GEO 309-001
Project Planning Scenario 01

You are a GIS analyst who has been selected to work on a municipal waste project for Fayette County, Kentucky. You currently work for a company that has been contracted to assess the best location for the placement of a new solid waste disposal facility.

The Department of Waste Management for Lexington-Fayette (DWM-LF) stated they need an assessment in two months that includes the following requirements:

1. It must be within the space of the satellite imagery provided by the DWM-LF (below).
2. It cannot be within 3 miles of any potable water source for the city.
3. It cannot be within 2 miles of any naturally occurring body of water.
4. It must have main highway access from the Lexington city center, but cannot be within a mile of the highway.
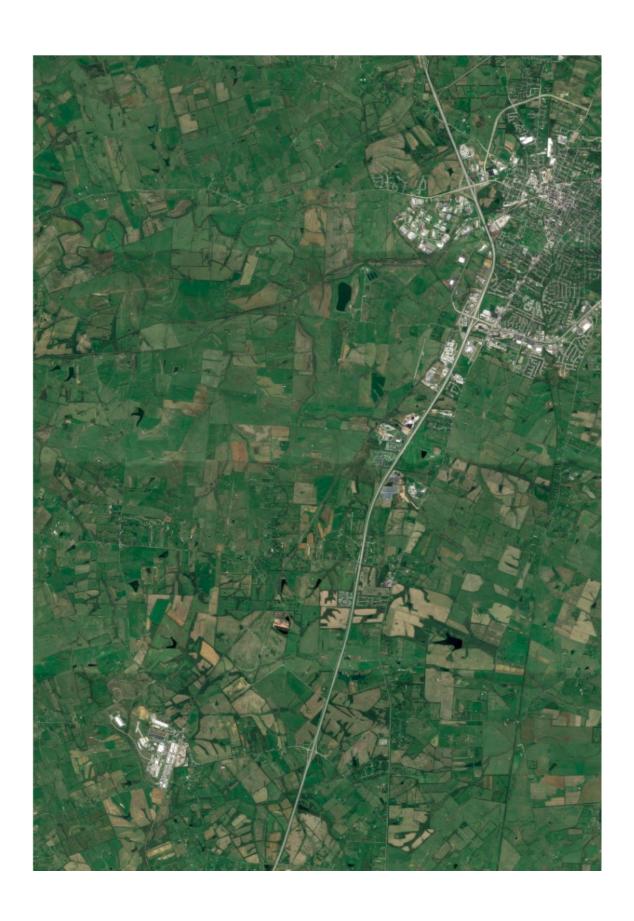5. It must comply with all state and federal laws for hazardous material disposal.

At the end of two months, the DWM-LF has requested the following things:

1. Printable maps (one 3x2ft poster and twelve 8.5x11in.).
2. The data sets used for the production of the maps.
3. The digital map project files in ESRI ArcGIS format (ArcGIS online is also an option).

Your task is to assist your project manager in properly scoping the project definition. You then have to assist in developing the management plan for the project that will meet the 2 month deadline.

Project Definition

Objectives	
Stakeholders	
Data & Storage	
Tools	
Skills	
Outputs	

Management Plan

Start Date	
Performance Benchmark 1	
Performance Benchmark 2	
Performance Benchmark 3	
End Date	

Don't forget that these should be factored into your performance benchmarks:

- Operations planning
  - Resources
  - Communications
  - Safety planning
  - Contingency planning
- Risk management
- Quality assurance

Instructor Walk-through

Read through scenario

Problem restatement
- Paraphrase
  - Use different word; maintain original meaning
- 180 degree turn around
  - Turn the problem around
- Broaden the focus
  - Restate in a large context
- Redirect the focus
  - Change to a tangent
- Ask why and why again
  - Repeat until the core issue emerges

Discuss Divergent/Convergent Thinking
- Brainstorm
  - Divergent
- Winnow (cut) and cluster (group) ideas

- - Convergent
- Select Practical/Promising Ideas
  - Convergent
- Important NOT to "shut down" anyone during this process!

Sort with Diverge/Converge
- Who?
- What?
- When?
- Where?
- Why?
- How?

Fill in Project Definition
- Objectives
- Partners
- Data and Storage
- Tools
- Skills
- Output

Fill in Management Plan
- 2 week benchmarks
- Ops
- Risk
- QA

Site selection with Hypothesis Testing
- Generate hypotheses and narrow them down
- Construct a matrix
  - Rows for Evidence
  - Column for each hypothesis
- List significant (and absent) evidence
  - Alexander's question (What evidence NOT included would refute any hypothesis?)
- Test evidence for consistency with each hypothesis
  - C (consistent), I (inconsistent), ? (ambiguous)
  - Optional degree
    - - ("in part"), + ("in many respects"), * ("absolutely")
- Refine Matrix
  - Reword hypotheses
  - Add significant evidence
  - Delete (but record) evidence consistent with all hypotheses
- Evaluate each hypothesis
  - Evaluate underlying assumptions and validity
  - Remove hypotheses with significant inconsistent evidence
- Rank hypotheses by weakness of inconsistent evidence
  - Hypothesis with weakest inconsistent evidence is most likely
- Sanity Check