

**11.328J/4.240J: URBAN DESIGN SKILLS  
OBSERVING, INTERPRETING & REPRESENTING THE CITY**

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**ASSIGNMENT TWO  
Interpreting The City**

**PART A – NATURAL CONTEXT**

Too often, designers think of the project site as an inert, passive condition – a piece of ground where buildings or a park will be located. We should always remember that a site is never inert but is, as Edward White (1983) says, “an ongoing set of very active networks that are intertwined in complex relationships.” In this first part (2A), we will explore Cambridgeport’s natural networks (i.e. conduct a bio-physical analysis) to better inform our subsequent work in this neighborhood.

**Purpose:** To introduce students to the natural context in which urban design exists. To understand how to read natural features on site. To understand how terrain, habitat/vegetation, and hydrology impact urban open space conservation. To learn how to find mapping information through online and other resources.

**Task:** The first exercise is largely analytical – instead of direct observation, we will think about the larger natural context through mapping. In this exercise, you will work in groups of 2; each group will produce 2 maps (i.e. 1 map per person).

Map 1 – Urban Ecosystem Structure (Patches & Corridors).

Using the landscape ecology concept of patches and corridors, identify East Cambridge/Cambridgeport’s areas of existing habitat (fragmented as it may be). This will include: stream corridors, parks, gardens, rail and powerline corridors; etc. One strategy might be to use orthophotos and thematic maps to identify the open spaces in Cambridgeport/East Cambridge (use your judgment as to the scope of the area). Then abstract these into either patches (like a baseball field, for example) and corridors (like the park along Memorial Drive). Create a diagrammatic representation of East Cambridge/Cambridgeport’s open space system.

Map 2 – Urban Hydrology (Watersheds).

Using available map resources, identify East Cambridge/Cambridgeport’s hydrologic features and systems. It should include floodplains and wetlands, standing water, such as rivers and lakes, including primary channelized and piped

streams; and watershed boundaries. Here, topographic maps might prove useful – what you are looking for is the natural and man-made drainage patterns for the area. A hilltop or ridge, for example, will be the boundary between two watersheds (i.e. water flows in 2 different directions). One strategy might be to use orthophotos and thematic maps to identify the lakes, rivers and streams in Cambridgeport/East Cambridge. Create a diagrammatic representation of East Cambridge/Cambridgeport's hydrological system.

In order to do these maps, you will need to search available map resources to find the necessary information (some sample ones are given below, but you should conduct your own search online. You may do your maps by hand or, if you are adept at CAD or GIS, you may produce the maps digitally.

Deliverables: Two 11"x17" maps (Ecosystem Structure and Watersheds).

Resources: Local Government (City of Cambridge)  
Green Ribbon Committee  
<http://www.cambridgema.gov/~CDD/commpplan/parks/greenribbon/index.html>  
Cambridge Map Index. <http://www.cambridgema.gov/~CDD/mapindex.html>  
Cambridge GIS Database. <http://gis.ci.cambridge.ma.us/>  
Cambridge Environmental & Transportation Planning Division  
<http://www.ci.cambridge.ma.us/~CDD/envirotrans/>  
Cambridge Conservation Commission (CCC).  
<http://www.ci.cambridge.ma.us/~CCC/links.html>

State Government (Massachusetts)  
Master Plan for the Charles River Basin  
<http://www.state.ma.us/mdc/CRBasinHomepage.htm>  
Mass GIS. <http://ortho.mit.edu/nsdi/>  
Metropolitan District Commission (MDC).  
[http://www.state.ma.us/mdc/mdc\\_home.htm](http://www.state.ma.us/mdc/mdc_home.htm)

Federal Government  
U.S. Geological Survey (USGS). <http://edc.usgs.gov/geodata/>  
Federal Emergency Management Agency (FEMA). <http://www.fema.gov>.  
National Wetlands Inventory. <http://www.nwi.fws.gov/>

NGOs  
Charles River Watershed Association. <http://www.crwa.org/>  
My Watershed. <http://www.mywatershed.com/>