SOUTH HILLS COMPREHENSIVE PLAN

ADOPTED BY
THE CITY OF MISSOULA

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INTRODUCTION

In 1985, the Missoula City Council funded an update of the Comprehensive Plan in the South Hills area of Missoula County. This area is faced with traffic congestion, drainage problems, overcrowded schools and soil problems. As result of these factors, a comprehensive review of development practices in the South Hills was seen as a necessary and vital step to enhance the health, safety and welfare of the area residents.

The South Hills area has attracted residential development because of its close proximity to the urban area and due to the unique views of the valley that the residents enjoy. This document, the South Hills Comprehensive Plan, outlines the factors influencing development of the South Hills and sets forth a set of criteria with which to evaluate that development. A planning area map is also included, but cannot be used without reference to the text. This Plan should be used by property owners, the Planning Board and City and County governments to preserve the residential characteristics of the South Hills which make it a valuable asset to Missoula County.

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HISTORY

As early as the 1930's, the South Hills area was used for farming, with wheat being a major crop on the upper hillsides. Early in the 1960's the large agricultural lots were split into small subdivisions (Ranch Homes, Meadow Addition, Larkspur Addition and Wapikiya). All of these subdivisions are at the base of the hill.

In the 1970's, a major development plan was proposed for the South Hills: the "Hillview Heights Master Development Plan." This plan was to determine the development of 377 acres. Zoning hearings for the plan began in the early 1972 and by 1977 the area was zoned to fit the master plan.

From 1970 to 1980 the population of Missoula County increased from 59,263 to 76,016, representing a 30.5 percent increase. During this time, the South Hills experienced increased development pressures.

Today, the South Hills is a mixture of residential neighborhoods, housing approximately 5,800 people.

PHYSICAL DESCRIPTION

Study Area Boundary

Two key factors helped determine the outline of the South Hills study area: drainage and the transportation network. Since flooding at the bottom of the South Hills is one of the foremost problems of area residents, the entire drainage basin which contributes to this flooding problem was included in the study area boundaries.

Several major roads serve residents in this area and help form a distinct boundary on the west (Miller Creek Road) and on the north (39th Street). Please refer to Figure 1 for a map of the study area.

Topography

The South Hills Comprehensive Plan includes an area approximately five (5) square miles in size located on the southern fringe of the Missoula urban area. Beginning on the summit of Mt. Dean Stone, the study area encompasses the Moose Can drainage basin which drains the upper portion of the hill for approximately two

miles.

Mount Dean Stone (6,203') is the highest land form in the area. Cold Springs School sits in the lowest portion of the neighborhood at 3,144 feet above sea level. This drop in elevation (3,059 feet) occurs in approximately 2.5 miles for a very rough slope average of 22%. There are areas both steeper and with a more gentle slope within the study boundaries as shown on Figure 2 (Slope Map).

Three drainages exist in the area. Moose Can Gully is the most pronounced as it divides the study area in half. The two other drainages are Race Track Gully on the eastern boundary and Ravenwood Gully to the west. Each drainage experiences only intermittent flows and is empty except during heavy rain storms and peak snow melts. The gullies are approximately 20-feet in depth at their deepest point.

Five holding ponds have been constructed in the South Hills. Figure 3 notes the location of these facilities and their capacity. In addition, one gravel pit has operated in the area. However, no activity has taken place at this site for approximately 3 years and re-licensing by the state is required before operations can commence in the future.

Vegetation

Within the study area there is a wide variety of both native and introduced vegetation. On the lower slopes of Mount Dean Stone, native bluebunch wheat grass and fescue can be found. In the drainage ways, a combination of hawthorns, willows and aspens are the predominant species. Ponderosa Pine and Douglas Fir cover the upper slopes of Mount Dean Stone.

The development of urban tracts has introduced a wide variety of vegetation to the South Hills. Lawn grasses along with deciduous trees, fruit trees, flowering shrubbery, pines and many other types of ornamental vegetation are grown on the residential lots.

Many years ago, wheat was the major grain grown on the upper hillsides. The upper three large ranches are still producing agricultural crops. The fields are now producing crested wheat and cheat grass. Dryland alfalfa is being grown for pasture.

When the lower portions of the hill were developed, the soils were disturbed and displaced. A common weed that begins to grow in these conditions is spotted knapweed. Spotted knapweed can be found throughout the entire study area. The large ranches are fighting this weed using herbicides and insects. Another invader weed that is found in the area is leafy spurge. Leafy

spurge is only found in small amounts in the lower portions of the hill. Although leafy spurge is limited at this time, it is a very aggressive plant and can be expected to increase with more disturbance.

Wildlife

The undeveloped portions of the South Hills are annual feeding grounds for white-tailed deer, limited numbers of mountain grouse and Hungarian partridge. These areas also provide habitat for a number of non-game species, including the mountain bluebird. Moose Can Gully is probably a travel corridor (from Mount Dean Stone to the South Hills area) in addition to providing forage and security for wildlife. Many years ago the South Hills area provided winter range for a number of deer and elk. But as Missoula grew and expanded into the foothills, the loss of habitat to buildings and roads, and the disturbances from various human associated activities (dogs, off-road vehicles, etc.) has all but precluded wildlife from using this area.

No important fisheries have been noted by the Fish, Wildlife and Game Department within the study area.

Soils

A soil map, derived from the Soil Conservation Service, is included in the Appendix. A detailed description of the soils is included with the map. However, for the purposes of this study, soils in the South Hills area can be described as a mixture of unconsolidated gravels intermixed with silty and clayey pockets.

The Argiborollis-Haplorollis complex is found throughout the hillside. This complex varies in soil types due to the differring amount of gravels and clays that are present. The deep gravelly loams are stable materials for development depending on the slope. The silty clayey loams are unstable soils due the high amounts of montmorillonitic clays. When water is added (from storms, watering of lawns, etc.) these clays swell causing foundations to heave and streets to crack.

Deep loamy soils and lake sediments are found on the valley floor. The lake sediments are located in small amounts and can cause problems with pipe corrosion due to ionization of the soil particles. Deep loamy soils cause very few problems for development.

The clay layers present within the soils can be a hazard for development in the South Hills area. The Soil Conservation Service documents at least 40 cases where structural damage has occurred due to the unstable soil conditions. The cases include foundations which have heaved up one to three feet and basement walls which have bowed one to two feet. Also associated with the clays are springs. The springs occur when water is percolating through the soils and comes in contact with a clay layer. The clay layer is impermeable, so the water surfaces as a spring. Sometimes the water surfaces in a cracked basement or street. Water has been reported in basements on Crestline Drive, Mainview, Elmhurst, Valleyview and elsewhere. Special foundation designs may be needed to help mitigate the problem caused by these types of soil conditions.

Geology

The South Hills area has a long, complex and fascinating geologic history. Millions of years ago, seas deposited numerous layers of sediments. During the Precambrian Period (older than 600 million years), the sediments were hardened by the forces of heat and pressure into quartzite, argillite and limestone. The South Hills area is mostly underlain by these rocks and outcroppings can be found throughout the hillside.

The Precambrian rock was covered by thousands of feet of unconsolidated sediments, mainly of Tertiary age (60 million years old). During this time, and as recently as 10,000 years ago, mountains were eroded, new seas deposited fine textured sediments, volcanic ash was distributed and landslides, mudflows and slumps rearranged the sediments leaving intertwined layers of clays, gravels, sands and silts. An unfortunate factor in the South Hills area is that Tertiary-aged clays are dominated by montmorillonite, a type of clay which can expand to several times its normal size when water is added.

The youngest material consists of glacial debris and alluvial (stream/river) deposits. Glacial Lake Missoula was created during this period (the Pleistocene) by an ice sheet that blocked the Clark Fork River near Pend Oreille, Idaho. The lake was repeatedly drained and refilled, which resulted in various depositional and erosional landforms. More silts and clays were deposited in the South Hills area, but subsequently flowed, slumped or eroded away and these deposits are now found at the base of the South Hills.

During recent times (the last ten thousand years), gravity has played a key role in soil and surficial deposits by mixing the soils, clays and gravels.

There are no known geologic faults or other geologic constraints which have been discovered in the study area.

Slope

A slope map of the study area is included as Figure 2. Generally speaking, slopes between 15% and 25% become expensive to develop and are subject to more severe regulations regarding the sub-surface disposal of septic wastes. Slopes which are in excess of 25% cannot be developed unless they are connected to the City Sewer or have an easement for off-site sewage disposal.

Air Quality

Sanding the steep roads in the area causes a significant contribution to the degradation of the air. This occurs because traffic pulverizes the sand. These sand particles are then placed into the air by subsequent vehicles. Wood stoves are another contributor, adding additional particulates to the air. The Health Department air quality monitors indicate that the South Hills experiences average to slightly above average amounts of particulate compared with other neighborhoods in the urban area.

Drainage

The Missoula area receives an average of 13 inches of precipitation during the year. To accommodate this precipitation, the South Hills Area has many natural drainages, the most noted of which is Moose Can Gully. As the South Hills area developed over the past years, most natural runoff drainages have been altered and the natural stream courses placed in ditches and pipes (or in some cases filled in entirely and developed). This has caused constant flooding in the lower areas.

For several years the problems of flooding from stormwater runoff and snowmelt while the ground is still frozen have persisted in the South Hills. Seasonal rain storms and peak snow melts aggravate the drainage problem. In recent years flooding has been experienced near Garland Park, the strip of property above 24th Avenue, Briggs Street, Honeysuckle Park, Meadow Hills School, Reserve Street, Country Club Lane, Cold Springs School and other smaller areas. Soils also play a part in the drainage and flooding problems. The variety of mixed clays and gravels cause impermeable surfaces and prevent the flow of water into the ground. Many times the water will follow a gravel bed until a clay layer interrupts the flow and causes the water to surface, sometimes in a basement or street.

Moose Can Gully

Moose Can Gully is used by the surrounding developments as a primary stormwater runoff channel. Underground sumps are not acceptable in this area because of the type of soils and the underground springs. (Sumps are large underground collection cavities for stormwater runoff. This drainage device infiltrates runoff water directly into the soils). New City subdivisions are not allowed to discharge stormwater runoff into Moose Can Gully at a volume greater than a five year storm event* in natural conditions. This city requirement means that retention basins have to be built to retain any excess stormwater on site which exceeds the five year storm. A zoning overlay was created for some of the properties on the hill, which allows developments to release stormwater into Moose Can Gully at a volume not greater than a two year storm. This requires a much larger retention pond in order to handle the excess stormwater runoff.

Drainage Master Plan

A drainage master plan has been designed for the entire South Hills area and the adjacent Pattee Creek drainage. The plan combines both city and county efforts. The master plan is made up of two phases, and Phase I has been approved and right-of-ways purchased. Phase I is a one million dollar project, proposed to be funded by a Rural Special Improvement District (RSID) including all properties contributing to the runoff and all those properties affected by flooding. Hearings on this proposal are scheduled for the fall of 1986. Phase I will connect Moose Can Gully and Meadowlark Acres with the Bitterroot River by a pipe system. Phase II of this master plan will extend from the terminus of Phase I up Pattee Creek to approximately the intersection of Pattee Canyon Drive and Takima Drive. While an analysis of how much water the system (in a combination of pipes and swales) can hold has been completed, no detailed plans have been drawn. The City intends to move forward on Phase II with the intent of starting the formal Special Improvement District (SID) process in the fall of 1986 and construction in the summer of 1987.

The City Engineer stresses that before any further significant development occurs in the study area, this drainage facility should be built. Without this facility, development could still technically occur but elaborate on-site drainage facilities such

* A five year storm event is the maximum delivery storm that statistically occurs once in five years.

as detention ponds and pipe systems would be necessary and would probably be so expensive and land consuming that the developments may not be economically feasible.

The County Surveyor recommends that a ban be placed on development where the drainage flows on to Gharrett Street below 55th, or streets connecting to it until the Phase I drainage system is funded. The Gharrett Street drainage causes an immediate problem in the low areas at Cardinal and Country Club Lane.

In the summer of 1986, the county is planning to construct a drainage canal next to the Burlington Northern Branch Line Railroad track. The new drainage canal will connect to the existing irrigation canal along 39th Street to make a more direct route to the Bitterroot River.

Area Associations

There are several homeowner associations throughout the study area. Many times these groups form to keep a watch on issues that directly affect their neighborhood. Recently, the associations have become incorporated, so that meetings and issues are documented. See the Appendix for a complete listing of these associations.

Land Ownership

There are a number of property owners in the South Hills study area, some owning small subdivision tracts and others owning large acreage. A map showing all the parcels over 20 acres is included as Figure 4 and a list of the property owners is in the Appendix.

Population

Counting the number of people in the South Hills area over the last 15 years is difficult due to the different census boundaries that have been created. In 1970, the population was 2,570, including the entire Miller Creek area, plus a small portion of residential development north of 39th. The area known as the South Hills developed during the mid-70's and early 1980's. When the 1980 census figures were calculated, the data included all of the study area plus the Fairview development and had a total population of 6,820. 1986 projections have been estimated by counting the number of dwelling units in the study area and multiplying that figure by Census Tract 13's average of persons per household (3.04). The estimated 1986 South Hills population is 5,733.

EXISTING LAND USE

Virtually all of the study area has been zoned for residential development (refer to Figure 5, Zoning Map). Some of the residential zones require large lot development, (for example, Ravenwood Hills), while other zones allow a much smaller lots and a higher density (Wapikiya). The different zones also allow a mixture of uses, including churches, schools, nursing homes, limited commercial and office complexes. A zoning overlay has been developed for some of the properties in the South Hills. In addition, several parcels have been zoned for a type of development referred to as planned unit developments. (See the Appendix for a complete listing of the zoning districts and the standards contained in each.)

The number of residential dwellings in the South Hills study area is 1886 units. Current city/county zoning policies would allow roughly an additional 6500 living units.

Overlay Zone

A zoning overlay ordinance was created in 1984 to set additional standards (for drainage, foundations, air quality, setbacks, sewer system and etc.) and densities for the vacant parcels below that permitted by the current multi-family zoning in the Hillview Heights area. Figure 5 shows the properties that are effected by this overlay zone. When the area was zoned in 1977 for high density development, many of the problems (drainage, air quality, foundation design, etc.) were not apparent. In addition to the high density development, multi-family zoning districts allow a mixture of uses, including limited commercial and professional offices. The Missoula City Council realized that problems might arise with the 1977 zoning policy in this area and created the Hillview Heights Area Overlay Zone. The overlay zone is superimposed upon and is supplemental to the underlying basic zoning district.

The ordinance is comprised of two sections (Area of Applicability and Standards). The overlay zone area is broken into Area 1, which is Hillview Heights subdivisions numbers 6 and 7, and Area 2, which contains the vacant tracts on the lower portion of Hillview Way. The standards that are applicable to this zone involve review by different city agencies including the Health Department, Public Works and Office of Community Development.

Planned Unit Developments

There are several parcels of property zoned for planned unit developments (PUD) in the study area. A PUD is also an overlay zone that is supplemental to an underlying district. PUD developments do not meet all the regulatory criteria of the basic zoning district, but through creative design and planning meet the intent of the zoning district plus provide additional amenities such as open space, clustered development, efficient use of the land and recreation space.

The section of the City's Zoning Regulations states that any PUD approved by Missoula City Council prior to 1983 must complete construction of the entire PUD prior to December 23, 1986. When the PUD zone expires, the property becomes unzoned. Development can not commence on unzoned property within the city limits, as stated in the City Zoning Regulations. The property owner has several choices to make concerning the PUD. One is that the PUD zone and the previously approved development can be extended. The PUD zone can be continued with a new set of development plans that have to be approved. Or a new zoning district might be approved. All three of these choices will involve public hearings and approval by the City Council.

Land Use

The Ravenwood Hills area is zoned for single family development that requires one acre lots. This area is accessed by Gharrett Street and Upper Miller Creek Road. Approximately two-thirds of the lots in this subdivision are developed.

Hillview Heights (Figure 6) is comprised of seven different subdivisions that are within the city limits. Each subdivision is zoned to allow different type of residential development, ranging from single family to multiple-family high rise apartments. Five of the seven subdivisions have been developed. The two remaining subdivisions, Hillview Heights #6 and #7, are either partially built or vacant.

The residential units at the base of the hill have been developed at densities that are allowed by the county C-RR4 zone, which allows 4 dwelling units per acre. Among these subdivisions are the Wapikiya Addition, Country Club Addition, Rainbow Ranch Homes and Foothills Estates. A high percentage of the lots in each development have been developed.

A significant portion of the property located on the north face of the South Hills is vacant. Hillview Way cuts through this area to the upper portion of the hill. This area is used for pasture and/or agricultural land. Most of this property is

zoned for high density residential development, including some limited commercial use. A non-operating gravel pit is a landmark where the hill is zoned for high density multiple family development.

Many of the larger tract of lands on Mount Dean Stone are being used for agricultural production. These tracts are family-owned ranch operations. At the base of the hill are smaller vacant tracts of land used for pasturing and agriculture. A horse stable is located near the junction of 39th and Miller Creek Road.

Schools, churches and a nursing home are also found within the study area. Home occupations, such as secretarial work, accounting, baking, etc., are permitted if they meet the current zoning regulations. There are no neighborhood commercial activities (grocery stores, mini marts, laundromats, etc.).

RESIDENTIAL DEVELOPMENT

The Missoula Valley has a mixture of residential developments ranging from low density single family homes to high density multi-family complexes. If all the currently zoned lands in the entire urban area were built to the maximum allowable densities, there could be approximately 50,500 single family and duplex units (including mobile homes) and roughly 24,400 multiple family living units. According to the 1980 census, approximately 25,000 single family homes were counted in the Missoula Valley. A total of 5,900 multi-family units exist within the same boundaries. (If unzoned areas are included, the 1975 Comprehensive Plan would permit an additional 10,000 single family and 9,000 multi-family units.)

The South Hills area has a mixture of housing types. Currently, there are 1,886 dwelling units in the study area. Of the total figure, 1,790 units are single family and 96 units are multiple family dwellings. Present zoning would allow roughly an additional 4,050 single family units and 2,450 multiple family units (streets, parks, etc. are not taken into account in these figures).

SERVICES AND FACILITIES

Sanitation

Given the current city-county jurisdictional boundaries, sewer service is utilized only by a limited number of residents. Approximately 1,900 dwelling units exist in the study area. Of these, approximately 625 are connected to the city's sewer. The remaining 1275 units (including a school and church) are on individual septic systems or are connected to a private sewer system.

The area covered by the South Hills Plan has some of the poorest soils in Missoula County for subsurface disposal of sewage. Any new development must comply with the county's septic regulations, which involves a detailed soil analysis. The Missoula City-County Health Department believes that due to the soil conditions and the problems area residents have experienced in the past (ie. Wapikiya subdivision) new and existing housing should be connected to the municipal sewer. State law requires that any home within 200 feet of the sewer main whose septic system fails must connect to the municipal sewer. Missoula's sewer treatment facility is currently undergoing upgrading and expansion. The City Engineer is confident that the plant has the capacity for future development in the study area with minor modifications. If development continues in the South Hills at the present zoning densities, an additional sewage trunk line in Reserve Street will be necessary to accommodate growth. In addition to this expansion plan, Reserve Street is to be widened to four lanes. Since the sewer line that serves the South Hills is located along Reserve Street, along with the required pumping station, planning for the installation of the sewer line should be completed prior to the street's expansion.

Several homes within the study have had recent septic failures. At the base of the hill in the Waypaki Subdivision, septic failures are due to the poor infiltration capacity of the soils. Homes along Valley View and South Hills Lane have also experienced septic problems. The state has lifted sanitary restrictions in the Ravenwood Subdivision after completing random sampling in the late 1960's. However, septic failures have occurred here also and future residents are encouraged to have tests completed on each lot contemplated for purchase.

The City-County Health Department will not issue a sewer permit on property that is within 100 feet of the 100 year floodplain (Figure 7). The lower portion of the hill and parts of the valley floor are included in the 100 year flood plain. Several specific sets of local, state and federal regulations apply in these areas. However, the Federal Emergency Management Agency

(FEMA) is reviewing floodplain boundaries in Missoula County and several modifications are anticipated. This review process is still in the preliminary stages.

Water

Western Water and Mountain Water are two companies that provide water service to the South Hills (Figure 8).

Mountain Water Company is the primary provider of water in the Missoula urban area. Mountain Water currently obtains its supply from the ground water table. Thirty-four wells supply the system, with capacities ranging from 25 to 6,500 gallons per minute. The total capacity of the system is 65 million gallons per day. Mountain Water services the peripheral boundaries of the study area, primarily Ravenwood Hills and Wapikiya. Mountain Water provides approximately 325,964 gallon/day to this area.

Mountain Water maintains a city owned water system that services the Mountain Shadows subdivision (at the corner of Hillview Way and 39th Street). Due to a state law that was passed in 1979, a city can not use taxpayer revenues to build a service system and then turn that system over to a private agency. Currently, nine households from the Mountain Shadows Subdivision use this system.

Western Water services a total of 720 residences. Western's service area is the upper portion of the South Hills, pumping water from an alluvial aquifer system. The water is drawn from two primary wells with the capacity to pump 4.752 million gallons of water per day. Western Water uses approximately 63 million gallons annually and 172,800 gallons per day for 720 units. According to the company's owners, past pressure problems have been corrected (a pressure check was conducted on Oct. 24, 1985 by the Public Service Commission. Pressure valves were installed and adjusted to correct problems.) Western Water plans to make continued improvements in the summer of 1986, including landscaping the Skyview reservoir site and cleaning the upper tank yard located at the end of Hillview Way.

Police and Fire

Police and Sheriff's Department

The Missoula Police Department and the Missoula Sheriff's Department are comfortable with the current level of service available to residents of the study area. Since there are no major commercial or industrial centers in the South Hills, crimes

in the area are typical to those of other residential neighborhoods (domestic disturbance, assault, vandalism, burglaries, etc.). Population increases in the urban area (not just the South Hills) will require the addition of approximately two deputies/policeman for each 1,000 residents and one vehicle for every five officers for a city the size of Missoula. This estimate is based on the current national average for law enforcement agencies.

The Sheriff's Department is concerned with congestion on existing traffic routes, especially at the intersections of Upper and Lower Miller Creek and Lower Miller Creek Road/ Highway 93 South. Cold Springs School and Meadow Hill School are currently off the main avenues of access. However as traffic congestion increases on Lower Miller Creek and Gharrett, the overflow could effect these school zones. Also, seasonal flooding requires the attention of this department for sandbag and evacuation plans, and necessitates the control of persons and traffic into those areas during problem times. Thus, reduction of flooding problems will also reduce the burden on the Sheriff's Department.

City Fire Department

The City Fire Department can adequately serve existing development within the city's boundaries. Station #3, located at the corner of 39th and Hillview Way, services the South Hills area. This station responds to both medical and structural emergencies. If additional annexations occur, there may be a need for additional manpower at the station. Fire hydrants are evenly distributed within the city limits.

Rural Fire Department

The Rural Fire Department services the area by Fire Station #1 at South Avenue and Reserve Street. The department can adequately service the existing county development. Future development might require an additional station located at the intersection of Upper Miller Creek Road and Trails End Road. A concern the department has is the future cooperation of the two different water companies servicing the area. The department needs to feel confident that the fire hydrants will provide adequate pressure and flow.

Parks

Several city parks are developed and maintained in the study area. The largest maintained park is Skyview (five acres), located at the corner of Skyview and Hillview Way, and termed a "satellite park". Various activities occur here and play equipment, tennis courts and basketball courts are provided.

Garland Park (two and one/half acres), is referred to as a "picnic park", since only picnic benches and play equipment are available. 55th Park, located on 55th and Hillview Way, is a "visual park". No services are provided. There are several other city parks within the study area that are not developed. See Figure 9 for improved city park locations.

There are several county parks within the study area. Honeysuckle Park, located on 23rd Avenue, is maintained by the Wapikiya Homeowner Association.

The Parks and Recreation Director states that the first priority, not only in terms of residential development but also in terms of park development, is solving the drainage problem. Portions of Garland Park are washed away each spring and Honeysuckle and Wapikiya Parks were flooded this past spring. The Parks Department recommends developing Honeysuckle and Wapikiya County Parks. These parks have been developed on a limited basis by area residents with some financial help from the County. Additional development should include underground automatic irrigation systems, ballfields and possibly a tennis court.

The Parks Director recommend that the acquisition and development of a three to five acre park southeast of Hillview Way. The creation of a park district would require development in this area to donate park land to the designated district. This three to five acre park should include playground equipment, picnic areas and athletic areas.

The Parks and Recreation Department recommends that Mount Dean Stone and the three gullies be preserved as open space and future development in this area be restricted. The Missoula County Parks, Recreation and Open Space Plan and the Inventory of Conservation Resources have both identified Mount Dean Stone as of scenic importance.

Schools

Students residing in the South Hills area are within the presently described attendance boundaries for the Cold Springs (K-4), Meadow Hill (6-8) and Russell (K-5) Elementary Schools. Currently, the schools serving the South Hills area are operating near capacity. As future development takes place and additional children move into the area, it may be necessary to redefine the attendance boundaries and the possibility exists that some students may have to be bussed to schools located outside of their neighborhoods.

The School District recognized the potential for growth in the South Hills area and a number of years ago purchased a 20 acre school site. This site is located on the top of Whitaker Drive.

The site remains vacant, but School District One is anticipating that a school may be needed in this area in future years.

South Hills high school students attend Sentinel High School. Sentinel High School has the lowest attendance of the three public high schools in the urban area. There are approximately 1,020 students and 50% of the enrollment is from the South Hills. The Missoula County High School District has not purchased property in the South Hills and does not see any problem with Sentinel's student capacity if development continues in the South Hills according to current zoning.

Transportation

Transportation Plan

When the 1965 Transportation Plan was completed, the South Hills area was not developed, so the models from this plan could not be applied. The South Hills transportation network was constructed in the mid 1970's and early 1980's. A new transportation plan is in the update process and is scheduled for completion this fall. The staff will use the updated plan to determine if traffic control devices are needed, to study the design of streets in the area and to run transportation models on the existing road network.

The intersection of 23rd Avenue and 39th Street is subject to severe congestion. If traffic increases 25 percent on 23rd Avenue or any significant increase occurs on 39th Street, the City Engineer believes that a traffic signal will need to be installed. As mentioned earlier, the Sheriff's Department is especially concerned with congestion at the intersection of Lower Miller Creek and Highway 93 South, and Upper and Lower Miller Creek.

The transportation network for the study area consists primarily of an internal system which connects to two minor arterials, Miller Creek Road and 39th Street. Hillview Way, 23rd Street, Gharrett and 55th make up the collector network within the study area. Street grades vary in the area, with Gharrett measured to have a 11.56% slope between Valley View and South Hills Drive. 23rd Street, between Valley View and Foothills Court, is a 10% grade.

Average Daily Traffic Counts (A.D.T.C.) were recorded at key intersections throughout the study area during 1984 and 1985 (Figure 10). An A.D.T.C. is defined as the number of cars counted in a 24 hour period at a given location.

Hillview Way was built by developers of the Hillview Heights Subdivisions. The city then annexed Hillview Way and the

Hillview Heights subdivisions. Hillview Way is a two-lane roadway with very little shoulder width. If the study area is completely developed under current zoning, the City Engineer believes that this roadway will eventually need to be expanded to four lanes. There are two existing problems which will be difficult and expensive to remedy. The ditch on the uphill side washes out each spring with the snow melt run off. In order to rectify this problem, severe slope modification and stabilization will be required. The other problem is the lack of bicycle and pedestrian facilities. To widen the existing roadway to accommodate these facilities would necessitate large amounts of fill material on the downhill side of the road.

The road network within the study area is a giant cul-de-sac, with three major entrances. Consultations have occurred about creating new roadways in and out of the South Hills, but no solutions have resulted. The topography and present development are the two major road blocks. The current master plan of Hillview Heights shows Garland making a connection from Hillview Way to 23rd Avenue. The City Engineer believes that this connection is needed to provide alternate access routes to the South Hills developments. Another possible new roadway is the extension of 55th across to Whitaker Drive.

Mountain Line provides two bus routes in the South Hills (Figure 11). The bus company has no plans for expansions or deletions of existing routes.

The study area has serious problems in terms of pedestrian circulation and, to some extent, in terms of bicycle circulation. The Bike Coordinator questions how a residential area could have developed with so little concern for pedestrians and bicyclists. Yet, the need is clear, particularly for children. Small children are walking on the roads to school or even to play at friends' homes or parks.

The Bike Coordinator and County Surveyor both recommend that a safe walkways are available on the undeveloped 24th Street and Reserve Street right-of ways. The walkways could be shared-use trails designed to allow use by bicyclists as well. Walkways on the steeper slopes could be designed to discourage fast bicycling, through the use of "low tech" surface treatments.

RECOMMENDATIONS

The South Hills Area cannot continue to sustain the development practices of the past. The existing city/county zoning policies would allow over 8000 dwelling units with a mixture of densities and some limited commercial uses. The 1975 Missoula Comprehensive Plan recommends over 8000 single family dwelling units for the study area. As development pressures continue in the South Hills area, so do the problems that coincide with development in the absence of planning.

The South Hills study area has a variety of city/county residential zoning districts. Currently, there are approximately 1886 dwelling units in the South Hills study area. This existing dwelling figure is made up of 1790 single family units and 96 multi-family units. The 1986 population estimate for the South Hills study area is 5,733. The existing zoning policies would allow an additional 6500 living units (4050 single family and 2450 multi-family). Given that there are approximately three persons per household, a population estimate for the maximum allowable dwelling units in the South Hills study is 25,158.

An urban area land use study was done by the Office of Community Development to see how many single family homes and multi-family complexes could be built under existing city/county zoning policies. If all the currently zoned lands in the entire urban area were built to the maximum allowable densities, there could be approximately 51,000 single family and duplex units and roughly 27,000 multiple family living units. If the zoning were to change in the South Hills study area from the present mixture of single family and multi-family living units to single family units, the impact on the availability of multi-family zoned land within the urban area would not be great. Multi-family and high density type development should be built in areas that are close to services, where transportation is accessible, where schools can accommodate the development, and where the topography and soils are conducive to the development. The South Hills lacks these characteristics.

South Hills residents and local government agencies have a combination of problems and concerns regarding continuing development in the study area. The residents of the South Hills study area are faced with a constant drainage problem. This problem has compounded over the years due to development and the lack of drainage facilities. During flooding periods, the Sheriff's Department must respond to calls for sandbags and evacuation plans, which necessitates the control of persons and traffic into those areas during problem times. Other agencies

(Police and Fire Departments) stress that if the area were to develop at maximum densities, each department would need additional manpower. The Rural Fire Department has mentioned that continuing development may require a new station. Also, the elementary schools in this area are overcrowded.

Transportation is another major concern: the congestion at 23rd Avenue and 39th Street is dangerous for motor and non-motor traffic. Hillview Way has major design problems and these problems need to be addressed for the safety of the community. School children do not have sidewalks to walk on when commuting to and from school.

In addition, the soils in the study area are some of the poorest in the county for surface septic disposal. Portions of the hillsides have slopes over 15%, which can cause problems with sewage disposal, drainage and development. Soils also pose development hazards due to the clay layers.

In order to properly mitigate these problems, the following recommendations for Land Use, Transportation, Parks and Open Space, Commercial Development, Residential Development, Schools and City and County Actions, based on the information within the South Hills Comprehensive Plan are hereby adopted by the city and county and shall be implemented as outlined in this document. As each implementation measure is studied and proposed, the Office of Community Development, the Engineering Department, Surveyor's Office and Health Department shall be responsible for including the programs in the City and County Capital Improvement Programs (CIP's). Funding for each measure shall be undertaken by the appropriate governing body.

Land Use

1. Rezone the South Hills study area to fit the 1975 Comprehensive Land Use plan as amended in this document.

2. Amend Ordinance 2397, The Hillview Heights Area Overlay Zone, to reflect the Comprehensive Plan development densities found in this document.

3. The City and County should amend local zoning codes to provide specific criteria for development on slopes in excess of 10%.

Transportation

1. The intersection of 23rd Avenue and 39th Street should be reviewed to see if a signal should be installed. Funding for

this project should be placed in the Capital Improvement Program.

2. The review of the connection of 55th to Whitaker should be placed in the Capital Improvement Program for 1990. The possibility of additional or substitute east-west roadways and pedestrian pathways should also be considered.

3. Hillview Way should be redesigned to include pedestrian and bicycle traffic and to improve existing drainage problems. Funding for this project should be included in the Capital Improvement Program prior to 1990.

4. In order to provide safety for school children, the city/county should make efforts to purchase sidewalk right-of way on 23rd Street.

5. A non-motor pathway system should be developed to connect parks and schools with the different neighborhoods. The possibility of improving the 24th Street and Reserve Street right-of-ways needs to be reviewed. Planning for this pathway should begin in fiscal year 1987.

Parks and Open Space

1. Natural drainage ways need to remain as open space and should not be altered, so that existing wildlife corridors can be maintained. Unless warranted through the Subdivision Regulations, no structures or groomed yards should be placed within 200 feet of either side of Moose Can Gully.

2. A Park District should be created for a three to five acre park to be developed on the property southeast of Hillview Way. The facilities in this park should include playground equipment, picnic areas and athletic areas.

3. The preservation of open space on Mount Dean Stone and creation of a public trail walkway connecting Mount Dean Stone with the termination of Hillview Way through conservation easements, transfer of development rights, land purchases or other methods of preservations should be encouraged.

4. The development of Honeysuckle and Wapikiya County parks, including underground automatic irrigation systems, ballfields and possibly a tennis court, should be completed prior to fiscal 1990.

5. Planting of suitable trees should be encouraged in existing park lands as the parks are developed and maintained. Boulevard trees should be planted as additional road networks are con-

structed and homes built. As older streets are repaired, boulevard trees should be planted during reconstruction where possible.

Commercial Development

1. Until warranted, no neighborhood commercial areas will be designated in the study area at this time.

2. Residential development such as nursing homes and extended care facilities with self-contained commercial development (laundry facilities and cafeteria) shall be permitted if found in substantial harmony with this plan and with public wishes. However, such commercial services shall be limited in size and scope and shall be designed to be accessible only to residents of the facility within which it is located.

3. Facilities that dispense fuel and/or those which dispense alcoholic beverages shall be prohibited at this time.

Residential Development

1. All subdivision, zoning and rezoning requests shall be approved only after they are found to be in substantial compliance with this plan.

2. All subdivision, zoning and rezoning requests shall be reviewed under the criteria outlined below. These criteria are in addition to the criteria mandated by state and local codes. The Office of Community Development shall keep a log of all new construction within the South Hills Area. As each new subdivision, zoning and rezoning request is reviewed, the OCD shall evaluate the development's impact on :

A. Air Quality. The OCD shall consult with the Missoula City/County Health Department to determine the cumulative effect of development on the quality of air in the area. Traffic generation, the need for sanding of streets (and the amount of particulate placed into the air by additional traffic), the number of pollution devises (wood stoves, fireplaces, etc.) shall be evaluated with each application.

B. Transportation. The OCD shall evaluate the cumulative effect of traffic from the new development together with traffic from the existing development on streets within the area.

C. Stormwater Drainage/Water Quality. The OCD shall consult with the Missoula City/County Health Department, Public Works and the Water Quality Advisory Board to determine the

cumulative effect of the new development and existing development on drainage facilities and water quality. Connection to the municipal sewer treatment plant should be encouraged

RECOMMENDED CITY AND COUNTY ACTION

1. In order to protect the health, safety and welfare of the South Hills residents, the City of Missoula shall continue to provide sewer service to all areas of the South Hills area. In addition, the City must continue to upgrade the Sewage Treatment Plant so as to meet state water quality codes.

2. The City of Missoula shall carefully study annexation of the South Hills Area. Annexation should only occur when it promotes efficient and safe services for all city residents.

3. The City Council shall consider placing a moratorium on all multi-family development in the study area until Phase I of the drainage plan is completed and rezoning hearings have been conducted.

4. The City and County agree to fund an update of this plan prior to or during fiscal 1996.

IMPLEMENTATION

Local governing bodies are constantly aware of changing land use desires of property owners and the public at large. Over 75 zoning and subdivision hearings were held in 1985 alone, most of which occurred in the urban area of Missoula. Several of these recommendations will require funding through S.I.D. or R.S.I.D. process. In order to insure that this plan reflects the desires of the public, and to insure that the public's health, safety and welfare are protected, city and county government adopt the following review schedule:

Fiscal Year	Project
1987	Begin planning the non-motor pathway system through the study area.
	Phase I of the Drainage Master Plan completed.

	Design process, approvals, and right-of ways purchased for Phase II of Drainage Master Plan.
	Rezoning of South Hills study area.
	The intersection of 23rd Avenue and 39th Street should be reviewed with traffic criteria to see if there is the need for a traffic signal.
1988	Continue data gathering on traffic air and water quality.
	Continue work on the non-motor pathway.
1990	Hillview Way should be redesigned prior to 1990.
	Honeysuckle and Wapikiya parks should have all the improvements completed prior to 1990.
1996	Review and revise the applicability of the South Hills Comprehensive Plan.

THE CONTINUING PLANNING PROCESS

The adoption of the South Hills Comprehensive Plan as part of the Missoula Urban Area Plan should be considered as only the first step in the development of an effective long-range planning process. As conditions in the community change, the Plan must be re-examined on a continuing basis and not allowed to become a stagnant document. The Planning Board proposes that it is necessary to examine the Plan in whole or in part on an annual basis. One method by which this could be accomplished would be to hold public hearings to examine one or two chapters of the Comprehensive Plan every year. This would insure that the Plan stays relevant and is addressing community needs and priorities. The continuing planning process would be coordinated by the Long-Range Planning Management Team of the Office of Com-

munity Development. Other City and County departments would also become involved as problems concerning public safety, transportation, parks, housing, schools etc., arise.

The following program objectives are hereby adopted by the Missoula Planning Board in order to provide guidance for the continuing planning process:

1. To develop long-range plans in cooperation with city and county residents;

2. To establish communication between citizens of the community and City/County officials so that local needs can be translated into programs directed at meeting those needs;

3. To identify problems, issues and opportunities as early as possible in order to bring about more immediate solutions;

4. To develop teamwork and inter-agency cooperation in dealing with community problems;

The planning process just described would, over a period of time, result in better informed citizens and government officials. Through surveys, public meetings with Planning Board members, local organizations and formal hearings with the governing bodies, a new rapport and a new community spirit can be developed.

To implement the continuing planning process, the Planning Board adopts the following recommendations:

1. To commit to review at least one chapter of the Comprehensive Plan at a public hearing every year.

2. To examine the use of neighborhood/rural sub-area planning to further refine the comprehensive planning process;

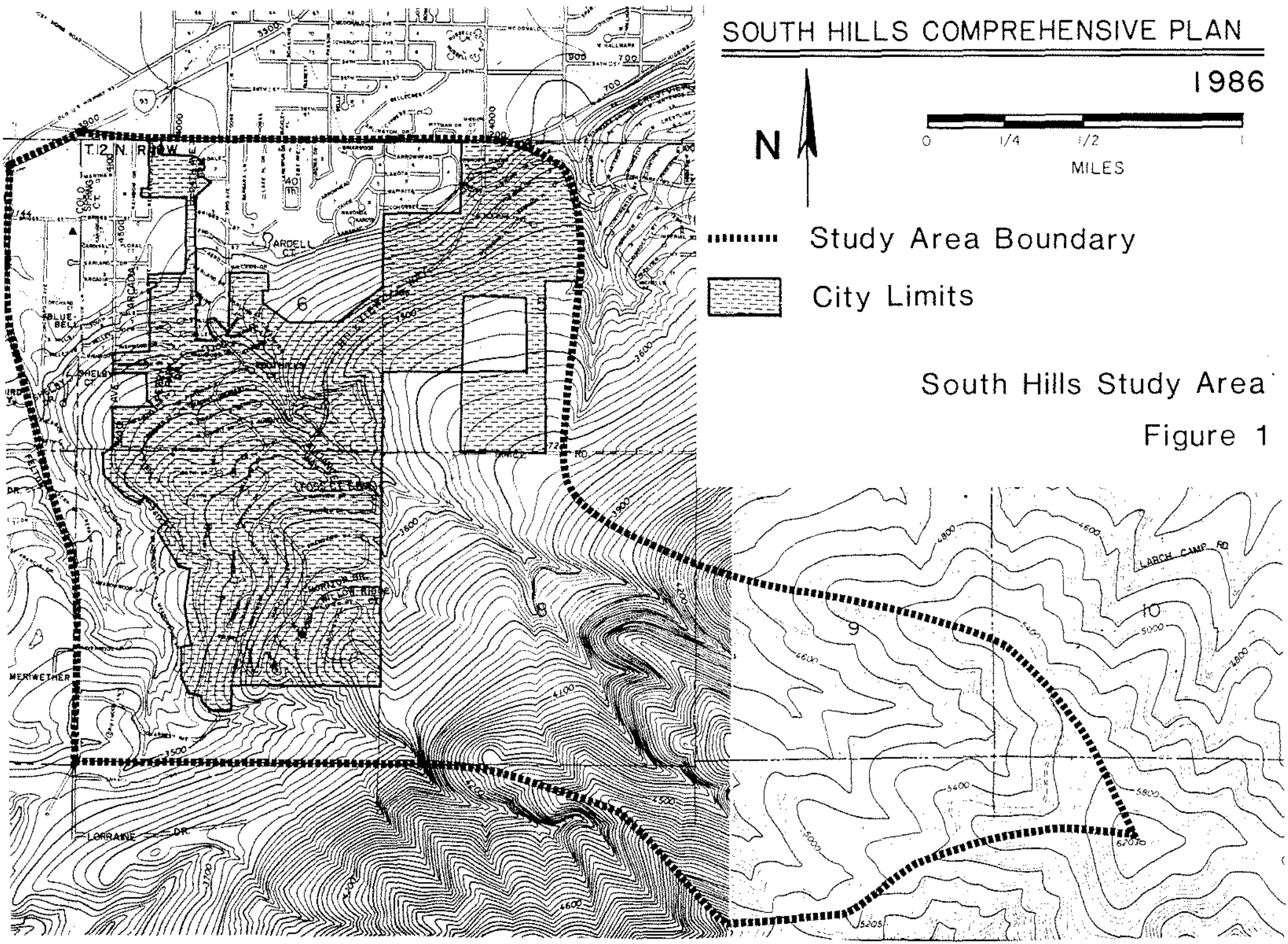
3. To more closely determine that all Capital Improvements Program projects conform to the Comprehensive Plan;

4. To develop greater participation in the State legislative process concerning planning and land use matters; and

5. To develop a program of strategic planning so that operational planning decisions more closely coincide with long-range plans.

SOUTH HILLS COMPREHENSIVE PLAN

1986

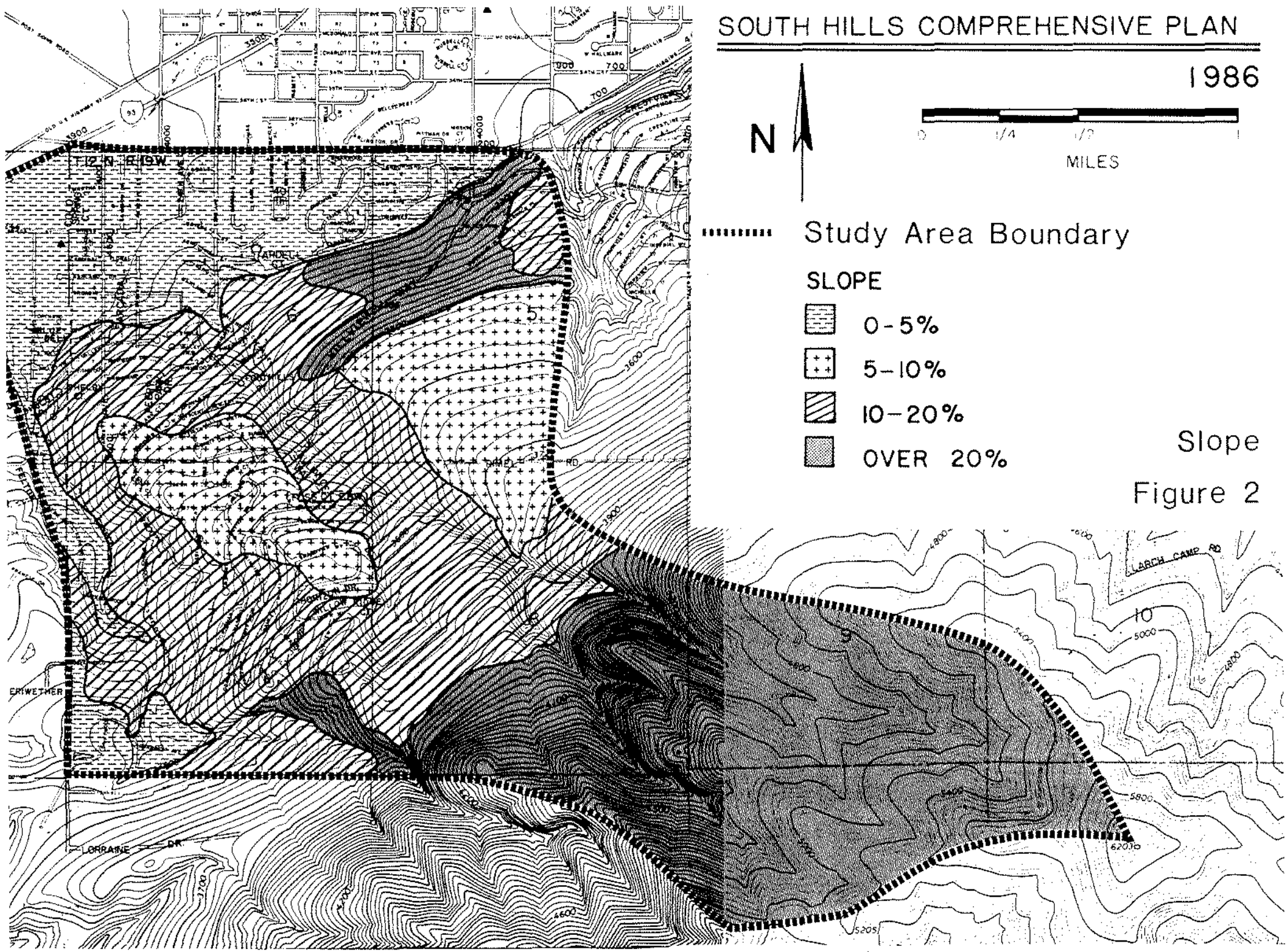


South Hills Study Area

Figure 1

SOUTH HILLS COMPREHENSIVE PLAN

1986

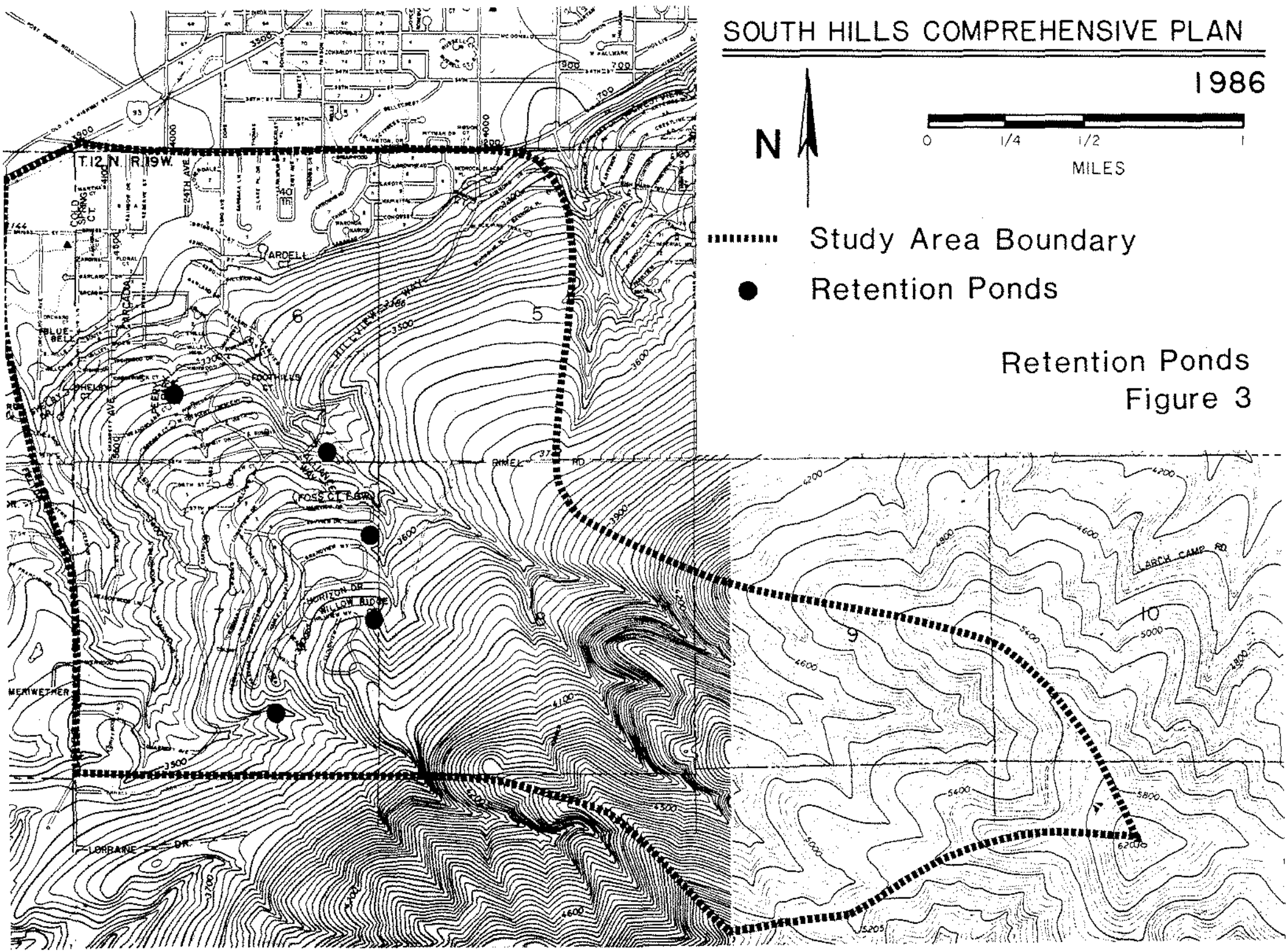


Slope

Figure 2

SOUTH HILLS COMPREHENSIVE PLAN

1986



Retention Ponds
Figure 3

SOUTH HILLS COMPREHENSIVE PLAN

1986

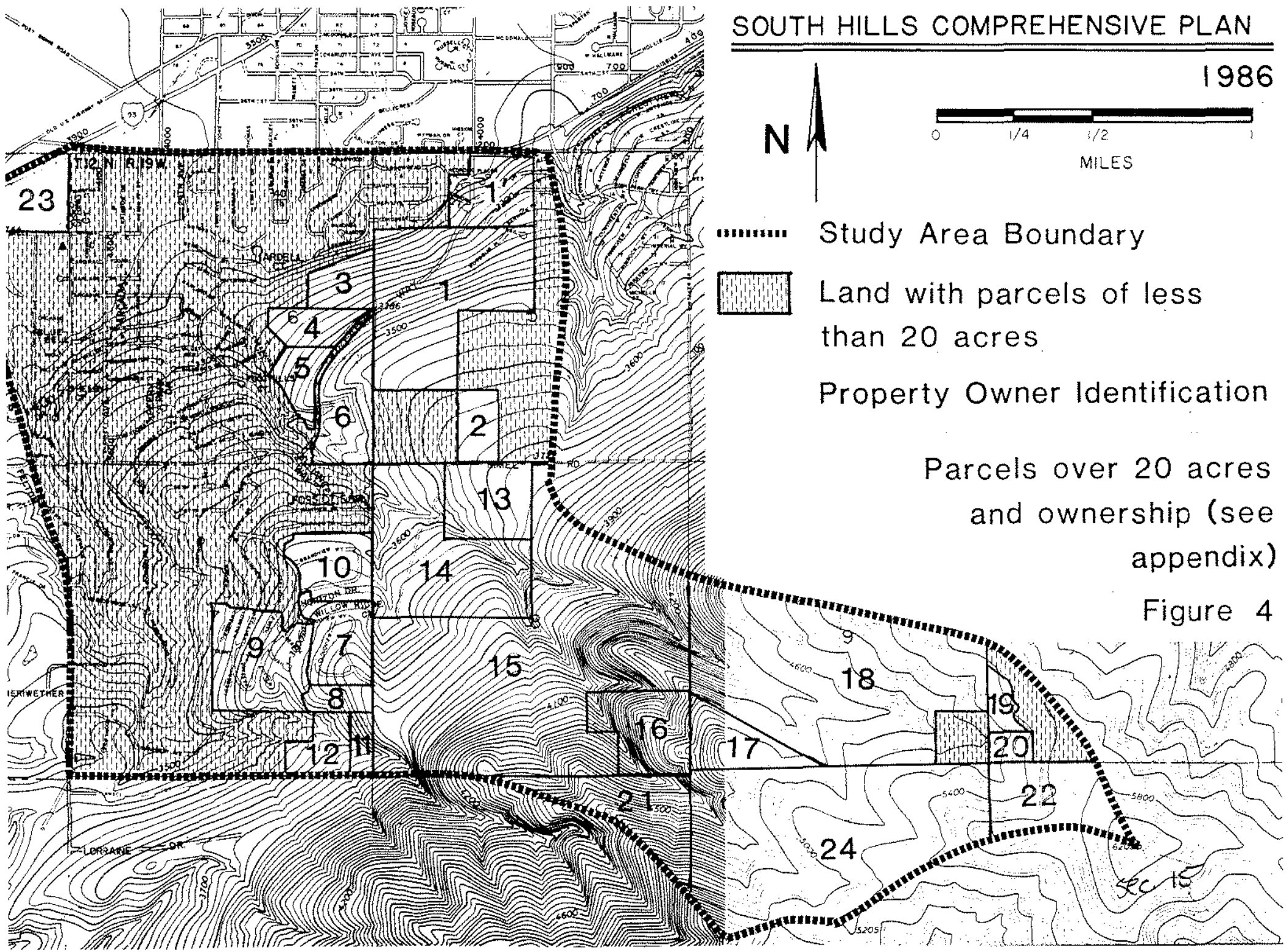
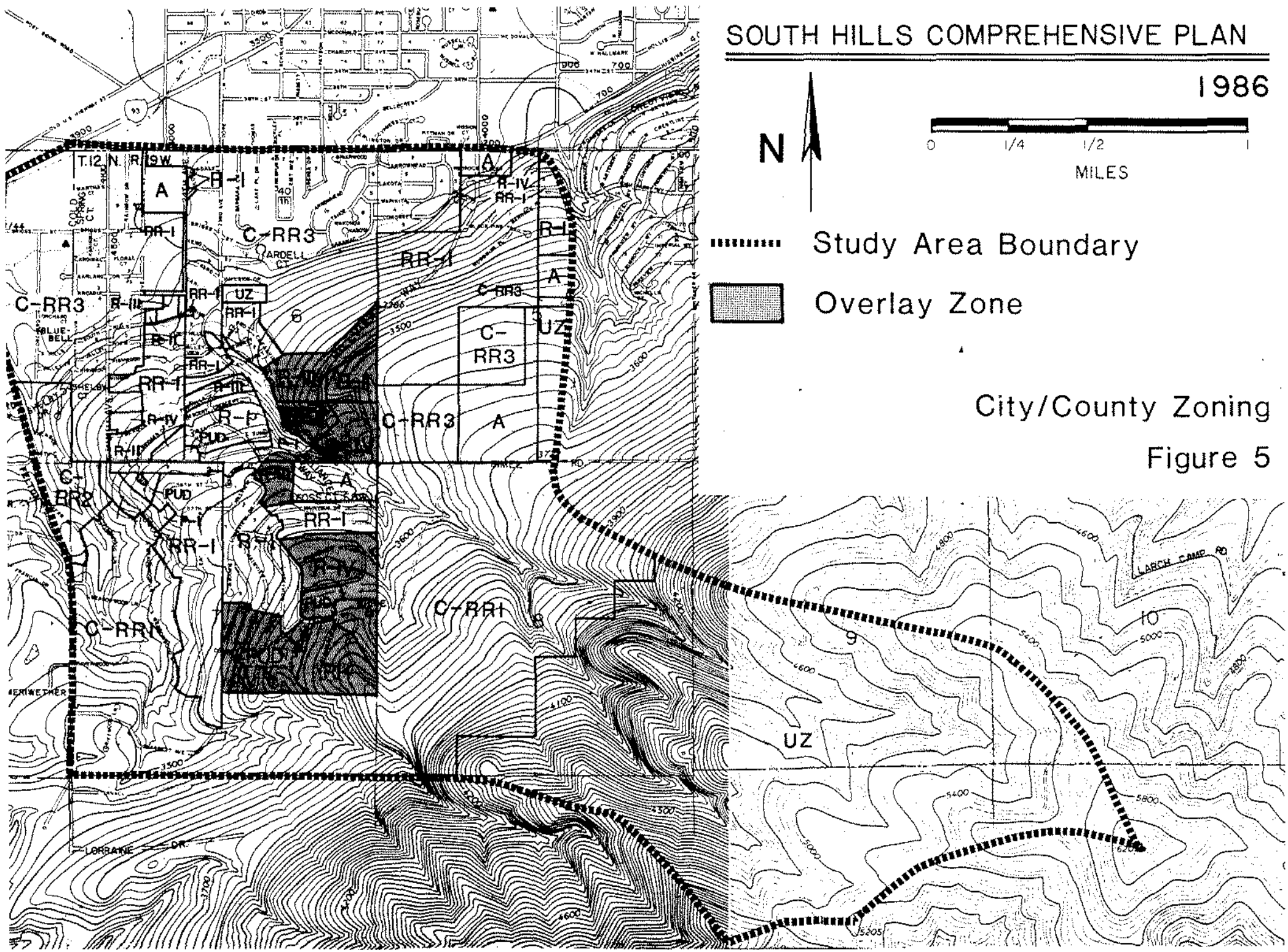


Figure 4

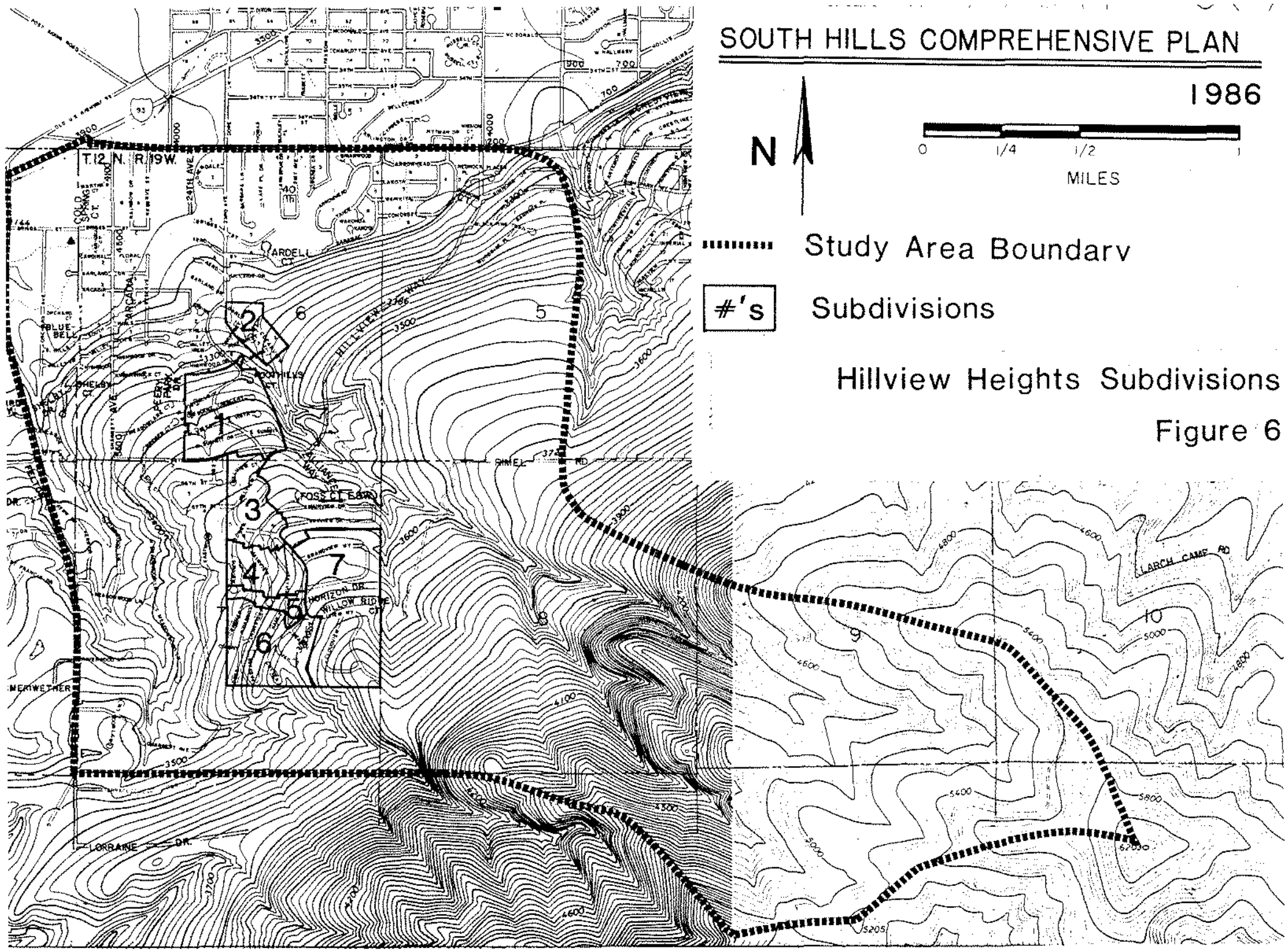
SOUTH HILLS COMPREHENSIVE PLAN

1986



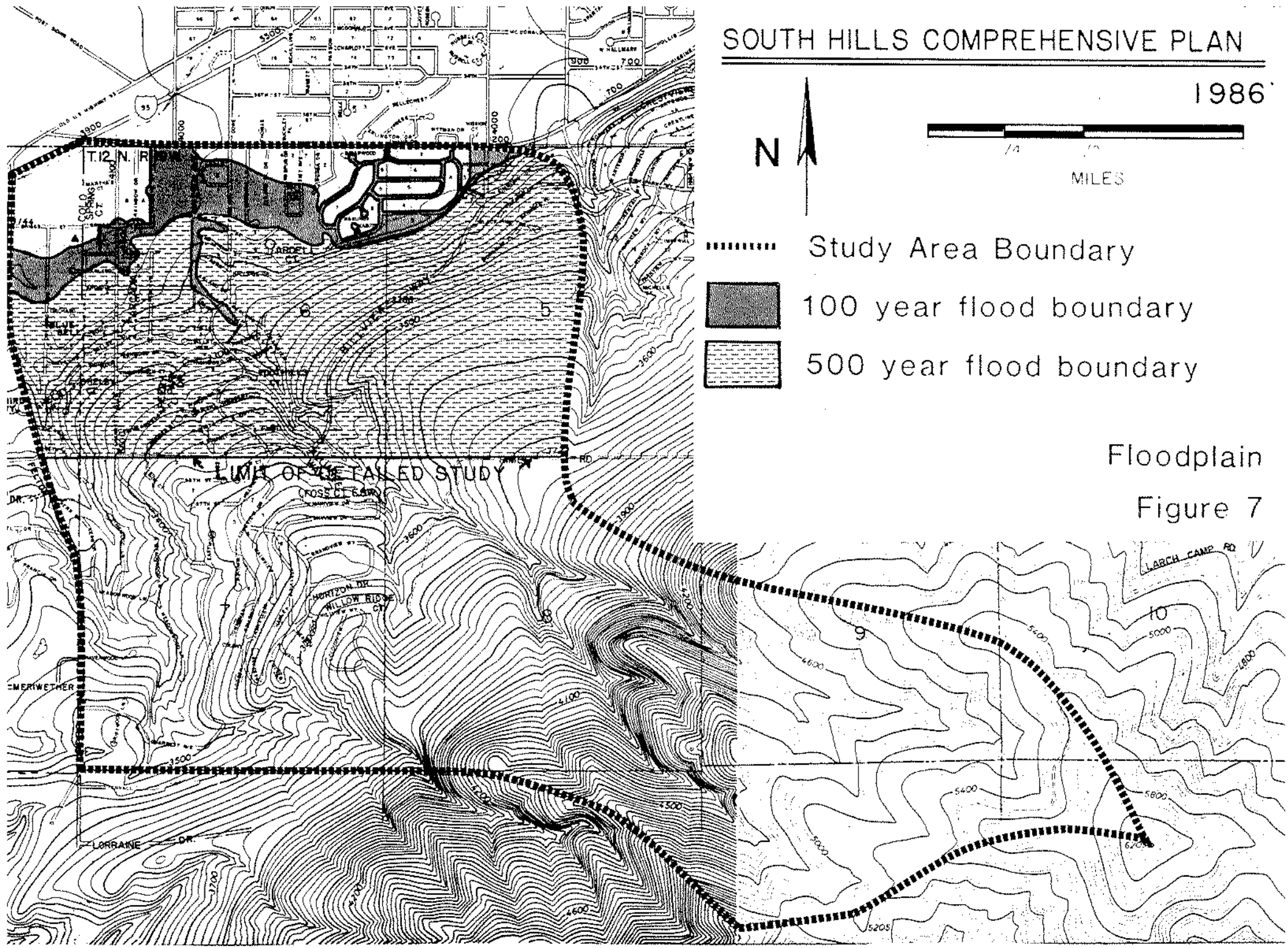
City/County Zoning

Figure 5


SOUTH HILLS COMPREHENSIVE PLAN
1986
N
0
1/4
1/2
1
MILES
Study Area Boundary
#'s
Subdivisions
Hillview Heights Subdivisions
Figure 6
T.12 N. R.19W.
24TH AVE
ARDELL CT
HILLVIEW
SHIELL RD
FOSS CT E&W
HORIZON DR
WILLOW RIDGE CT
LARCH CAMP RD
MERIWETHER
LORRAINE DR
1
2
3
4
5
6
7
8
9
10

SOUTH HILLS COMPREHENSIVE PLAN

1986

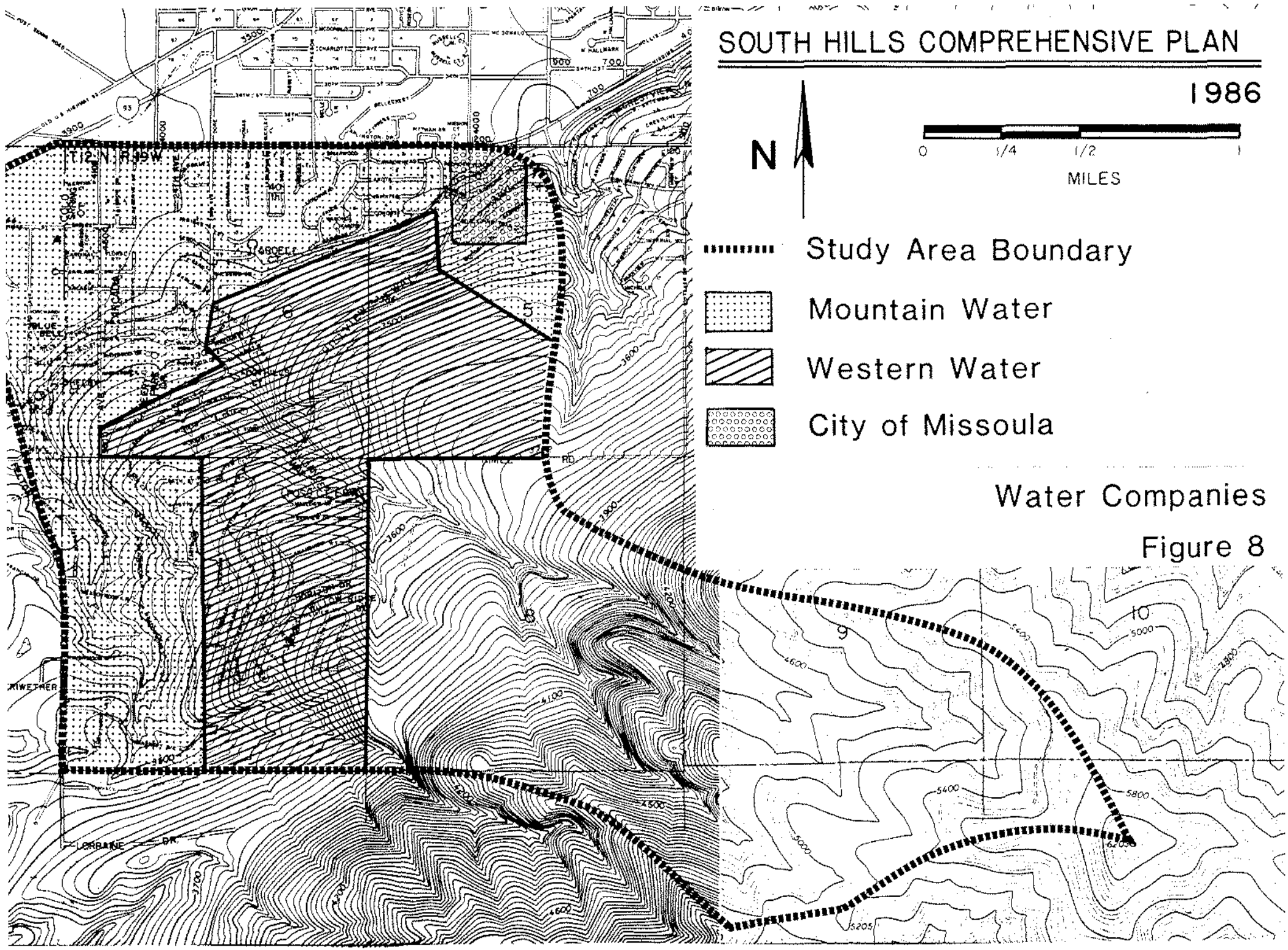


Floodplain

Figure 7

SOUTH HILLS COMPREHENSIVE PLAN

1986

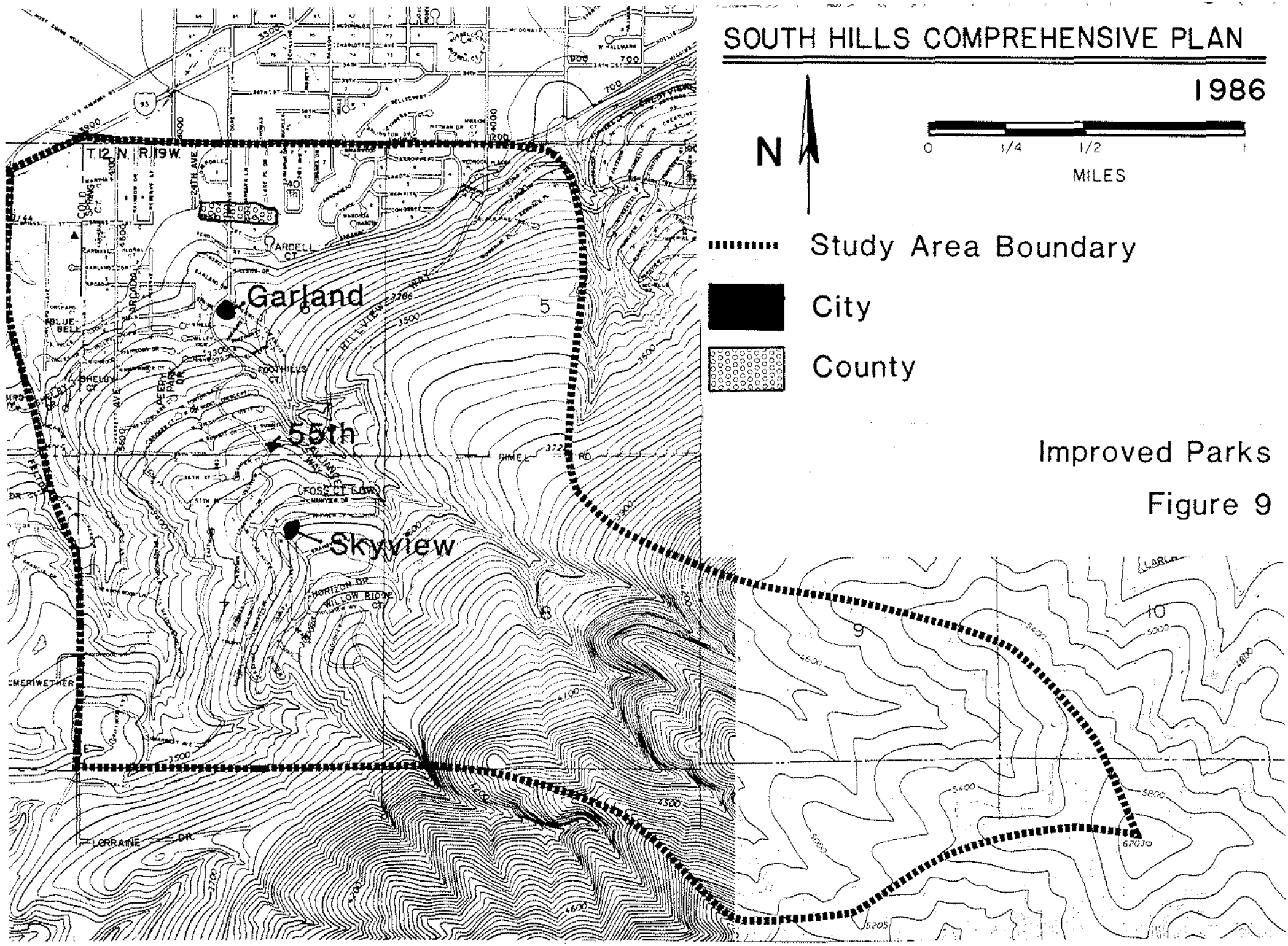


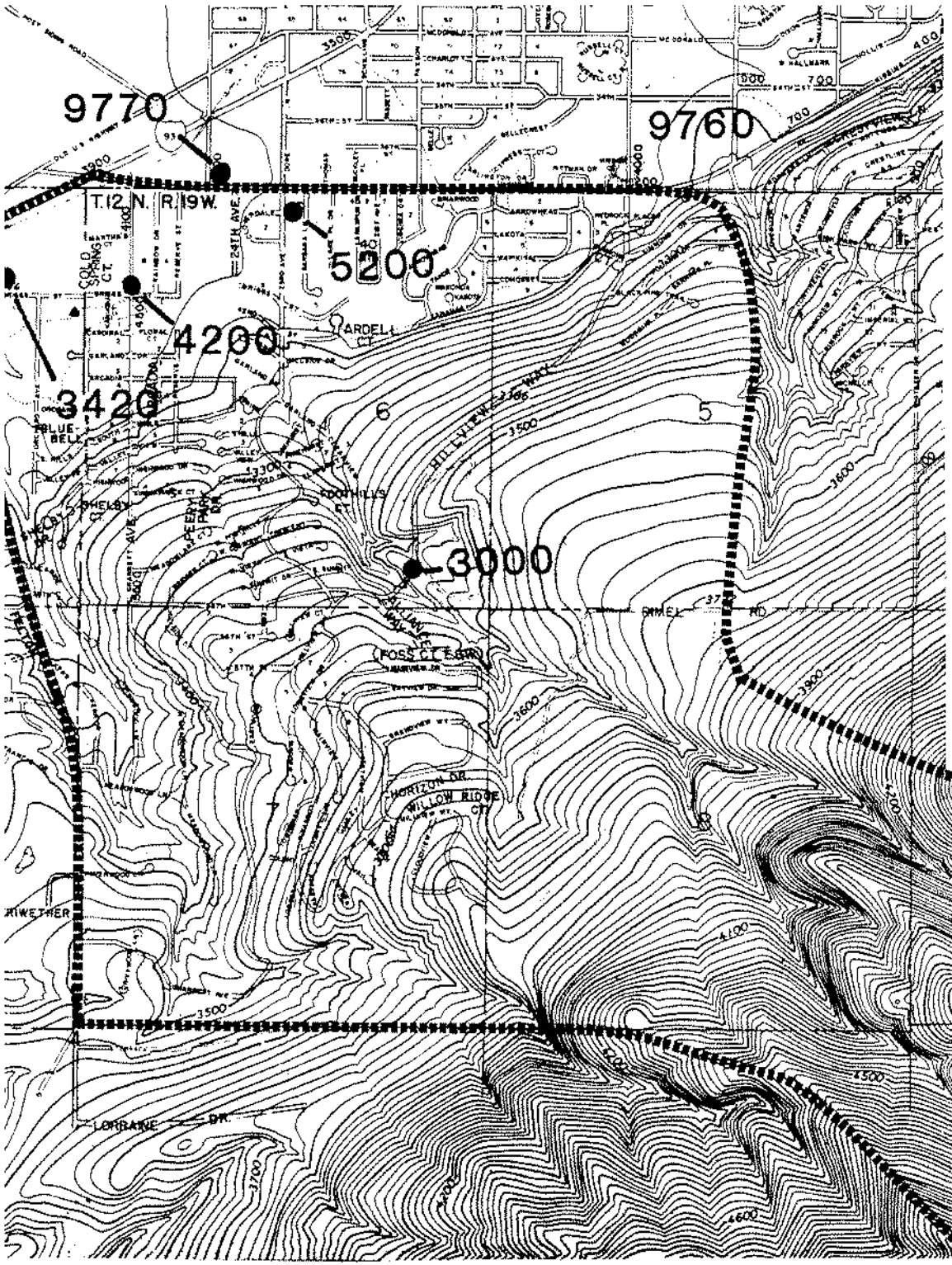
Water Companies

Figure 8

SOUTH HILLS COMPREHENSIVE PLAN

1986





SOUTH HILLS COMPREHENSIVE PLAN

1986

N

0 1/4 1/2 1

MILES

Study Area Boundary

Vehicle Counts

Functional Classifications:

Collectors

(Hillview Way, 55th Street, 23rd Avenue, Gharrett Avenue)

Minor Arterials

(39th Street, Miller Creek Road)

1984 and 198

Motor Vehicle Counts and Locations

Figure 1

SOUTH HILLS COMPREHENSIVE PLAN

1986

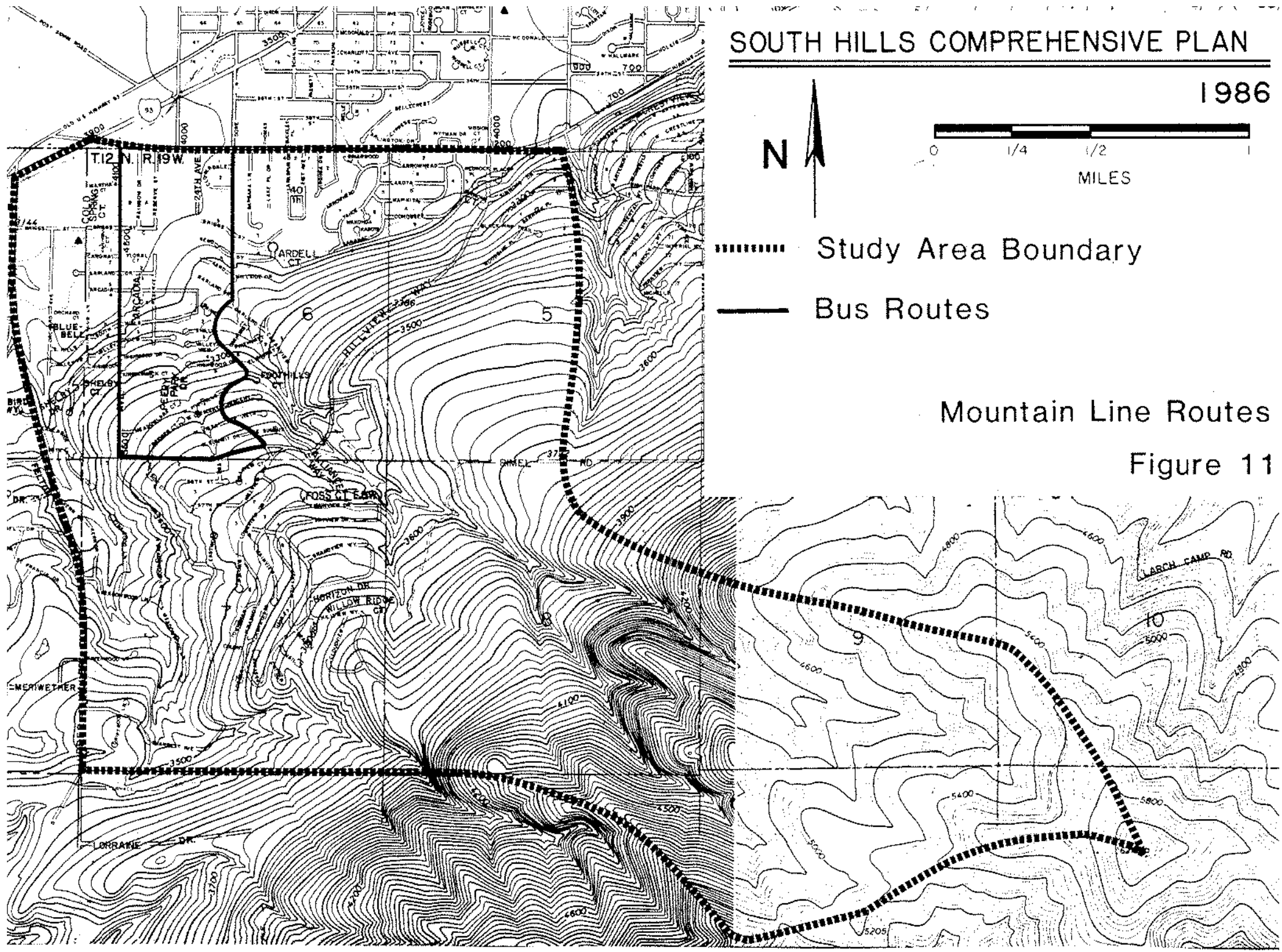
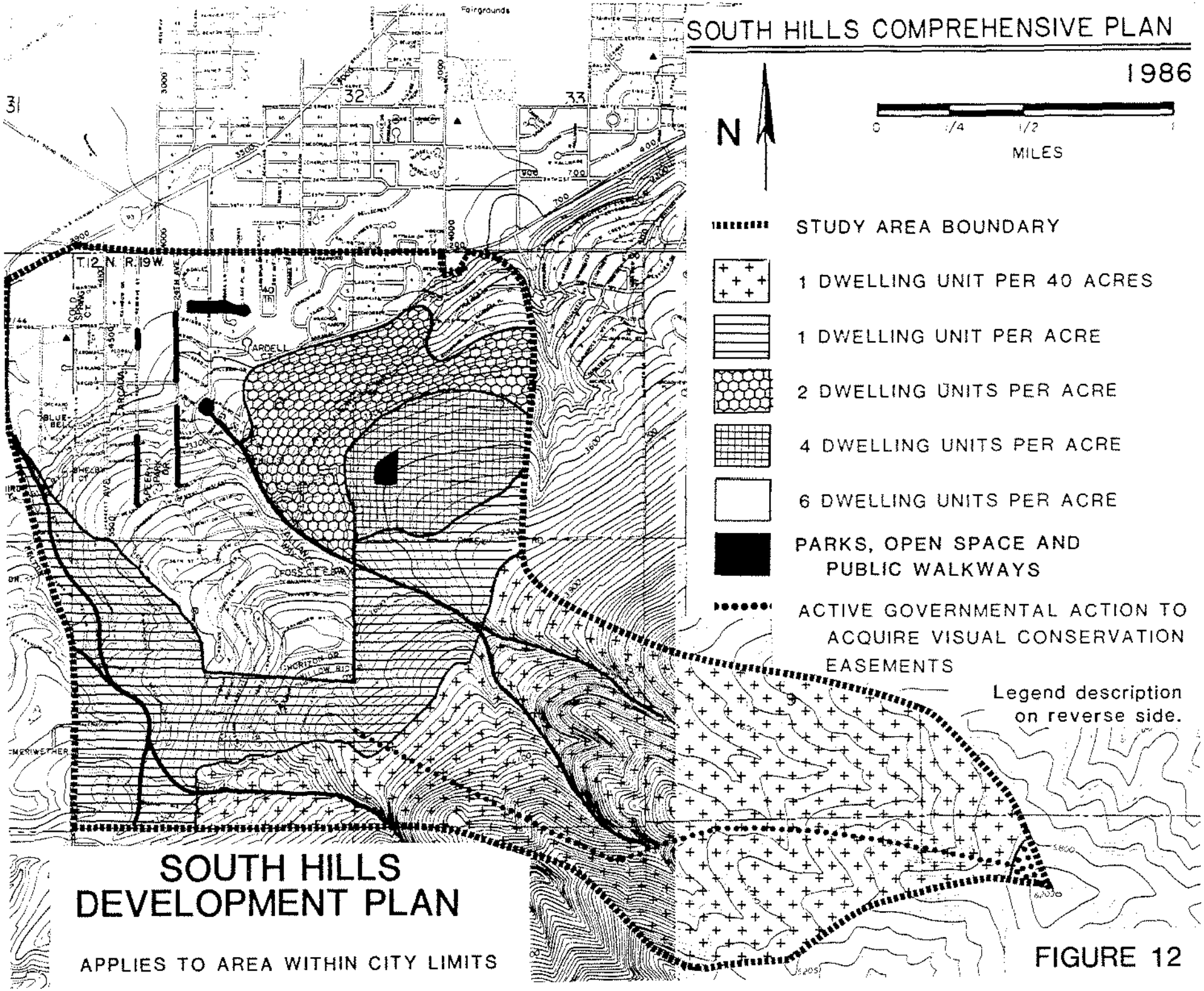


Figure 11


SOUTH HILLS COMPREHENSIVE PLAN
1986
N
0
1/4
1/2
1
MILES
STUDY AREA BOUNDARY
1 DWELLING UNIT PER 40 ACRES
1 DWELLING UNIT PER ACRE
2 DWELLING UNITS PER ACRE
4 DWELLING UNITS PER ACRE
6 DWELLING UNITS PER ACRE
PARKS, OPEN SPACE AND PUBLIC WALKWAYS
ACTIVE GOVERNMENTAL ACTION TO ACQUIRE VISUAL CONSERVATION EASEMENTS
Legend description on reverse side.
T12 N. R.19W.
32
33
31
Fairgrounds
ARDELL
FOSS CT
HORIZON DR
SOUTH HILLS DEVELOPMENT PLAN
APPLIES TO AREA WITHIN CITY LIMITS
FIGURE 12

LIST OF APPENDICES*

1. Soil Conservation Service Soil Map

2. Missoula Neighborhood/Homeowner's Associations

3. A listing of property owners who own parcels larger than 20 acres.

4. City/County Zoning Districts and Standards

5. New Single Family Construction, 1984 & 1985

6. Public Meetings - Summary

7. Published Articles - South Hills Plan

8. Inventory of Conservation Resources, August - 1985.

*Available in the Office of Community Development