EnvSci 360 – Computer and Analytical Cartography
Spring 2017

- Lab 8 -

Exercise 1: Map Series – Proposed Palmer, Mass. Casino Maps

Task: Create four letter-size layouts, each exported to a PDF, showing the proposed area for a casino in Palmer, Massachusetts. The map scale should be 1:15,000 when in layout view.

Download the data for this exercise at http://faculty.www.umb.edu/michael.trust/data360/lab8.zip

For all maps, display the layers in the following order in the table of contents (in parentheses are more descriptive layer names and tips on how to symbolize and label them, including links to metadata):

- **casino_impact_area.shp** (Proposed Casino Fire and Water Department Impact Area – hollow fill, bright red 3-pt. line)
- **TOWNS_POLYM.shp** (Mass. Town Boundaries – hollow fill with 2-pt. dark gray dash-dot outline)
- **EOTROADS_ARC.sh**p (MassDOT Roads – Categories/CLASS; http://www.mass.gov/itd/eotroads). Label the streets with STREETNAME, and include the appropriate route shields based on the ADMIN_TYPE field.
- **ZONE2_POLY_DISSOLVE.shp** (Zone II Wellhead Protection Area – pink line cross-hatch symbol, with thicker outline of the same color)
- **HYDRO25K_POLY.shp** (1:25,000 Water Features – Categories/POLY_CODE; http://www.mass.gov/itd/hydro25k).
- **HYDRO25K_ARC.shp** (Rivers – all a 0.5 blue line)
- **NPDWSA_POLY.shp** (Non-potential Drinking Water Source Areas – all light gray)
- **AQUIFERS_POLY.shp** (Aquifers – all light green)
- **OPENSPACE_POLY.shp** (Protected Open Space – all darker green). Label the Open Space polygons on the SITE_NAME field. (The lettering style for streets and open space should be different).

The four maps are:

1. Only include all the layers listed and described as above, including the labels.

2. Display all the vector layers (with labels) from map 1 and overlay them atop the **2013-2014 USGS Color Ortho Imagery**, added from ArcGIS Online. Search for 'MassGIS 2013'.
    - IMPORTANT: You will need to change the vector layer symbology and label properties so the data and text show up atop the images. (Tips – apply transparency or use line hatch patterns for the polygons, use bright colors for lines, or multi-layer lines, and halos, shadows or backgrounds for labels.)

3. Display only the casino impact area atop the **USGS Quad imagery**, also from ArcGIS Online. Search for 'MassGIS USGS quad'.
4. The same map as map 1, but produced as a black-and-white map, using only black, white, grays. Use line and other fill patterns for polygons as appropriate.

Notes:
- EACH LAYOUT SHOULD INCLUDE A STATEPLANE MEASURED GRID.
  - Right-click the data frame in Layout view > Properties > Grids
  - Choose Measured Grid. Click Next and accept the default settings in each screen of the Grids and Graticules Wizard, then click Finish. Click Apply and OK in the Data Frame Properties window. You can go back and adjust the style of the grid if you like.
- Include a legend and other supporting elements. Be sure to cite the imagery on maps 2 and 3, but there is no need to have the imagery in the legend.

Name the 4 layouts:
- **Lab8_Map1_*yourname*.pdf**
- **Lab8_Map2_*yourname*.pdf**
- **Lab8_Map3_*yourname*.pdf**
- **Lab8_Map4_*yourname*.pdf**

Email them to michael.trust@umb.edu.