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ABSTRACT

This unit, written for seventh-grade school children, focuses on the variety of factors that are involved in land utilization. It specifically examines land use in St. Louis County, Missouri, and discusses such concepts as the variety of ways man has used this land, the influence surface features have on land use, the influence of socio-cultural factors on land use, the effect of natural disasters--particularly in regard to improper land use, and the variety of careers in every aspect of land use. The unit includes the behavioral objectives and the expected student criteria for evaluation, pretests and posttests, suggested methodologies for teaching each concept, a bibliography of both teacher and student resource books, a glossary of terms, a list of appropriate films, and environmental resource inventory data sheets for each of the junior high schools in the Parkway School District. (MLB)

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, project Director

Unit: This Land is Your Land
The Problem of Land Utilization

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SE 018 233

THIS LAND IS YOUR LAND
The Problem of Land Utilization

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Daniel O. Knauss

Thomas J. St. John

WE HAVE A CHOICE

Soil can be saved. The 1958 yearbook of Agriculture, Land, puts the problem this way:

> "Now we are at a crosswords. At this moment in history, when our population is growing, the demands for many products of fields and forest mounts, and the face of the land is changing, we can choose, perhaps for the last time, what we are to do with our land, our country."

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SETTING

The unit is based upon Land Use--its importance, conservation, utilization, surface features, aesthetic qualities, effect of natural disasters, and career opportunities. Both indoor and outdoor activities are planned in order to bring about student awareness on how land was used and is being used. Special empahsis is given to land use in a setting familiar to the student.

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CONCEPTS

I. The use of land has been and is important to the survival of human societies.

II. Land in St. Louis County has been used by man in different ways at different times in history, e.g. Wilderness has changed from farm use to commercial-residential use.

III. The amount of land being utilized for farming in St. Louis County is decreasing.

IV. Man's continuance as we know it today depends on his conservation of land.

V. Man utilized land for survival in many ways - e.g. - farming, shelter, hunting.

VI. Surface features (flat, hilly, rocky) influence how man can use the land. e.g. - farming, industry, recreation, transportation.

VII. The use of land is influenced by many other factors besides surface features. e.g. - economic, political social, religious.

VIII. Aesthetic qualities sometimes influence developed land, i.e. they may or may not be taken into consideration.

IX. The effect of natural disasters is often more destructive due to improper land use.

X. There are a variety of careers in every aspect of land use.

BEHAVIORAL OBJECTIVES

Concept Number		
I.	1.	Ninety percent of the students will list in writing two (2) examples of ways in which man is dependent on the use of land for survival.
II.	2.	Ninety percent of the students will be able to describe in 50 words or less how one human society has declined through misuse of land.
II.	3.A.	Eighty percent of the students will be able to state in less than one sentence the approximate percentage of land in a wilderness state in St. Louis City-County in 1800.
II.	3.B.	Eighty percent of the students will be able to state in less than one sentence the approximate percentage of land in a wilderness state in St. Louis City-County in 1900.
II.	3.C.	Eighty percent of the students will be able to state in less than one sentence the approximate percentage of land in a wilderness state in St. Louis City-County in 1972.
II.	3.D.	Eighty percent of the students will be able to state in less than one sentence the approximate percentage of land in commercial-residential state in St. Louis City-County in 1800.
II.	3.E.	Eighty Percent of the students will be able to state in less than one sentence the approximate percentage of land in a commercial-residential state in St. Louis City-County in 1900.
II.	3.F.	Eighty percent of the students will be able to state in less than one sentence the approximate percentage of land in a commercial-residential state in St. Louis City-County in 1972.
II.	4.	Eighty percent of the students will be able to predict in 20 words or less the approximate percentage of the total land area that will be

Concept Number		
		in a wilderness state and in a commercial-residential state in St. Louis City-County in the year 2001.
II.	5.	Eighty-five percent of the students will be able to write a statement of 50 words or less explaining or less explaining how they arrived at the above prediction.
III.	6.	Eighty percent of the students will be able to correctly identify on a map the area of land utilized for farming in St. Louis County in 1900 and 1972 (today).
III.	7.	Eighty percent of the students will be able to state in writing a conclusion of no more than 20 words concerning the amount of land utilized for farming in St. Louis County since 1900.
IV.	8.	Eighty percent of the students will be able to list three (3) adjustments man will have to make if he does not conserve his land.
V.	9.	Eighty percent of the students will be able to list three (3) ways man utilizes land for survival.
V.	10.	After evaluating the three ways in objective #9, eighty percent of the students will be able to select one way and explain in no more than three sentences how man utilizes land in this way for survival.
VI.	11.	Eighty percent of the students will be able to write a statement of 50 words or less describing how surface features influence man's use of land.
VII.	12.	Eighty-five percent of the students will be able to explain in no more than four sentences the difference in land usage in Clayton and Ladue.
VII.	13.	Eighty-five percent of the students will be able to explain in less than 25 words how cemeteries influence land use.
VII.	14.	Eighty-five percent of the students will be able to explain in less than 25 words how parks and golf courses influence land use.

Concept Number		
VII.	15.	Ninety percent of the students will be able to sketch a landscape of developed land which they feel is aesthetically pleasing.
VIII.	16.	Ninety percent of the students will be able to sketch a landscape of developed land which they feel is NOT aesthetically pleasing.
IX.	17.	After viewing a picture of a natural disaster, eighty percent of the students will be able to hypothesize in no more than four sentences how that destruction would have been less severe if man had used his land in a different way.
X.	18.	Ninety percent of the students will be able to compile a written list of ten careers in the field of land use.
X.	19.	Eighty-five percent of the students will be able to classify in writing these ten careers into three categories: those related to recreation, farming, and commercial-residential.

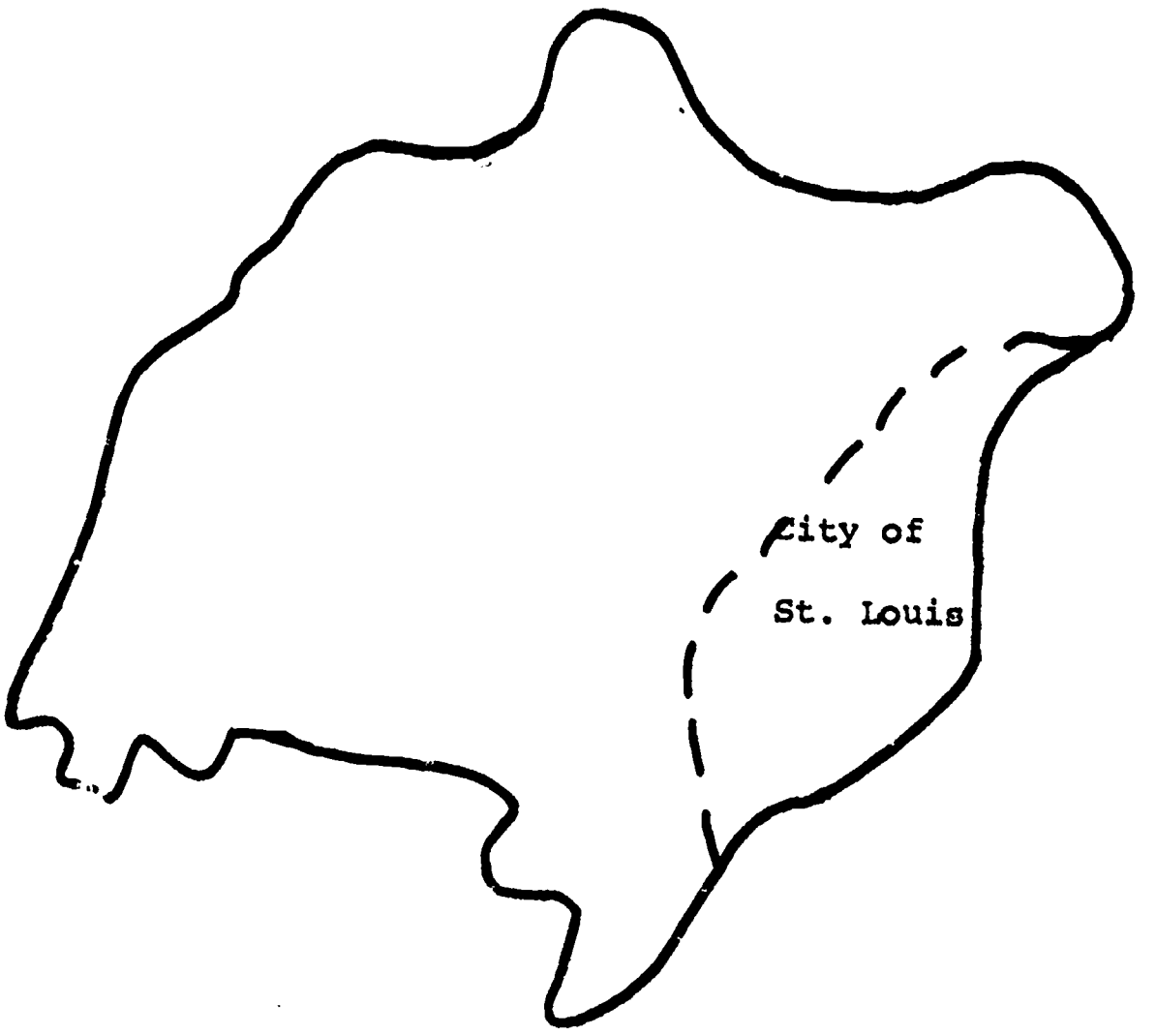
PRE-POST TEST

Behavioral Objective Number		
1.	1.	List below three ways in which man is dependent upon the use of land for survival.
2.	2.	In 50 words or less, describe one human society that has declined through the misuse of their land.
3.	3.	In one sentence, state the approximate percentage of land in St. Louis City-County in a wilderness state in 1800.
3.	4.	In one sentence, state the approximate percentage of land in St. Louis City-County in a wilderness state in 1900.
3.	5.	In one sentence, state the approximate percentage of land in St. Louis City-County in a wilderness state in 1972.
3.	6.	In one sentence, state the approximate percentage of land in a commercial-residential (in St. Louis City-County) state in 1800.
3.	7.	In one sentence, state the approximate percentage of land in St. Louis City-County in a commercial-residential state in 1900.
3.	8.	In one sentence, state the approximate percentage of land in St. Louis City-County in a commercial-residential state in 1972.
4.	9.	Predict in 20 words or less the approximate precentage of the total land area that will be in a wilderness state and in a commercial-residential state in St. Louis City-County in the year 2001.

Behavioral Objective Number

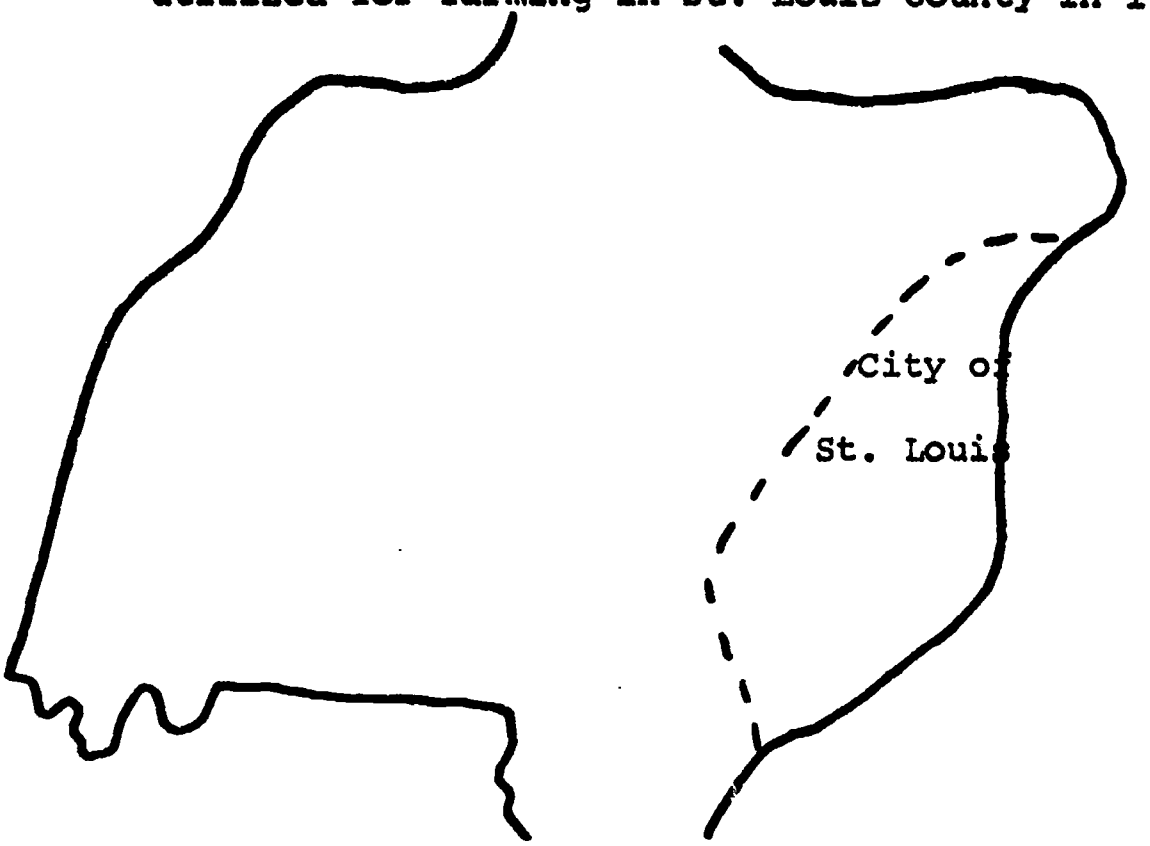
5. 10. Write a fifty (50) word statement explaining how you arrived at the above conclusion.

6. 11. Using the map below, identify the area of land utilized for farming in St. Louis County in 1900.



Behavioral Objective Number

6. 12. Using the map below, identify the area of land utilized for farming in St. Louis County in 1972.



7. 13. Write a conclusion of no more than 20 words concerning the amount of land utilized for farming in St. Louis County since 1900.

8. 14. List three (3) adjustments man will have to make if he does not conserve his land.

9. 15. List three (3) ways man utilizes land for survival.

10. 16. Select one (1) way (from #15) and explain in no more than three sentences how man utilizes land in this way for survival.

Behavioral Objective Number		
11.	17.	Write a statement of 50 words or less describing how surface features influence man's use of land.
12.	18.	Explain in no more than four sentences the difference in land usage in Clayton and Ladue.
13.	19.	Explain in 25 words or less how cemeteries influence land use.
14.	20.	Explain in 25 words or less how parks and golf courses influence land use.
15.	21.	Sketch a landscape of developed land that is aesthetically pleasing to you.
16.	22.	Sketch a landscape of developed land that is NOT aesthetically pleasing to you.

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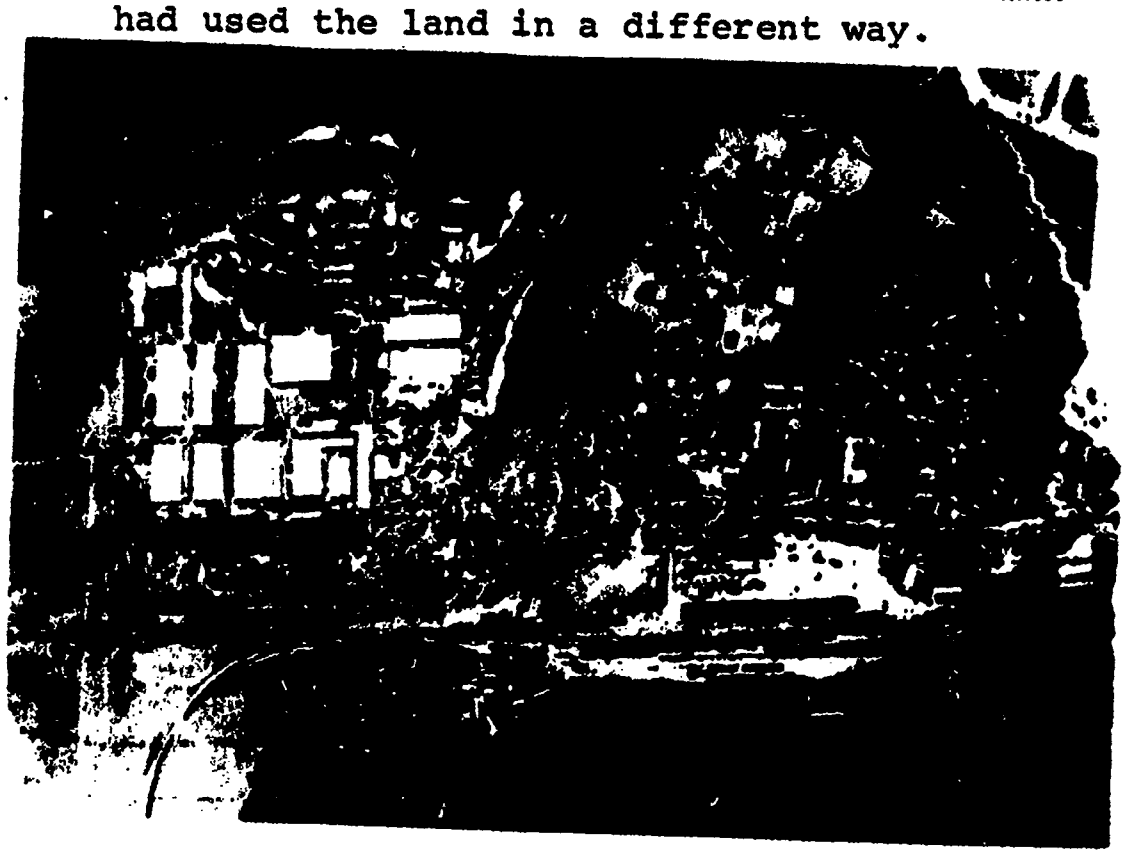
Behavioral Objective Number

17.

23. After viewing the picture below of a natural disaster, explain in four sentences how this disaster would have been less severe if man had used the land in a different way.



A flooded river delta

18.

24. List ten (10) careers in the field of land use.

Behavioral Objective Number		
19.	25.	Put these ten careers into three categories and place the following letters after each: A--related to farming, B--related to recreation, C--related to commercial-residential.

PRE-POST TEST ANSWERS

1. food, shelter, water, clothing, recreation

2. Babylonians--silt washed down due to cutting of trees (cedars of Lebanon). Too many sheep and goats stripped hillsides, irrigation canals clogged with silt, neglect of soil due to wars, destruction of canals, neglect of dams.

3. 90%

4. 20%

5. 10%

6. 10%

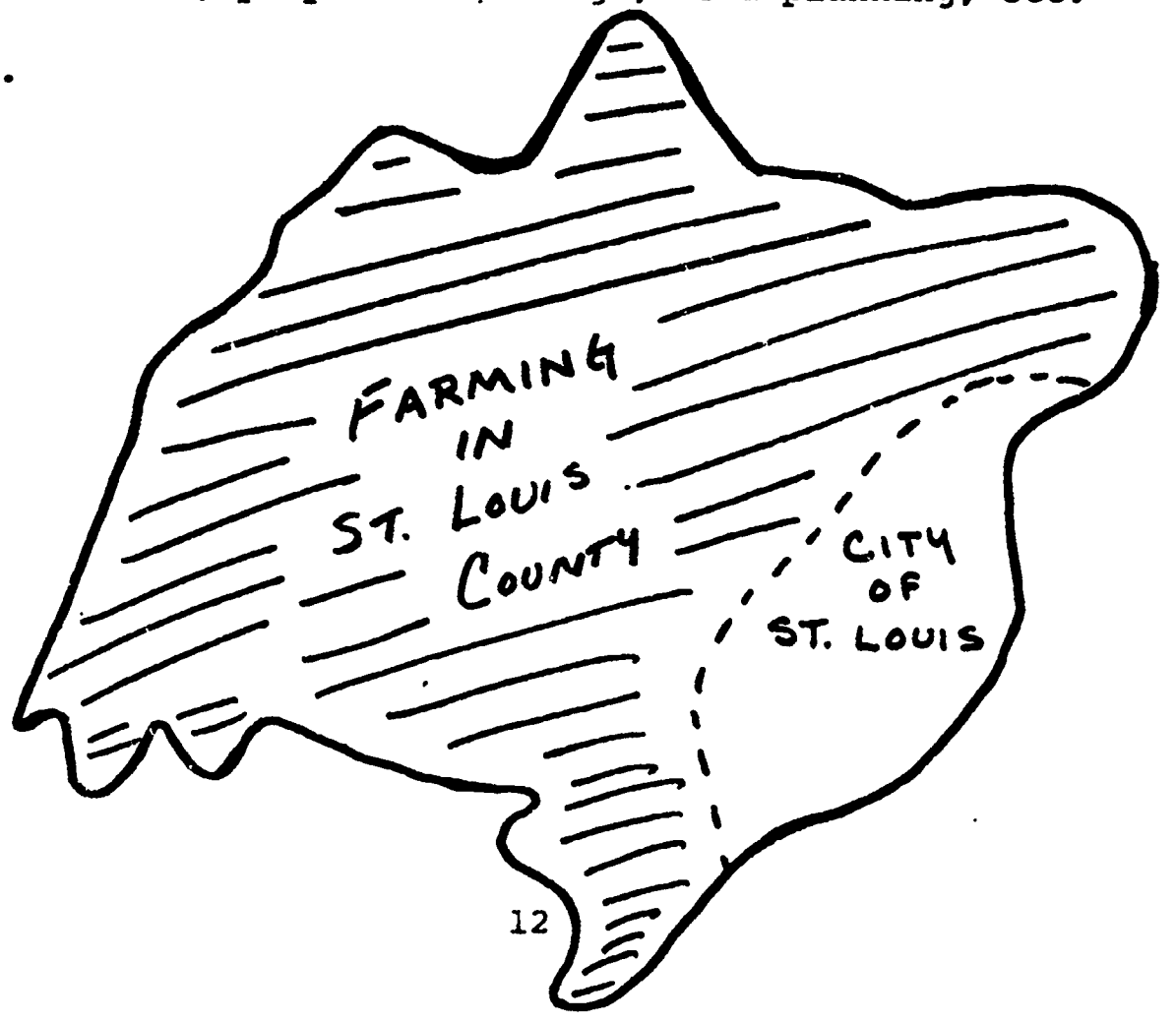
7. 80%

8. 90%

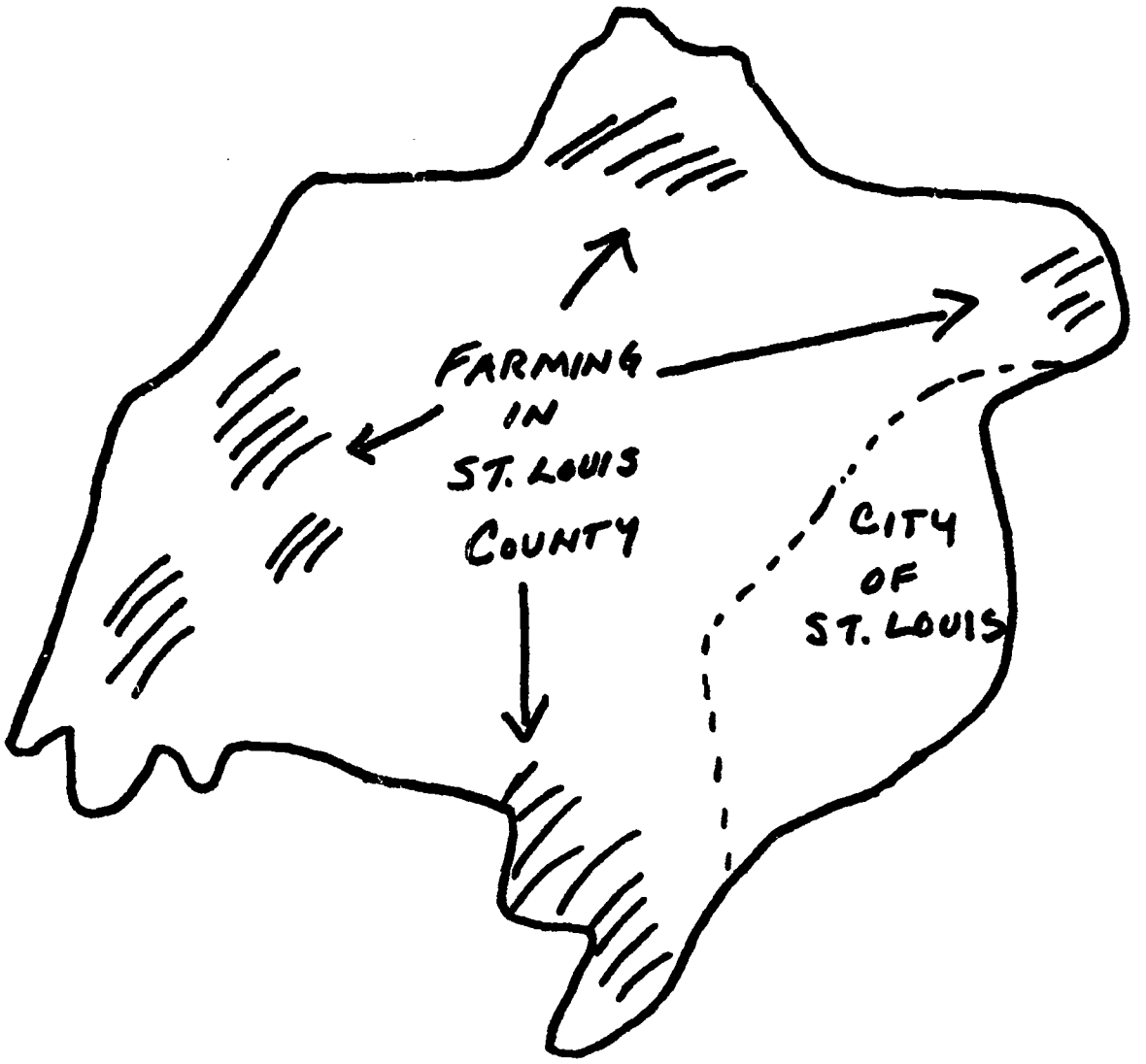
9. wilderness 5%-0%
   commercial-residential 95%-100%

10. rapid industrialization over last 10 years, rapidly expanding population, new schools planned for certain areas, proposed buildings, road planning, etc.

11.



12.



13. less and less due to other uses--high taxes, etc.

14. fewer material goods, less space to live, over population, social and natural disasters

15. food, shelter, clothing, recreation, aesthetic quality

16. food (farming) without a constant and good source of food man would be forced to spend his time laboring to feed himself and both technology and culture would suffer.

17. hilly, flat, or rocky surface features--in rocky or wet soil it is difficult to build basements in homes, construction costs are higher on hilly land, sandy soil will not support tall buildings, (using shelter as an example.

18. Clayton has a large area zoned commercial, Ladue has remained mostly residential with small commercial areas. Clayton is developed on a colonial pattern, while Ladue is not. The height limit on buildings in Clayton is for taller buildings.

19. Cemeteries, for religious or politica. easons tend to be permanent in nature. Cemetery land tends to remain as such, whereas farming, commercial-residential and industrial lands tend to change their use over many decades.

20. parks and golf courses tend to drive up the value of surrounding land. Aesthetic quality also increases.

21. because of the subjective nature of this question the teacher should use his judgment--a great deal of leniency on the pre-post test is suggested--the students should improve for the second time the pre-post test is given.

22. see suggestions above

23. the picture is of a flooded delta. Hillside not stripped might have held water, control dams, no homes near area that could flood.

24. landscape architect, murseryman, surveyor, farmer, architect, economist, real estate lawyer, real estate broker/salesman, housing and town planner, urban historian.

25.

A	B
farmer	urban historian
nurseryman	
landscape architect	
C	
housing & town planner	
real estate broker/salesman	
real estate lawyer	
economist	
architect	
surveyor	

BACKGROUND INFORMATION

CONCEPTS I AND II

Webster defines the word survive as "to remain alive or in existence, continue to exist or function." If we keep the St. Louis area in mind it is possible for students to see close at hand that the use of land has been, and is, important to the survival of man in this area. For man to survive in a given area (be it for food, water, shelter, clothes, aesthetic qualities, etc.) it may be necessary for him to change the use of land from generation to generation. This change in the use of the land could be from hunting to shelter, from shelter to industry, etc. Several past and present examples of land use changing from generation to generation to meet the needs of man in the St. Louis area are:

CITY OF ST. LOUIS

PAST - Development of the riverfront area from a wilderness to a residential-commercial use around the middle 1760's.

Development of the Mill Creek Valley area from a recreational use to a commercial-residential-industrial use around the 1859's.

Development of the Mill Creek Valley area from a wilderness to a recreational use around the 1830's.

PRESENT - Development of the riverfront area from a commercial-industrial to a recreational use (40 block area - Gateway Arch)

Development of the area around Market and Broadway from a commercial-industrial to a recreational use (Busch Stadium and Spanish Pavilion area)

ST. LOUIS COUNTY

Land use changes in St. Louis County area more recent than in the City of St. Louis. Your students probably live in subdivisions that were once, perhaps less than a generation ago, used for agricultural purposes. Land for all of the Parkway Junior High Schools were built on land that once was used for agricultural purposes. (102 acre Mertz farm-Central Sr. and Jr. High, 25 acre part of Green Baxter Estate - West Jr. High).

Added student stimulation can be brought about by bringing in present-day land change controversies such as:

Schmidt property (13 acres on Clarkson Rd. South of Daniel Boone Library) from farming to commercial-recreational use (ice skating and Hockey ring, 6 indoor tennis courts, indoor and outdoor pools, etc.)

CONCEPT III

The amount of land that can be utilized for farming in St. Louis County is decreasing. In this statement we are assuming that the land that has been occupied or covered by industry, residences, commercial buildings or recreational facilities is no longer practically available for sustained or commercial agriculture. We are not saying agriculture is impossible in these areas only that it is probably not feasible. Considering necessary expenditures for equipment, tax assessments, and return per dollar invested.

Although the concept would appear to be a "logical assumption" the statistical data available will be satisfied for the students to see the "trend" away from use of the land for agricultural purposes. This trend can be illustrated in a number of ways: Probably the most elementary of which is a discussion of local areas familiar to the student. Hopefully during this discussion many specific examples will be raised which will provide an emphasis for generalization to county areas. As in the case of any generalization, considerable leeway will exist as to its total applicability to St. Louis County.

After a general disucssion of this diminishing agricultural area the students can be guided into a discussion of ways in which this trend could be shown. After deciding upon these ways such as urban versus rural populations,

demographic charts of occupations, census studies and statistical information of a pertinent nature we would like the students to map that information. Hopefully, there will be some originality in the maps and perhaps a simple color map showing the farm land in or around 1900 and again in 1972. This again is predicted upon the ideas that the desirability of using land for housing industry and recreation is increasing and the desirability of using the land for farming is decreasing. Specifically to illustrate this point we will point to 2 areas which within the last 10 years have changed from agriculture to residential-commercial. At this point we caution the teacher to use areas familiar to your students and yourself. The following examples are merely illustrative of a change in this specific area. Hopefully students can be encouraged to find their own information by querying residents, contractors, or parents and researching any available literature.

DeSmet High School 233 N. New Ballas

DeSmet High School is located directly across 244 from East Jr. High School. DeSmet is bordered on the west by Emerson Road and by North New Ballas Road on the east side. The area was owned and farmed by the Lindners until 1966. Mr. Lindner still lives in the home just to the north of DeSmet off Emerson Road. Of the original farm of approximately 80 acres, he still owns 20 acres which he still farms or uses for haying. Thirty acres of the original farm was purchased by DeSmet for the high school which was constructed in 1967 - the school has done extensive paving as well as attempting to plant a number of trees and shrubs in what once was a field. Another 30 acres is now the Balmoral subdivision which is presently under construction.

At one time Mr. Lindner's father owned the adjacent farm which was halved by the construction of 244 and adjoins the area in which East Junior is being built. The land has been in his family since 1856 but he says he will sell this 60 acres and move within a year. He is presently trying to attract something other than a subdivision - perhaps a religious group of some kind.

Central Jr. and Sr. High School on Hwy 141 (Woods Mill Road) Chesterfield, Mo.

In 1954 the 102 acre Mertz farm was purchased for the Parkway District by Dr. Bob Snyder, Superintendent of Schools. At the time the purchase was considered extravagant, but by

present values was actually quite economical. The remains of 2 farm houses still exist on the land which had been farmed and was partly occupied by a stable. Topographical maps of the area before its development are available from Dr. Morrison in the administration building on the Central campus. Central Junior High was originally the high school but when Central Senior High opened in 1961 the original secondary school became Central Junior High. Several valuable sources of information about the Central school area are: Mrs. William Dircoff 12521 Marine Avenue 878-7469 retired Parkway teacher for many years knows historical background. Also Mr. Fred Tomschin (a builder) of Woods Mill Road whose mother still lives just north of Central Junior High.

CONCEPT IV

Land conservation is one important element of the overall problem of conservation of natural resources. Conservation means the wise use of resources. There are several elements that must be taken into consideration. There must be an economical output of goods and services from land in accordance with needs of people. This means that land must be used to meet the demands of the people. This in turn, is dependent on the particular goods and services that the people want. Finally, there must be a continual flow of products and services indefinitely into the future. This idea of conservation means that resources should be used - but that they should be used for the maximum benefit of man both now and in the future. Another way to state this is that man should use resources for the benefit of the most people for the longest period of time.

The question of man's existence in the future is brought up when the idea of classes of resources is considered. These classes are: nonexhaustible, exhaustable but renewable, and exhaustable and not renewable. It is close to impossible today to identify a nonexhaustable resource. Some people might claim that water fits this category, but numerous examples can be cited to refute this. The exhaustible resources are the ones of most concern - whether they are renewable or not. Obviously the ones that are not renewable are of the most concern. Top soil is an example of an exhaustible and not renewable except over thousands of years.

The present situation in regard to land is not critical. We have more land resources than we need to produce the farm products that we consume. The growth in population will be handled with more intensive farming. The ecological problems of increased intensive farming (pesticides, chemical fertilizers) are too deep to go into in this unit. But there are other uses of land, not as obvious as food, that may produce problems as the amount of available land decreases. Speculating into the more distant future, man may have to resort to farming the ocean floor to provide food. This also is a more distinct possibility when the problem of feeding the whole world is considered. One of these land uses is outdoor recreation. Coast land is rapidly bought up--this results in exclusion of use by the public. It is conceivable that some food products are less important than recreation and wildlife preservation. The students may be able to understand an extreme example that it may be more important to use a certain piece of land for recreation than to grow artichokes. The point is that as we become more numerous we will not necessarily have enough land to satisfy all of our varied needs. One of the greatest problems may arise when the students speculate as to how man might solve this problem of living space--high rise apartments, underground living complexes. Also how will man solve the recreation problem? There is room for a great deal of imaginative speculation by the students if they can comprehend this concept.

The importance of land conservation will depend on many things. The problem is closely linked to population. But the demand for land may increase at a faster rate than the population. The next generation may wonder how we managed to survive in the hardships of the 70's just as we wonder about the hardships of the 20's. They will want to eat better, have larger houses on more land and use more energy. The use of land resources will undoubtably increase faster than the population.

CONCEPT V

The authors feel that this concept is a very useful one. The term survival is purposely very open so the student can more fully understand what "Survival" means to him. For instance, what does survival entail: affluence or poverty, just barely existing or comfortable, or the individual or the group? What about future generations? We feel this concept can be used to get students to question certain values - good or bad.

There may also be shown a historical progression of ways man has found it necessary to alter his use of land in order to survive. Some contributing factors could be: space limitations, availability of animals, desire for certain goods, stability and permanence or population growth.

Originally man was nomadic - a food gatherer, who when food ran out simply moved on; gradually as populations increased and man sought more material goods (homes, etc.) a system had to be devised in which he could depend upon a given area of land year round. Perhaps these men (in small groups) became hunters but again as populations increased game became scarce and expeditions had to go further afield. Man soon found some animals (goats, pigs) could be raised and kept for times of need. Again populations grew and man needed a readily available, dependent food supply. (the farm) Inherent in this is the fact that as methods of use improved man was able to free individuals to produce material goods other than food. Hopefully, it will be readily apparent to the student that 50 farmers can produce twice as much as 100 hunters or food gathers. Thus freeing 50 people for production of materials others than food. Today with agriculture occupations occupying the position of less than 5% of the U.S. population we see man has enabled 95 out of every 100 people to be involved in production of materials other than food.

Would students be in the class if it were not for the way land is being used? Would they be able to have permanence and material possessions if they were food gathers? Would their homes be the same?

Again to restate we feel that if a student defines survival as basically life versus death then he may feel his answer is simple - hunt, fish, or farm. But we would like the student to realize that cooperation, coordination and compromise enable man to exist in larger groups as the family, communities, nations and the world.

CONCEPT VI

The concept surface features (flat, hilly, rocky) influence how man can use the land, e.g. farming, industry, recreation, transportation is a very general concept allowing teacher and student much leeway as to its interpretation.

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The authors feel it is valuable because regardless of where the student lives he has access to all 3 types of land features (flat, hilly, rocky). This access need not be anything other than observing these land forms "on the way to school." This concept may be used in a number of ways but we have chosen the picture angle - either collection of existing pictures or the actual taking of pictures with an instamatic. Perhaps the key to the success of this concept would be keen observation by the student of "that place I pass every day." Hopefully by being made aware of differences in houses on flat, hilly and rocky land the student will begin to see uses for natural products in building such as natural stone in rocky areas, feasibility of basements, driveways, drainage, height requirements and natural protection by the land. In the cases of farming and industry the student should consider: accessibility, drainage, present and possible future erosion, soil composition, existing surface cover (grass, trees) and shape of the tract (in the case of farming - irregular shaped tracts being more difficult to farm than square ones.)

In the case of recreation; the student should consider accessibility of the site to the public, multiplicity of uses (picnic, ball park, pool, nature study, etc.) availability of water, sewage, electricity, present value of land, existing residences, industries and transportation to name a few.

Last but certainly not least is transportation which again has many good examples "on the way to school." Students should consider transportation practicality: thru hills or around, straight up the slope or diagionally, thru, around or over low swampy areas, thru, around or over man made barriers such as train tracks, cemeteries, existing highways and parks. Students should also consider how pollution (noise and air), aesthetic future expansion, alternate routes, and present and future use of the surrounding area relates to how transportation influences how man can use land.

To summarize we do not wish to specify or be ironclad with regard to the utilization of this concept, we have simply states a possibility that exists. The value of this concept lies in its wide applicability to many sites and situations and hopefully leaves much room for creativity on the part of the student and teacher alike.

CONCEPT VII

There are a great many factors that influence how land will be used. We have identified these into the economic, political, social, and religious factors. Naturally some of these overlap and some may not fit any one label.

When a decision is made as to how a particular piece of land is to be used that decision is basically up to the person who owns that land or who is otherwise in charge of that land. If the person in charge decides to use the land to produce something in demand by the consumer, he stands to make income from the land. On the other hand, if the person decides not to use the land or to use the land to produce something not in demand by the consumer he will get little or no income. If the person is basically interested in income (economic) he will put the land to use for the highest economic productivity. If the land has higher productivity in pasture than in wheat he will use the land for pasture. If land has higher economic productivity in housing than in wheat or pasture, he is likely to build houses on his land.

A problem arises because the interests of the individual are not necessarily those of the public. If we remember that conservation assumes the best use of the MOST people, the interests of the public must be taken into consideration. Leaving the decision as to the use of the land to the individual does not always result in the decision that the public wants. The individual is often concerned with how the land is used in his lifetime-and making the most money off it. The public is concerned with the more far reaching question of conservation of resources. This problem gives rise to the need for public intervention in these decisions. The need for public intervention can be seen by some examples. In order to conserve something the owner of one piece of land may want to do something to another piece of land that he does not own. This may be something like constructing a dike upstream from his land to conserve water and prevent erosion. But the person who owns the land may not want to do this because it will not directly benefit him. Also when the benefits and cost of land use are separated in time there may be some conflict. That is, the owner of a certain piece of land may not be concerned with the long term cost to the environment. The voice of the future is heard only feebly over the din of the market place, and the public has a responsibility to speak on behalf of future citizens, (political)

Many land uses are desirable for the general public but cannot be undertaken by the individual land owner. (social) We need parks, roads, airports, schools, etc. Decisions with respect to this land must be made by the public. There are some notable exceptions to this. The students may be familiar with Grant's Farm or the Busch Wildlife Preserve in St. Charles. These are examples of private land being put to use for the public good. The best way to show the reasons for land use is to cite examples where uses come into conflict. For example: Is it desirable to use good agricultural land for urban sites or similar purposes? Competing demands for the use of land are particularly acute in good farming areas where urban and industrial expansions has been rapid. The students should be able to recognize the West County area as an example of this. Another conflict is between transportation and other uses. For example, a highway interchange takes up a great deal of land that cannot be used for other purposes. This conflict may also involve religious factors. When land is used for cemeteries it is virtually unusable for another purpose for a great length of time. It is very difficult to obtain permission to remove a cemetery for a road or housing. Cemetery land is also not usable for recreation although this is changing. The influence of cemeteries on land is particularly vivid if the students discover just how much land is used for cemeteries.

CONCEPT VIII

Many students today probably believe that only 'now' people are interested in findings ways aesthetic qualities can influence developed land. In the past people were not concerned with aesthetic qualities influencing developed land (due perhaps to greed, apathy, or ignorance).

Webster defines aesthetic quality as a quality sensitive to beauty and art, showing good taste. Using this definition and looking at the St. Louis area, both past and present, students will see that aesthetic qualities did influence developing land in the past (perhaps - just as much as it does today). A good book to use for this concept is This is Our St. Louis by Harry M. Hagen (625 pages). This is a large picture book showing St. Louis from beginning to 1970.

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The following five viewpoints are a few examples of past and present developed land that was, and is, influenced by aesthetic qualities.

1. Shelter - A look at the old, and still existing, fashionable residential sections of Italian Renaissance mansions in west St. Louis City (Portland Place, Washington Terrace, Kingsbury Place, and Westmoreland Place to mention just a few) with their monumental gates, fountains, gardens between double tree lined drives, and ornamental ponds reflect how a few aesthetic qualities of the late 19th century did influence developed land. Also at this time the row houses of south and north St. Louis City (some of which still exists in the area south of Carondelet Park and around the Gravios-Jefferson area to mention just two) with their backyard gardens, ornate general stores at the corner and picket fences around small front yards. The aesthetic qualities of the mansions and row houses of the past can be compared to the high rise apartments (Mansion House, Plaza Square, Frontenac) with their views and design, or to the new subdivisions of St. Louis County with their gently curving streets, open space, green belts, space for parks, schools, churches, swimming pool and shopping center, or to the new land town house developments in the Mill Creek area (Laclede Town) with their benches, walkways, courtyards, pool and outside pub.

2. Commercial - A look at many old ornate commercial buildings in downtown St. Louis and on street corners in the city (Bevo Mill Restaurant on Gravios, Fox Theater on Grand Ave., Jefferson Hotel on 12th and Washington) to the new shopping-office centers of today (Pierre Laclede Center, Pet Milk Building, Northwest Plaza, and West County Shopping Center) will show that aesthetic qualities did, and do, influence commercial development of the land.

3. Industrial - A look at the Anheuser-Busch Brewery in south St. Louis City (Arsenal and 7th) with the new campus industrial parks (Mill Creek Area, Hall St. area McGraw Hill on Manchester) will reinforce the idea that aesthetic qualities did, and do, influence industrial developed land.

4. Recreation - A look at aesthetic qualities of the past in Forest Park and in Tower Grove Park in the City of St. Louis (open-air bandstands, flower gardens, bridle paths, open air theaters, winding tree-lined roads and trails, open

aired museums, lakes, lagoons, etc.) to the new parks being developed in St. Louis County (Queeny Park, the new Cliff Cave Park on the Mississippi River) will again reinforce the idea that aesthetic qualities did, and do, influence recreational developed land.

5. Others - The following are just a few added examples of aesthetic qualities influencing developed land - past and present.

A. St. Louis Airport to Union Station
B. Old Court House downtown to new St. Louis County Court House in Clayton.
C. Jewel Box in Forest Park to Climatron in Shaw's Garden.
D. Busch Stadium to the Arena on Oakland Avenue.
E. Old Post Office at 9th and Locust to new Post Office addition on 16th and Market.
F. Bevo Mill Restaurant to the Noah's Ark Restaurant
G. Meeting-of-the-Waters Plaza in front of Union Station to the Arch.

Along with all of the above examples, from shelter to industrial development, special notice should be given to degrees of aesthetic qualities influencing developed land today. A few examples are:

1. Jack-in-the-Box sign controversy
2. McDonald's Arch on their older restaurant but not on their newer ones.
3. The outside aesthetic qualities in Northwest Plaza to the inside aesthetic qualities of West County Shopping Center.
4. Overhead wires still being used in new subdivisions.

In conclusion, we hope that by comparing aesthetic qualities influencing developed land, both past and present, the student will be able to understand what are aesthetic qualities, that aesthetic qualities do not have to be new all the time, and that each generation looks at aesthetic qualities in a different light.

CONCEPT IX

The way that man uses land often has some influence on the effect of natural disasters. The best way to explain this is by example. The most vivid example is probably that of southern California. Just about every year during the rainy season there are extensive land and mud slides in the hills around Los Angeles. Much of the sliding is due to the fact that man has stripped the land of its natural vegetation in order to build homes. Home sites are also cut out of the hillside, increasing the slope, and making the slide more likely. Another interesting gact is that in spite of the slides every year, people continue to build homes there. A more current (July, 1972) example is the land and mud slides in Hong Kong. There the same conditions prevailed--homes and huge buildings were cut into the hillside. With a great deal of rain at one time, the hillside caved in causing many casualities. Other examples of this kind of disaster can be found quite often in Time and Newsweek. If it is the right time of the year, the students may be able to read about one in the newspaper. Another good example was the Buffalo Hollow dam breakage in Kentucky. In this case the dam apparently was poorly constructed. And the land along the valley was unsuitable for the houses that were constructed there. Tornadoes are often more destructible becuase of poorly constructed houses or houses built in bad areas. The best example of this is the many mobile homes that are poorly anchored--causing great destruction and often loss of life. The bibliography gives some references to accounts of natural disasters.

CONCEPT X

Most of the time when a teacher mentions careers or jobs students can pursue concerning the land, most of them will think in rural terms rather than in urban terms, and most will probably say farmer, or forest ranger, or cowboy, and maybe gardener. However, careers in land use are many and varied. They can be pursued in a rural as well as an urban setting. We feel that since most students are from an urban area (over 70% as defined by the U.S. Bureau of Census) land use careers in urban areas should be stressed.

In this book, Careers in Natural Resource Conservation, Fred W. Herbert (p. 13) lists seven principal professional careers in natural resource conservation:

1. Soil Scientist - records soil types, marks locations.
2. Agronomist(Field Crop Specialist)- studies relationship of plants to soils.
3. Range Conservationist - helps range owners with their lands (especially plants and animals)
4. Conservation Forester - determines the effect of soil conditions on tree growth.
5. Conservation Biologist - studies wildlife and its relationship to the hunter and the farmer.
6. Conservation Civil Engineer - constructs dams, revetments, irrigation systems, etc.
7. Soil Conservationist - works with landowners in organized soil conservation districts to solve soil problems.

These seven seem to be careers located in rural areas, but remember, in the St. Louis urban area there are such wildlife areas as Tyson Valley U.S. Research, Busch Wildlife Preserve, Babler Park. Most of these positions are with state and federal governments. A college education is not required for many of the above.

Other land use careers which can be pursued in an urban area are:

1. Landscape Architect
2. Nurseryman
3. Surveyor
4. Draftsman
5. Architect
6. Highway and Building Engineer, Planner, Designer, etc.
7. Economist
8. Real Estate Lawyer
9. Real Estate Broker/Salesman
10. Housing and Town Planner
11. Urban Historian (Jefferson National Expansion Memorial)

A few general careers concerning land use are:

1. Archaeologist
2. Landscape Painter
3. Inventor (example would be Cyrus McCormick and his reaper)
4. Writer (example would be John Steinbeck and his book Grapes of Wrath.)
5. Ecologist

From the agove different careers students should be able to expand into other careers - especially in the St. Louis area.

To the teacher: Before beginning the instructional sequence, give the Pre-post test. This test should NOT be used for grading and this should be pointed out to the student. Use the test to determine what behavioral objectives need more emphasis and which you can spend less time on.

Additional Ideas and Activities

Possible activities and resources that may be used will be found at the end of this unit on pages entitled, Environmental Resource Inventory. These inventory pages are labeled according to school sites, however, you will find that the idea or activity may apply to your building as well.

INSTRUCTIONAL SEQUENCE--STUDENT ACTIVITIES

Concept Number

I 1. a. Show the following films to the class:
"Look to the Land" (20 min.)
"A Land Betrayed" (10 min.)

b. After viewing the film discuss with the class how man is dependent on the land for survival. They should get some ideas from the films, and should be encouraged to draw on their experiences. Try to get them to use their imaginations as well. List on the board all the ways the students suggest than man is dependent on land for survival. Have the student copy this list for future reference.

I 2. Read to the students from the book, Land, People, and History, pp. 28-30, 39-45. Review how the Babylonian society declined through misuse of land.

II 3. Give the students an outline map of St. Louis City-County (activity Sheet #1). Have the students color the map to show the areas in a wilderness state and in a commercial-residential state in 1800. On a second map, have the students indicate the areas in wilderness and commercial-residential in 1900. On a third map, have the students indicate the areas in wilderness and commercial-residential in 1972. (See: This Is Our...Saint Louis Harry M. Hagen 917.7866 H143 (West Sr. Library) Standard Oil Map of St. Louis, St. Louis County Planning Commission.

Concept Number		
II	3.b.	With these maps as resource, have the students predict in writing the approximate percentage of this land (St. Louis area) that will be in a wilderness state and in a commercial-residential state in the year 2001.
II	4.	Take the students on a walk within about ½ mile of the school and discuss with them how much of the land around the school will be in a wilderness state and in a commercial-residential state in 2001.
II	5.	After this walk, and with their maps, have the students write a statement of less than 50 words explaining how they arrived at the prediction in #3b and in #4.
III	6.	Give the students two outline maps of St. Louis City-County. Have them show on one , the approximate amount of land utilized for farming in St. Louis County in 1900. On the second, have them show the approximate amount of land used for farming in 1972. (County Planning Commission Missouri Census report 1900-1972)
III	7.	With these comparison maps as resource, discuss with the class how farmland has changed in St. Louis County since 1900.
IV	8.a.	Take the students on a walk around the school grounds, looking for examples of soil erosion. Discuss how man has caused this erosion and have the students speculate as to how man will have to adjust if the erosion continues.
	b.	While on this walk, also discuss with the students the question: "If this land were paved, or built on, or changed in some similar way, how would if affect YOU?"
V	9.a.	Play survival game with the class, You may want to divide the class into five groups and strand each group in one area. (See activity sheet #2)

Concept Number

b. With the class as a whole, use the school grounds (devoid of buildings) as the place where the students must survive. Have the students locate possible water sources, food plots, and shelter areas they would need for survival. Have them make a list and save it for future reference.

c. Determine with the students the approximate percentage of land on your school site that is grass, woods, parking, active recreation, and buildings. Draw a graph on the board depicting this percentage.

d. Have the students do the 25 acre Land Use Project. (see activity sheet #3)

e. Discuss with the class the road improvement problem. (see activity sheet #4)

V 10. Using the list they made in activity 9b, have each student explain in writing how they would utilize one of these areas for survival.

VI 11,12,13.a. Show the film: "Land forms and Human Use" (11 min.) (County AV)

b. Have the students make a scrap book of magazine cutouts depicting various land uses of different types of land. Have them include three pictures of transportation--one on flat land, one on hilly land and one on rocky land. Also, three pictures of housing in the same manner--one on flat land, one on hilly land and one on rocky land and also three pictures of farming--one on flat land, one on hilly land and one on rocky land.

VI 14.a. Using these scrapbooks, discuss with the students how surface features influence man's use of land. Their pictures should provide some examples of how man can put different areas of land to different use, and how man is controlled in his use of land by the surface features.

b. Take the students outside with their scrapbooks and compare/contrast their pictures with the way land was used in the school site.

Concept Number		
VII	15.a.	Discuss with the class the differences in land use in Clayton and Ladue, Mo. Ask them what they know about the two cities and see if anyone can point out some differences. Some obvious differences are economic and aesthetic. Ask the students how the tall buildings in Clayton effect economics. Ask if they think the downtown area of Clayton is aesthetically pleasing to them.
	b.	After the discussion have the students write a hypothesis to account for the difference in land use in these relatively similar land areas.
VII	16.	On an outline map of St. Louis City-County have the students show the location of the following cemeteries: Resurrection, Sunset Burial Park, Mt. Sinai, St. Marcus, Saints Peter and Paul, Bellefontaine, Calvary, Memorial Park, Valhalla, and Washington Park (watch out for highway 70). Discuss with the class how these cemeteries influence land use. (NOTE: students can find this information in any oil company map of St. Louis.)
VII	17.	On the same map, have the students show the location of the following parks and country clubs: Forest Park, Tower Grove Park, Chain of Rocks Park, Jefferson National Expansion Memorial (Arch), Carondolet Park, Creve Coeur Lake Memorial Park, Westwood Country Club, Log Cabin Country Club, Glen Echo Country Club, Norwood Hill Country Club and Meadowbrook Country Club. (NOTE: students can find this information in any oil company map of St. Louis.)
VIII	18.	Have the students look up the word, aesthetic, in the dictionary and discuss its meaning. Have the students photograph or sketch a landscape of developed land within ½ mile of the school site that is aesthetically pleasing to them.
VIII	19.	Have the students photograph or sketch a landscape of developed land within ½ mile of the school site that is not aesthetically pleasing to them.

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Concept Number

VIII 20.a. After completing 18 and 19 above, have the students answer in writing the following questions:

1. What is beauty to you?
2. What does beauty mean to you?
3. Is beauty a necessity to you?
4. How important is beauty to you?

b. Have the students show their pictures from 18 and 19 to the class and explain to the class what they feel is aesthetically pleasing in one and not in the other.

IX 21. Have the students survey the school grounds and list potential men-made dangers (power lines, fire hydrants, gas mains, towers, fire lanes, windows, exits, roof structure, junk and litter) and hypothesize how natural destruction may be intensified by man's improper use of the land.

X 22. Have students list careers that they see people performing within ½ mile of the school site that are dependent on the land.

S 23. Have students compile a list of 20 careers that are dependent on the land and classify them into the following categories: 1) recreation, 2) farming, and 3) commercial-residential. After putting them into categories write one sentence for each about job responsibility.

To the teacher:

At the end of the instructional sequence, give the Pre-post test. You will notice that this is identical to the pre-post test given earlier. You can determine if the student has attained the stated behavioral objectives. You may, if you wish, use the second pre-post test for grading. It is suggested that you do NOT base the entire grade on the second pre-post test. Other grades can be based on the activities and projects.

Then fill out the students evaluation sheet on the following page (to be by interschool mail to the EEE Staff, Central Office.)

School_____

Teacher_____

Unit_____

Student post-test results will be grouped in the following manner:

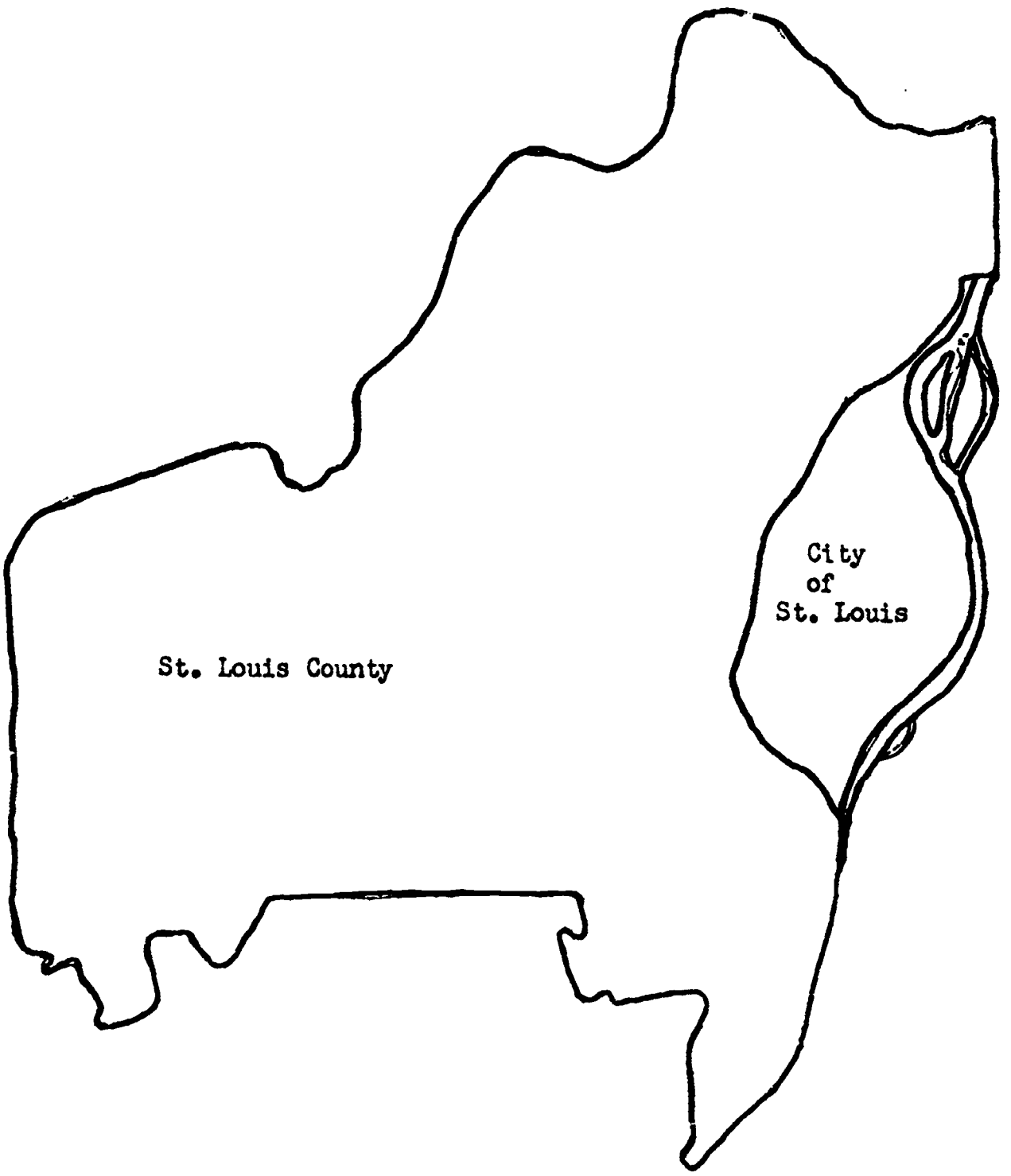
Example:

Number of post-test questions given 15 .

Number of students	Number of questions answered correctly.
6	12
5	10
8	9

Number of post-test questions given._____		Number of post-test questions given._____	
Number of Students	Number of Questions Answered Correctly	Number of Students	Number of Questions Answered Correctly

Activity map number I



Activity Sheet #2--Survival Game

Members of the class are stranded in various ISOLATED areas:

A. a fertile river valley
B. a forest
C. a desert
D. a grassy plain
E. a mountainous area

In your groups, answer the following questions:

1. How would you solve the problem of survival? How would you get your food? What kind of dwelling would you build?

2. How would you divide your labor? What rules would you have to make?

3. How would you make the best use of the land that you have? How much of the land would you be able to use?

4. How would you regard an increase or decrease in population? Would it be an advantage or disadvantage? Why?

Activity Sheet #3A--25 Acre Land Use Project

1. Setting - The map on the next page is a twenty-five acre tract of land in West St. Louis County (west of highway 141). The tract is surrounded on three sides by small farms ranging from three to twenty-five acres. This tract of land is about 675' by 1,350'. The topography of the land ranging from low on the road (574') to high in the back (640'-646'). There are several clusters of trees around the area. There is a pond (about an acre in size) on the east-central section and ½ of a pond on the south-central section. There is a creek along the southwest corner. There is also a gas, water, and sewer line along the road.

   There are no major subdivisions being built around the area. However, one-half mile south of this tract, the land is being developed into a commercial-residential area. Land in this area is worth about $5,000 per acre.

2. Problem - You have just bought this land. Your problem is to decide the following: a) what are you going to do with the land?, b) how are you going to use the land? REMEMBER you must, if possible, take into consideration the following: a) aesthetic qualities, b) surface features, c) economic, political, religious and social factors.

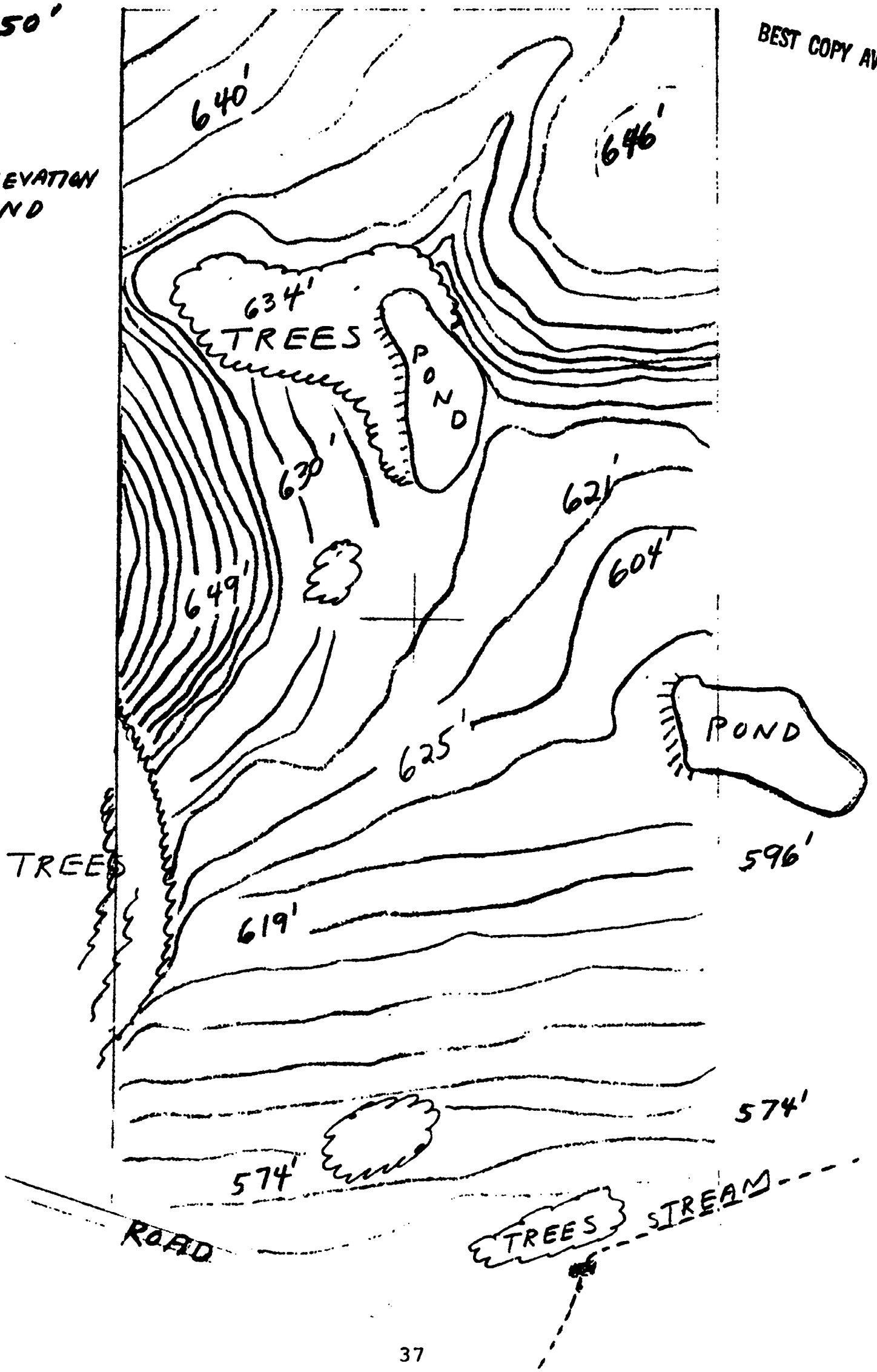
ACTIVITY SHEET - 3A

5 ACRE LAND USE ACTIVITY PROJECT

1" = 150'

E
S
W

40' = ELEVATION OF LAND



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Activity Sheet #3B--25 Acre Land Use Project

1. Setting--The map on the next page shows what actually happened to your 25 acres. Your land was divided into two farms--Section A being 16½ acres on the north and Section B being 8½ on the south end. The topography stayed about the same except for two roads leading into the two sections.

   The owner of section A built a home on the highest section of their land overlooking the one acre pond and cluster of trees. The owners of section B built their home about 100' from the road and put in a one land bridge to cross the creek. They also built two sheds in the back of this home. Since the property is now developed (and land tends to increase in value with time) it is now worth more--about $6,000 to $8,000 per acre.

2. Problem--You have just bought both sections of land. Your problem is again to decide the following: a) What are you going to do with it? (remember that there are now two homes on it), b) How are you going to use the land?

25 ACRE LAND USE ACTIVITY PROJECT

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1" = 150'

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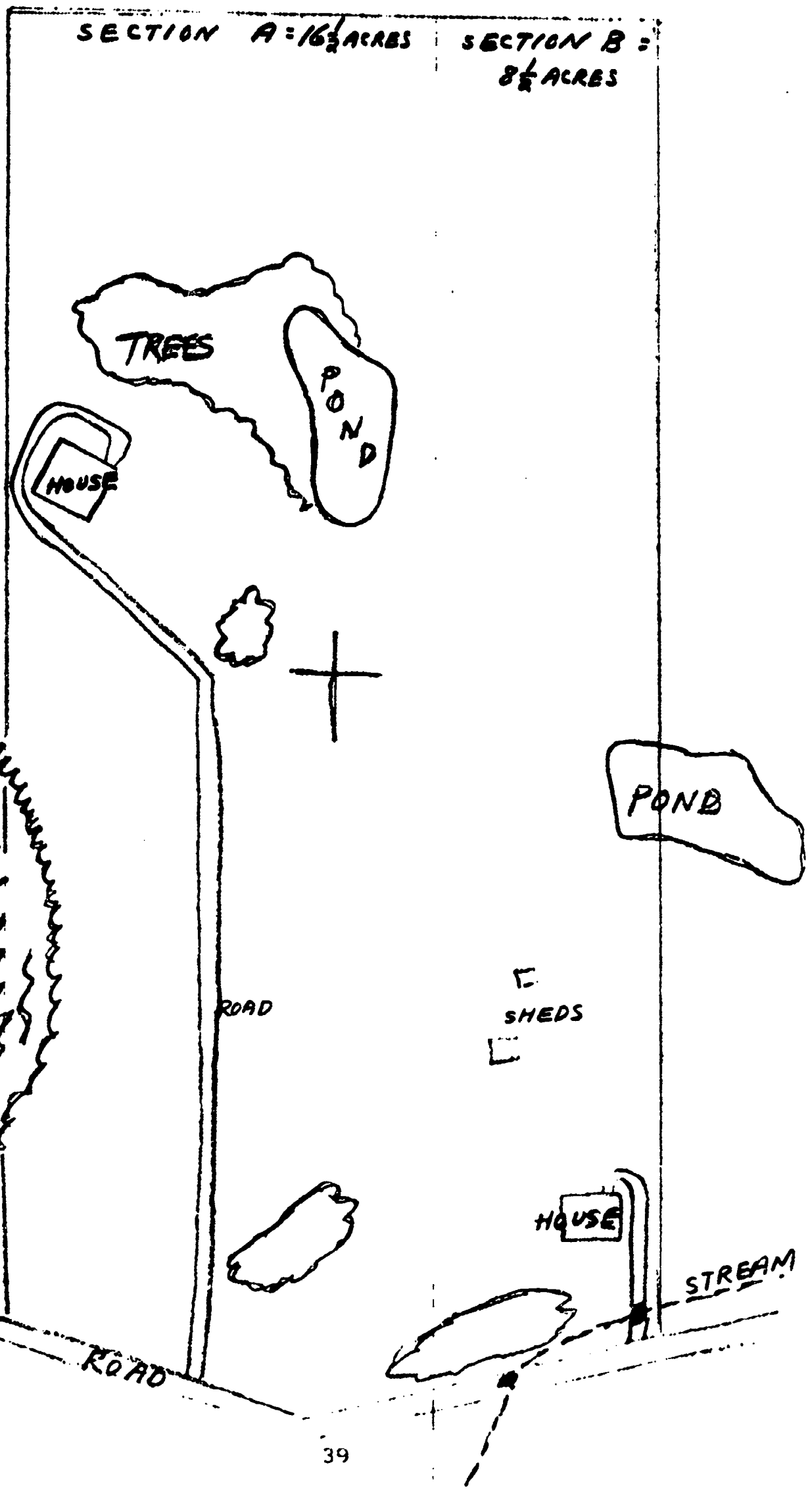

Activity Sheet #3C--25 Acre Land Use Project

(Note to teacher: this section is most appropriate for West Junior High, because this is the land that the school was built on. Teachers at other schools may use this or revise or make a similar sheet for their school)

1. Setting - The map on the next page shows what happened to your two sections of land. Both sections were purchased ($6,000 to $8,000 per acre) by the Parkway School District for the future home of West Junior High. The following is a quote from Education Plans and Specifications for the New West Junior High School.

Site Consideration - The selected 25-acre site, while maintaining some rather long slopes and little flat topography, provides an excellent site for the development of the new junior high school. In general, the site is rectangular with low areas along the south and west property lines, raising approximately 70 feet in elevation to a point mid-way on the north property line. A small pond is located near the rear of the property and is of little or no value.

The approach to any site problem should be the relationship between the organization of exterior patterns and areas and the building functions. Careful consideration must be given to accessibility, flexibility, circulation, isolation, safety, drainage, maintainance, and aesthetics. A careful and well designed site development will enhance the total educational program.

Traffic access, patterns and parking: Traffic to the school will consist of regular day to day movement of pupils and staff, delivery of small supplies and equipment, and removal of waste. Secondary traffic will occur after school hours for scheduled activities.

The separation and control of these various patterns must be carefully considered. Cross movement should be minimized. Provision for stacking up of 20 buses should be made. The entrance drive should be no less than 30 feet wide particularly at the unloading area of the school entrance. Parking for 10 visitors and 80 staff automobiles will be needed.

A delivery yard should be located to provide service for the kitchen, as well as general school deliveries. Pick up of trash will be by dumpster and provision for two six-yard containers will be needed. This, also, is a convenient place for necessary utility meters and transformers.

Outdoor Physical Education Area: The area surrounding the projected school lacks recreational areas such as this area should provide. Therefore, careful consideration must be given to extensive facilities for both in-school and community use.

Careful consideration to internal and external relationship of physical educational facilities should be given. Ease of access, as well as effective and economic land use will also be a prime consideration. The following areas will be required:

a. Hard surface multipurpose area: Provide an asphalt paved area adequate for four basketball courts (100' x 200') with provisions for others activities such as volleyball and calisthenics.

b. Tennis courts: An area of 13,000 square feet for five tennis courts will be required. The courts should be enclosed with a 12' high woven wire fence.

c. Field game area: The following space for field activities should be provided:

1. Four softball diamonds arranged for alternate uses of soccer and touch football.
2. Track and football field. An eight lane ¼ mile cinder track with a 200 yard straight away will be required. It should be fully curbed and have adequate drainage and ample cinder base. A regulation football field will be laid out inside the track.

All areas must be designed for good drainage. Water supply to track and football field as well as to other field areas is required.

2. Problem - You have two assignments for Activity Sheet #3C.

A. On the map (#3C) do the following:
   1. show present day topography and try to make it by drawing lines as on contour maps.
   2. show active recreation areas.
   3. show non-educational uses such as parking lots, fire plugs, trash area, flag pole, ponds, clusters of trees, etc.

B. Answer any seven of the following eleven questions:
   1. How has the use of this land for West Junior High influenced the community from a social point of view?
   2. How has the use of this land for West Junior High influenced the community from a political point of view?

3. How has the use of this land for West Junior High influenced the community from and economic point of view?
4. List three examples of how this developed land is aesthetically pleasing to you.
5. List three examples of how this developed land is <u>not</u> aesthetically pleasing to you.
6. Give an example of poor conservation on this developed land.
7. Give an example of good conservation of this developed land.
8. Give an example of how hilly land influenced the use of this land.
9. List any natural disaster that might be more destructive due to improper land use. Explain.
10. List any natural disaster that might be less destructive due to proper land use. Explain.
11. In your opinion, has the land been developed with enough active and non-active recreation facilities? Explain your opinion.

5 ACRE LAND USE ACTIVITY PROJECT

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N = 150'
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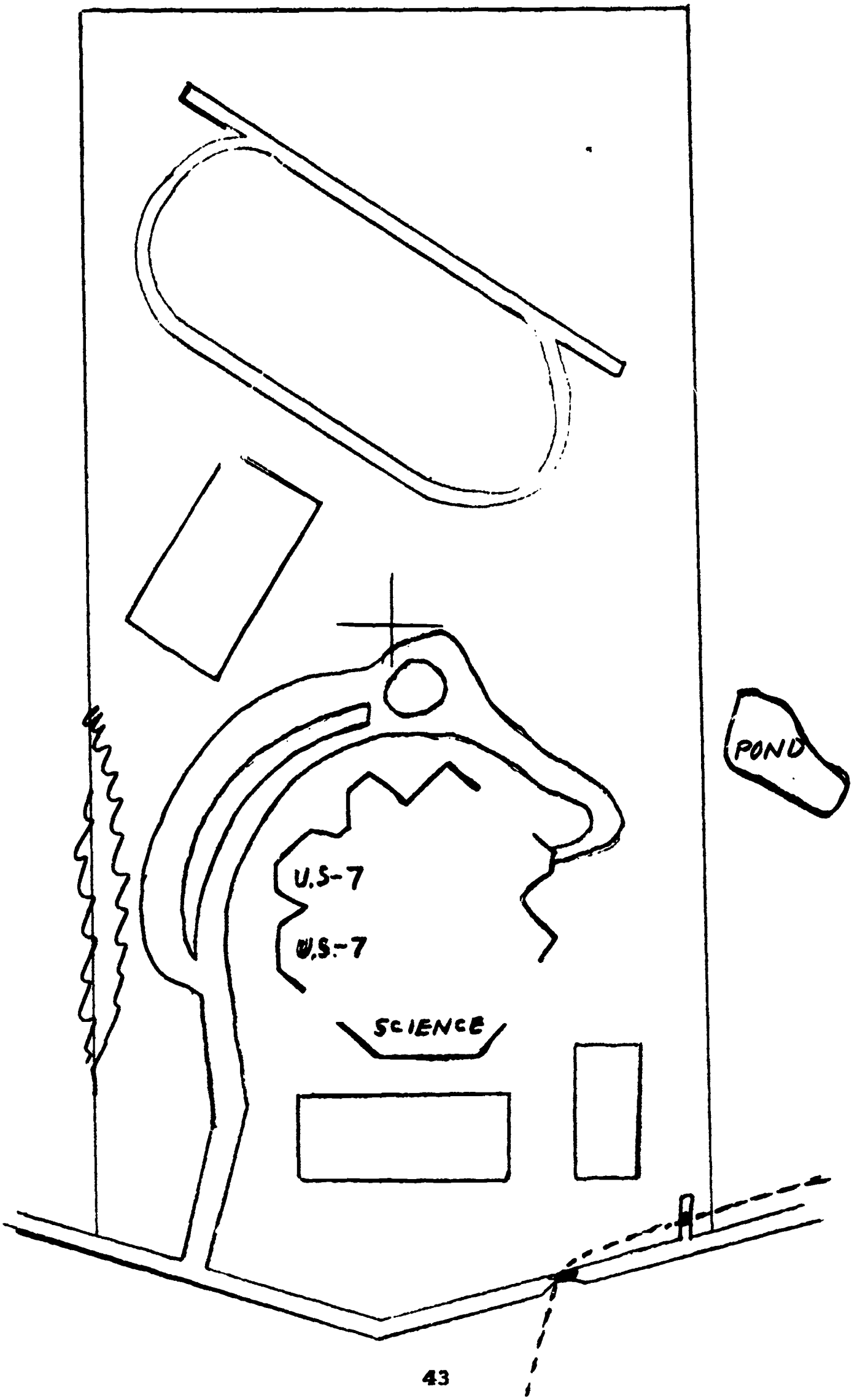

Activity Sheet #4--Five Road Improvement Problems

Note: On all of these problems the following should be taken into consideration--feasibility, safety, present width, bridge loads, intersections, and surface features, aesthetic qualities, maximum usage and present housing.

1. Presently Baxter Road runs from Clarkson Road to Manchester Road. Along this road are numerous subdivisions and the new West Junior High. Should Baxter Road be widened?

2. At the intersection of Highway 244, Page Boulevard, McKelvey Road, and Ross Ave. Page Boulevard comes to a dead-end just west of 244. A grade road extends beyond the barricade about ½ mile. Should Page be extended to connect with Highway 40 in Gumbo, Mo.?

3. Presently Highway 141 (Woods Mill Road) runs from Olive to Highway 30 (Gravios Road). Along the road are numerous subdivisions, Central Senior High, Central Junior High, Kennedy High School, South Junior High and Western Electric. Should highway 141 be widened?

4. Highway 141 (Woods Mill Road) dead ends at Olive St. Road (see #3 Above). Should the road be extended to highway 70 (Earth City Interchange) along Creve Coeur Lake?

5. Presently, Clayton Road, is two lanes from Lindbergh Boulevard to Clarkson Road. Along the road are numerous subdivisions, commercial centers, and schools. Should Clayton Road be widened?

Note to teachers: Do not let the student jump to the quick conclusion that the roads should all be widened or extended to carry more traffic. Force them to consider the environmental questions, aesthetic etc., as suggested above.

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FILMS

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"Biotic Community"
"Changing City"
"Conservation Vistas"
"Erosion"
"Brassland Ecology"
"Heritage of Splendor"
"In the Beginning"
"Junkyard"
"Landforms and Human Use"
"Land, Maps and Symbols"
"Look to the Land"
"Machines that Move Earth"
"Maps and their Meaning"
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"The Language of Maps"
"This Vital Earth"
"The Futurists"
"The Wealth of the Wasteland"
"What Ecologists Do"
"Yours is the Land"

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GLOSSARY

1. Recreation--any form of play, amusement, or relaxtion, (e.g. games, sports, hobbies)
2. Active recreation--any form of play or amusement that is characterized by much action or motion, lively, busy, quick, etc.
3. Survival--to continue to live after or in spite of.
4. Wilderness--an uncultivated, uninhabited region or waste area.
5. Society--a group of persons regarded as forming a single community.
6. St. Louis City--a political unit of 61 square miles along the Mississippi River and surrounded on three sides by St. Louis County. Functions polticially as both a city and county.
7. St. Louis County--a political unit of about 435 square miles bounded on the east by the city of St. Louis, on the north by the Missouri River, on the west by Franklin County, and on the south by Jefferson County. The county seat is located at Clayton, Mo.
8. Commercial-residential state--land used primarily for stores, office buildings, homes, apartments, etc.
9. Comparison maps--two identical maps listing or depicting two different factors.
10. Erosion--the wearing away of soil or disintegration of land by wind, water, or animals.
11. Surface features--man made features on the outer face of the land-hilly, rocky, flat, paved, etc.
12. Hypotheses--an educated guess.
13. Aesthetic--sensitive to art and beauty, showing good taste.
14. Natural disaster--a happening caused by nature that causes great harm or danger.
15. Career--the particular chosen vocation of an individual.
16. Conservation--protection of natural resources from loss and waste; the use of natural resources for the benefit of the most people for the longest period of time.
17. Land use--the particular utilization of land by man for the benefit of the most people for the longest period of time.

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ENVIRONMENTAL RESOURCE INVENTORY

School: East Junior

A. **Description** (Annotation) of Resource

Hirem Cemetary on Mason Road between Ladue and Olive Street Roads.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 **Concept #**

Cemetary Founded in 1925, orginally Masonic Now non-sectarian.

a. 72 Acres (38 used for burial)
b. rest wooded with some field
c. excellent botany
d. orinthology
e. good progression of cornbed field, wooded ecosystem.

No gravestone-flat to ground, one of oldest in area.

C. Address - (Location) Mason Road

Personnel in Charge (If pertinent) Mr. Vandergraaf and Mrs. Wolfe

Telephone

Use Limitation, hours, etc. "Very obliging" will allow classes to study nature and aesthetics--spend the day.

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ENVIRONMENTAL RESOURCE INVENTORY

School: North Junior High School

A. Description (Annotation) of Resource

Pond area, front entrance of building
school yard.

B. Education Use Possibilities (Acitivities)

Unit: Land use Grade Level: 7 Concept # VII

Good examples of landscaping which are aesthetically pleasing land versus not aesthetically pleasing land

1. Pond area- a view of a wooded area, an eroded bank, and an unfinished road.
2. At front entrance- an area with flowers as opposed to an area with no flowers.
3. An area with grass and vegetation as opposed to bare ground.

Students could be asked to list contrasting landscaping of their school.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: South Junior

A. Description (Annotation) of Resource
Resource Person

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # II

Mr. Joe Seibert has lived in Manchester all his life. He knows who lived here in the area and the owners of the land.

Good source of information:
He is Juanita McKee's father.

C. Address - (Location)

Personnel in Charge (If pertinent) Joe Seibert

Telephone 227-1686

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior High

A. Description (Annotation) of Resource

Four Seasons Golf Course, Four Seasons Subdivision

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VIII

Course is built over a family cemetery, containing three graves. Also land for the course cannot be used for any buildings for 99 years.

C. Address - (Location) Four Seasons Shopping Center

Olive and Woods Mill Road

Personnel in Charge (If pertinent)

Telephone Four Seasons receptionist

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior High

A. Description (Annotation) of Resource

Meadowbrook Farms north on Baxter Road from West Jr.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # II

This is a new subdivision where you can see how it was carved out of the farmland. You can still see wheat and corn fields surroundings it.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: North

A. Description (Annotation) of Resource
Mr. John Roeder, Creve Coeur Bank & Trust

B. Education Use Possibilities (Acitivities)

Unit: Land Use **Grade Level:** 7 **Concept #** IV

One of the reasons that development is so costly is the price of land. As much as 20 years ago, land facing Olive Street Road was selling for as much as $2000 per acre, today some of this land is bringing $20,000 per acre.

Have students price some land that is for sale and list the prices on a chart as below.

Prices of Land per acre

Land near homes and offices	Land near no homes	Land without road access

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: East Junior High

A. Description (Annotation) of Resource

Old Mo.-Pac right of way--Ballas to Emerson Road just north of Runnymede.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VIII

There is an intersting example here of land once cleared for railroad right of way, reverting to wilderness.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Senior and Junior Highs

A. Description (Annotation) of Resource

Newly created ballfield located north of both schools as yet unseeded with steeply sloping sides.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept #

Very easy to show adverse effects of erosion and unwise contouring of land--possible mudslide, severe erosion, no allowance made for decreasing grade steepness, etc.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior High

A. Description (Annotation) of Resource
Small wooded area behind school or right outside of classroom in grassy areas.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VII

Look at objects, plants, terrain, general scene from unusual perspective (with microscope or looking down on it from different heights or with a telescope)

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior High

A. Description (Annotation) of Resource
Mrs. William Kirchoff, 12521 Marine Ave.
878-7469 retires, Parkway teacher many years.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # II & VIII

Mrs. Kircoff states that the area Central Jr. and Senior are built on was once a 102 acre Mertz Farm. The citizens of the area thought Dr. Bob Snyder Superintendent of schools, before Farnham, was being very extravagant, but on the contrary, he had tremedous foresight and bought the land relatively inexpensive.

Mrs.Kircoff suggested we call Mr. Fred Tomschin on Woods Mill Road a builder, to obtain more information and give her name if necessary.

Mr. Tomschin's over 80 year old mother lives just north of Central Junior. Mr. Tomschin's sister lives there also.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: East Junior High School

A. Description (Annotation) of Resource
Mr. Lindner's Farm
(Adjoins the northwest corner of East's property)

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # 2

His family has farmed those 60 acres since 1856.
He will sell out and move within the year.

He is trying to attract something other than a subdivision developor. May be religious group for a retreat area. He backs up to Thompson House.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: East Junior

A. Description (Annotation) of Resource
DeSmet High grounds, expecially east of residence

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # II

The land on which DeSmet is located was farmed by the Lindners until 1966. Mr. Lindner still lives in the home just to the north of DeSmet off Emerson Road. He still farms one field, growing hay-the residence addition completed in 1971, takes up what was lawn and recreational area.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior and Senior grounds

A. **Description** (Annotation) of Resource
Area of second growth timber located north of Central Junior High and extending approximately ½ mile east-west . Depth to creek running east west approximately 300 feet.

B. **Education Use Possibilities** (Acitivities)

Unit: Land Use **Grade Level:** 7 **Concept #** V, VIII, IV

Take trip-question students as to possible uses of land in present condition, previous conditions observable (pipeline, sewer) fencing, erosion, second stand timber & probable history of land etc.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: South Junior

A. Description (Annotation) of Resource
Cemetery on school grounds adjacent to Woods Mill Road
(Historic cemetery dating back to turn of 19th century)

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VIII

Your concept deals with the history of land use in St. Louis County. The people buried in the cemetery were 19th century farmers who worked the land surrounding South Junior. Some of the tombstones indicate that several members of a single family, often young children died within a certain short period of time. It might be interesting for the students to do some background study to find out about some of the hardships of living off the land at that time by finding out how the children died.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: South Junior

A. Description (Annotation) of Resource
School grounds of the school was formerly agriculture land and today features many characteristics of agriculture land.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # III, V

The terracing of the grounds in front of the school can be used as an example of erosion preventive techniques. The trees lining the two creek beds on the school grounds is another illustration of conservation of land. (erosion prevention)

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: South Junior

A. Description (Annotation) of Resource
Two corporations--Ramsey Corporation and McGraw Hill located on Manchester Road.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # V

Examples of land used for industry, for historical background of land call:

Field trips available
Call Personnel Department

C. Address - (Location) Manchester Rd. just as you enter Manchester going west.

Personnel in Charge (If pertinent) Personnel Department

Telephone
227-1600 McGraw Hill

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior

A. Description (Annotation) of Resource

Along Clayton Road east from Baxter on the north side and west from Baxter on the north side are several large vegetable gardens.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # II or VI

Study of vegetable gardens and types of produce grown. Has the size of the area increased or decreased? Has the type of crops grown cha·ged because of the subdivision's growth and the influx of people?

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior

A. **Description** (Annotation) of Resource

Claymont Woods Estates directly across Baxter Road from West Junior.

B. Education Use Possibilities (Acitivities)

Unit: and Use Grade Level: 7 Concept # VII

There are greenbelts surrounding parts of the subdivision and a lake for the private use of home owners. Study what areas were left natural and if the aesthetic qualities of the land were taken into consideration or was it economcially feasible to leave the land the way it was?

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior

A. Description (Annotation) of Resource

Compounded shopping centers just east of Baxter Road on Clayton Road.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VII

Were the aesthetic qualities of the land taken into consideration when the shopping centers were built? What could have been done to make them more attractive?

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior

A. Description (Annotation) of Resource

The use of land is influenced many times by economic, political, social, and religious reasons. Therefore, all land in the neighborhood is a resource.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VI

Take a walking field trip and list at least three examples of construction which has been influenced by:

1. economics
2. political
3. social
4. religious

Explain in writing why each would be in the category you selected.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior

A. Description (Annotation) of Resource

Ideal land use is not always possible. Sometimes the location of a structure is more important than finding the right terrain.

B. Education Use Possibilities (Acitivities)

Unit: ~~Land Use~~ Grade Level: 7 Concept # V

Examine a topography map and construct a model of the area using paper mache.

Write or construct a model that would make good use of the land(example, construct a factory along a river, construct a housing project with good natural setting)

Go and visit the site in which has been under study and see what happened in actuality.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior

A. Description (Annotation) of Resource
Olive Street by White Road, St. Louis Water District.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # I, IV, VI

Approximately three miles from Central Junior High but a very good trip. Plant purifies water. (Approximately 1/3 of all St. Louis). Permit is required but can be secured from commissioner (Mr. Conway Briscoe) also wildlife abundant on grounds.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior

A. **Description (Annotation) of Resource**
Nursery's and green houses on Olive near Highway 40.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VI, VII, IX

Include Arrowhead Nursery, Ambo Bros. Green Acres and Puellmans.

All illustrative of aesthetics, conservation source of information, field trips, careers.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior

A. Description (Annotation) of Resource
Seegars Truck Farm

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VIII, IV

Comparison, illustration, field trip.
High yield area, agriculture etc.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: Central Junior

A. Description (Annotation) of Resource

Blueprints for building, foundation plans, details August 28, 1956. Blueprints for addition April 5, 1966 All one to be found in Dr. Armistead's office. No topographic map could be found in either office at Central Junior or Central Office.

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # I, V

James Survey Company in 1971 surveyed (for) area for new addition to be built at Central Senior High. These are in Dr. Morrison's office in Central Administration Building.

The original architects Hellmuth, Obata and Cassabaum decided on the California, "school within a school "design because of the hilly site that had been purchased and poor soil which would have made a two story building impractical. (quoted from Round Up Member book, 1969.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: North Junior

A. Description (Annotation) of Resource
School site-North Junior

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # VIII

Have students work out a math oriented project to determine approximate amounts of land:

a. paved at school site (e.g. track parking lots drives, and side walks and building)
b. land that is covered only with grasses
c. land that is wooded and left in essentially a natural state (the idea is to stress utilitarian use of land percentage exceeds and sometimes excludes the aesthetic need for natural beauty)
d. Might also compare size of football field to size of wooded area. Information could be graphed--essays could be written.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: West Junior

A. Description (Annotation) of Resource

Log cabin across Baxter Road from West Junior. It is on Schmidt's property.

B. Education Use Possibilities (Acitivities)

Unit: ~~Land Use~~ Grade Level: 7 Concept #

Students to visit and observe log cabin. Maybe interviewing owner to learn of details as:

Six acres
Well water for drinking
Lodge--room later
125 year old cabin (1939 remodeled)

Then have the students write an imaginary diary for a week of their life on this property.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.

ENVIRONMENTAL RESOURCE INVENTORY

School: North Junior

A. Description (Annotation) of Resource School Site

B. Education Use Possibilities (Acitivities)

Unit: Land Use Grade Level: 7 Concept # I

Each student will be presented with the problem that given the school grounds upon which to live devoid of all modern water conveniences--how long could they survive if they provided for food, shelter, clothing, water. A written exercise listing available resources would be basis for building their survival story. Any discarded present items (beer cans or the like) could be used by them.

C. Address - (Location)

Personnel in Charge (If pertinent)

Telephone

Use Limitation, Hours, Etc.