophotos.

Critical Supporting Watersheds (CSWs) are those areas with more immediate hydrologic contributions to Living Waters Core Habitats. As such, they represent the areas with the highest potential to sustain or degrade Core Habitats.

NHESP BioMap Core Habitats & Supporting Natural Landscape 1-30

Polygons were digitized for individual species, groups of species and natural communities. Core Habitat for plant species consisted primarily of buffered point locations with developed areas clipped out. Core Habitat polygons were then checked to flag areas where recent development might impact the polygon boundaries. These areas were excised from Core Habitat where appropriate. The final linework for individual species and natural community polygons was merged into a single coverage.

The Supporting Natural Landscape buffers and connects Core Habitat polygons, which depict the most viable habitat for rare species and natural communities in Massachusetts, and identifies large, naturally vegetated blocks that are relatively free from the impact of roads and other development.

NHESP Priority Habitats for Rare Species and Estimated Habitats for Rare Wildlife 1-31

The Priority Habitats of Rare Species datalayer contains polygons representing the geographic extent of Habitat of state-listed rare species in Massachusetts based on observations documented within the last 25 years in the database of the Natural Heritage & Endangered Species Program (NHESP). Priority Habitats are the filing trigger for proponents, municipalities, and other stakeholders for determining whether or not a proposed project must be reviewed by the NHESP for compliance with the Massachusetts Endangered Species Act (MESA).

Estimated Habitats are for use with the Wetlands Protection Act regulations (310 CMR 10.00). The Estimated Habitats of Rare Wildlife datalayer contains polygons that are a subset of the Priority Habitats of Rare Species. They are based on occurrences of rare wetland wildlife observed within the last 25 years and documented in the Natural Heritage & Endangered Species Program (NHESP) database.

Site Suitability 1 1-32

Waterfront parcels are shown over the DEP wetlands data Parcels that are in, or close to wetlands are unlikely to be suitable for boating related development on the shore.

Site Suitability 2 1-33

Only those parcels that are largely clear of wetlands remain.

Site Suitability 3 1-34

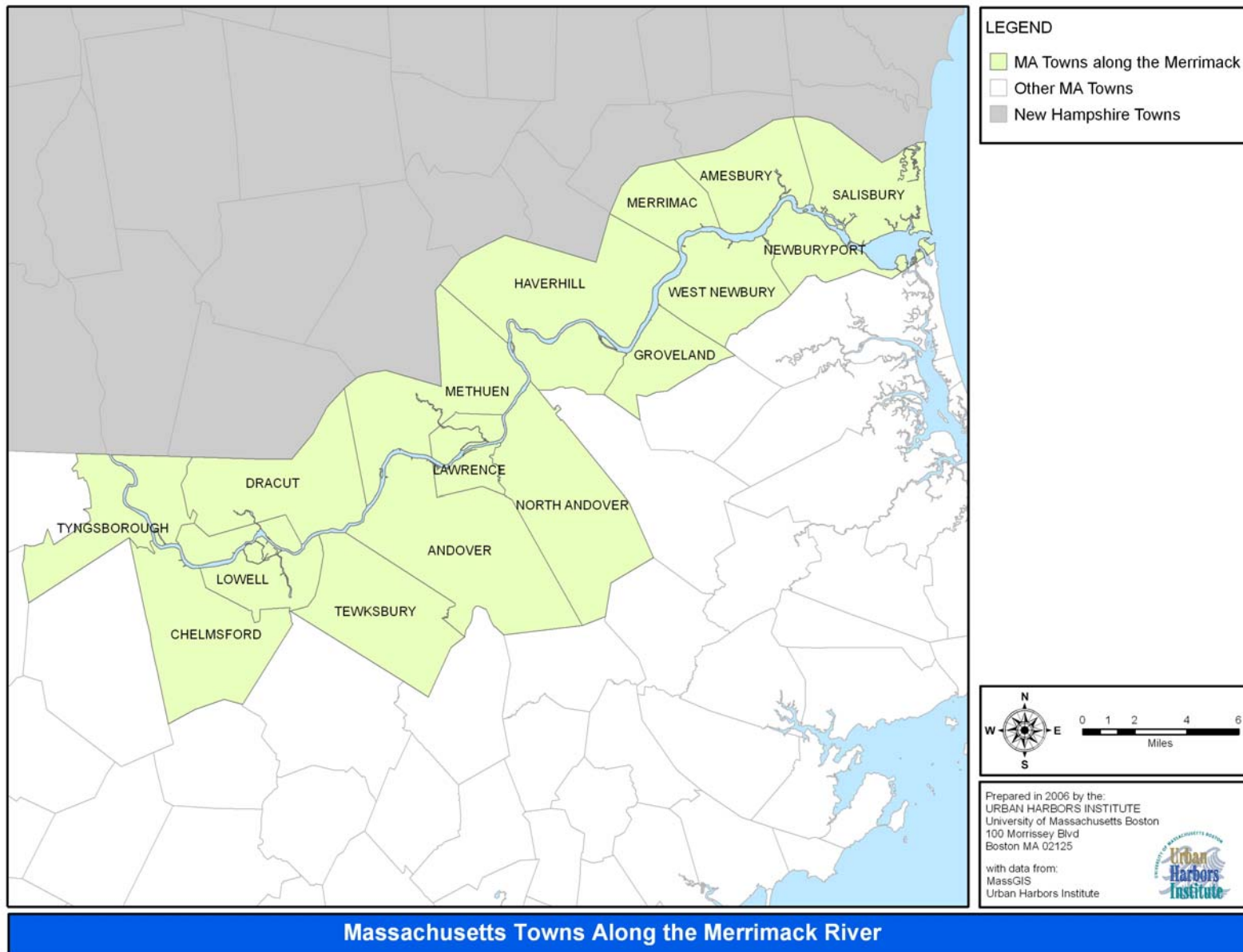
Ownership is then added to identify those areas that may be suitable for development.

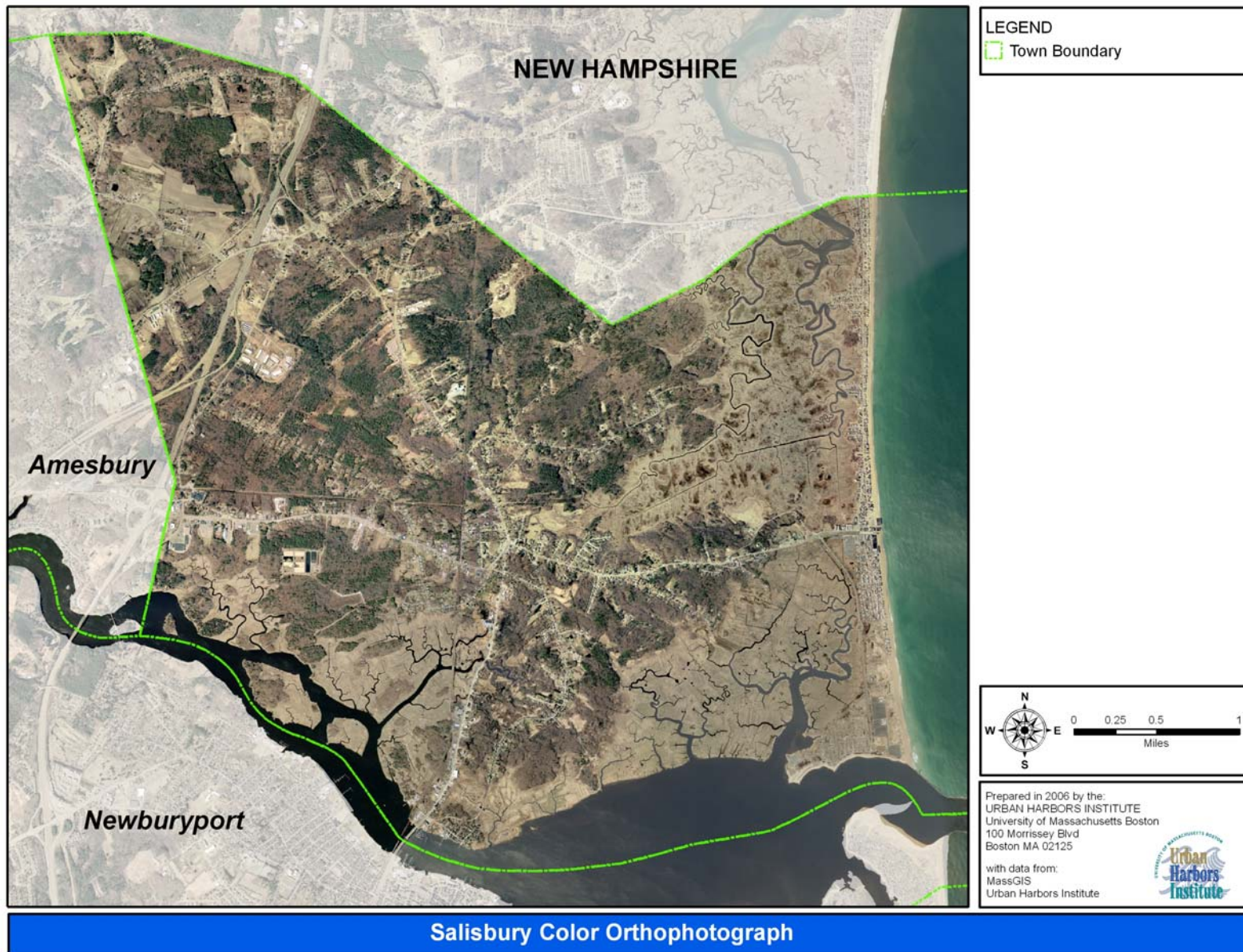
Site Suitability 4, 5 and 6 1-35

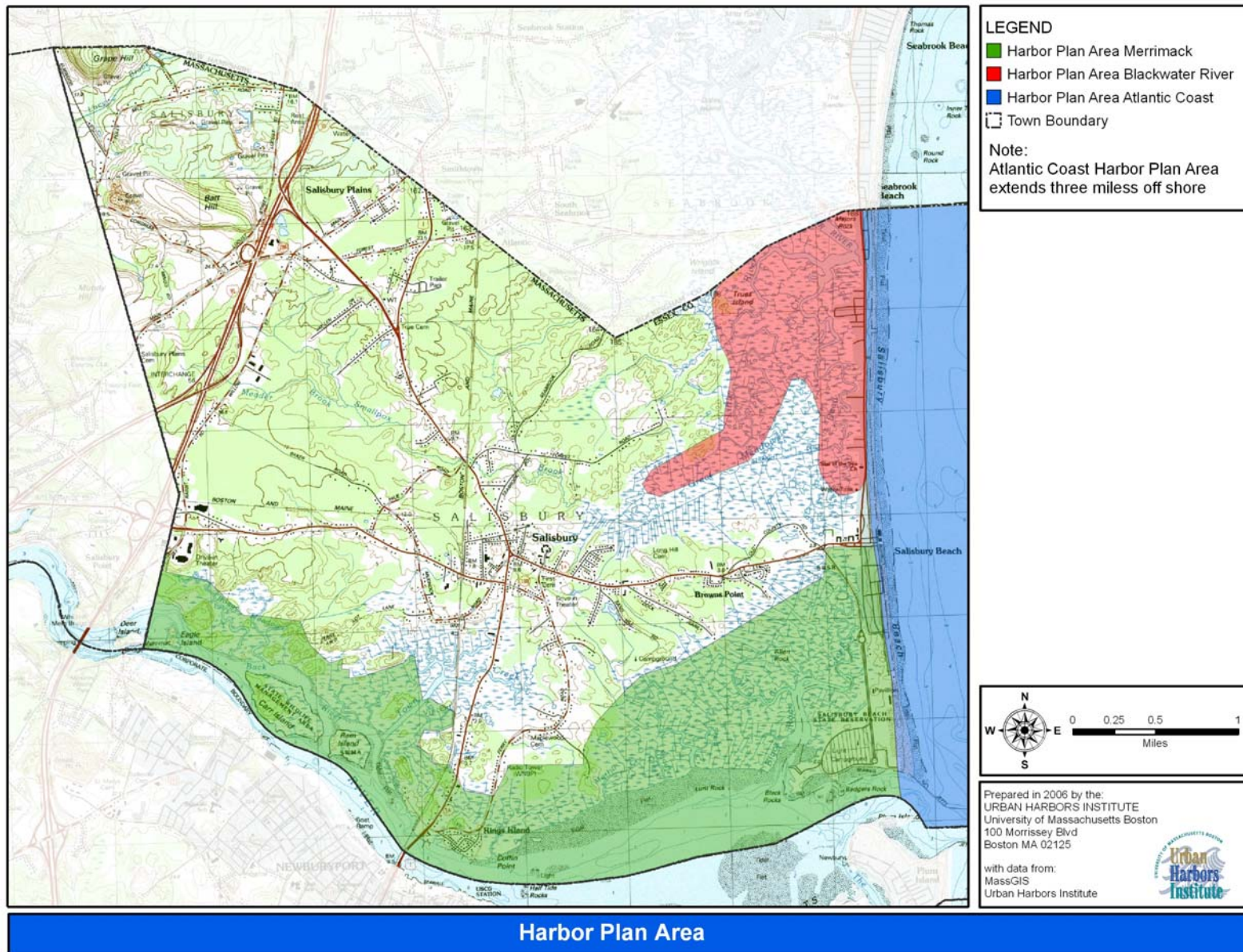
The area between the bridges may be suitable

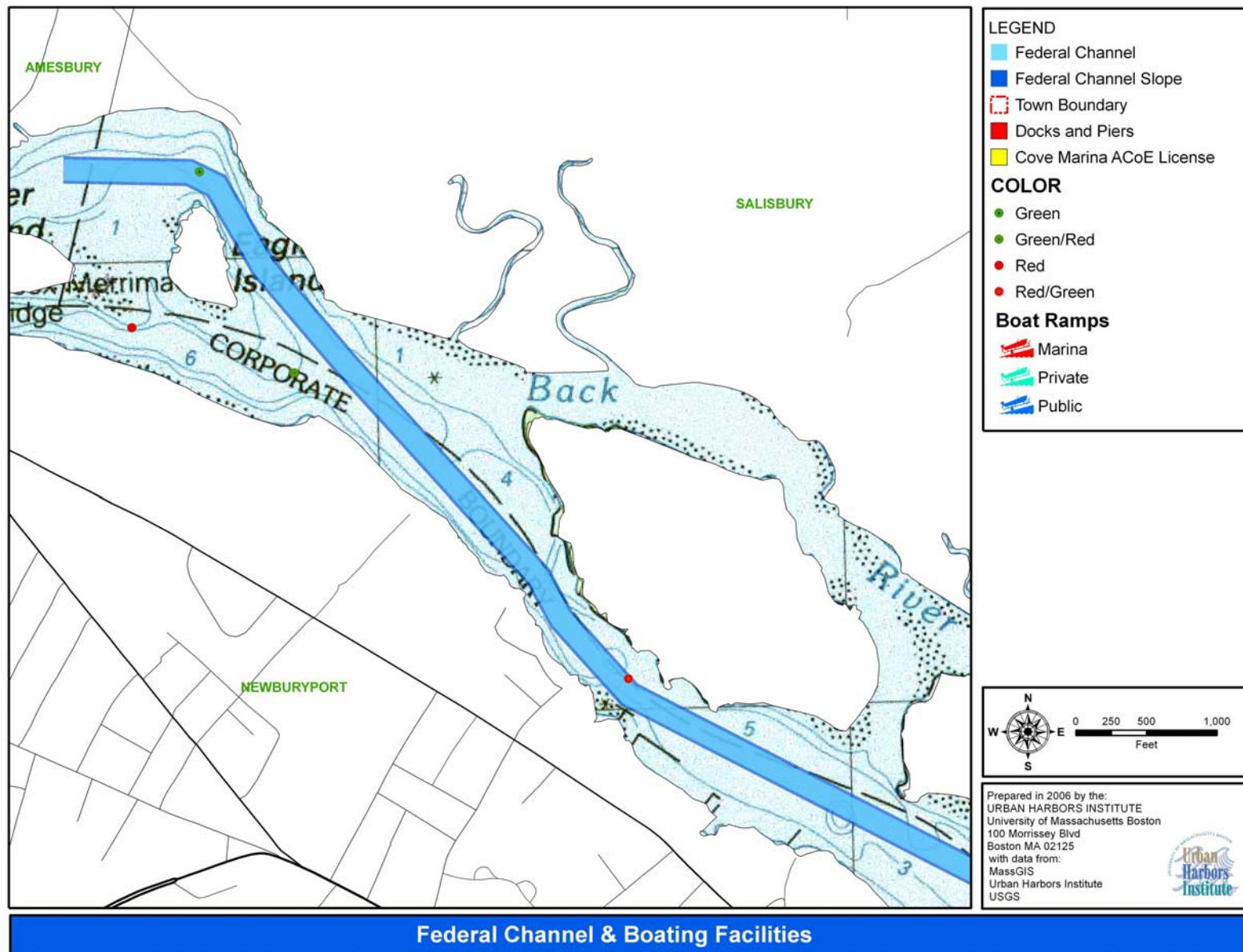
Site Suitability 7 and 8 1-38

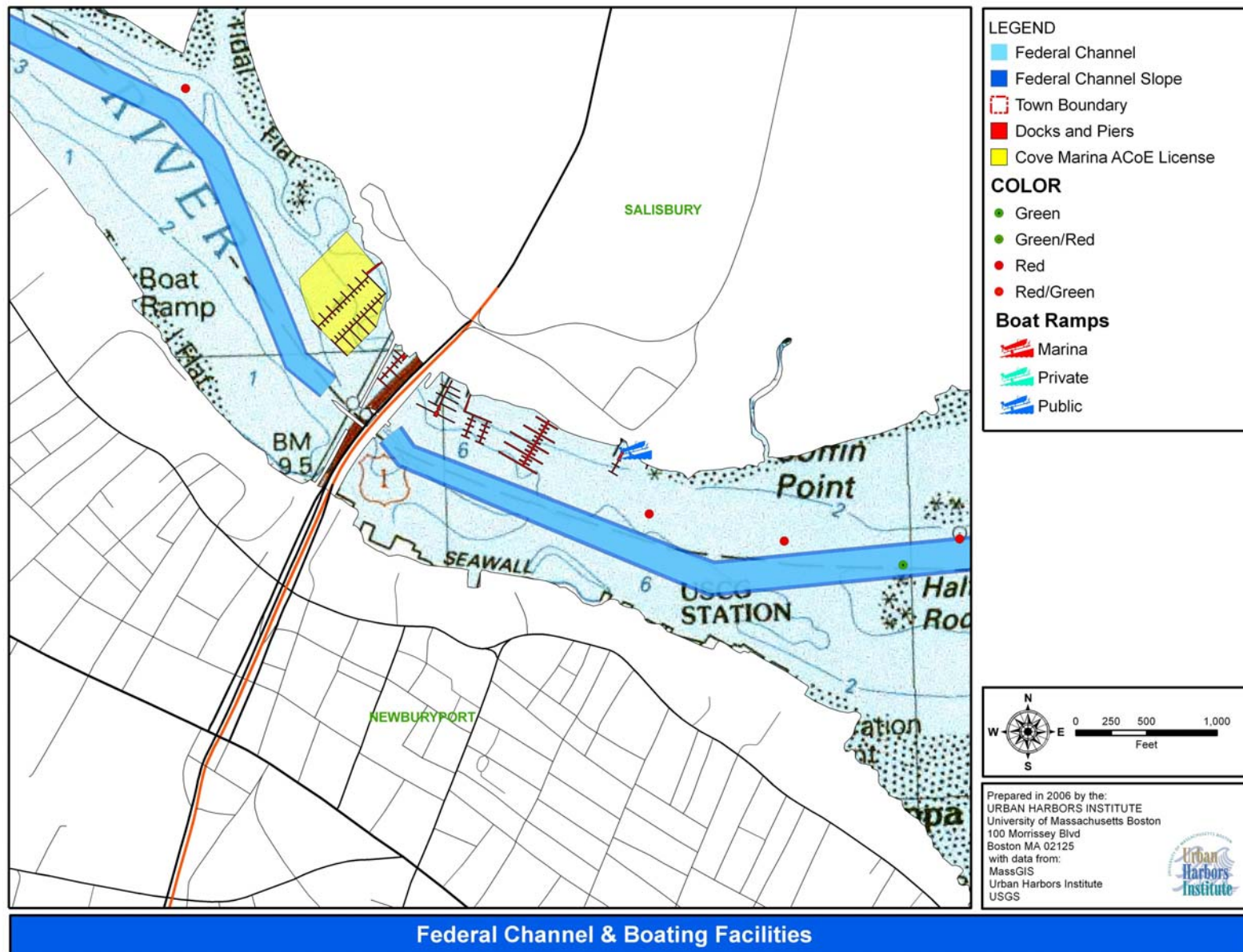
Some options near the Amesbury border also offer some suitability

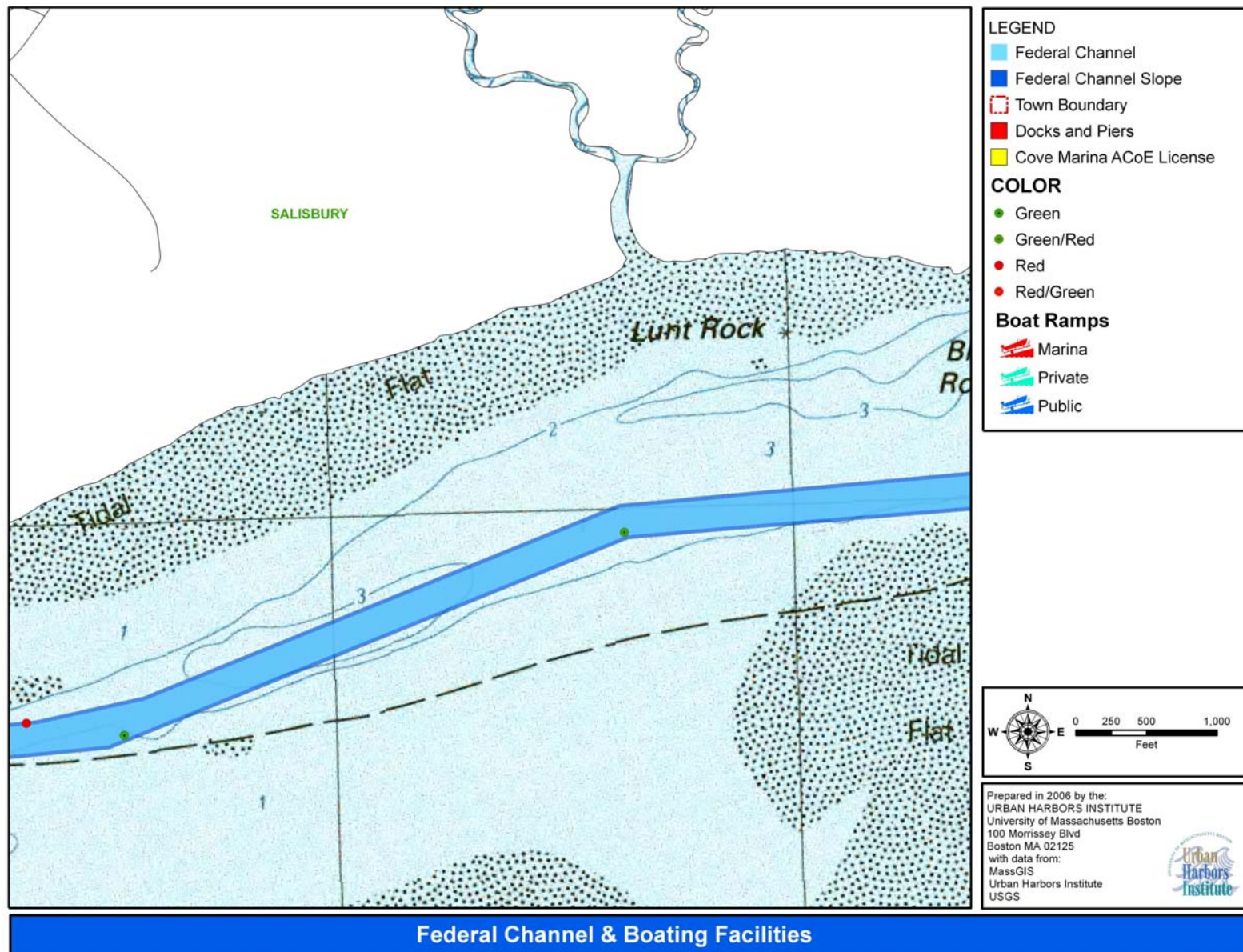


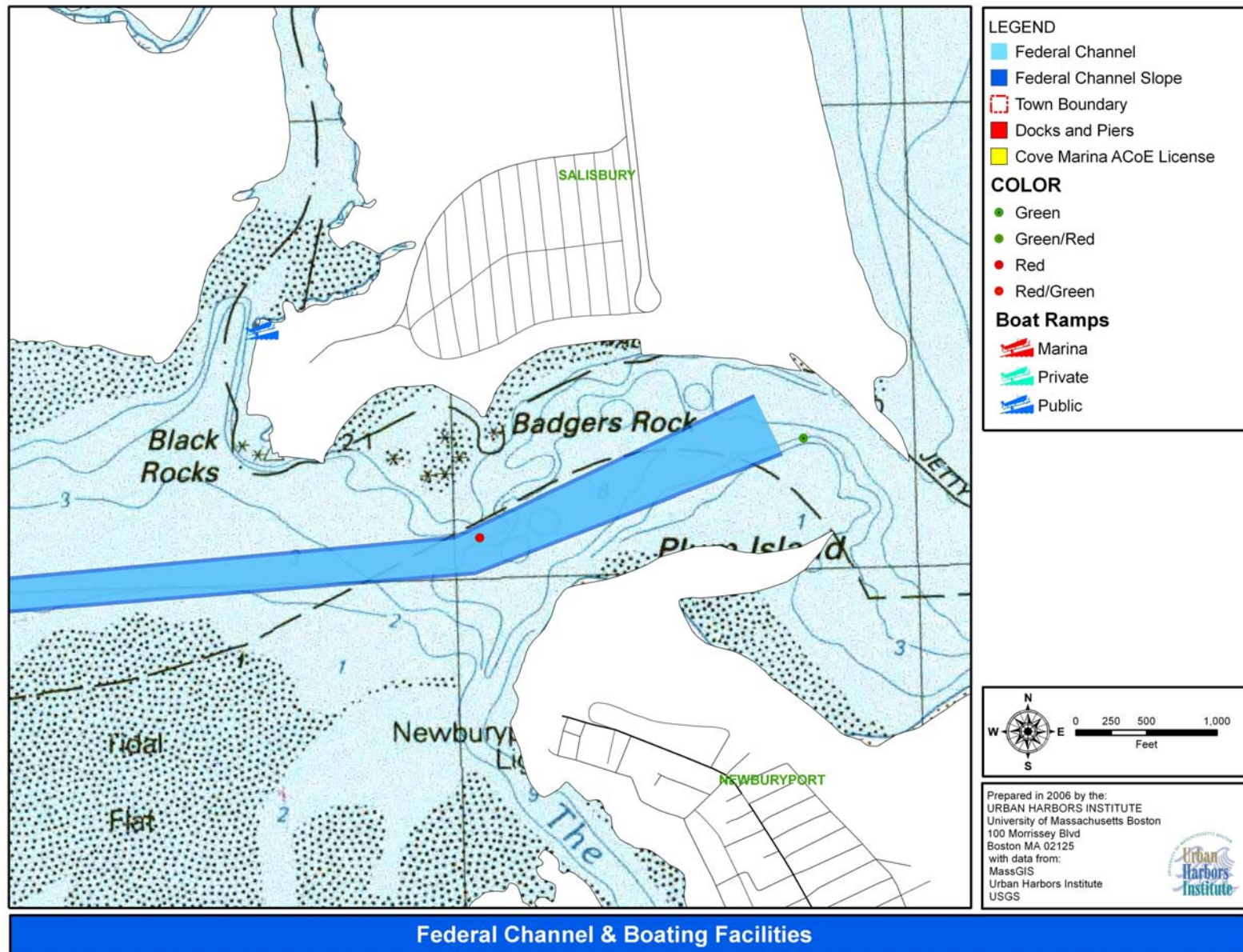


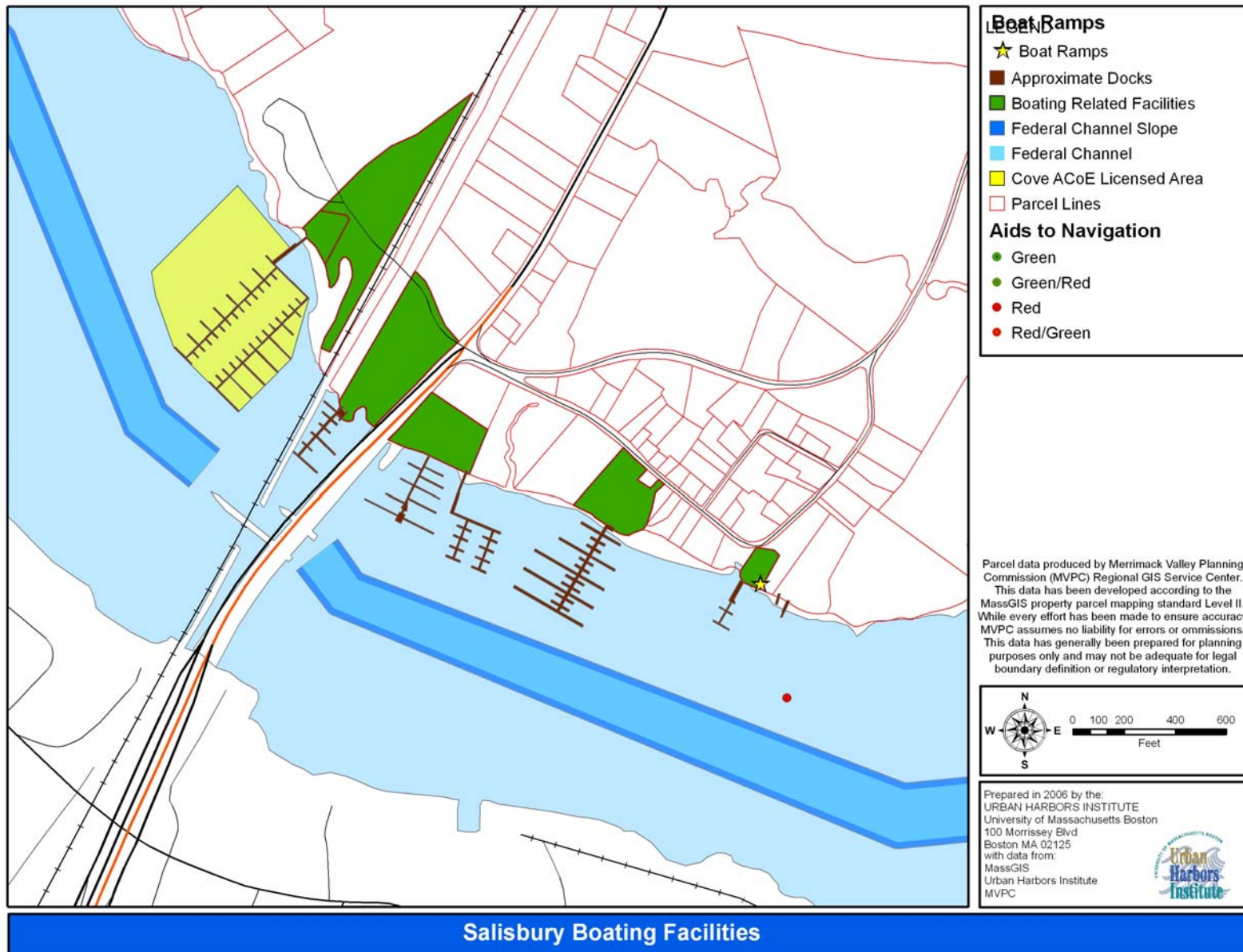


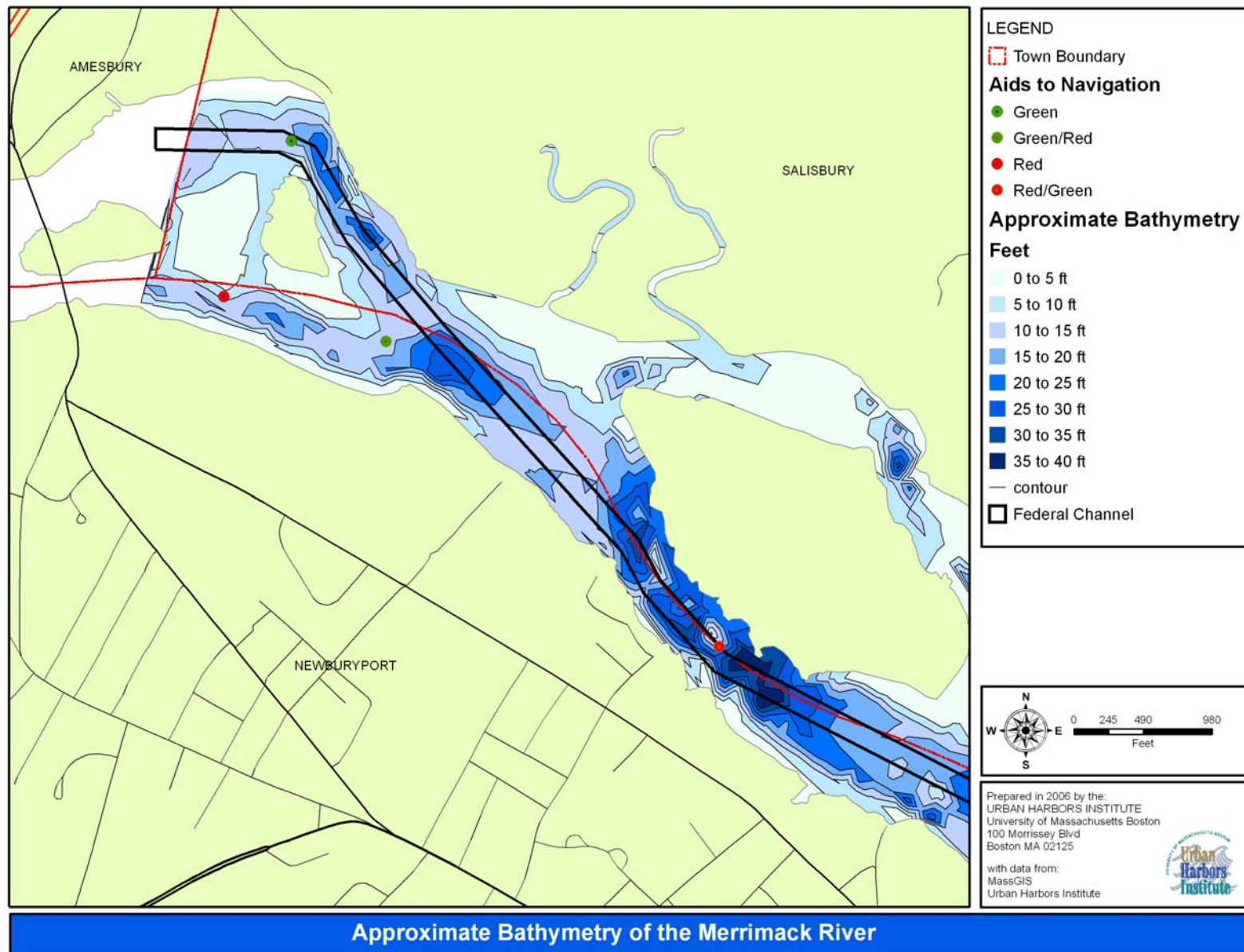


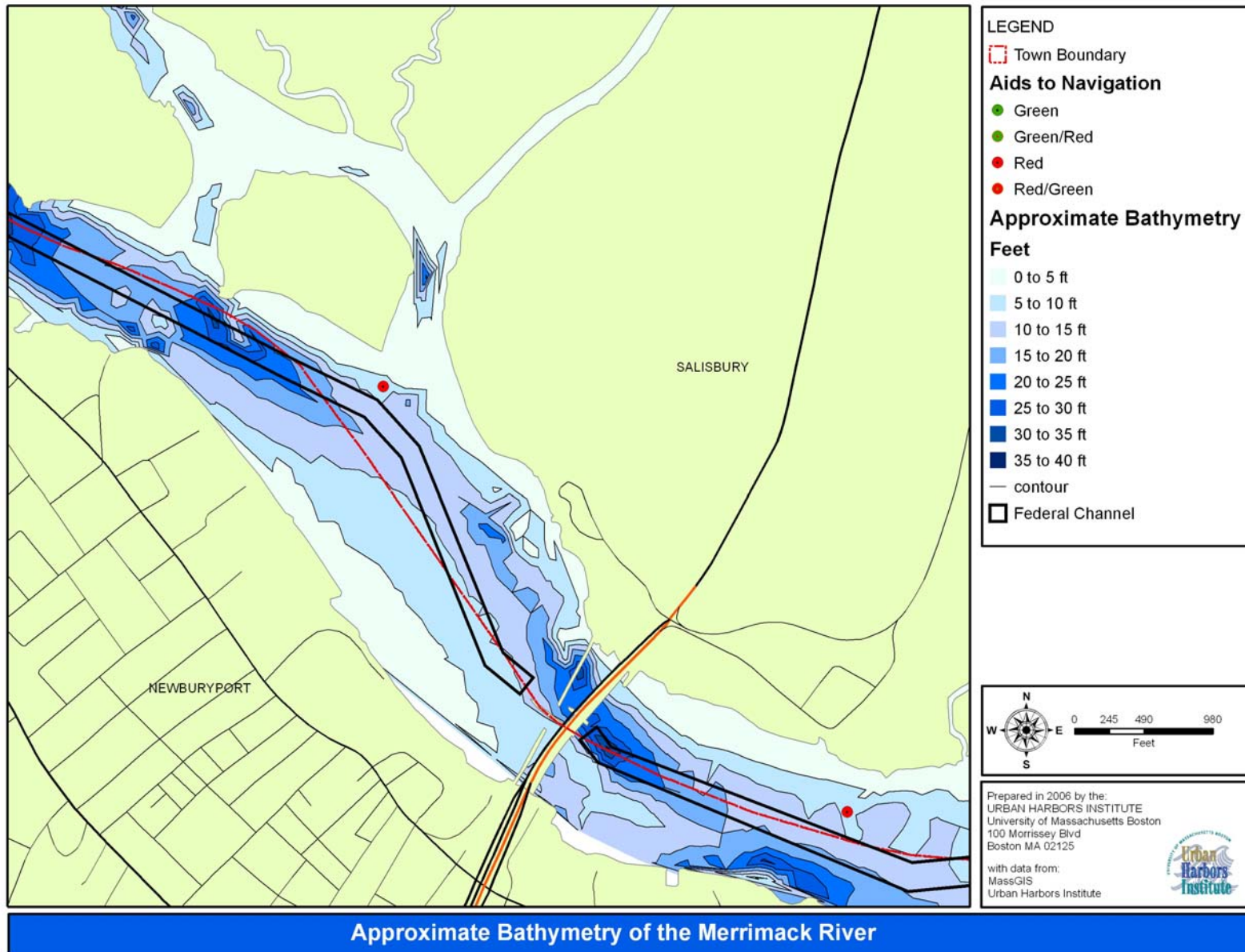


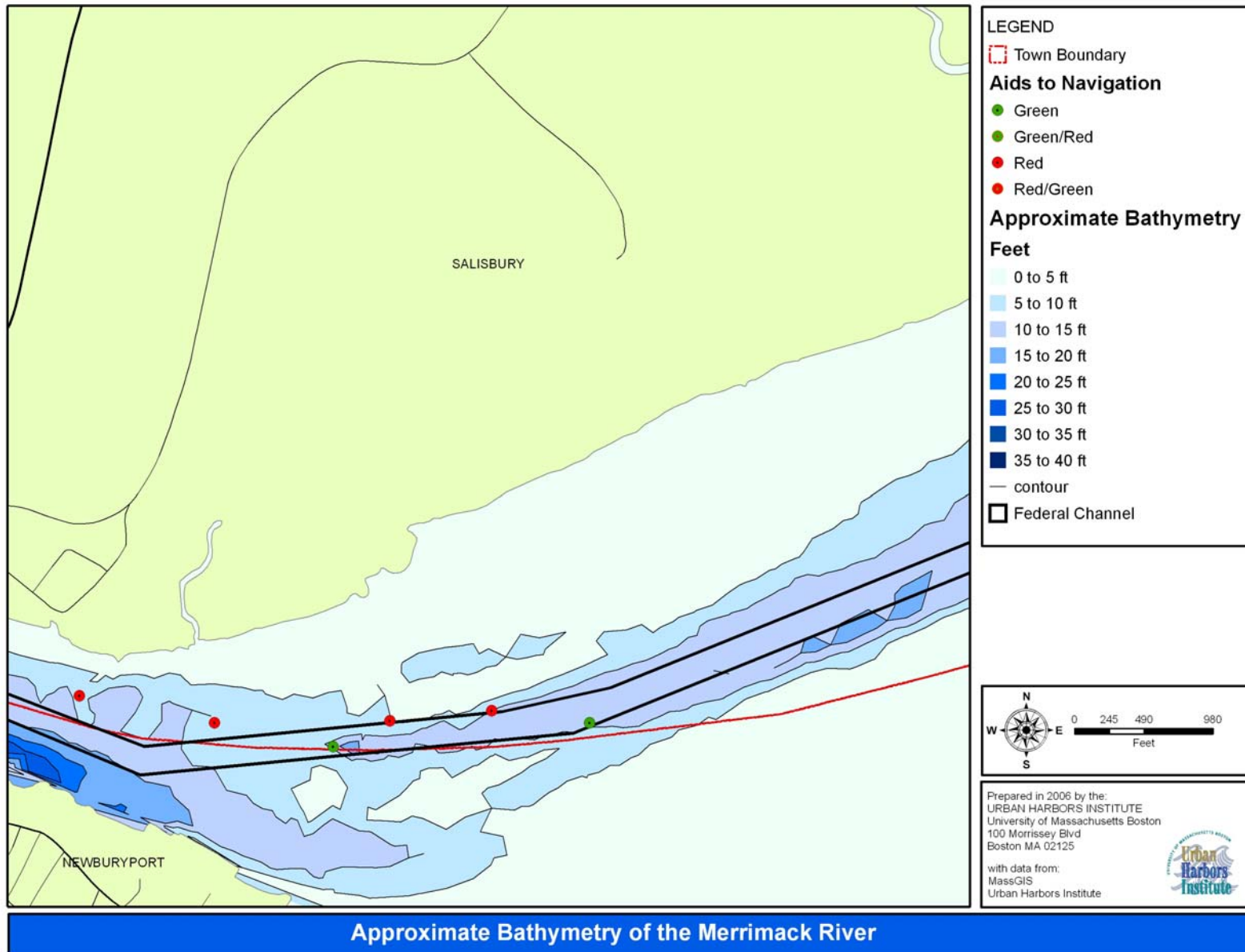


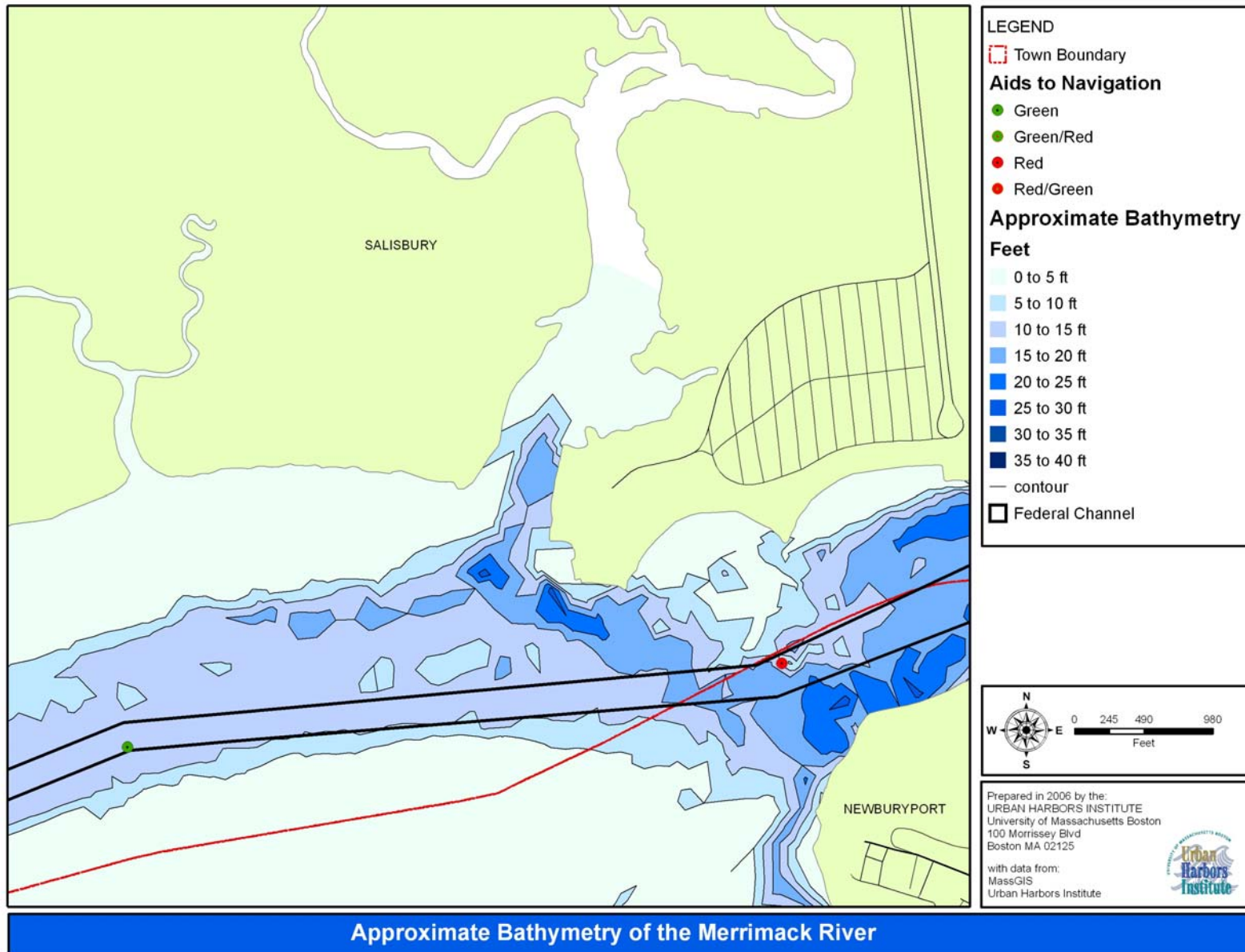


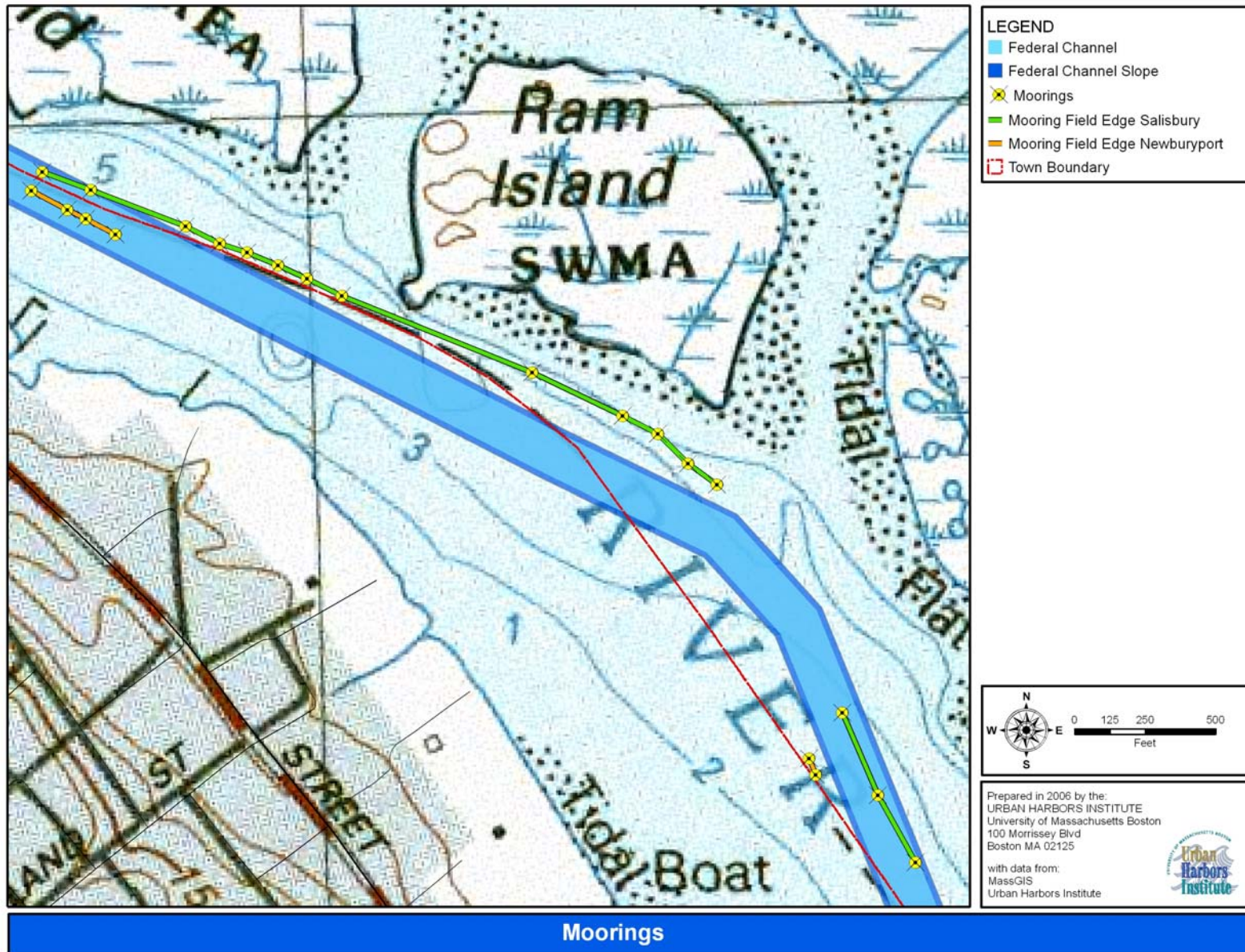


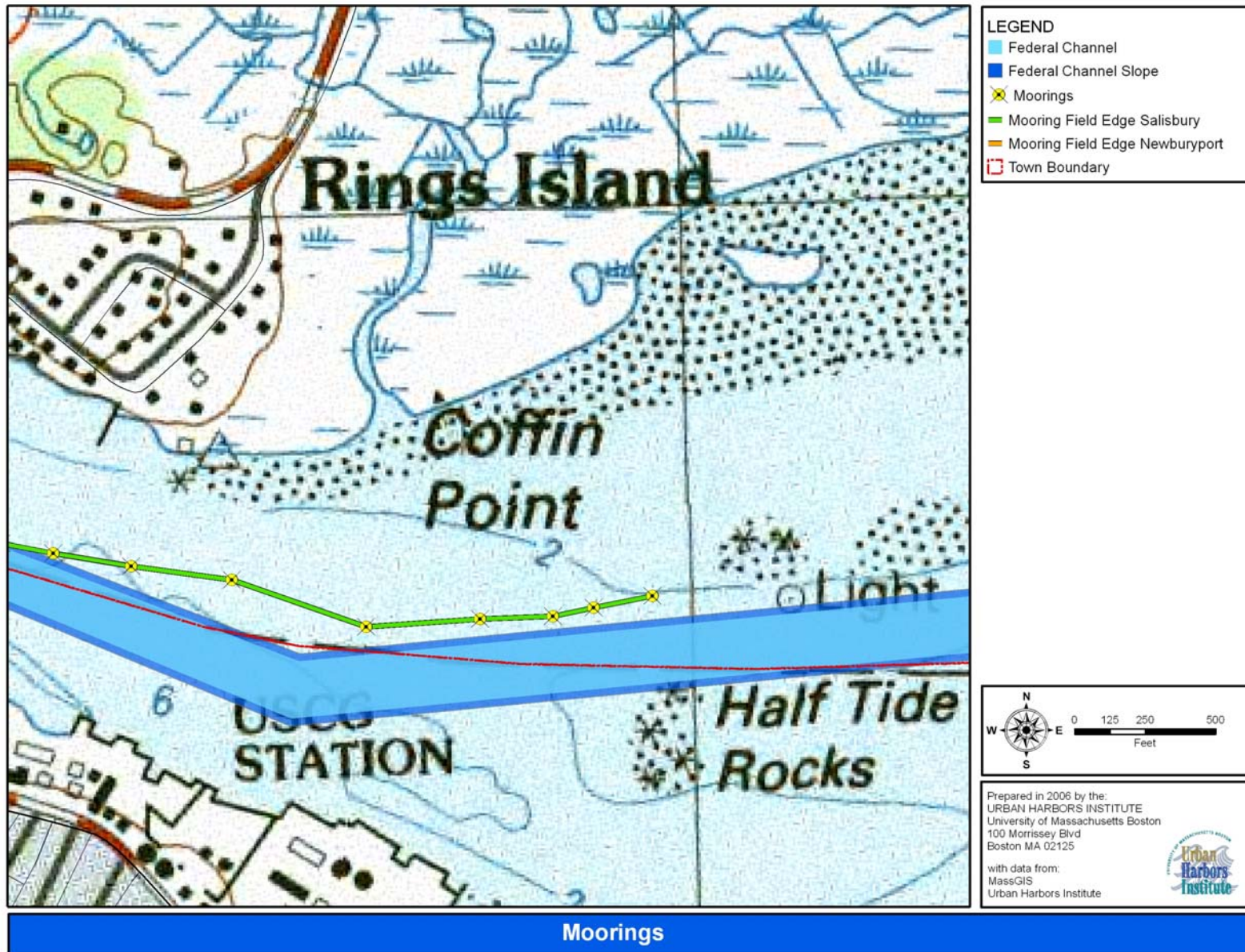


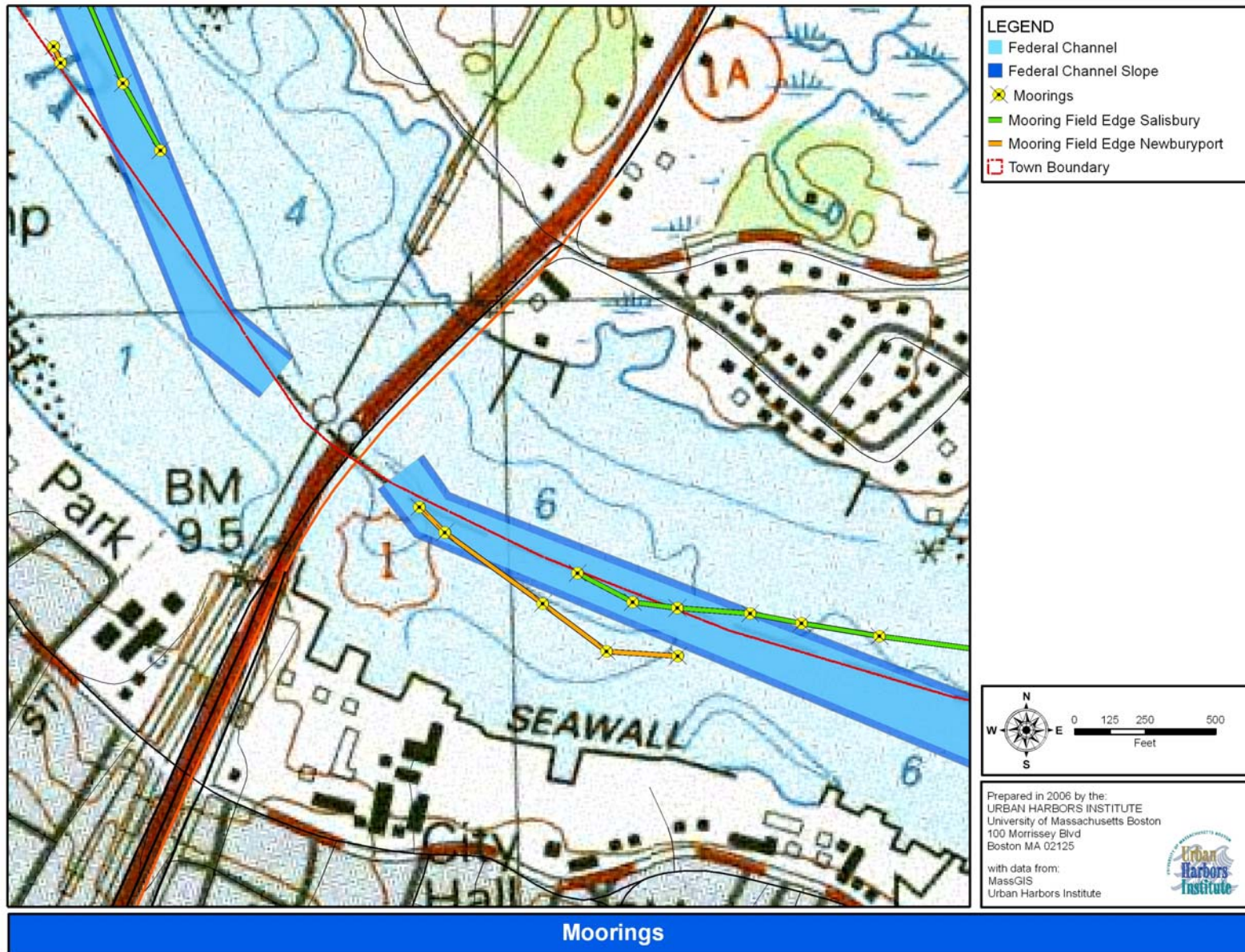


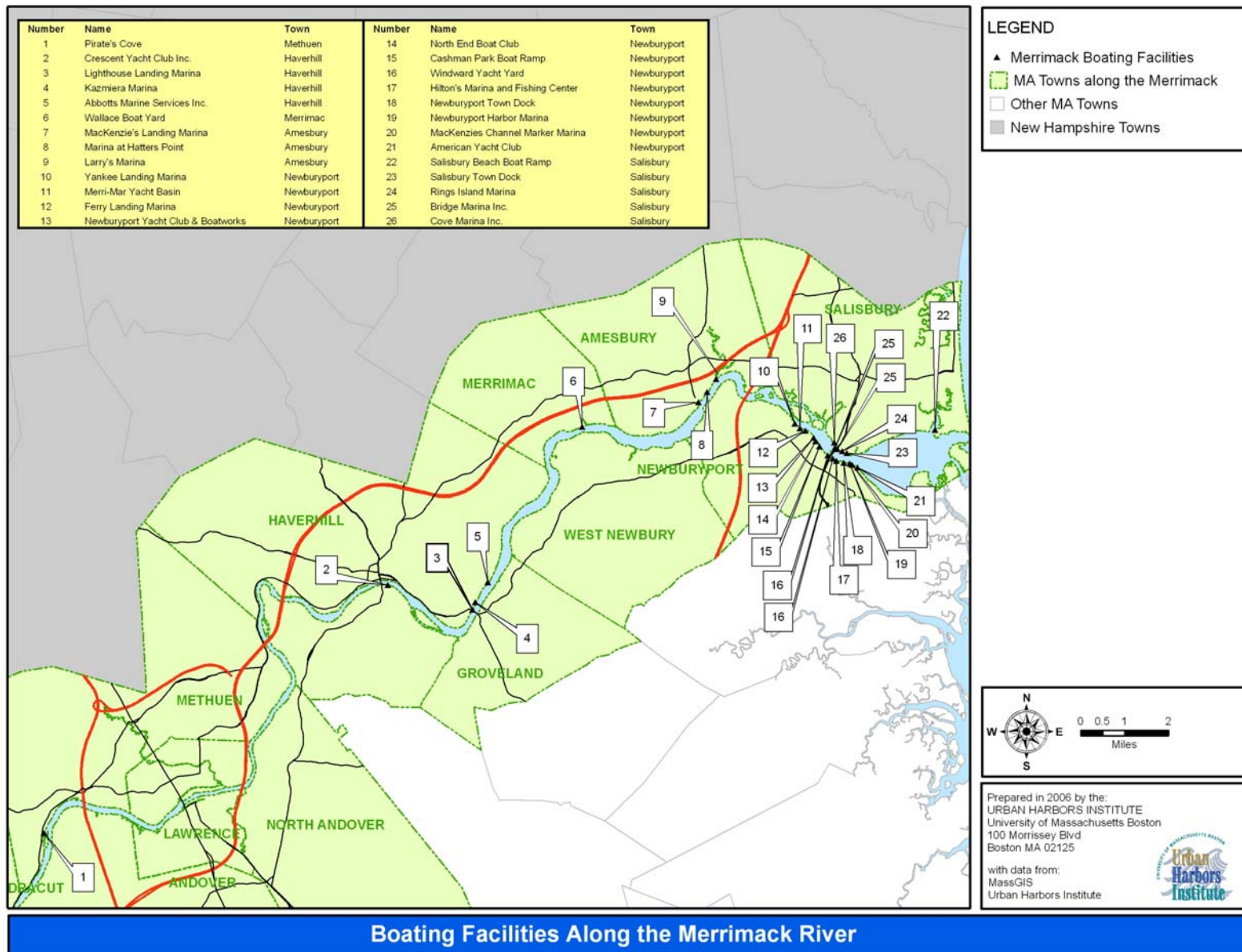


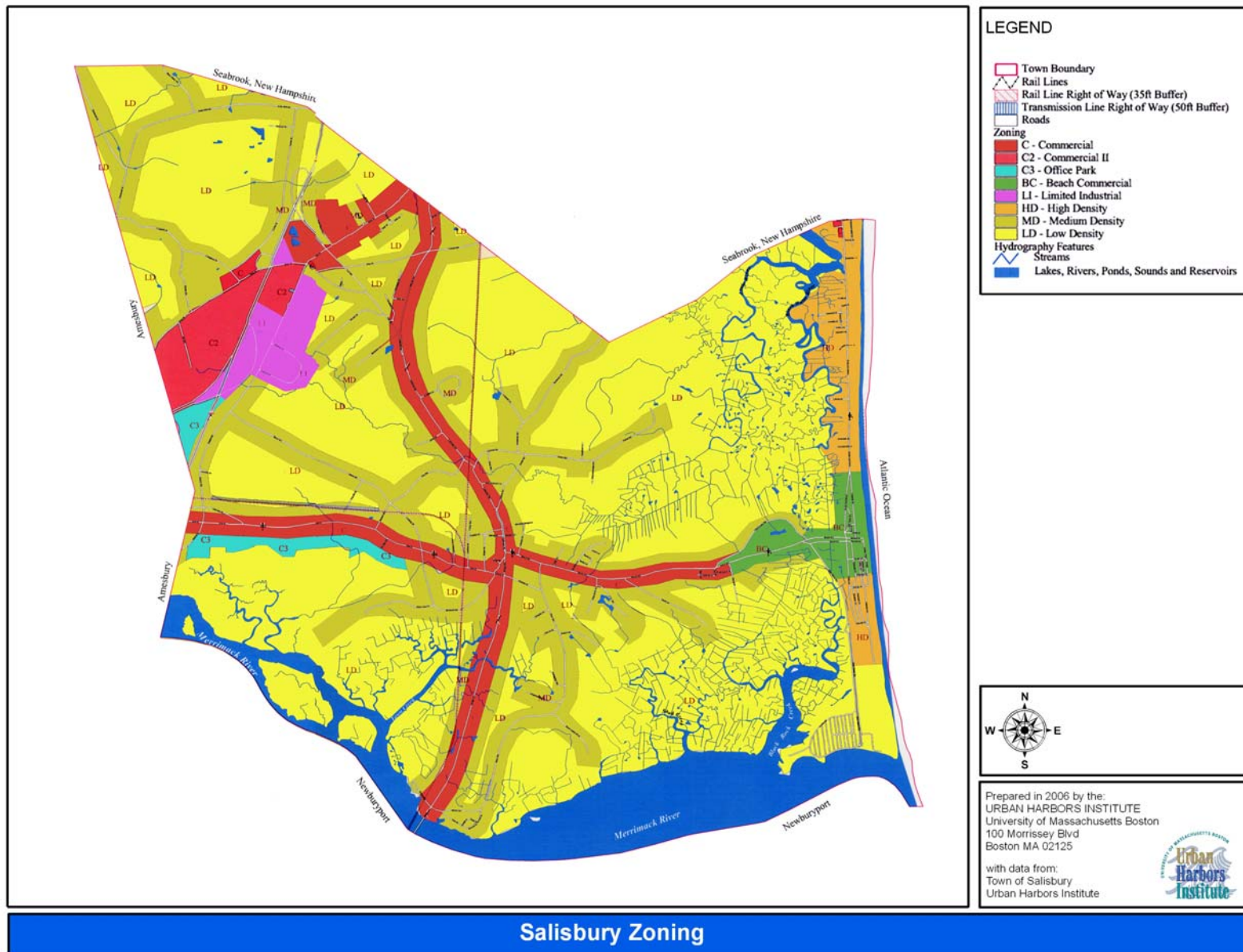


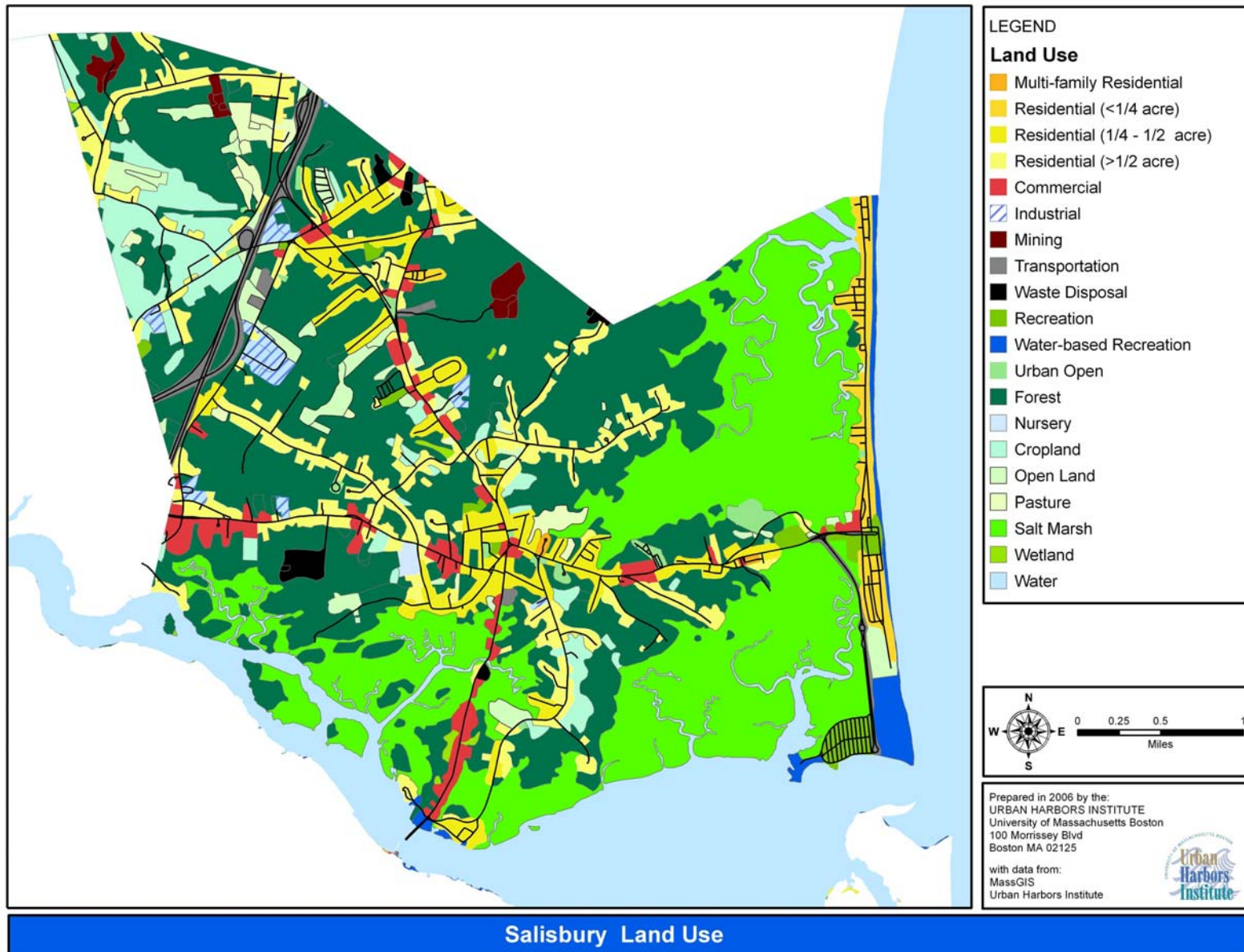


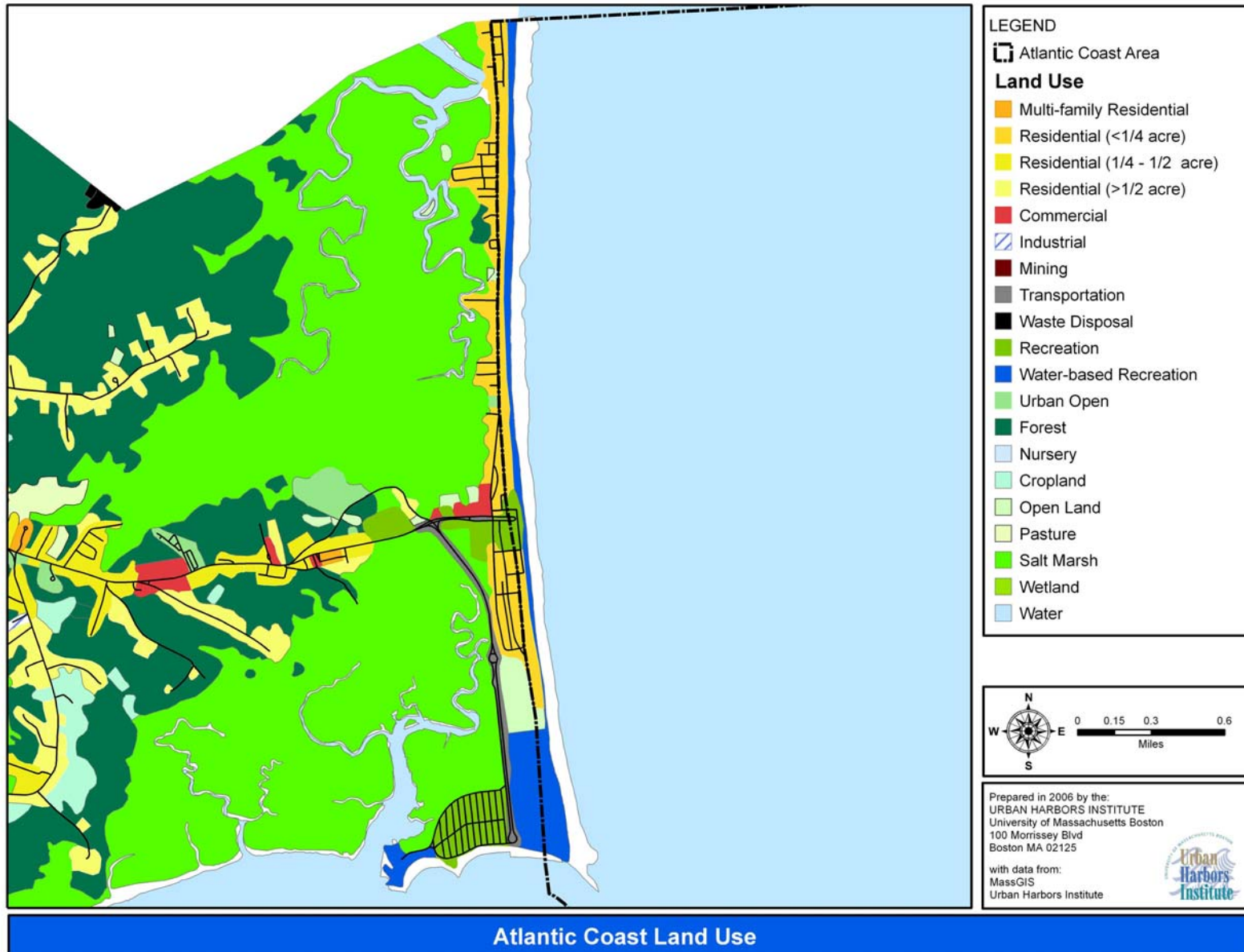


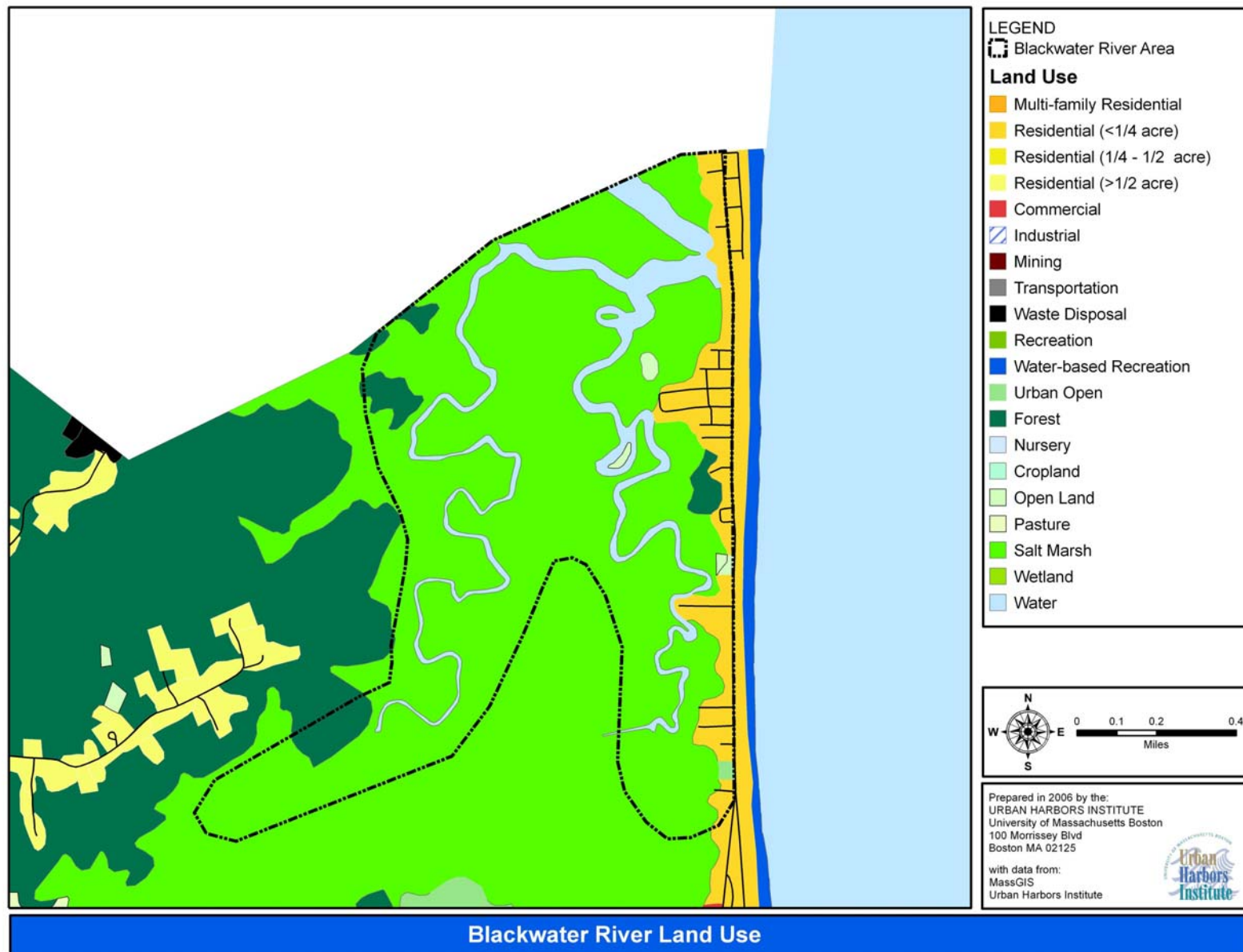


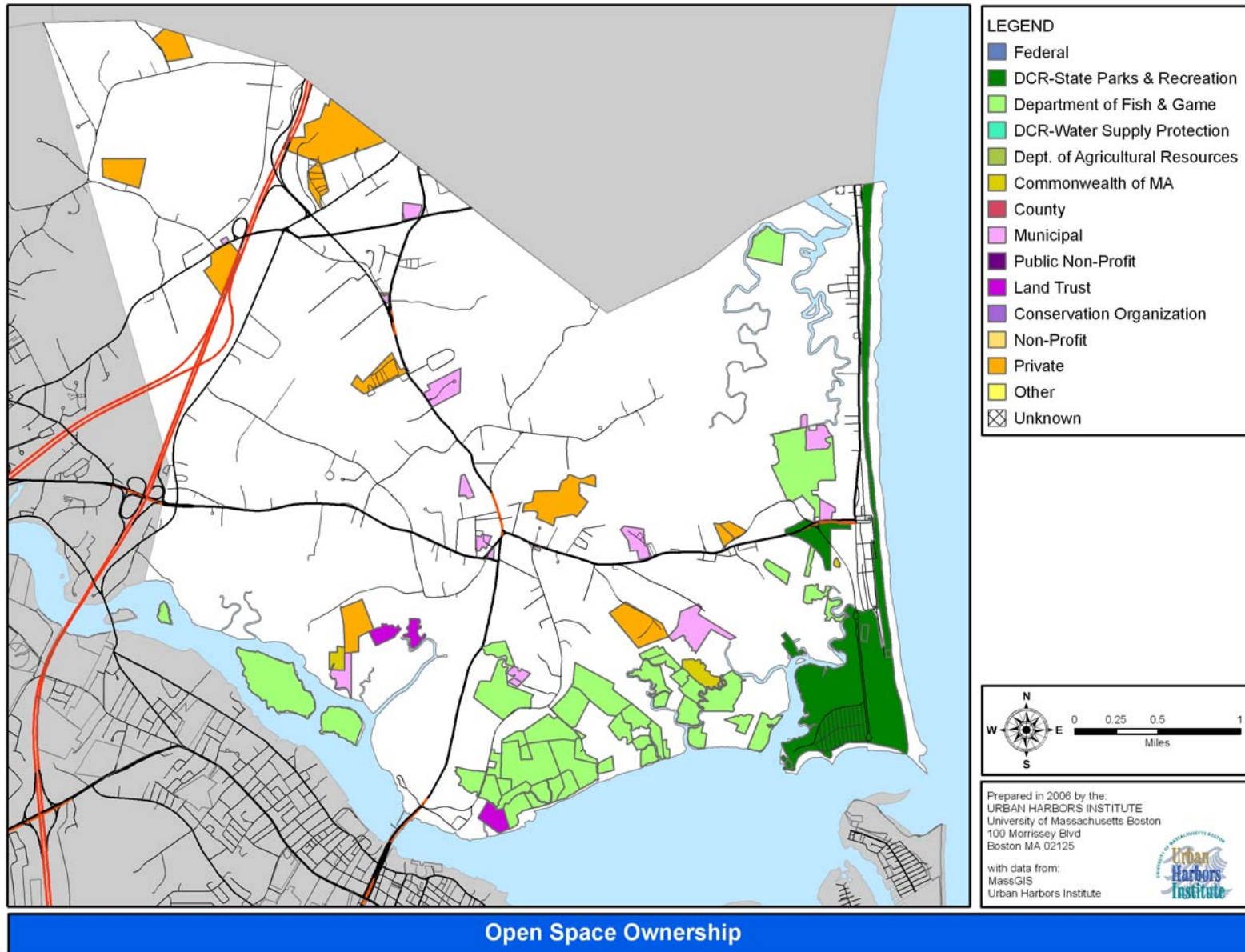


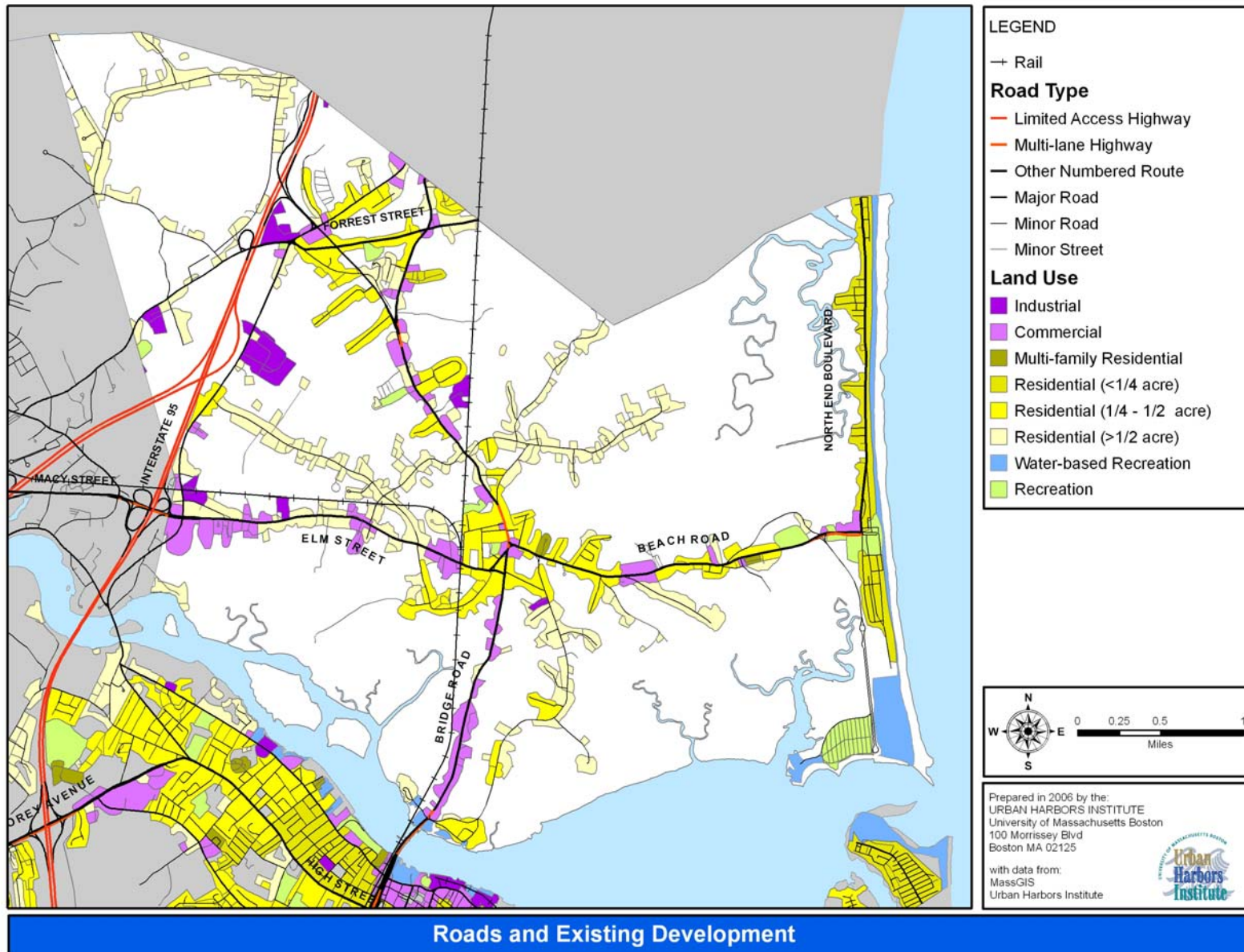


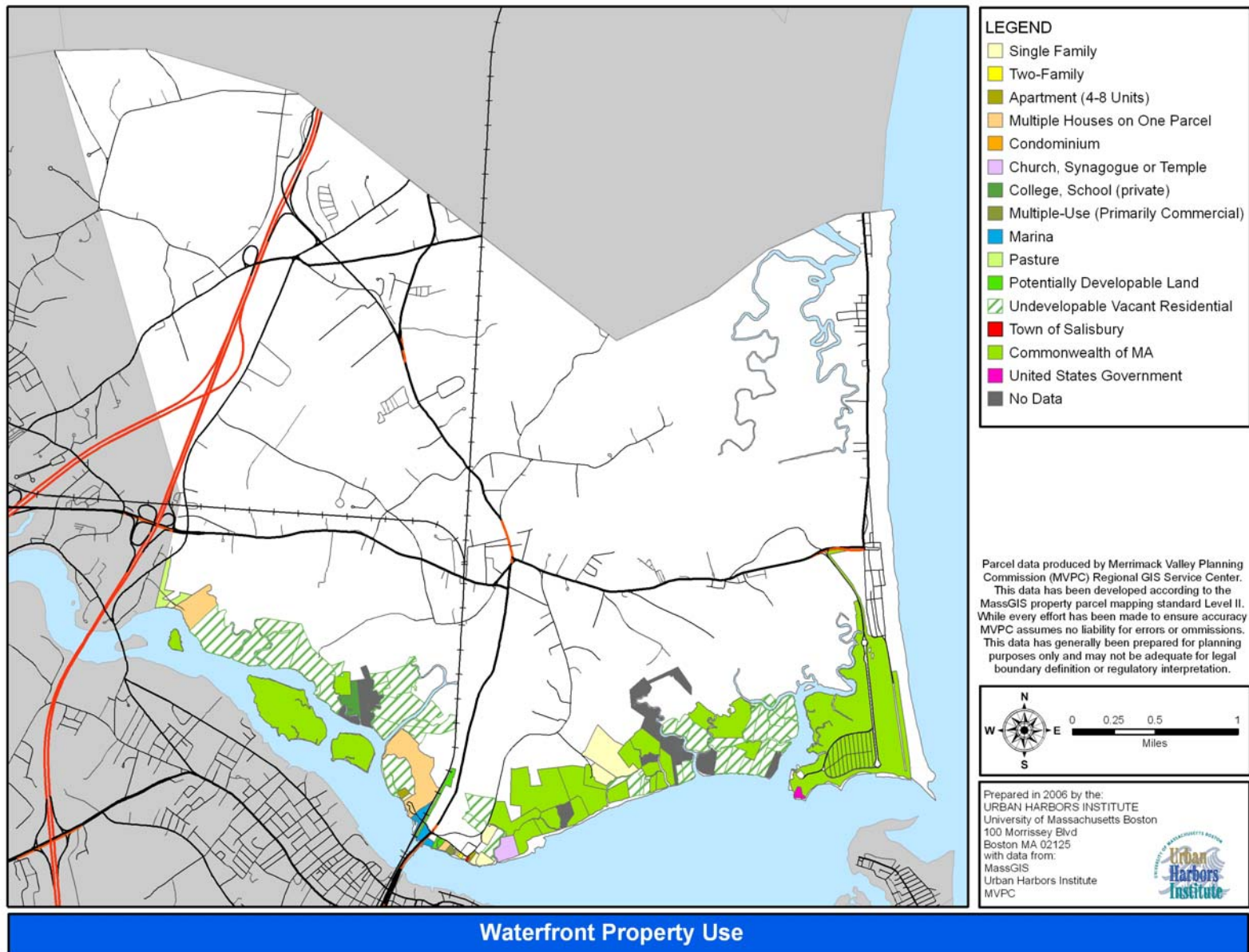


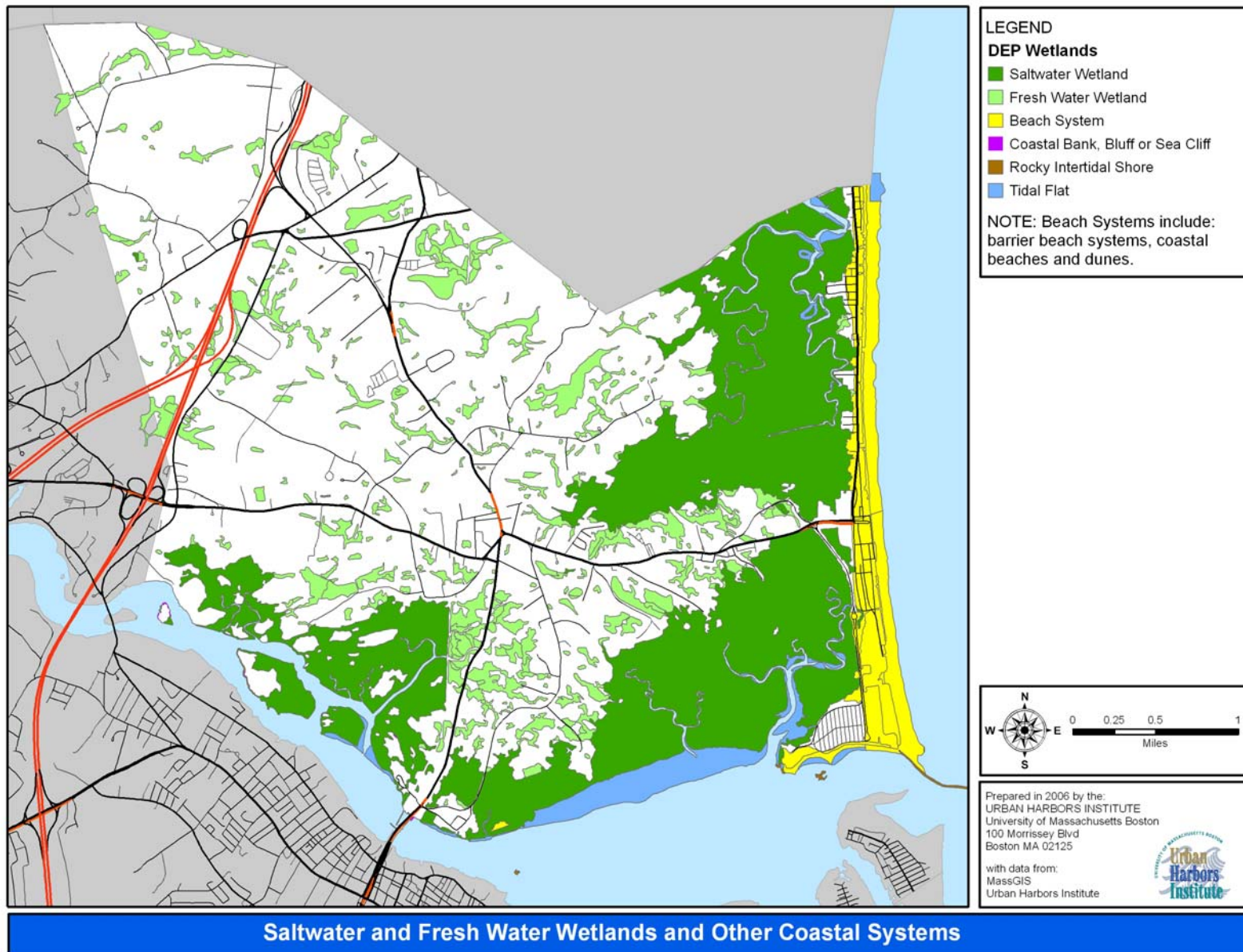


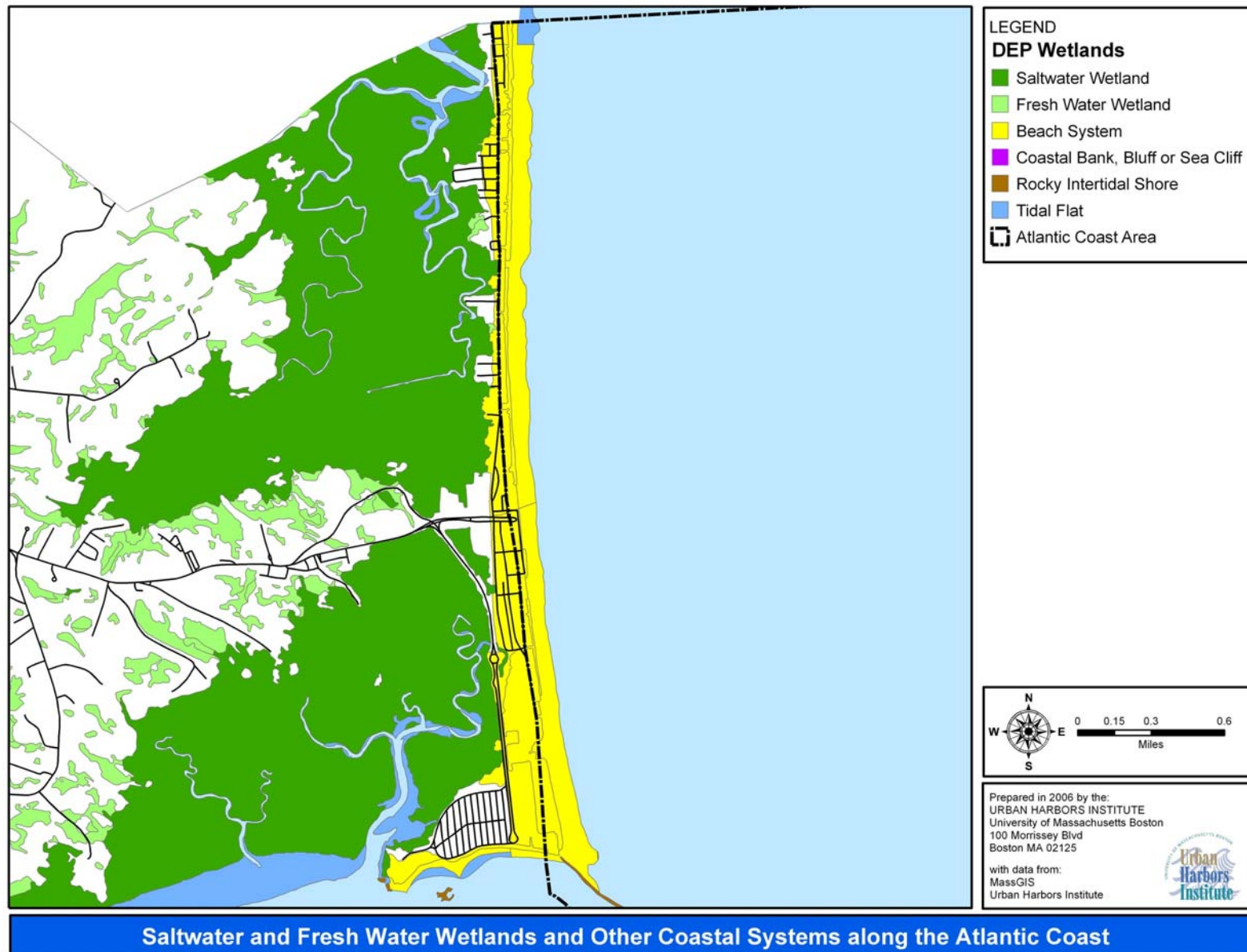


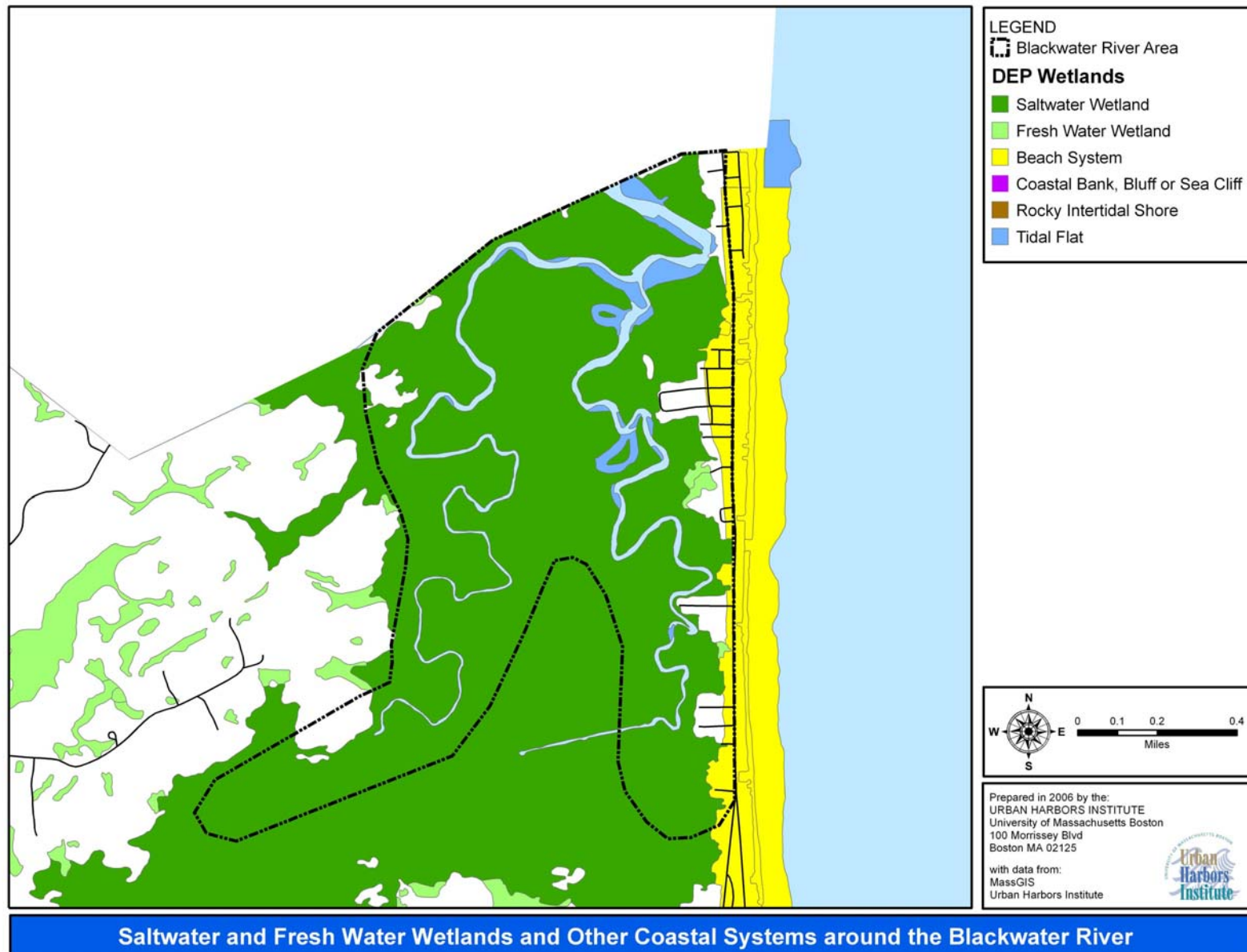


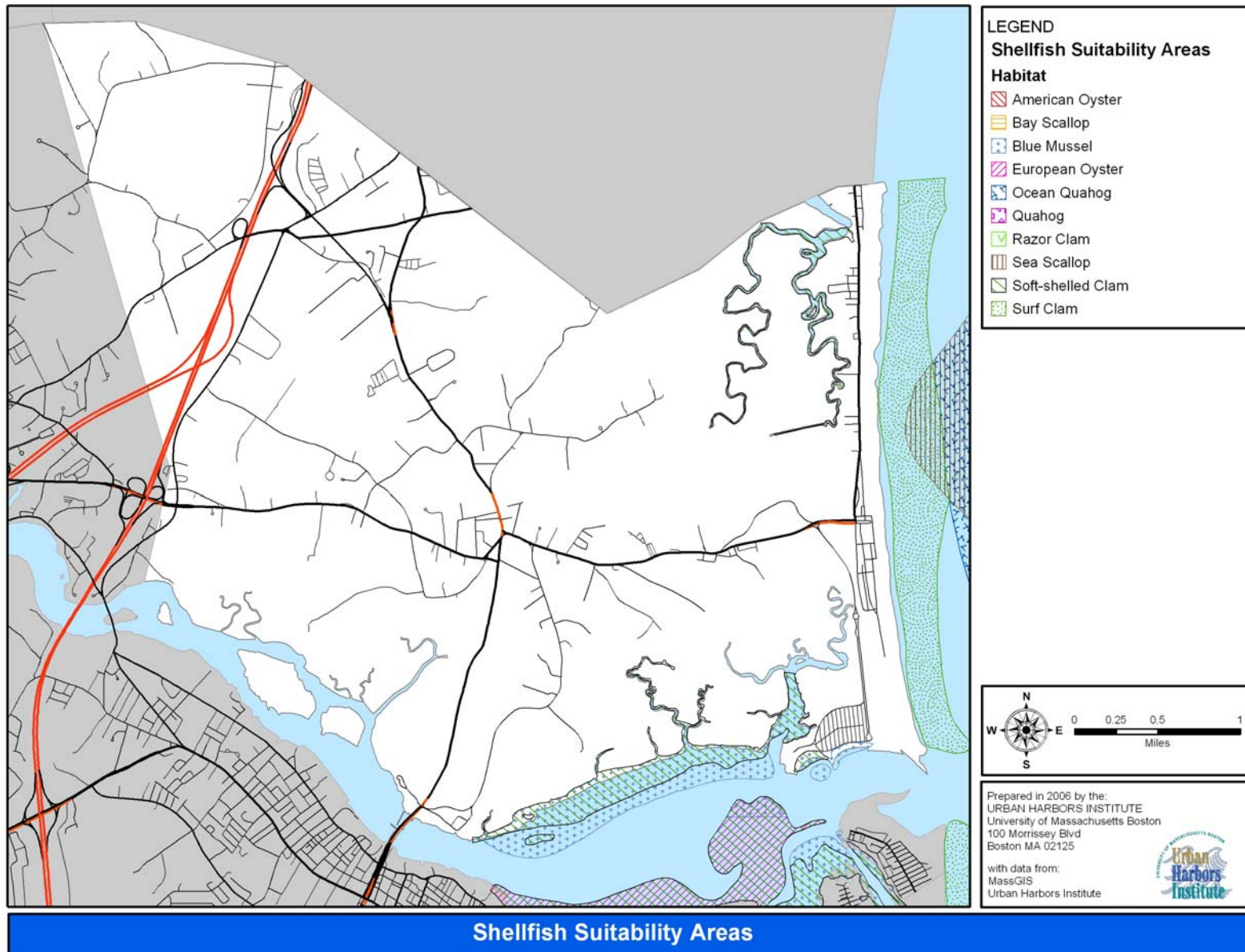


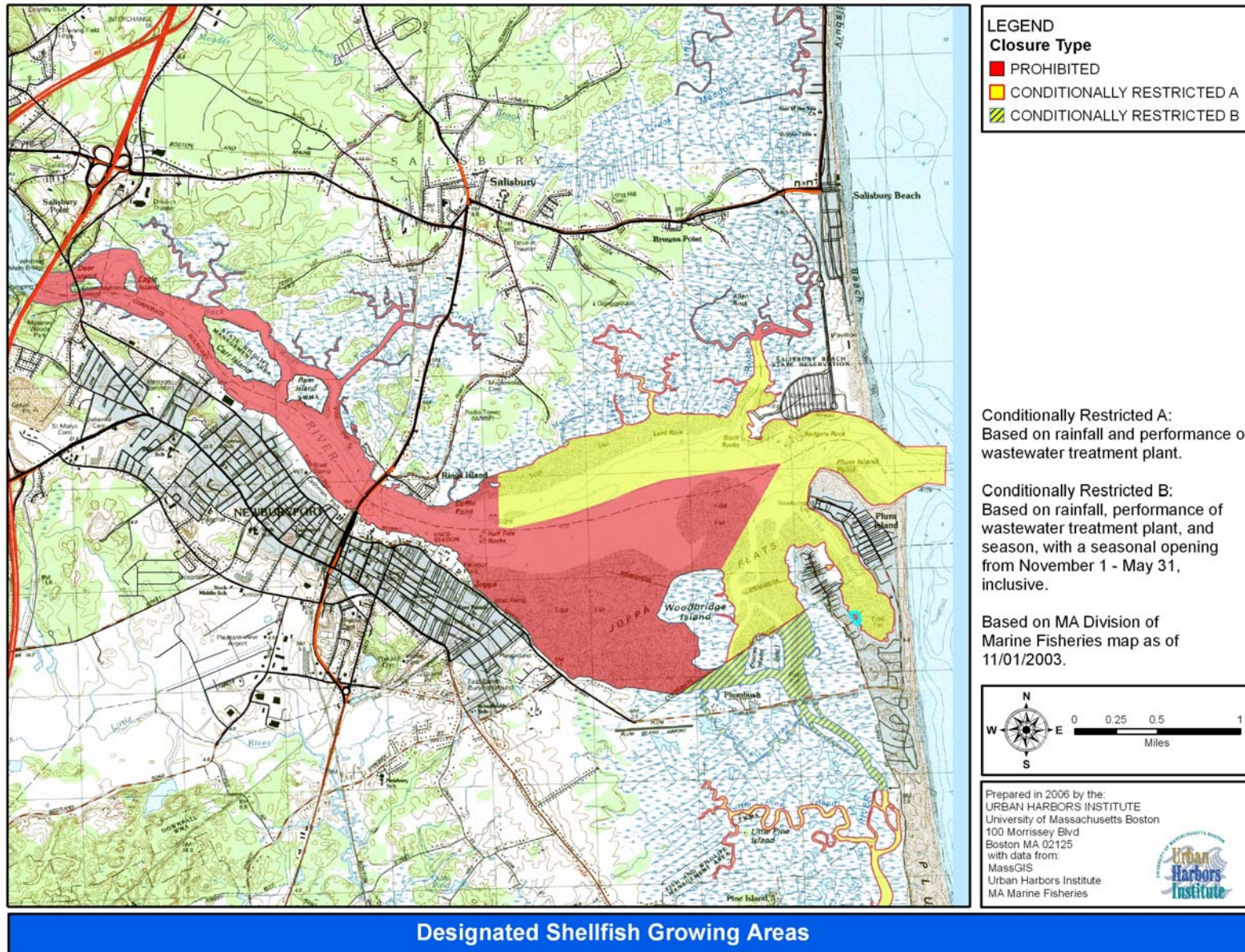




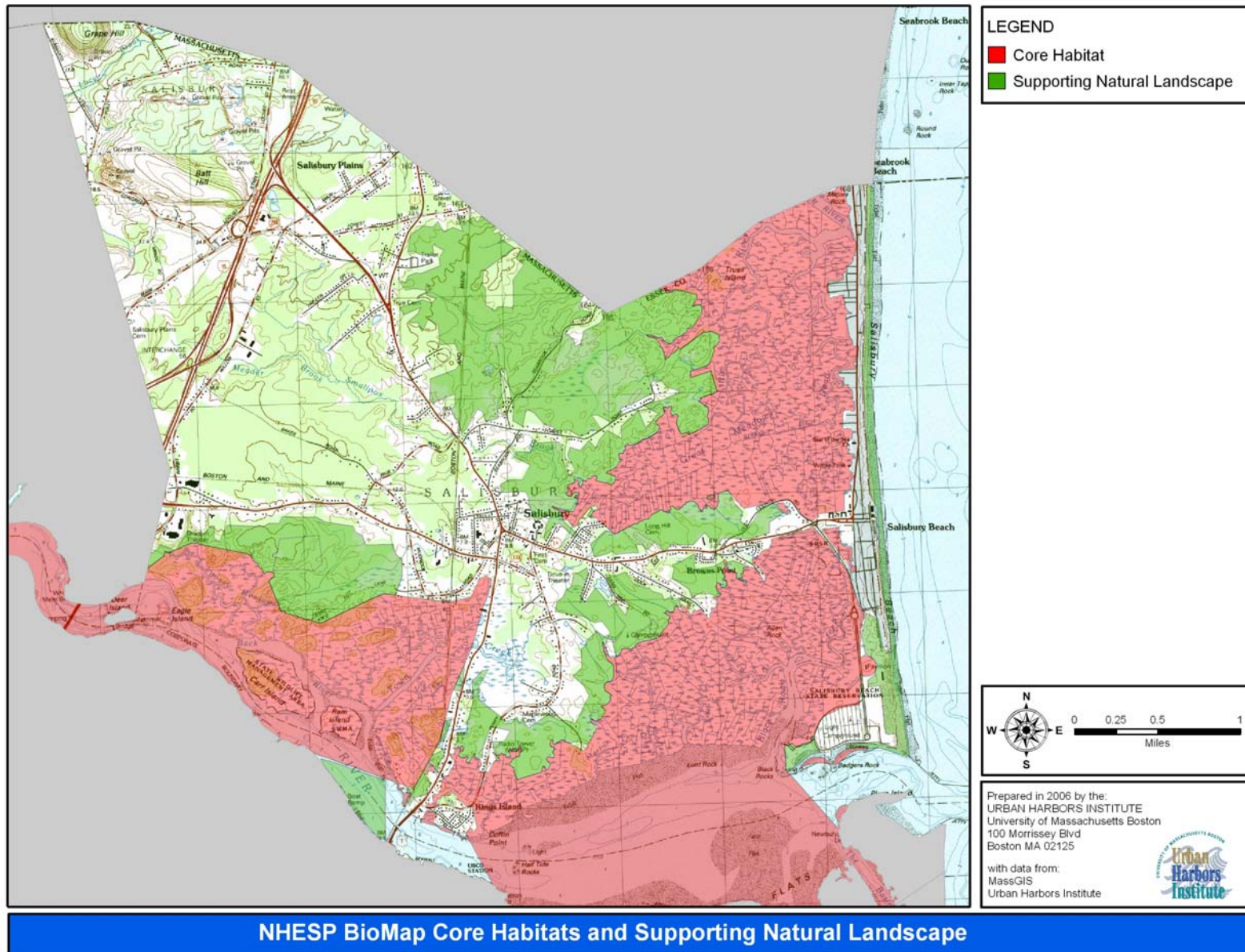




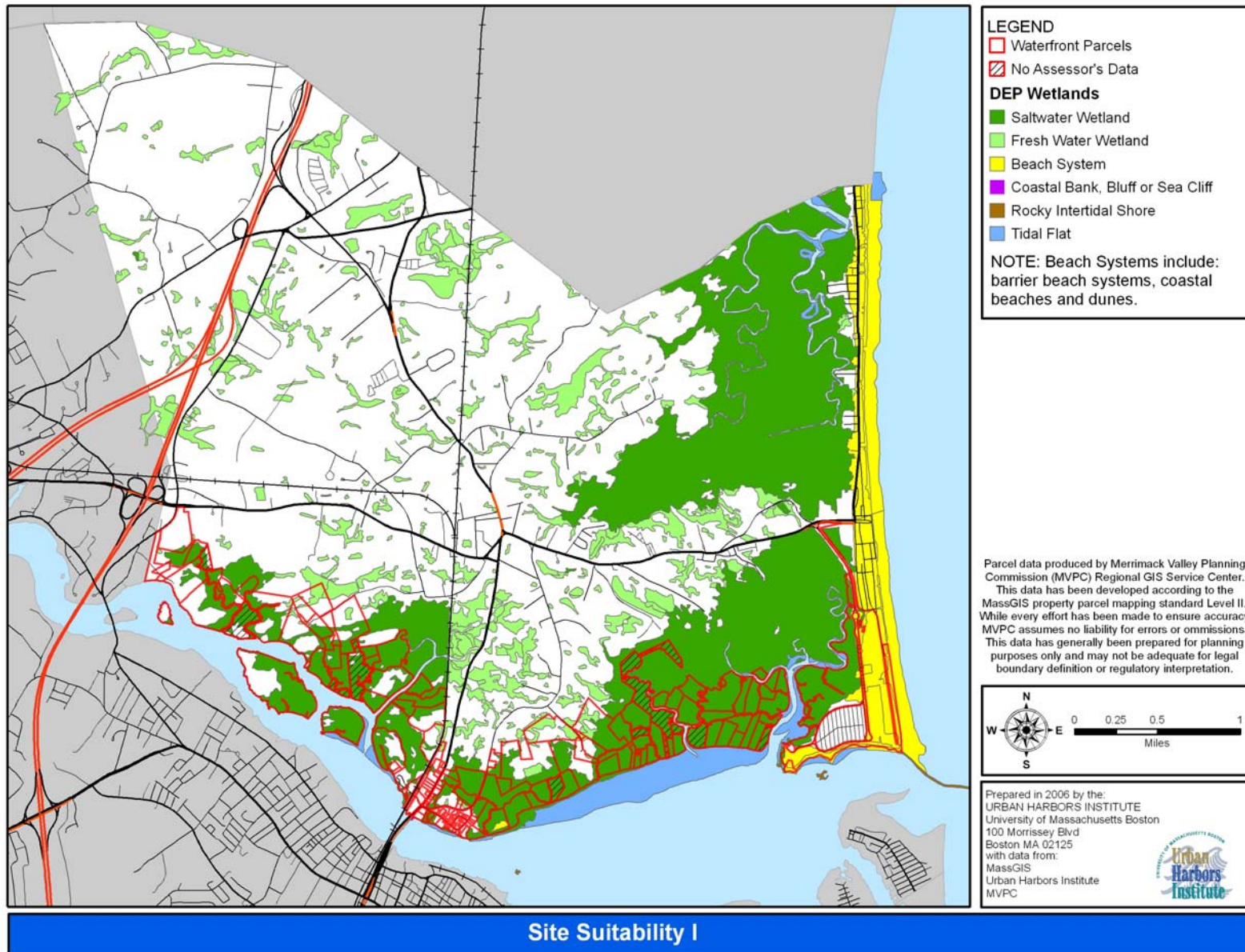


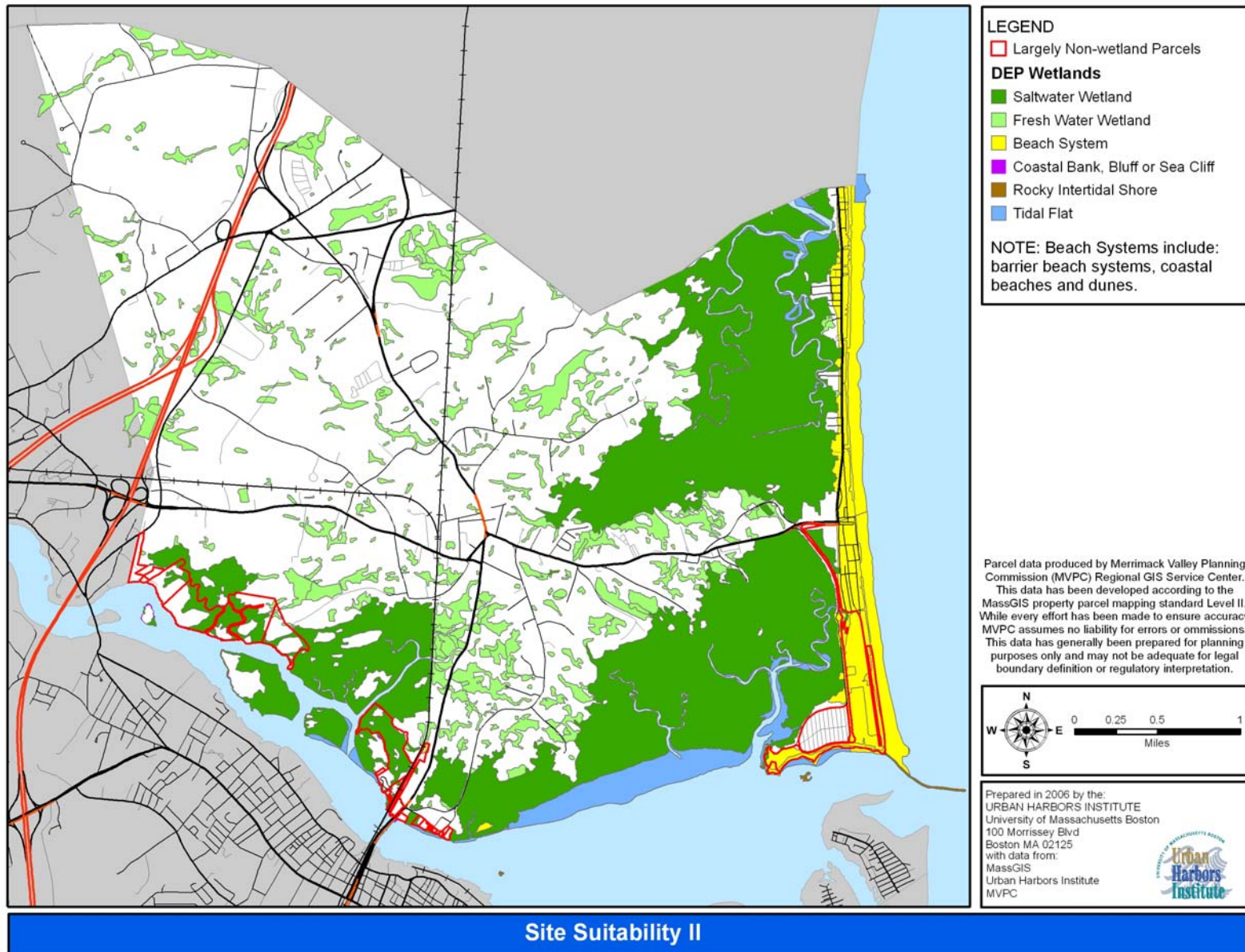


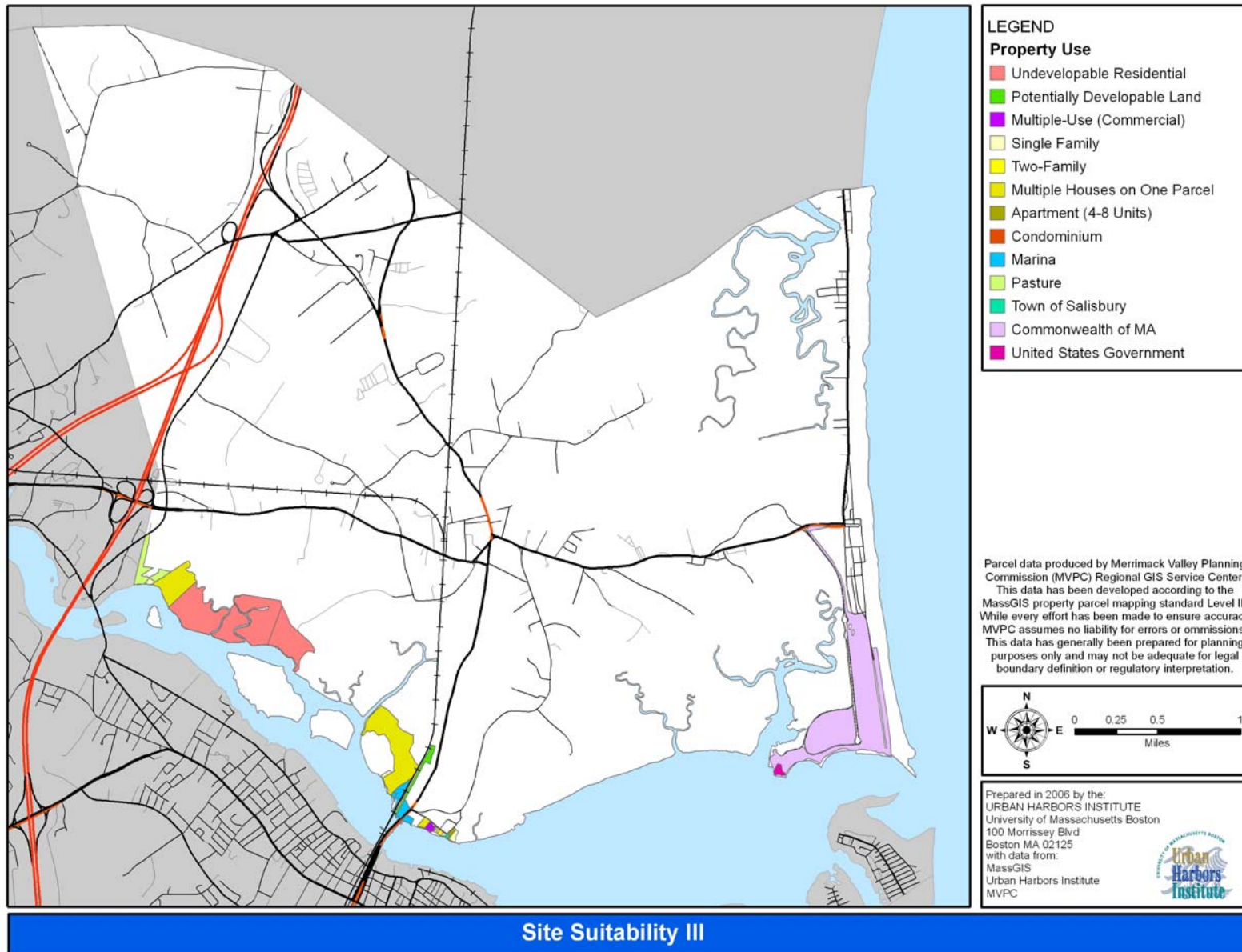


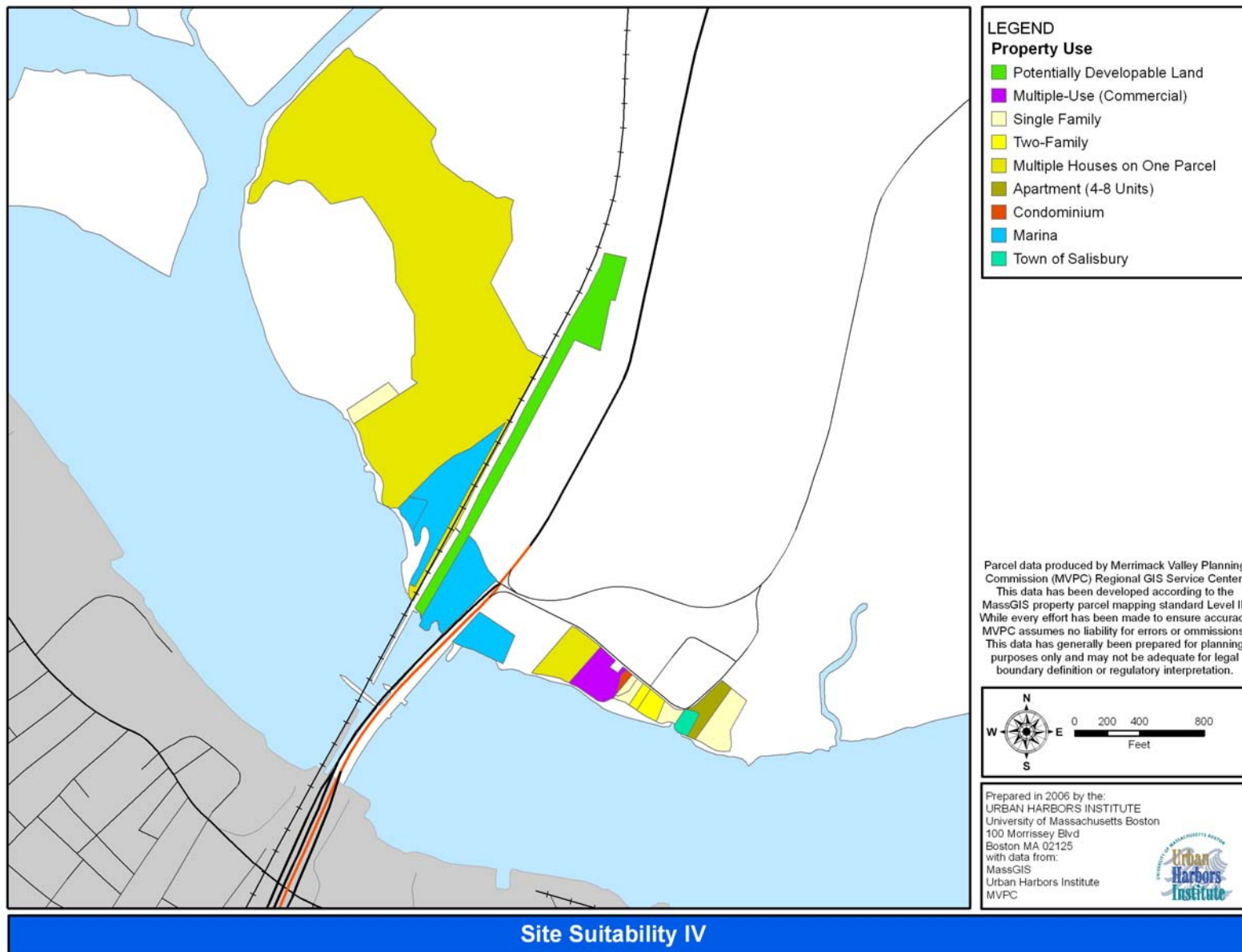


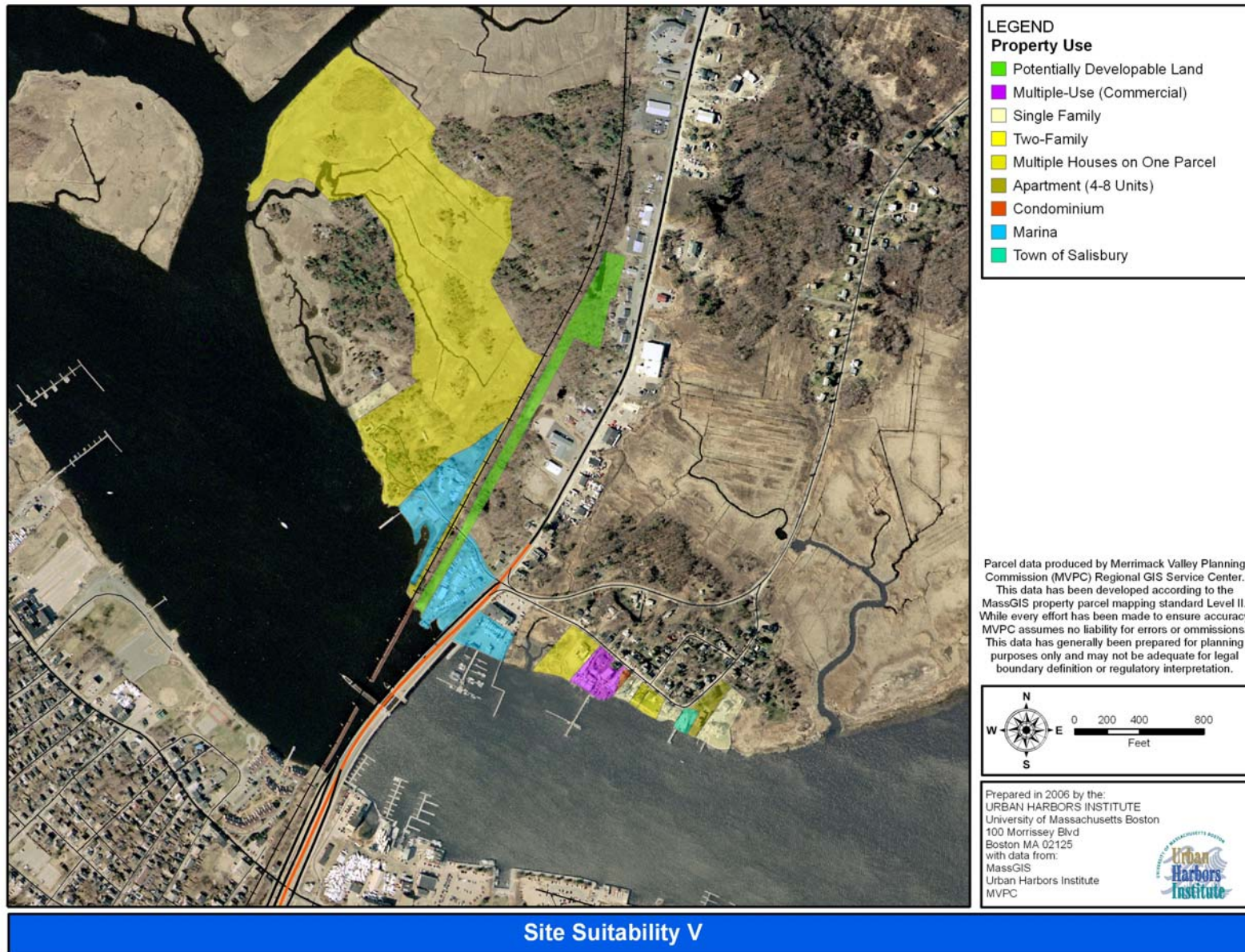


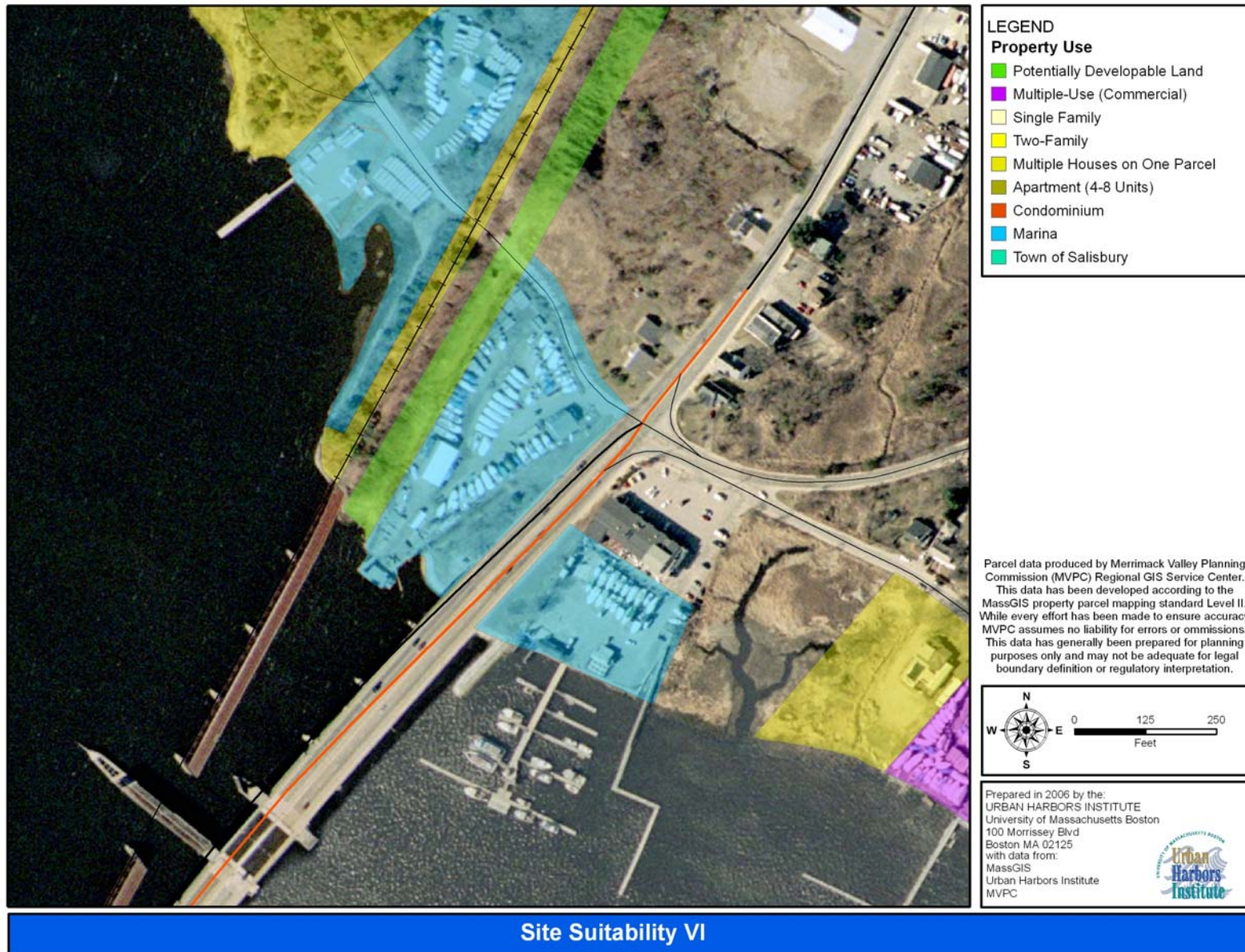


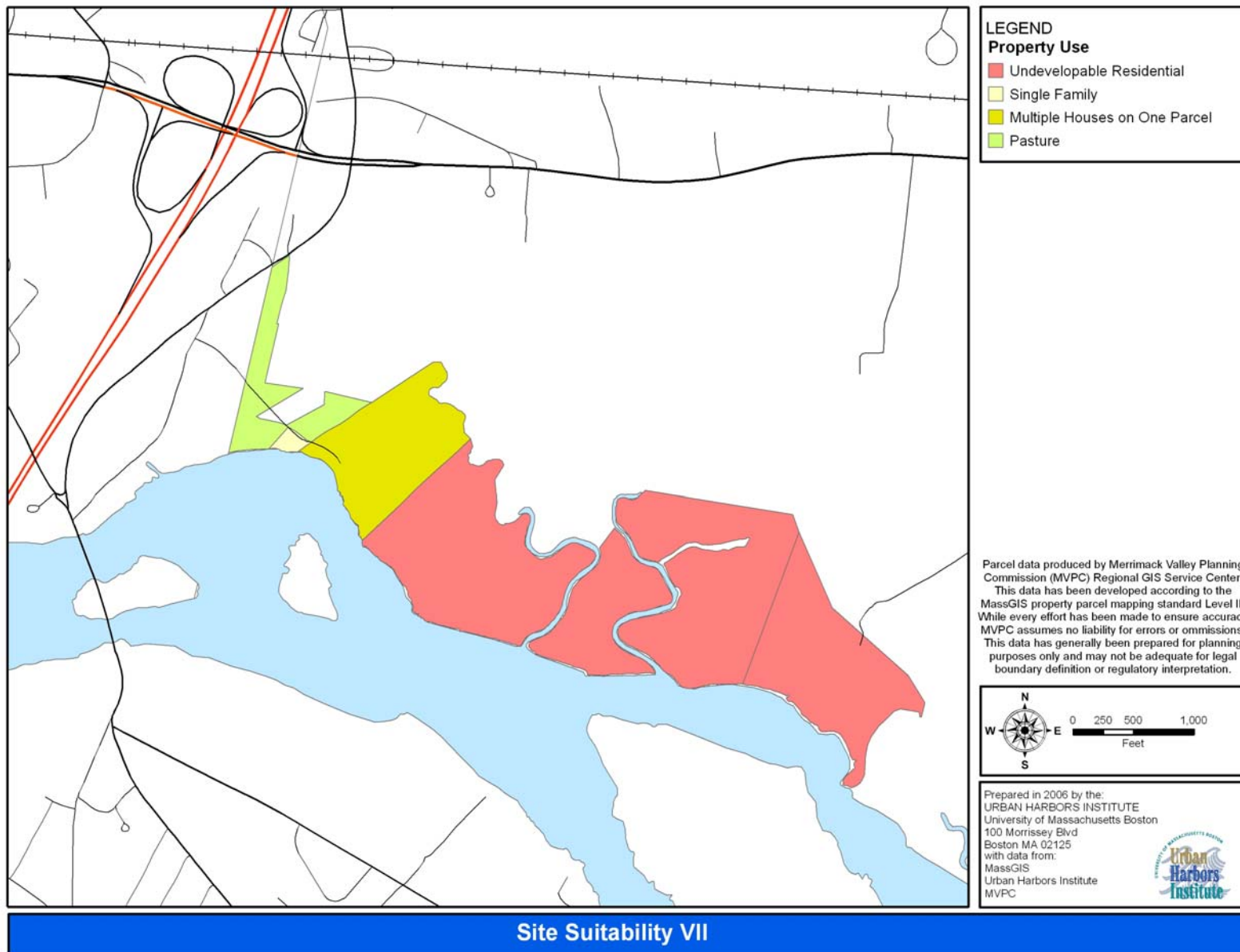


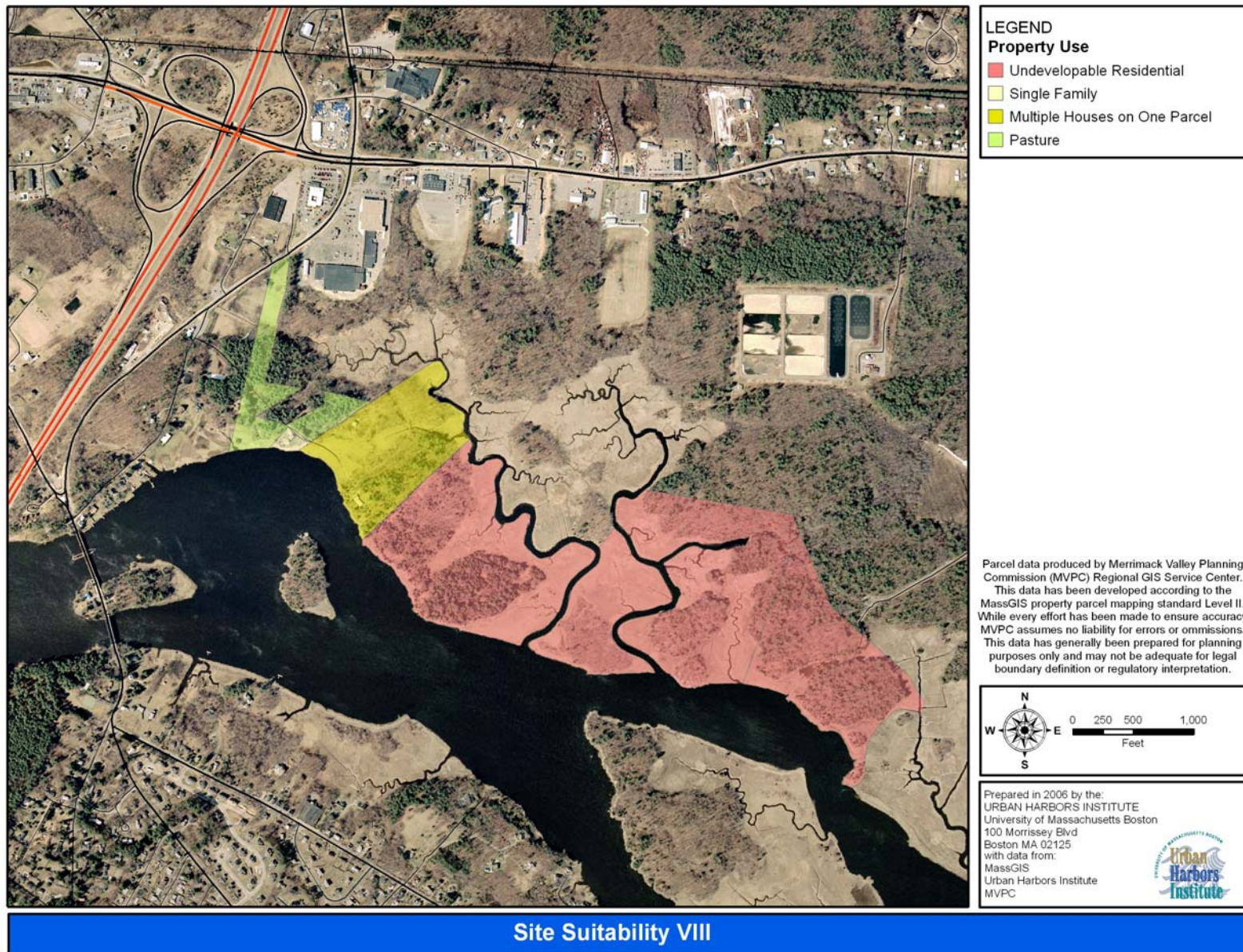












APPENDIX 2: PERMIT HISTORY AND STATUS OF BOATING ACCESS FACILITIES IN THE TOWN OF SALISBURY

The following Appendix contains summary information of permit history for sites along the Merrimack River.

Property Name

Address

Zoning

Map

Parcel

Burgess, Peter

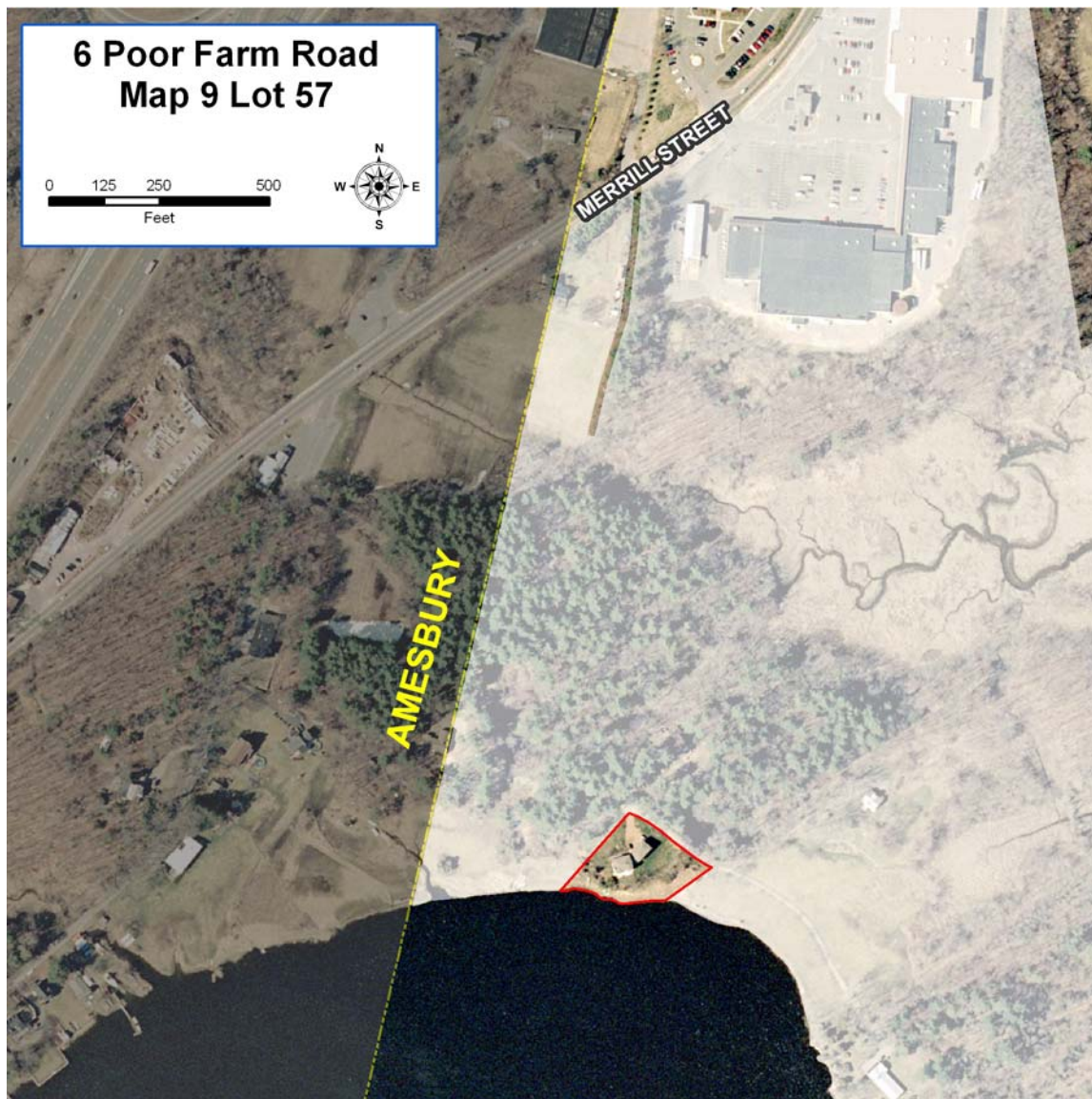
6 Poor Farm Road

Low density

9

57

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
<p>8/4/2004 License No. 10002 1. Construct and maintain a gangway and floats. 2. Maintain an existing railway boat launch. <u>Special Conditions:</u> 1. All work must be completed within 5 years. 2. The public must be allowed to pass, for any purpose, along the intertidal zone. 3. A public access sign must be placed and maintained on the north and south sides of the pier.</p>	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



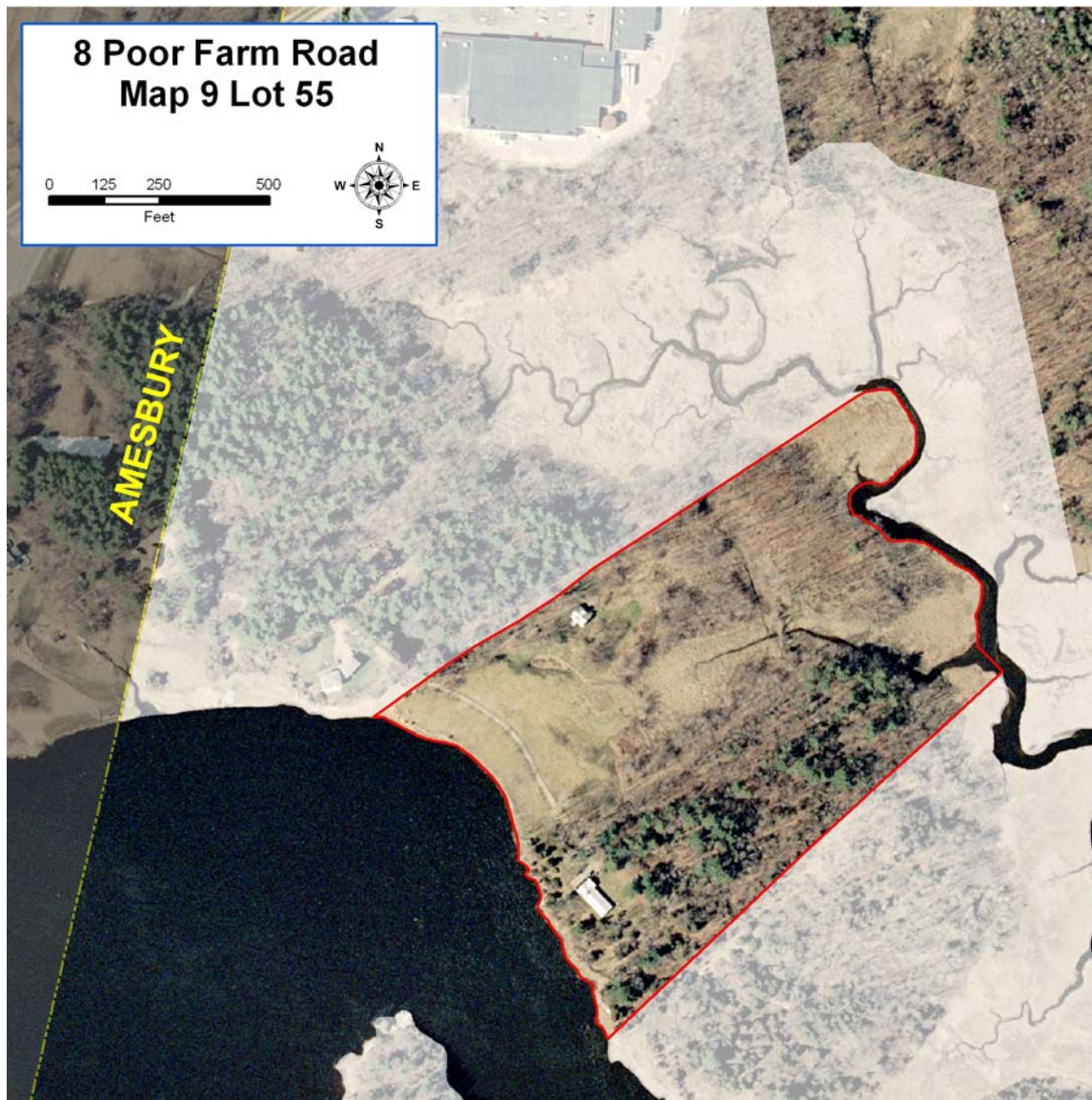
Property Name
Address

Shore, Login
8 Poor Farm Road

Zoning
Map
Parcel

Low density
9
55

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
6/19/1996 License No. 5721 1. Maintain an existing boat railway. <u>Special Conditions:</u> 1. Structures are only authorized to provide noncommercial boating access to navigable waters. 2. The Interim Approval is valid for 30 years after the date of issuance. If the property is transferred, for valuable consideration, the approval expires 1 year from the transfer date.	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name

Rusk, Robert & Hazel

Address

24 First Street

Zoning

Medium density

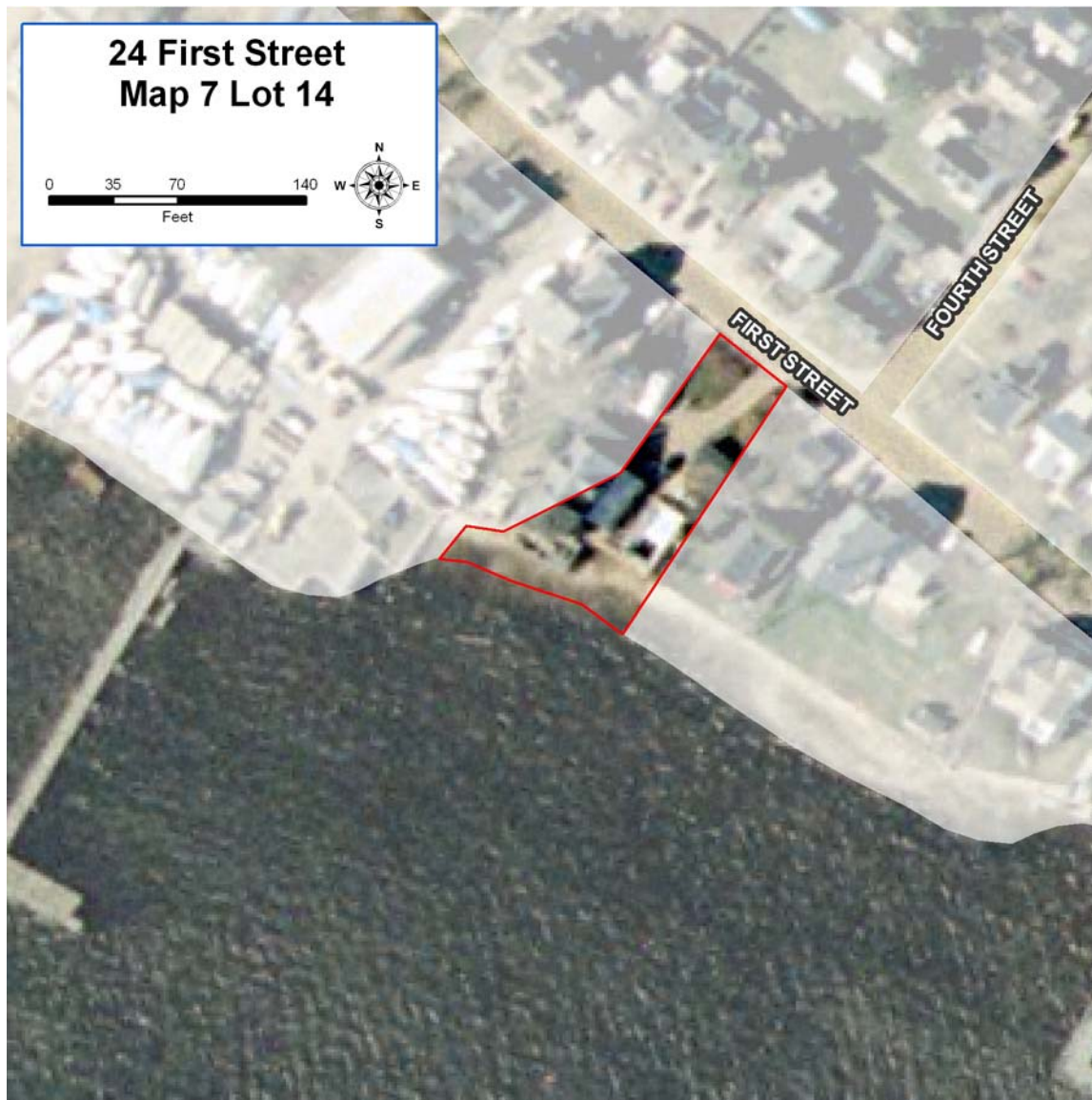
Map

7

Parcel

14

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
<p>2/26/1982 No. 831 1. Construct and maintain a gangway, held in place by piles. 2. Construct and maintain 3 floats at the end of the gangway (one 6' x 15' and two 5' x 15'). Steel poles and 2 moorings will hold the floats in place. 3. Maintain the existing deck <u>Special Conditions:</u> 1. No discharge of sewage or other polluting matter into adjacent tidewaters (except where local and state requirements are met).</p>	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name

Wadsworth, Donna

Address

28 First Street

Zoning

Medium density

Map

7

Parcel

12

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
1996 File No. 96-8350 Approval was NOT granted	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER

Property Name

Address

Zoning

Map

Parcel

Flanders, Raymond (1995); **McCarty**, James & Lucina (1999)

30 First Street

Medium density

7

11

CHAPTER 91 LICENSES		ARMY CORPS OF ENGINEERS PERMITS	
6/19/1995 License No. 4669 (Interim Approval Only) 1. Maintain a concrete seawall and ramp. <u>Special Conditions:</u> 1. Structures are only authorized to provide shoreline stabilization. 2. The Interim Approval is valid for 30 years after the date of issuance. If the property is transferred, for valuable consideration, the approval expires 1 year from the transfer date.			
6/18/1999 License No. 7971 (supersedes Interim Approval No. 4669 issued on 6/19/1995) 1. Maintain existing concrete seawall and ramp. <u>Special Conditions:</u> 1. Structures are only authorized to provide shoreline stabilization and access to navigable waters.			
CONSERVATION COMMISSION		PLANNING BOARD or OTHER	



Property Name
Address
Zoning
Map
Parcel

Bridge Marina
 180 Bridge Road
 Commercial
 14
 94

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
	<p>3/7/1985 No. MA-NEWE-85-041 1. Retain a travel lift with two 3' wide parallel rails that extend beyond the mean high water line and are each supported by three stacks of concrete blocks. 2. Reconstruct existing stone retaining wall using concrete blocks. 3. Permit expires on 12/31/1988. 4. Perform maintenance dredging along the retaining wall and 145' into the Merrimack River. 5. Retain seasonal floats (6' x 8') that run parallel to the shoreline for 296' at the end of a 242' long wooden pier. 6. Add a "L" shaped set of floats (42' x 42'). 7. Retain 40 moorings. 8. Retain the floats between the Bascule Bridge and the Boston and Main Railroad Bridge (a formation of 6' x 24' and 8' x 20' floats) 9. Instal a mooring seaward of the set of floats located between the two bridges. <u>Special Conditions:</u> 1. No dredging will occur between April 15th and June 15th of any year. 2. No work, including dredging, may impact saltmarsh habitats and no equipment may be stationed within the saltmarsh.</p> <p>3/17/1989 No. MA-NEWE-85-041 (amended) 1. Extend the main access float 20' by adding another 8' x 20' float. 2. Extend the first inboard finger float 20' by adding another 6' x 20' float. <u>Special Conditions:</u> 1. The conditions of the original permit remain effective.</p> <p>1/29/1990 No. MA-NEWE-85-041 (amended) 1. Relocate seasonal floats 12' north of their current location. 2. Add two 6' x 20' floats to the current structure of floats.</p>

4/8/1994

No. 1993-01700

1. Expand existing float system by adding five 20' x 8' floats and seven 20' x 6' floats extending 250' beyond the mean high water mark (floats will extend 100' into the river and will be about 230' from the channel's edge).
2. All floats are removed seasonally.
3. Complete all work by May 31, 1996.

1/4/1984

No. MA-NEWE-84-003

1. Retain and maintain 2,400 cubic yards of granular fill placed in about 10,413 square feet of wetland.
2. Install a 240' x 8' main line of floats parallel to the Merrimack River and connected to an existing 5' x 206' steel pier by a 20' ramp.
3. Install four 20' x 3' finger floats to the main line of floats.
4. Install three 160' x 4' lines of floats perpendicular to the main line.
5. Install three 30' x 3' finger floats to the most westerly line of floats and a 55' x 10' end float.
6. Install six 30' x 3' finger floats to the middle line of floats and a 95' x 10' end float.
7. Install two 30' x 3' finger floats to the most easterly line of floats and a 30' x 10' end float.
8. The whole system of floats will extend 260' to 400' beyond the mean high water mark.

Special Conditions:

1. Permit expires 12/31/1987
2. Do not attempt to prevent the public from full and free use of navigable waters at or adjacent to the project site.

6/1/1988

No. MA-NEWE-84-003 (amended)

1. Lengthen the system of floats (1) 60' downstream.
2. Lengthen the system of floats (B) 80' and add four 20' finger floats to the extension.
3. Place and maintain a new system of floats 160' long with eight 20' finger floats, perpendicular to system of floats (1).

Special Conditions:

1. No structures can be closer than 25' to the downstream property line.
2. Install two boundary makers along the downstream property line near First Street and the mean high water mark.

	<p>5/27/1982 No. MA-NEWE-82-174 1. Retain 485 cubic yards of gravel below the mean high tide mark. 2. Remove 17 wood piles and steel "I" beams. 3. Dredge a 5' x 5' area and a 12' x 4' area to 6 feet below the mean high water mark. 4. Dispose of the 24 cubic yards of dredged material at a suitable upland site. <u>Special Conditions:</u> 1. No dredging from April 1st to June 1st. 2. The permit is not valid unless MA Department of Environmental Quality Engineering, Division of Waterways issues a license.</p> <hr/> <p>4/22/1980No.1. Dredge an area 110' x 180' to 6 feet below the mean low water mark and remove 5300 cubic yards of material.2. Construct and maintain 3 additional 6' x 122' floats to the existing system. Each float will have a 22' gangway from the southeast side to the existing fixed pier. <u>Special Conditions:</u>1. The permit is not valid unless the MA Department of Environmental Quality Engineering, Division of Waterways issues a license.2. No dredging is allowed between March 15th to June 30th.</p>
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name

Address

Zoning

Map

Parcel

Bridge Marina

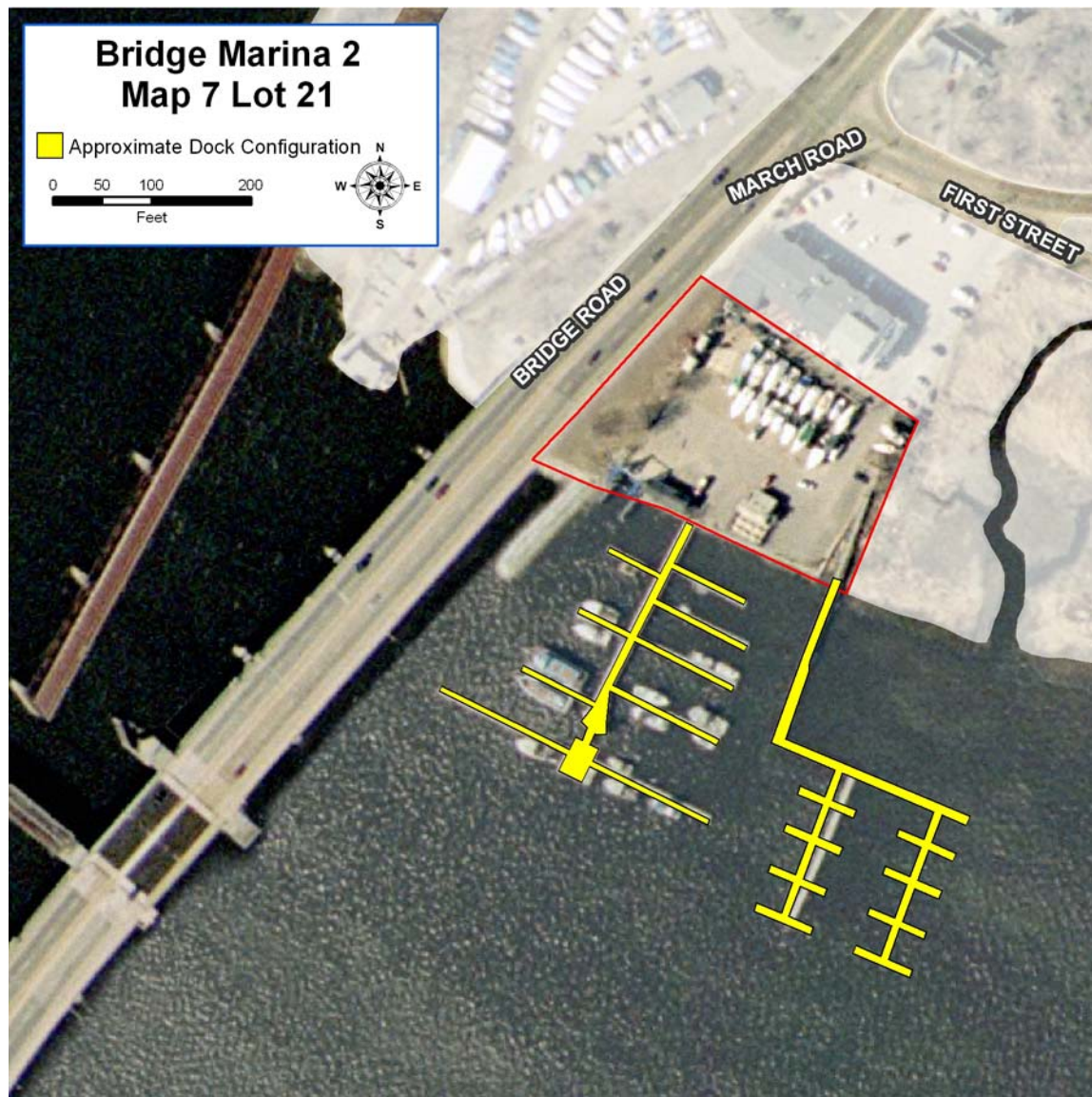
179 Bridge Road

Commercial

7

21

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
	8/20/1990 No. 23-199000562 (amended) 1. Complete maintaince dredging of 1,000 cubic yards of matieral with a mechanical dredge by August 1, 1991 <u>Special Conditions:</u> 1. No additional time extensions will be allowed and additional maintaince dredging will require an individual permit.
3/8/1991 License No. 2605 1. Maintain the stone, steel and block walls. 2. Maintain the steel pier. 3. Maintain fill and travel lift. 4. Dredge the river bottom by the travel lift, in between two of the piers and in front of the bulkhead. 5. Remove the current pilings. 6. Displace 339 cubic yards of tidewater. <u>Special Conditions:</u> 1. The structures listed above are only authorized to provide public recreation facilities, to improve navigation and to stabilize coastal erosion. 2. The Habormaster must authorize the floats. 3.Any authorized agreement for the use of a berth has a maximum term of one year, but the agreement is renewable. 4. Dredging should not cause unnecessary obstruction of the free passage of vessels or shoaling.	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name**Address****Zoning****Map****Parcel****Cove Marina**

8 Friedenfels Street

Commercial

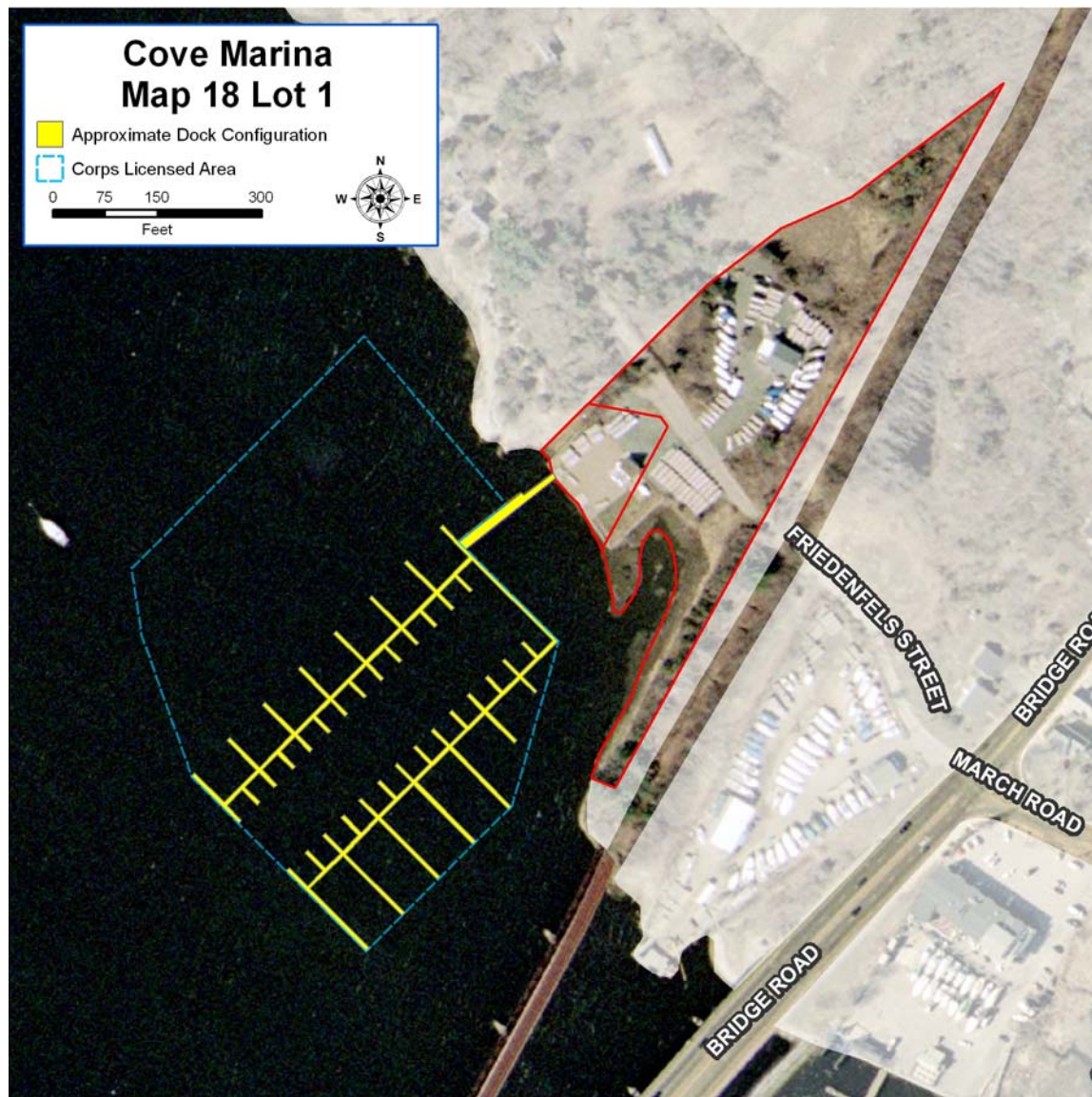
16

1

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
<p>8/19/1988 License No. 1833</p> <ol style="list-style-type: none"> 1. Maintain existing fill (not previously authorized). 2. Remove the existing bulkhead. Construct and maintain a new timber bulkhead. 3. Place and maintain bottom anchored floats. 4. Place and maintain a 6' x 60' articulation ramp perpendicular to the bulkhead's southwest corner. 5. Displace 970 cubic yards of tidewater displaced. <p><u>Special Conditions:</u></p> <ol style="list-style-type: none"> 1. The structures listed above are only authorized as publicly accessible open-space and commercial recreational boating facilities. 	<p>8/30/1988 No. MA-NEWE-87697-R-88</p> <ol style="list-style-type: none"> 1. Construct and maintain a marina facility with two main anchor-held floats and one articulation ramp to accommodate 142 boat slips. 2. The marina will extend 600' beyond the mean high water mark. 3. Reconstruct a bulkhead. <p><u>Special Conditions:</u></p> <ol style="list-style-type: none"> 1. No temporary fill (access roads etc.) may be placed in water or wetlands. 2. Floats may not rest on mudflats or saltmarsh vegetation at low tide. 3. Marina construction may not damage the saltmarsh and the marina's equipment shall not be stored on mudflats or saltmarsh. 4. Must remove soil between the two bulkheads so that the saltmarsh's elevation is restored and the area between the bulkheads drains at low tide. 5. Must install a pump out facility until the marina is tied into the town's sewer system. 6. No live-aboards and limit the number of nights people can sleep aboard to four. 7. Must install a visible "No Wake" sign in marina area to protect the saltmarsh from erosion. 8. Moorings must be removed or relocated after completion of a Harbor Management Plan in order to conform with the Plan. 9. Moorings within the Federal navigation channel should be removed or relocated after a re-establishment of the channel. 10. Authorization expires on 12/31/1991.
<p>1990 File No. 90-0660 Approval was NOT granted</p>	<p>3/28/1991 No. 199011284</p> <ol style="list-style-type: none"> 1. To construct and maintain 80 additional floats, anchored to the river bed with concrete blocks. <p><u>Special Conditions:</u></p> <ol style="list-style-type: none"> 1. Public access to the riverbank used by fishermen may not be impeded. 2. Permit expires 3/28/1996.

	<p>3/21/1996 No. 199011284 (amended) 1. Relocate 1 10' x 120' section of floating dock 84' south. 2. Add 2 new sections of finger floats (8' x 20' and 8' x 30'). 3. Relocate a 12' x 60' boat ramp 14' east. <u>Special Conditions:</u> 1. The time limit for completion of work authorized by the original permit is extended until 3/21/1997 2. Conditions of the original permit remain in effect.</p>
	<p>6/4/1996 No. 199011284 (amended) 1. Place and maintain 14 individual moorings or floats within the original permit area.</p>

CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name

Address

Zoning

Map

Parcel

Dawn Mari-Na (now Rings Island Marina)

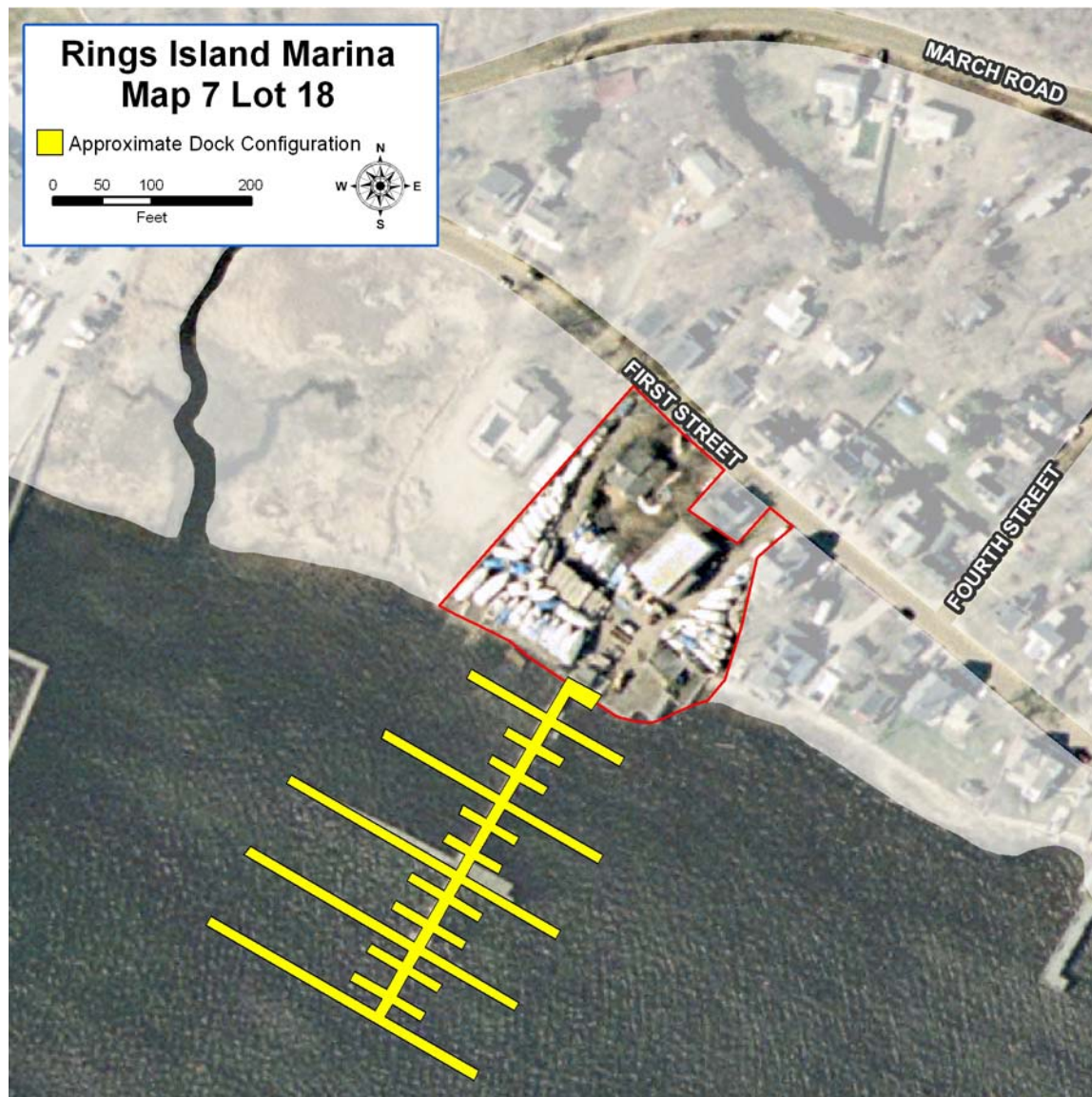
14 First Street

Medium density

7

18

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
<p>5/5/1981 License No. 715 1. Displace 14 cubic yards of tidewater. 2. Maintain or reconstruct an existing seawall, walkway over the river, boat ramp and dock. <u>Special Conditions:</u> 1. No discharge of sewage or other polluting matter into adjacent tidewaters (except where local and state requirements are met).</p>	<p>6/16/1981 No. MA-NEWE-81-215 1. Retain and maintain 12' x 325' float structure with 10 finger piers and an 8' x 400' "T". 2. Retain 24' x 75' concrete boat launching ramp. 3. Construct and maintain a 16' x 170' extension to the existing float structure with an 8' x 400' "T". All floats will be held in place by anchors. <u>Special Conditions:</u> 1. Existing marshland will be cleared of all debris no later than 8/1/1981. 2. Boats are not allowed to moor within 100' of the channel. 3. Permission was obtained from both abutters to extend the float system onto their property. 4. Boats are not allowed to discharge sewage at the marina.</p>
<p>1996 File No. 96-8379 Approval was NOT granted</p>	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name	Renz, William
Address	Friedenfels Street
Zoning	Medium density
Map	16
Parcel	3

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
1996 File No. 96-8383 Approval was NOT granted	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER

Property Name

Address

Zoning

Map

Parcel

MA Electric Company

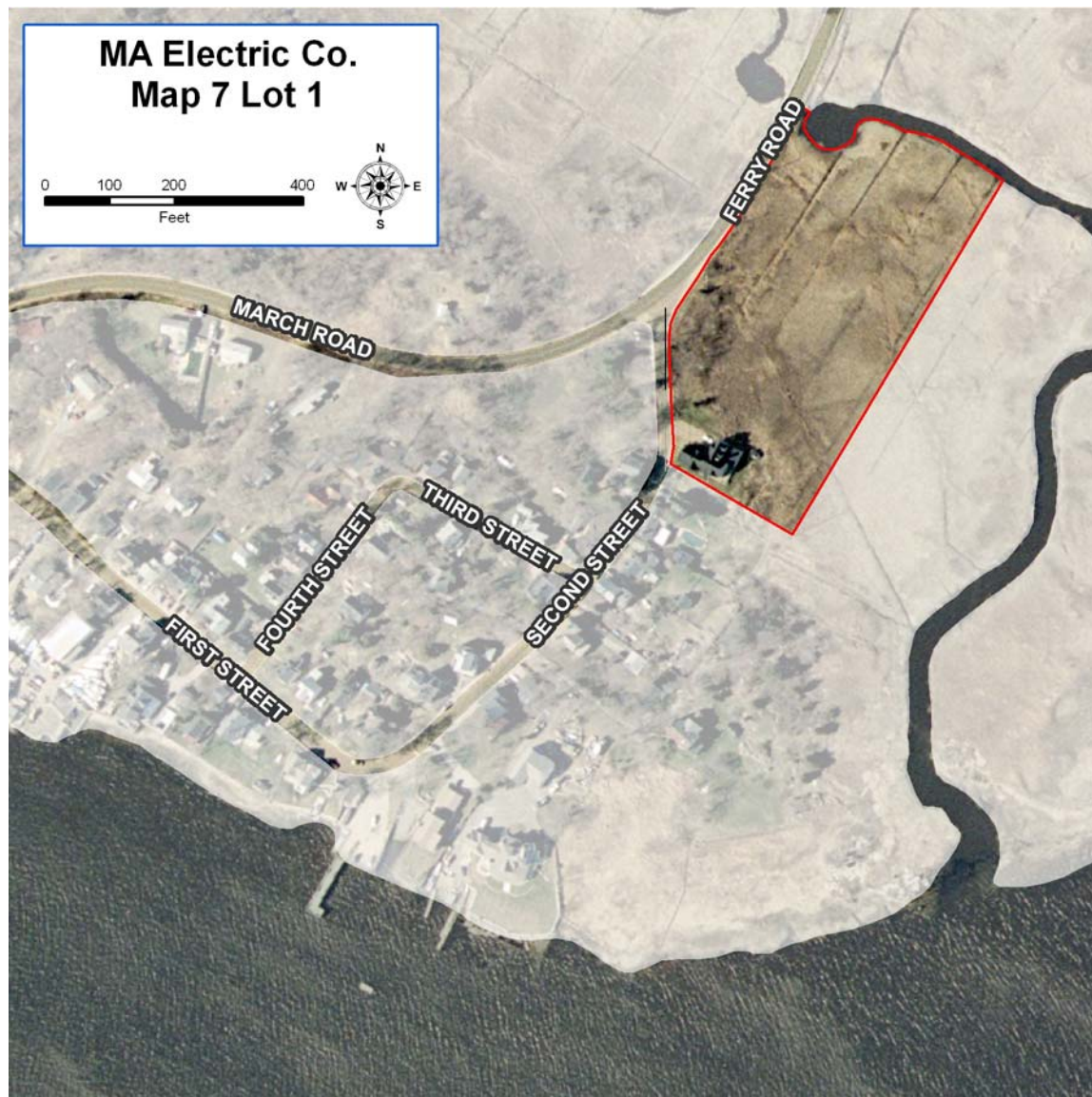
18 Second Street

Medium density

7

1

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
12/23/1999 License No. 8443 1. Construct and maintain an overhead electric power line. <u>Special Conditions:</u> 1. Structures are only authorized for the transmission of electricity. 2. The license expires 30 years after the date of issuance.	
CONSERVATION COMMISSION	PLANNING BOARD or OTHER



Property Name

Address

Zoning

Map

Parcel

Salisbury State Reservation

218 Beach Road

Low density

30

1

CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
	12/23/1993 No. 93-1324 1. Reconstruct and maintain a 53' x 102' boat ramp. 2. Construct and maintain fourteen 6' x 20' seasonal floats. 3. Place and maintain rip rap.
3/3/1995 License No. 4430 1. Reconstruct and add pile held floats to an existing boat launch ramp. <u>Special Conditions:</u> 1. Structures are only authorized to provide public access to navigable waters.	4/21/1995 No. 93-1324 1. Place and maintain 8 timber spur piles in the Creek at the State Reservation. 2. Discharge dredged or fill material into water or wetlands.
CONSERVATION COMMISSION	PLANNING BOARD or OTHER

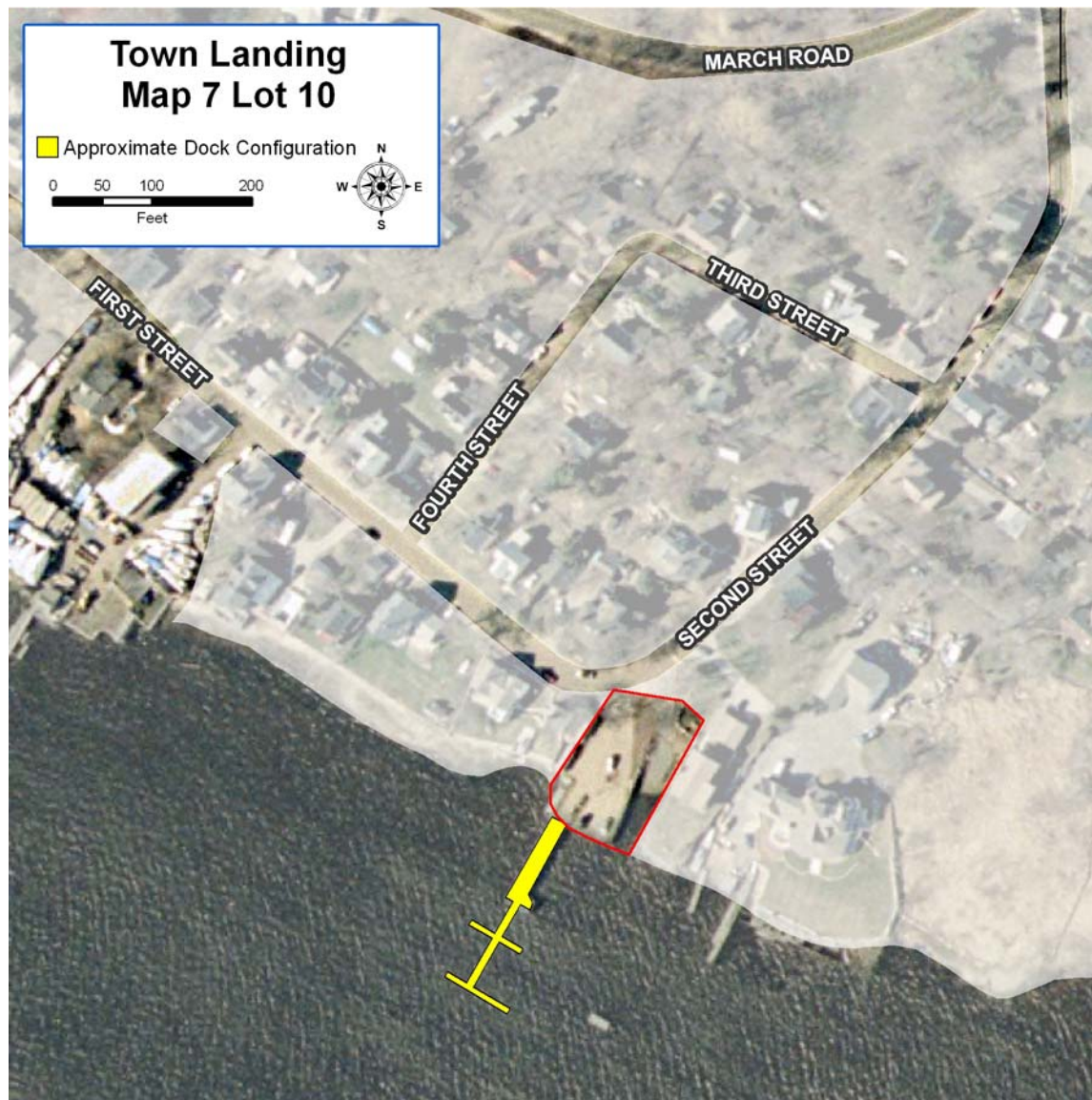


Property Name
Address
Zoning
Map
Parcel

Town Landing
First Street

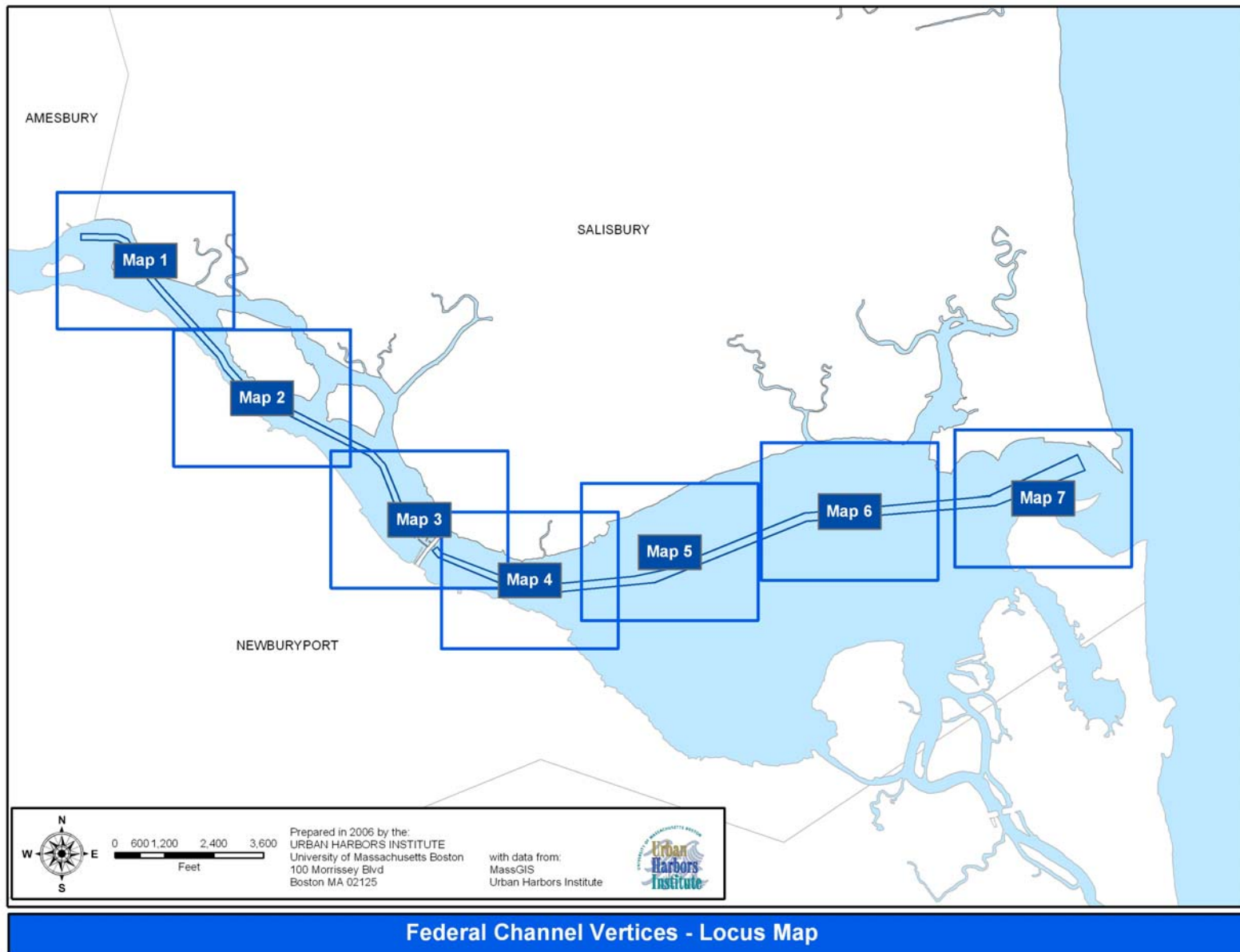
7
10

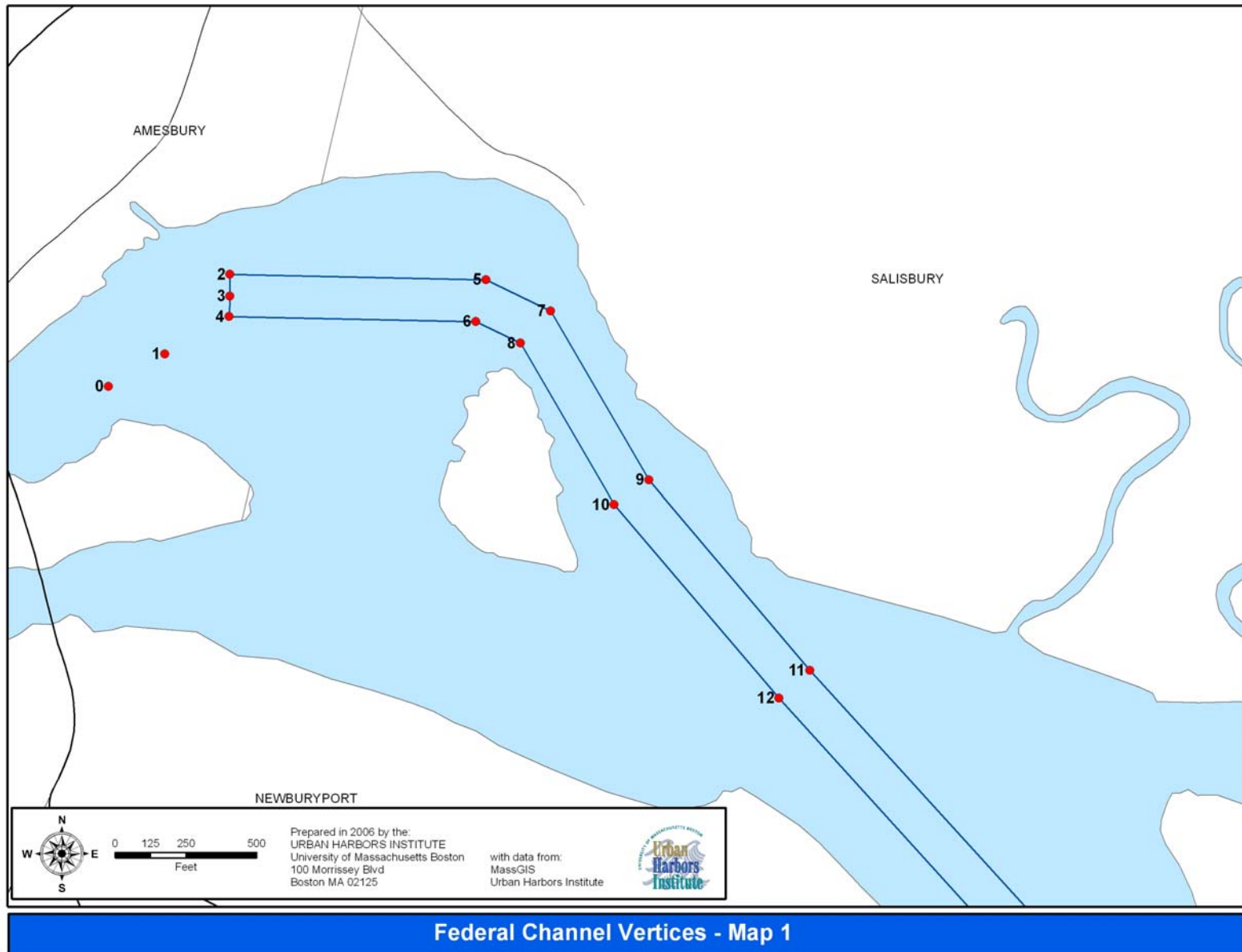
CHAPTER 91 LICENSES	ARMY CORPS OF ENGINEERS PERMITS
CONSERVATION COMMISSION	PLANNING BOARD or OTHER

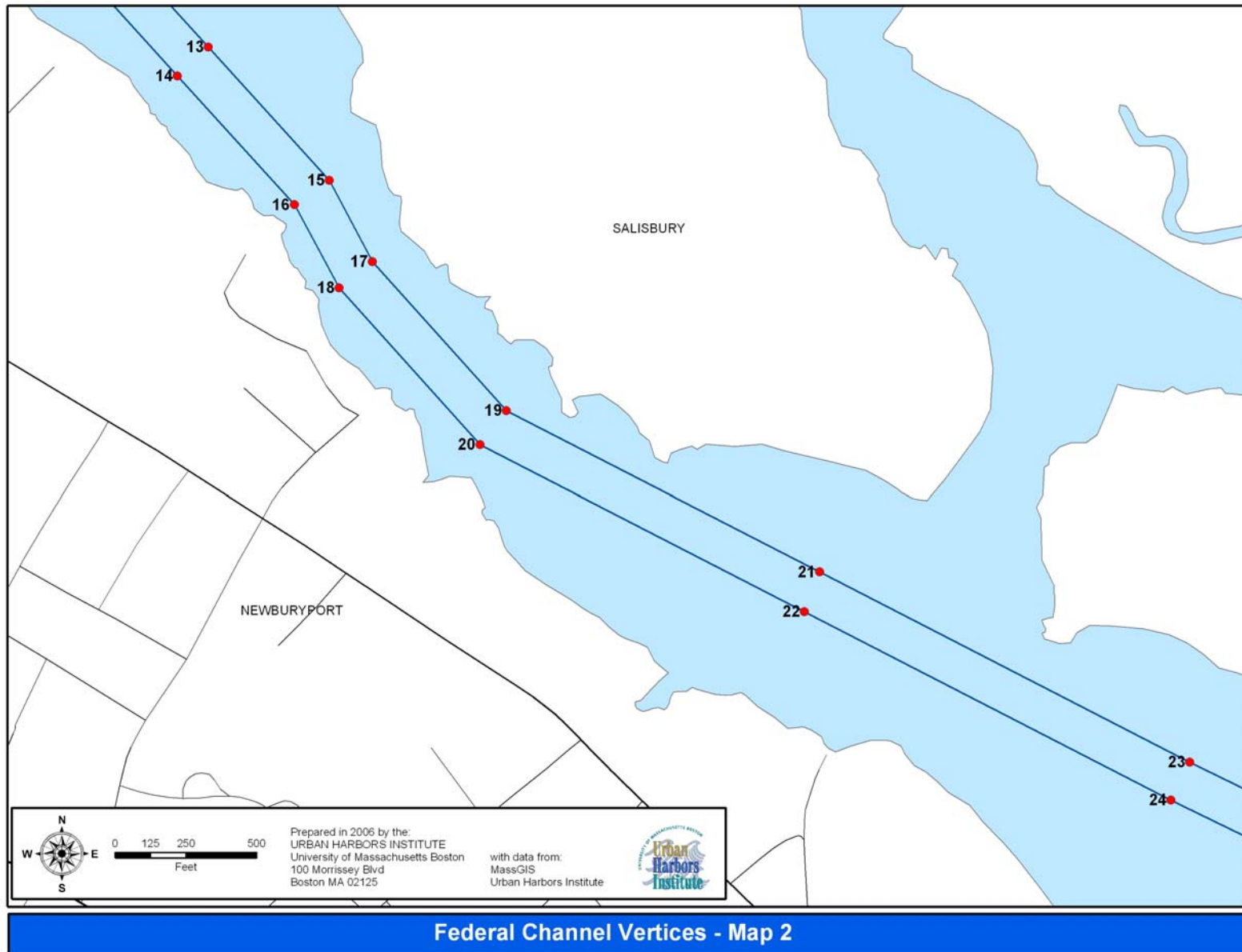


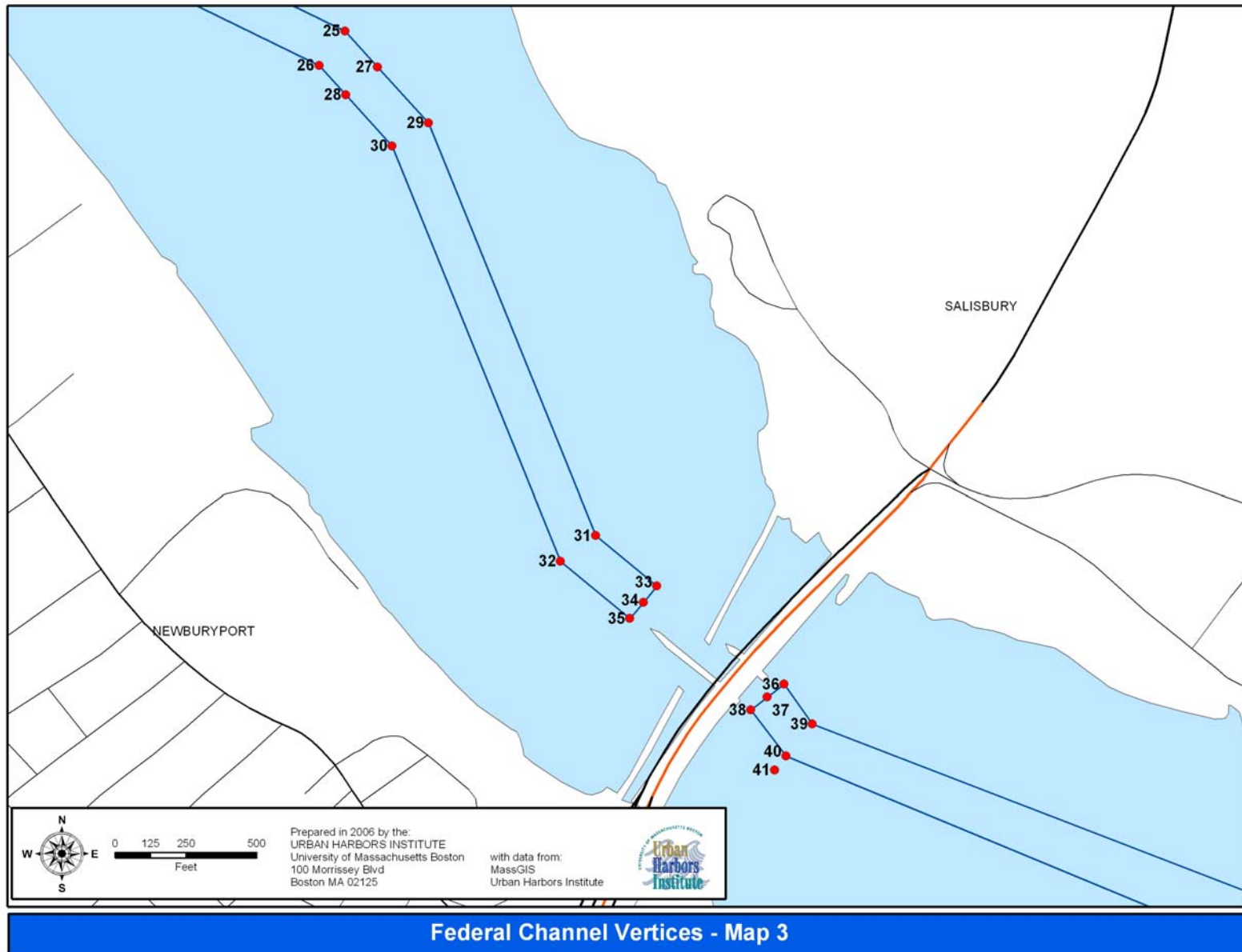
APPENDIX 3 – LOCATION OF THE FEDERAL CHANNEL

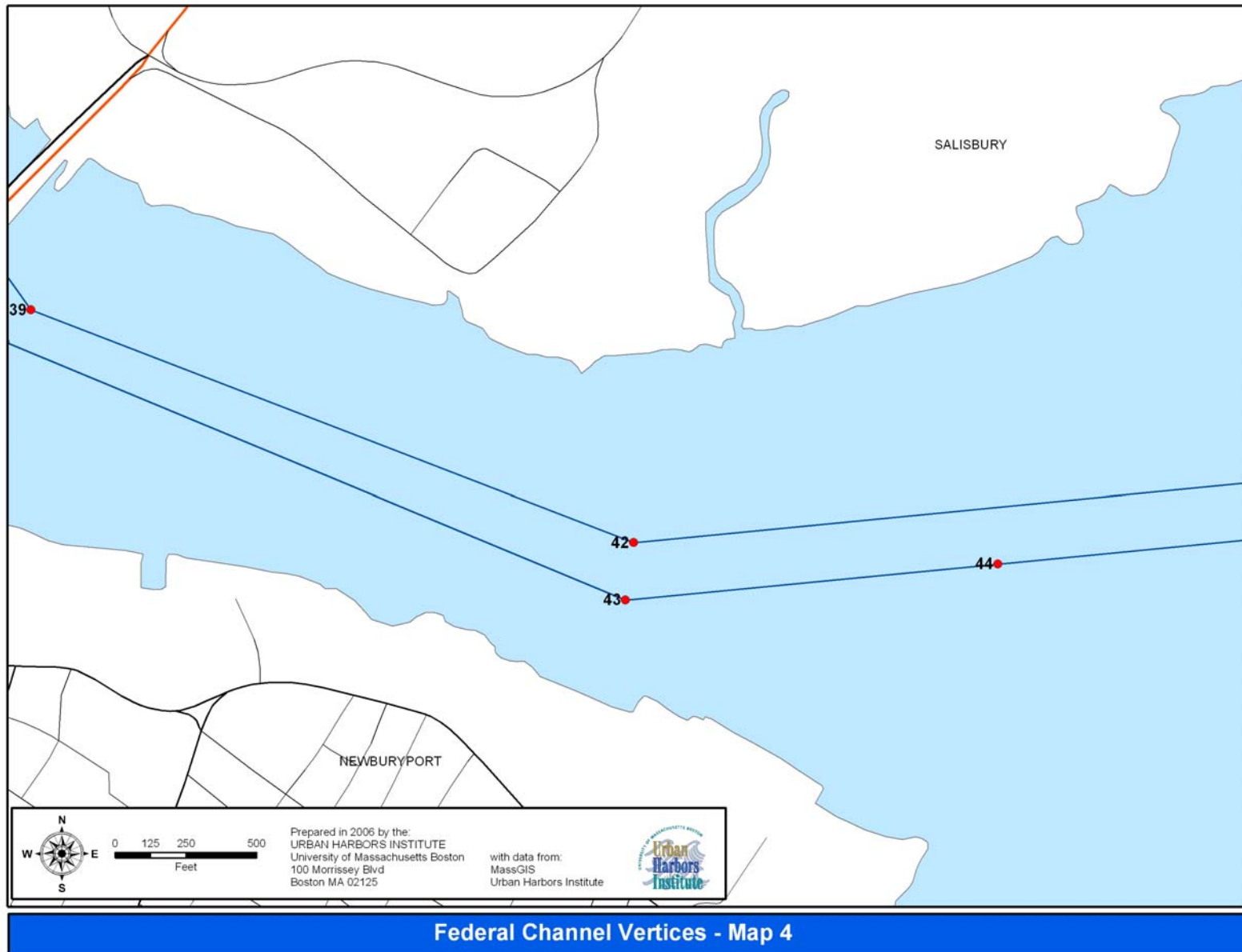
Using the Army Corps of Engineers Merrimack River Sweep/Condition Survey and the Newburyport Harbor maps (2/32 to 6/32 and 2/4 to 4/4 respectively) the northing and easting locations of all vertices of the Federal Channel were noted. Using Corpscon 6.0.1 software, these were converted into Decimal Latitude and Longitude. This information was then imported into GIS software so that the location of these points could be mapped. The vertices were numbered and the positions tabulated. Below is a locus map, followed by more detailed maps showing the numbered vertices and the table of positions.

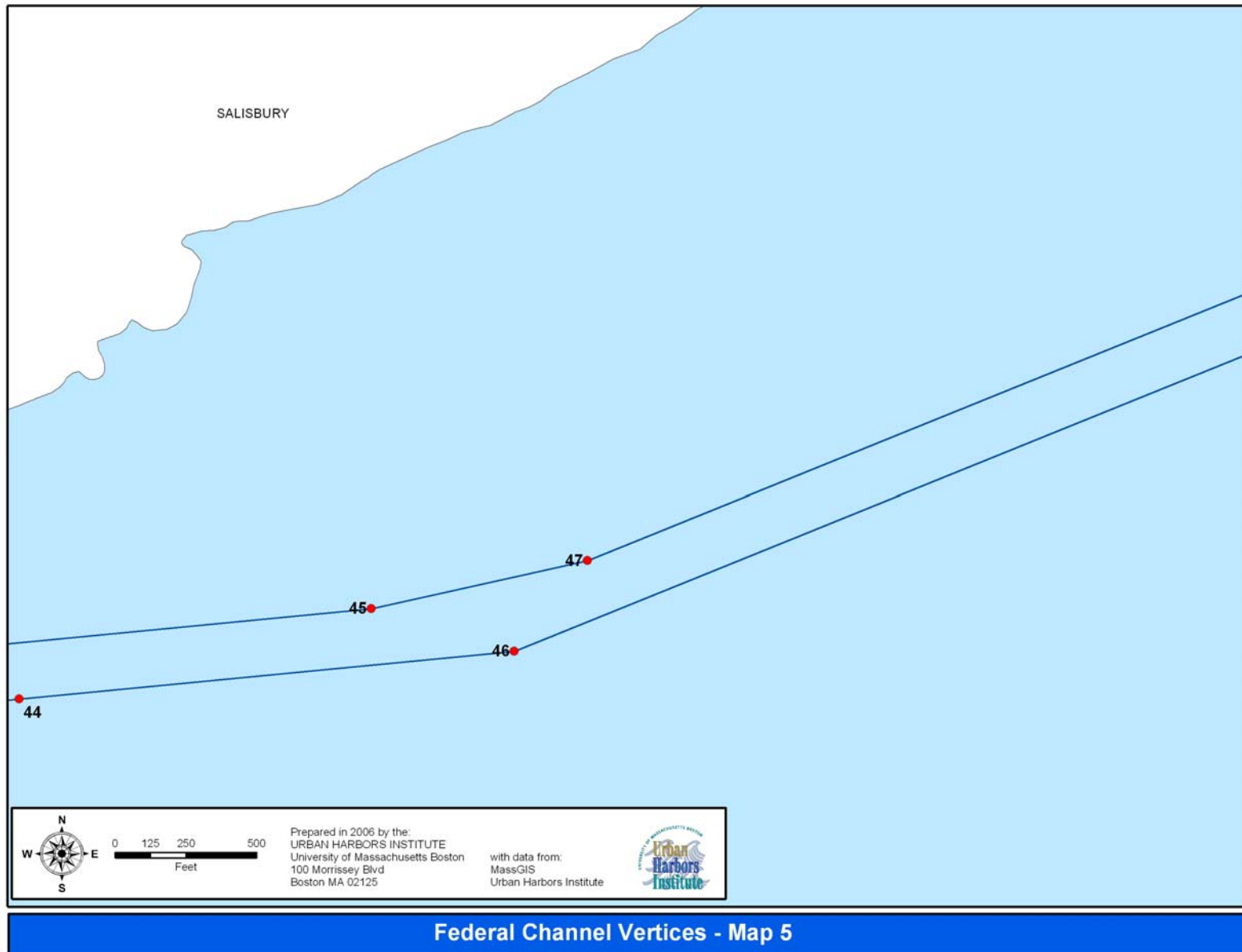


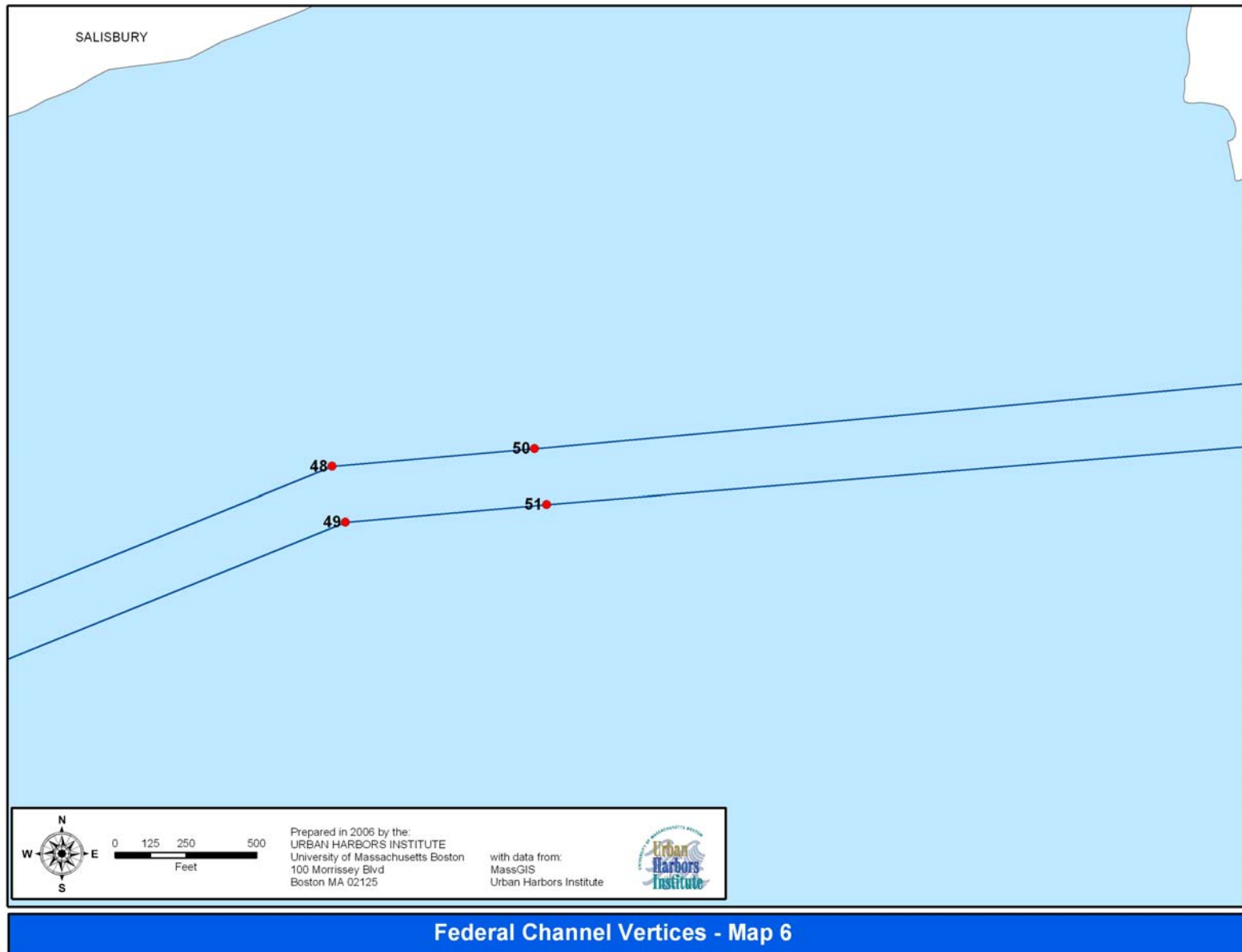


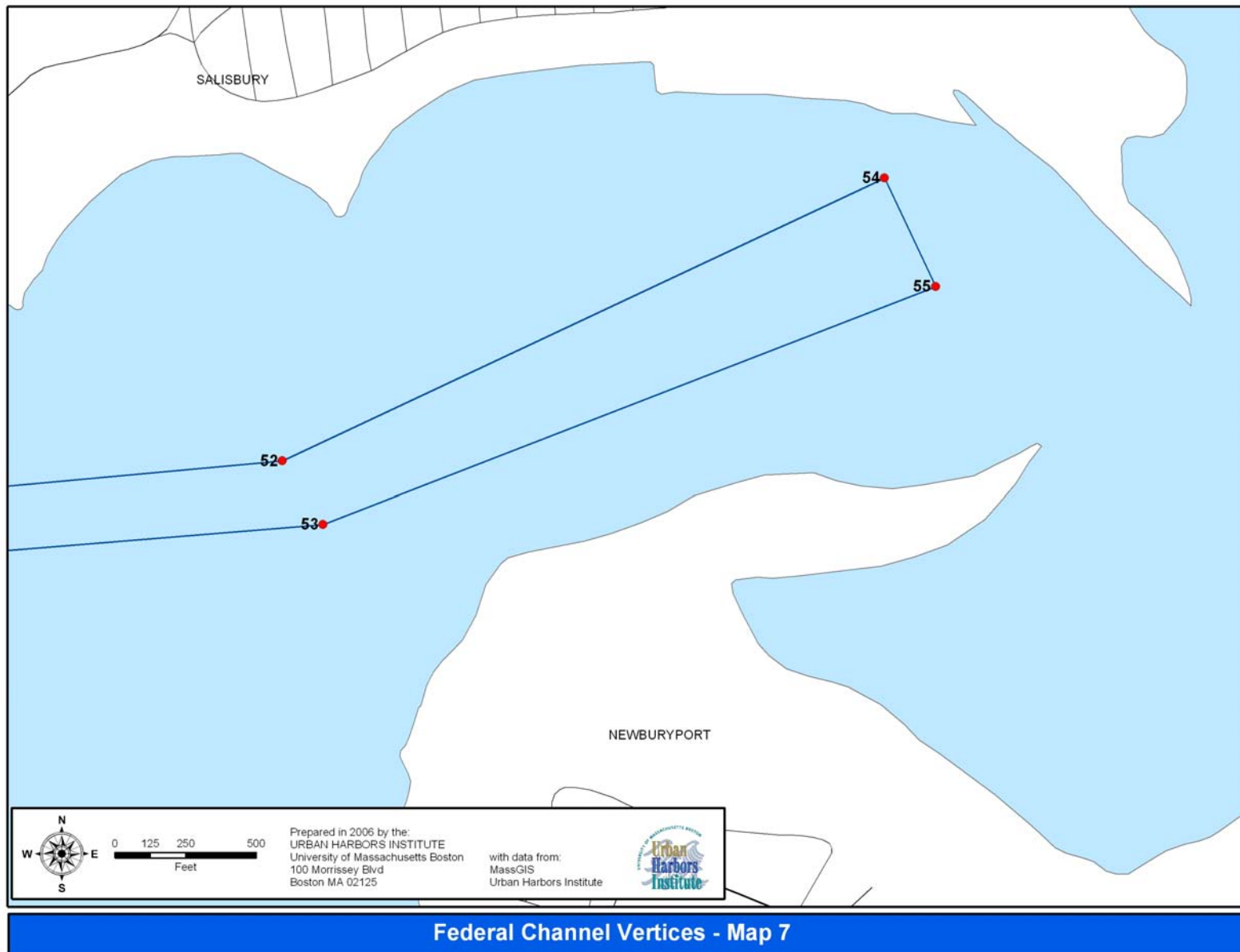












Merrimack Federal Channel Coordinates

ACOE MAP #	PLAN #	NORTHING	EASTING	Lat	Long	Lat		Long	
				Decimal Degrees		Deg	Dec Minutes	Deg	Dec Minutes
6 of 32	0	669477.08	759248.73	42.835726	-70.905833	42	50.143532	-70	54.349979
6 of 32	1	669592.85	759449.11	42.836039	-70.905083	42	50.162361	-70	54.304979
6 of 32	2	669874.99	759679.51	42.836809	-70.904217	42	50.208541	-70	54.253005
6 of 32	3	669798.32	759679.87	42.836599	-70.904217	42	50.195920	-70	54.253044
6 of 32	4	669725.02	759676.49	42.836398	-70.904232	42	50.183857	-70	54.253914
6 of 32	5	669856.65	760588.01	42.836741	-70.900830	42	50.204477	-70	54.049823
6 of 32	6	669707.35	760551.99	42.836332	-70.900969	42	50.179942	-70	54.058114
6 of 32	7	669745.42	760816.40	42.836432	-70.899982	42	50.185903	-70	53.998912
6 of 32	8	669630.58	760709.60	42.836119	-70.900383	42	50.167122	-70	54.022981
5 of 32	9	669145.48	761164.48	42.834779	-70.898700	42	50.086741	-70	53.921991
5 of 32	10	669058.52	761041.52	42.834543	-70.899161	42	50.072569	-70	53.949638
5 of 32	11	668470.49	761736.37	42.832916	-70.896586	42	49.974964	-70	53.795150
5 of 32	12	668371.51	761626.63	42.832647	-70.896998	42	49.958798	-70	53.819851
4 of 32	13	667426.82	762684.96	42.830034	-70.893077	42	49.802054	-70	53.584644
4 of 32	14	667324.04	762575.66	42.829754	-70.893488	42	49.785263	-70	53.609252
4 of 32	15	666953.40	763113.89	42.828727	-70.891491	42	49.723620	-70	53.489466
4 of 32	16	666866.61	762990.11	42.828491	-70.891955	42	49.709478	-70	53.517287
4 of 32	17	666664.23	763266.97	42.827931	-70.890928	42	49.675839	-70	53.455691
4 of 32	18	666570.91	763149.18	42.827677	-70.891370	42	49.660615	-70	53.482183
4 of 32	19	666135.37	763741.59	42.826470	-70.889173	42	49.588222	-70	53.350390
4 of 32	20	666014.63	763648.41	42.826141	-70.889524	42	49.568456	-70	53.371421
3 of 32	21	665563.77	764852.44	42.824880	-70.885048	42	49.492817	-70	53.102879
3 of 32	22	665422.96	764798.25	42.824495	-70.885254	42	49.469702	-70	53.115224
3 of 32	23	664888.05	766165.62	42.823000	-70.880172	42	49.380022	-70	52.810303
3 of 32	24	664753.95	766098.39	42.822634	-70.880426	42	49.358027	-70	52.825555
3 of 32	25	664592.08	766771.84	42.822176	-70.877920	42	49.330575	-70	52.675217
3 of 32	26	664469.92	766680.17	42.821843	-70.878265	42	49.310576	-70	52.695915
2 of 32	27	664464.19	766888.03	42.821823	-70.877491	42	49.309383	-70	52.649442
2 of 32	28	664365.71	766774.84	42.821555	-70.877915	42	49.293308	-70	52.674915
2 of 32	29	664265.59	767068.46	42.821275	-70.876824	42	49.276474	-70	52.609418
2 of 32	30	664184.41	766939.55	42.821054	-70.877306	42	49.263265	-70	52.638377

2 of 32	31	662801.53	767661.63	42.817246	-70.874653	42	49.034753	-70	52.479168
2 of 32	32	662710.47	767536.37	42.816999	-70.875122	42	49.019914	-70	52.507326
2 of 32	33	662622.80	767877.79	42.816751	-70.873852	42	49.005071	-70	52.431126
2 of 32	34	662565.00	767830.00	42.816594	-70.874032	42	48.995614	-70	52.441907
2 of 32	35	662507.20	767782.21	42.816436	-70.874211	42	48.986156	-70	52.452687
2 of 32	36	662273.86	768329.35	42.815785	-70.872179	42	48.947084	-70	52.330728
2 of 32	37	662228.00	768270.00	42.815660	-70.872401	42	48.939607	-70	52.344074
2 of 32	38	662182.14	768210.65	42.815535	-70.872624	42	48.932129	-70	52.357420
2 of 32	39	662138.62	768433.85	42.815412	-70.871793	42	48.924695	-70	52.307584
2 of 32	40	662019.12	768336.63	42.815086	-70.872159	42	48.905141	-70	52.329519
4 of 4	41	661969.31	768296.11	42.814950	-70.872311	42	48.896991	-70	52.338661
4 of 4	42	661307.82	770565.21	42.813089	-70.863873	42	48.785337	-70	51.832394
4 of 4	43	661104.18	770537.38	42.812531	-70.863983	42	48.751849	-70	51.838955
4 of 4	44	661232.14	771856.55	42.812855	-70.859063	42	48.771291	-70	51.543788
3 of 4	45	661554.16	773104.83	42.813713	-70.854402	42	48.822755	-70	51.264139
3 of 4	46	661402.40	773611.76	42.813286	-70.852518	42	48.797142	-70	51.151050
3 of 4	47	661723.64	773871.69	42.814162	-70.851540	42	48.849699	-70	51.092387
3 of 4	48	663092.16	777245.98	42.817845	-70.838926	42	49.070724	-70	50.335544
3 of 4	49	662895.56	777293.37	42.817305	-70.838755	42	49.038300	-70	50.325287
2 of 4	50	663155.18	777963.81	42.818003	-70.836249	42	49.080183	-70	50.174921
2 of 4	51	662958.30	778006.95	42.817462	-70.836094	42	49.047718	-70	50.165617
2 of 4	52	663500.44	781737.13	42.818869	-70.822176	42	49.132143	-70	49.330562
2 of 4	53	663312.84	781881.78	42.818251	-70.821642	42	49.095073	-70	49.298549
2 of 4	54	664505.93	783875.64	42.821581	-70.814176	42	49.294855	-70	48.850561
2 of 4	55	664119.84	784057.27	42.820518	-70.813511	42	49.231058	-70	48.810639