APES City Planning/Alternative Energy Project

On the following page is a diagram of the area where the newly designed city of Robsonville will be located.
You and your team are the designers. You may work as an individual or in groups of no more than 2-3 people. Each of the four energy types must be used and each team must select a different type of alternative energy. Choose your team wisely. You should create a group contract and include a "firing clause" where you may fire any individual(s) in your team that are not fulfilling their duties in a timely way. Any fired individuals will be required to do this project on their own by the due date.

Robsonville will need to have:

1. 200 single family homes to accommodate family sizes of 2-8 people.
2. 100 townhomes to accommodate family sizes from 1-4 people.
3. 300 apartments.
4. Basic services- hospital, city hall, courthouse, jail, etc.
5. a community shopping area
6. an industrial area
7. an office park
8. park area(s) with natural areas and ball fields
9. an elementary, middle, and high school
10. a transportation system

You are to design Robsonville using the principals of smart growth. Your representation should be a 3-D model with a key that explains each component included. You will present your design and alternative energy source to the class. The winning design will earn bonus points.

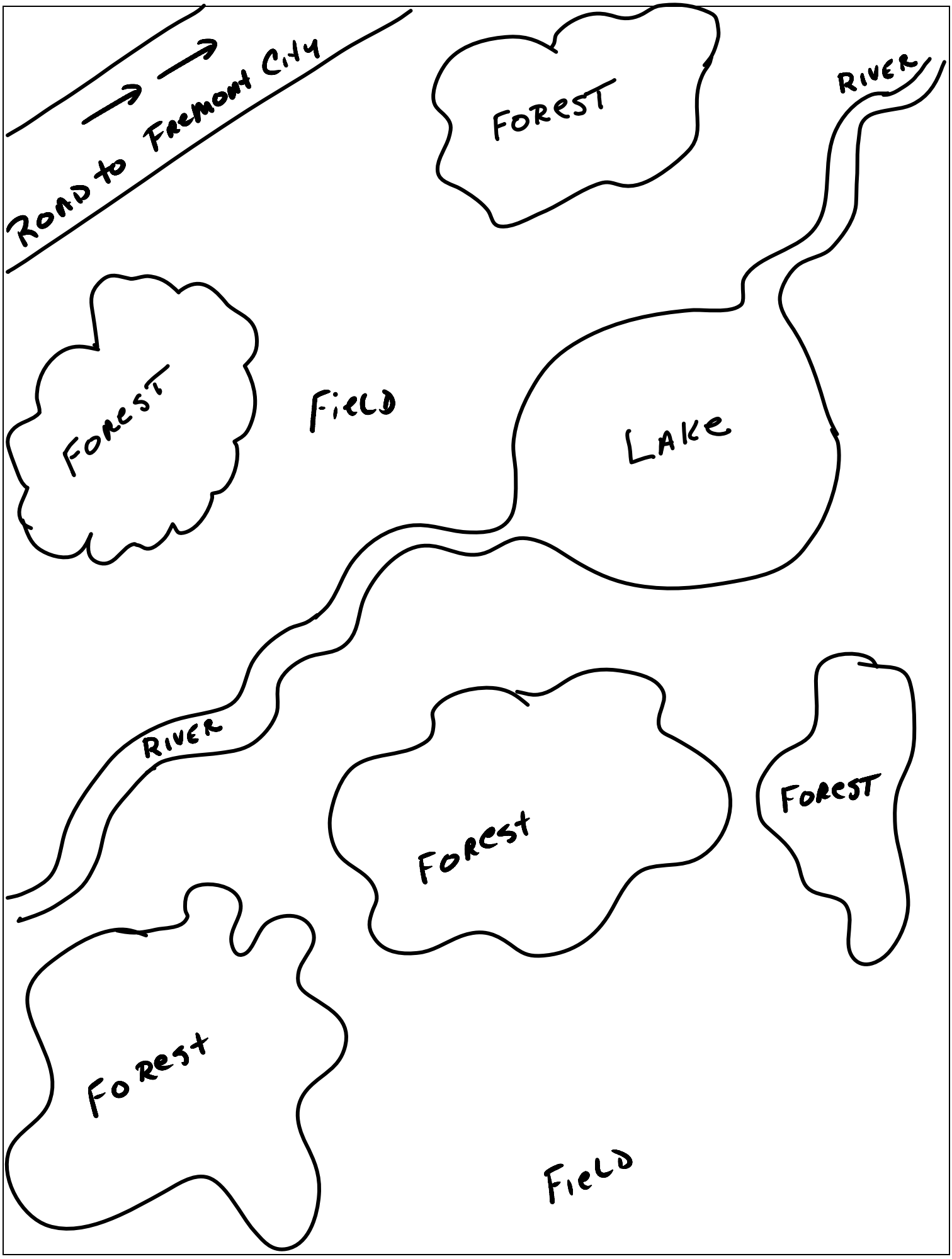
You will be graded as follows:

Possible score	Your Score	Requirement
100	_____	Design includes all the features listed above.
100	_____	Design includes renewable energy features, focusing on one specific type from the following list: Solar, Wind, Geothermal, Hydrogen Fuel Cell
100	_____	Design includes open space/ habitat conservation features
100	_____	Transportation is both user friendly and sustainable
100	_____	Good use of available space, sustainable design
100	_____	Design is neat , clear, and creative
400	_____	APA cited research paper on the main alternative energy focus of your city see paper requirement handout
1000	_____	Total Grade_____

Some resources on Smart Growth to help you with your project:

http://www.epa.gov/smartgrowth/
http://www.smartgrowthamerica.org/
http://www.smartgrowth.org/news/bystate.asp?state=AZ
http://cms3.tucsonaz.gov/planning/prog_proj/projects/genplanupdate/smartgrowth.html

If you find other good resources, these would be wonderful to post on your scrAPES.


Road to Fremont City
Forest
River
Forest
Field
Lake
River
Forest
Forest
Forest
Field

Research Paper Details

You will need to write at least 1 page (double spaced, 12 point times roman font) on each of the sections below. You will need to cite your sources in APA format. You should include a bibliography AND parenthetical citations. Use easybib.com to help you. The final paper will be submitted to turnitin.com. While one person will be the leader for this section ALL group members will be required to contribute to the paper. You should divide up the topics among members of your group. Some sections will require more work than others. Please also note that each member will be responsible for turning in their section to the research leader. That person will be turning it in to turnitin.com

1. History of the energy source:
    - *a.* Who founded this type of energy *(development pioneers?)*
    - b. When was it invented, developed, or used
    - c. Any other historical information about the energy source

2. Specific use of your energy source?
    - a. What do we use it for?
    - b. How do we use it?
    - c. How is it being used?
    - d. Where is this type useful (applications?); not useful (or not efficient)?
    - e. Name all that apply and provide a description of each one?
    - f. Is it used to produce electricity?
    - g. Is it used to produce heat?
    - h. Is it used to move objects (machines)
    - i. Other energy types?

3. How has the function of the energy source changed throughout history?
    - a. Different today than before.

4. How much does your energy source cost?
    - a. How much do consumers pay to use this energy?
    - b. Is it cost effective to make?
    - c. What is the estimated cost of maintenance?
    - d. Are costs per joule (J) or kilo joule (kJ) of energy? BTUs? available?

5. How much more effective (efficient) is this energy source than others in doing a task?
    - a. Is it better at providing heat, energy, or electricity than other methods?
    - b. How much better or worse (looking for percentage or factual referenced based statement or calculations)

6. Where is your energy source most often used (where would we see it)
    - a. Describe these locations (sites) in order for audience to visualize it

7. What are some positive effects of your energy source on the Environment?

8. What are some negative effects of your energy source on the Environment?

9. Are their any plans to use this energy source to produce new types of energy in the future?

    - a. What is the latest research taking place with this energy source Will it have more than one function or use in the future?

10. Why should humans continue using this energy source in the future?

11. Why is this the best energy source for your city?