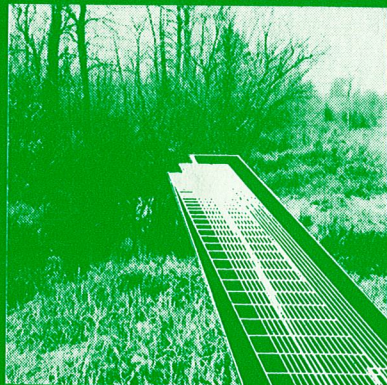


MILLER HILL CORRIDOR PLAN



CITY OF DULUTH
DEPARTMENT OF PLANNING AND DEVELOPMENT



CITY
OF
DULUTH

MILLER HILL CORRIDOR PLAN

The Miller Hill Corridor Plan represents the official policies of the City on the future of this vital area of Duluth and should be used by property owners and residents when making development decisions.

The 57-page illustrated report on the development of the plan is available to interested parties, WITHOUT CHARGE, from the Department of Planning and Development, Room 409, City Hall, or call 723-3328.

The Plan area includes the neighborhoods within 1/2 mile of Central Entrance and Highway 53 from Blackman Avenue to Haines Road. The City Council has officially adopted this plan, which was developed in conjunction with a variety of interests - business groups, citizen groups, etc. This Plan was produced to explain the rationale behind the Miller Hill policies and provide a model for future planning in Duluth.

Miller Hill Corridor Plan

Report Prepared by the

CITY OF DULUTH

DEPARTMENT OF PLANNING AND DEVELOPMENT

JOHN A. FEDO
Mayor

Adopted by the Duluth City Council on December 10, 1979, this Plan was not published as a report until September, 1982: this interim allows the Plan to be presented in a new perspective. The Epilogue at the conclusion of this report provides the transition from the adoption of this Plan to its use in the future.

Duluth City Planning Commission members at the time
of their adoption of this Plan (December 4, 1979)

Mrs. Paul Louisell, President*	Dorothy Nelson*
Cynthia Albright*	Esther North
James Cran	Dr. Dale Olsen*
Roy Holt	Nancy Sampson
Mrs. Richard Jones*	Jack Soetebier*
Michael Koralia	Dr. Fred Witzig*

* Member Miller Hill Corridor Plan Committee

Duluth City Council members at the time of their adoption
of this Plan (December 10, 1979)

Clifford Olson, President	Elnora Johnson
Robert Brooks	Kjell Rodne
Maureen Bye	Henry Royer
Thomas Dougherty	Peter Sneve
John Fedo	

Robert C. Beaudin, Mayor

Thomas Cotruvo, Project Manager

Gerald Kimball, Manager, Physical Planning Division
Dushan Knezevich, Planning Technician
Curtis Oberg, Planning Technician
Sanders Sweeney, Senior Planner
Dawn Kast, Graphics Coordinator
Howard Swanson, Graphics Assistant
Gary Tonkin, Assistant Planner

The assistance of the following individuals in the preparation of
this report is acknowledged:

Betty Bouchard, Betty Goetze, Betty Johnson, Eileen Janczak,
Kathy Winkler, Robert Jackson, Randy Hietala, Scott Harmon,
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Acknowledgements

Duluth Heights Community Club
Piedmont Heights Community Club
Uptown Business and Professional Association
Western Lake Superior Sanitary District
Seaway Port Authority of Duluth
University of Minnesota, Duluth

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INTRODUCTION

On December 4, 1979, the Duluth City Planning Commission unanimously adopted the Comprehensive Municipal Plan for the Miller Hill Corridor Area. By Resolution (No. 79-958) of the City Council on December 10, 1979, this Plan became the first comprehensive plan adopted for a major portion of Duluth under the Minnesota Municipal Planning Act.

What is a Master Plan ?

Every community should be prepared to contend with the forces of change. The preparation of a master plan allows future needs to be considered in relation to available resources in order to best satisfy the goals of the community. In this Plan a detailed inventory presents us with a clear picture of the available resources. The development of a series of scenarios of "what the future could be" offers us the opportunity to consider future needs. Most importantly, the identification of major community goals through citizen input gives us a guide for decision-making. Planning policies and the land use and transportation plan map set the course for future developments.

Nothing endures but change.

Heracitus

Who Prepared the Master Plan ?

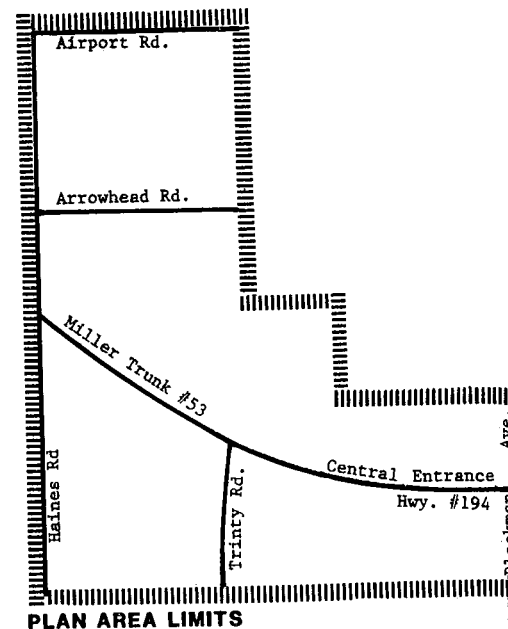
From the beginning it was recognized that in order to reflect the desires of the citizens of Duluth, it was essential that citizen input be given in all phases of the planning process. For this reason the Miller Hill Corridor Plan Committee was formed from the Duluth City Planning Commission -- comprised of citizens representing a broad range of interests -- as an advisory group to the City Planning Department. This committee held a series of public meetings during the period of March through September, 1979. These meetings included participation by the Duluth Heights and Piedmont Heights community clubs, business interests, residents, and representatives of various environmental organizations. The research and presentation of this Plan was accomplished by the City Planning Department, supplemented by efforts of other City departments and local agencies. The result is a joint technically-based and community-oriented effort.

Why is There a Need for a Plan for the Miller Hill Corridor Area ?

The Miller Hill Corridor Area can be broadly defined as that portion of Duluth within one-half mile of Trunk Highways #53 and #194 (Miller Trunk Highway and Central Entrance). The Plan Area Limits were defined to include the Miller Hill Mall and adjacent businesses, "strip" commercial development in Duluth Heights, property in Duluth with frontage on Haines Road, the Airport Industrial Park, and the majority of the upper Miller Creek watershed in Duluth. This Plan will recommend how we can capitalize on the assets of the Plan Area and mitigate its problems.

Two of the most serious problems in the Plan Area are increased flooding and traffic congestion. Flooding which has been projected as having the likelihood of occurring only once in one hundred years has taken place on several occasions since the construction of the Miller Hill Mall. As will be discussed further, the addition of impervious surfaces and the filling of wetland areas, results in a large increase in the intensity of stormwater runoff. Traffic congestion is a problem which is most apparent on Central Entrance, in the confusing array of accessways in the Miller Hill Mall area, and on neighborhood streets which are burdened by through traffic.

A detailed consideration of these effects indicates that commercial development within the Miller Hill Corridor Area has regional effects. For example, increased flooding in the Mall area contributes toward flood damages within the Miller Creek watershed further downstream in the West End neighborhood. The increased public costs of providing utilities to serve commercial and residential development in a pattern of urban sprawl places a burden on the City budget. Finally, the social and cultural fabric of the Central Business District has been changed by the development in the Plan Area. The Miller Hill Mall vicinity now contains five major department stores and a continually expanding number of retail businesses. It has emerged as a complete shopping district. The Central Business District has followed a pattern established in other cities, where offices, cultural, and governmental functions become the dominant activities, while commercial uses decline.



Flooding in the Target Frontage Road

Background Events Preceding This Plan

A major function of planning is to coordinate private developments and public services. This is complicated by the fact that there are a large number of public agencies at various levels of government which are involved in the development process.

A significant amount of private and public development has occurred within the Plan Area in recent years. This development has been considered on an ad hoc basis -- one private development at a time, and one public improvement at a time. The most recent overall planning for the Plan Area occurred over two decades ago as part of the City's 1958 Comprehensive Plan, before the major developments within the Plan Area were even contemplated.

In 1977 the Arrowhead Regional Development Commission (through its Metropolitan Interstate Committee) determined that recent developments in the Highway #53 corridor made land use and transportation plans for the area outdated. Additional developments associated with a proposed new regional shopping center could further impact this part of the Metropolitan Area and threaten orderly growth patterns in Northeastern Minnesota. Consequently, Williams-Kuebelbeck and Associates were selected to determine the impact of present Highway #53 developments and of another shopping center on the region and the City. The results of their study indicated several major problems with continuing development in the Miller Hill area.*

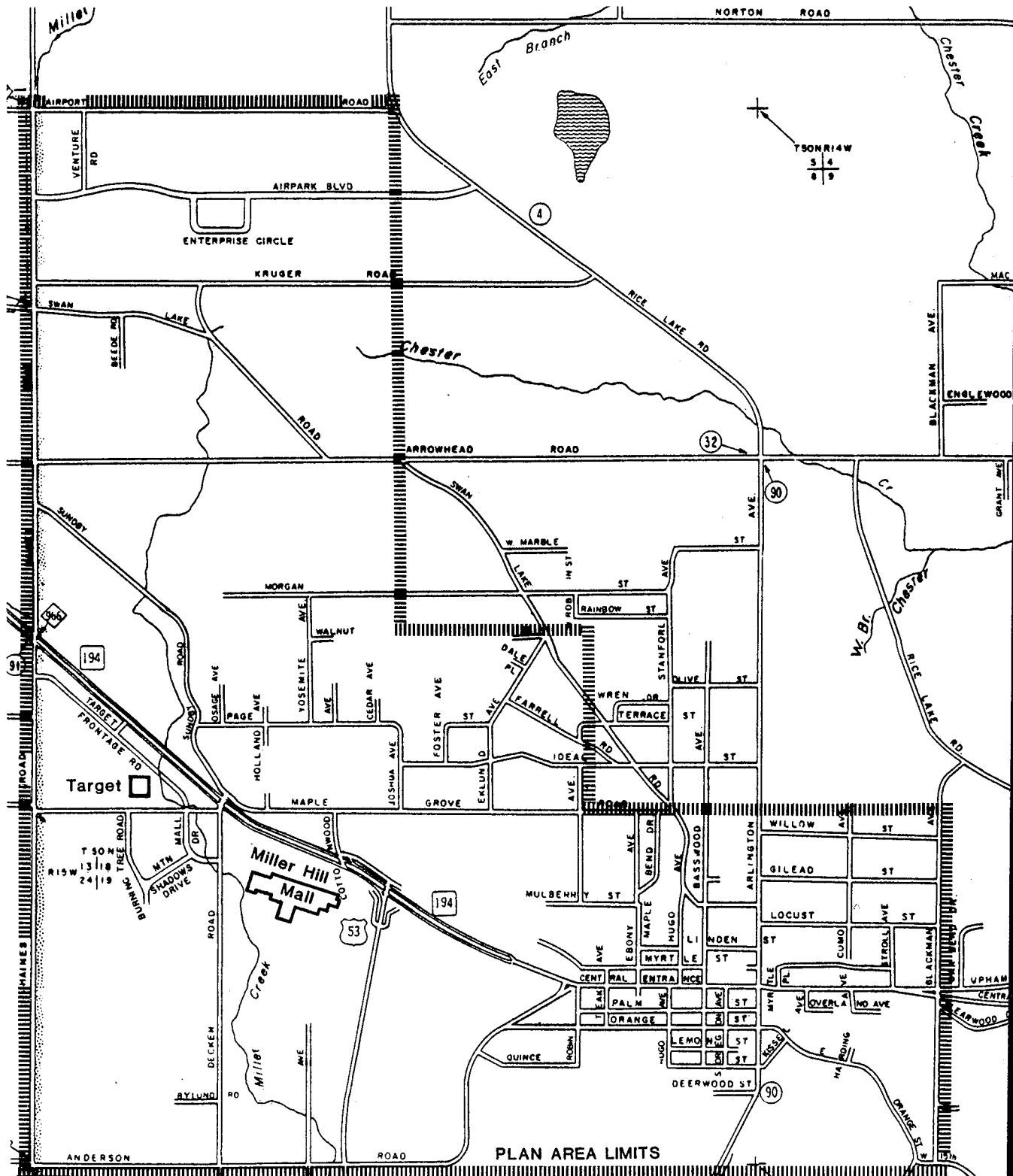
On June 22, 1978, the Duluth City Planning Commission recommended to the City Council that planning activity for the Plan Area begin immediately. In order to avoid significant additional developments during the preparation of this Plan, a limited moratorium on development in the Miller Hill Corridor Area was recommended to the City Council. The City Council established this limited moratorium until December 31, 1979, in order to allow this Plan to be completed.

* Williams-Kuebelbeck and Assoc. Duluth Regional Shopping Center Impact Evaluation
Duluth, MN: Arrowhead Regional Development Commission; December, 1978.

Street Map of the Plan Area

The maps contained in this Master Plan serve as the basis for many of the statements made in it. These maps also serve as a working part of this Plan by providing facts for future decision making.

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CITY OF DULUTH



PLAN AREA LIMITS

INVENTORY

How has Urban Growth Evolved in the Plan Area ?

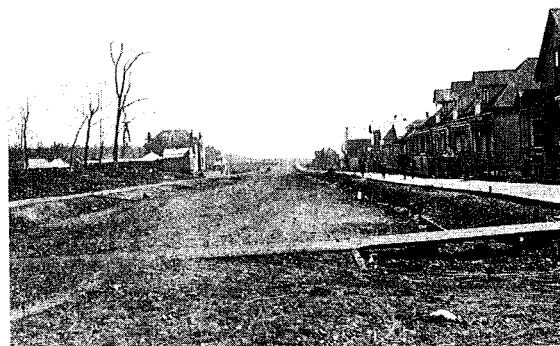
Urban development in the Plan Area began in 1891 with the annexation of Duluth Heights and adjoining lands to the City of Duluth. This single annexation more than tripled the area of Duluth. Concurrent with this event was the platting of the Duluth Heights neighborhood into 25-foot wide lots, and the establishment of the Highland Avenue street car line along Orange Street, from the 7th Avenue West Incline to Basswood Avenue. (This early platting continues to have an effect on the City's development controls for the Plan Area, as the "R-1-c" single family district in the City's current zoning ordinance corresponds exactly with the area platted in the 1890's.) The public transit system placed the Duluth Heights neighborhood within 25 minutes' travel time to Downtown Duluth.

By 1902 Lowell School, a firehall, and a church served the approximately 125 homes in the neighborhood. With the exceptions of Central Entrance, Palm Street, and Orange Street - which were gravel roads - there were no improved streets, and no sewer or water service at that time. Development began near Basswood Avenue because lands which were closer to downtown had steep slopes or a shallow depth to bedrock, restricting the use of outhouses and wells.

Swan Lake Road was the first major street connecting Duluth proper to this portion of the City. By 1927 Upham Road (which existed south of the present site of Cathedral High School) provided a second means of access to this area. Small commercial districts were established at the intersection of these two roads with Stroll Avenue, and at several locations along Central Entrance in Duluth Heights. Highway #53 following Trinity Road and Miller Trunk Highway was constructed as a major route to the Iron Range. Later, Central Entrance was extended west to intersect with Highway #53, and another small commercial district was established. The Highland Supper Club is the oldest commercial use in that district. Two minor commercial districts were established at the intersection of Haines Road and Highway #53, and at the intersection of Highway #53, Maple Grove Road, and Decker Road (which is the present site of the Red Carpet Lounge). It was not until 1934 that the current alignment of Central Entrance (below the site of the new Central High School) was dedicated as a



The 7th Avenue West Incline provided the first good means of access to Duluth Heights from downtown.



Looking east on Central Entrance at Ebony Avenue (Circa 1894.)

public street. The City's first zoning plan in 1927 formalized the pattern of "strip" development by establishing commercial use districts at six locations along Highway #53 and Central Entrance.

From this time until approximately 1958, this pattern of development was maintained. The commercial district on Highway #53 at its intersection with Maple Grove and Decker Roads was expanded. The area around the present site of the Miller Hill Mall was primarily undeveloped countryside. There was little filling of wetlands.

Recent Commercial Development

The 1958 Comprehensive Plan for Duluth provided a major revision in the control of development within the Plan Area. Approximately 345 acres of land along Miller Trunk Highway and Central Entrance were rezoned to "C-2" Highway Commercial and "M-1" Manufacturing (which also allows commercial uses). By this time Miller Trunk Highway and Central Entrance had become a dominant radial route from central portions of Duluth to outlying areas.

In the early 1960's, plans were prepared for a trunk sanitary sewer along Miller Creek to serve the Duluth Air Base (located west of the Plan Area) in order to correct a pollution problem there. This sewer was completed in 1964, and incidentally served as a stimulus for commercial development along Highway #53. The construction of the Target store in 1962 was the first major commercial business to utilize that sewer, which is now known as the Hermantown Interceptor. (See Appendix.) (Holding tanks were used at the Target store until the delayed trunk sewer was finished.) "Strip" commercial development progressed gradually until 1973, when the Miller Hill Mall opened. This pattern encouraged the extension of other public utilities, increased traffic congestion, and resulted in major environmental impacts on the Plan Area.

The opening of the Miller Hill Mall created a new stimulus for commercial development. Perhaps the most typical land use impact resulting from the development of a regional shopping center is the proliferation on nearby sites of retail goods and service facilities. Development in the Miller Hill Mall area since 1972 includes: 16 drive-ins and restaurants, five office buildings, four auto dealers, two major apartment complexes, a large discount department store, the Village Mall, a motel, four branch banks, and a

variety of other commercial establishments. In addition, a large increase in commercial development has taken place along Highway #53 in Hermantown, west of Haines Road. Within the Plan Area approximately three quarters of the vacant land which was zoned to allow commercial uses remained undeveloped, primarily because of site constraints by natural features. The progression of commercial development is shown on page 45, illustrating land use in the Plan Area in 1962, 1971 and 1979.

That the area's commercial role has changed substantially over recent years is demonstrated by the fact that from 1960 to 1979, commercially-used land within two miles of the Miller Hill Mall increased almost five-fold, while population within this same radius increased only 1.5 times. In 1979 this commercially-used land accounted for one-half of all such land in the Metropolitan Area, while the residents within this radius comprised only nine percent of the population within the Metropolitan Area.

Patterns of Residential Land Use

Residential development within the Plan Area exhibits three characteristic patterns. First, in the older portions of Duluth Heights lots are narrow and the density is relatively high. In these areas, some new dwellings have been constructed and expansion has taken place in such areas as Ebony Avenue and Maple Bend Drive.

Another pattern of residential development in the Plan Area is the "acre-garden tracts" found in the Central Acres plat along Willow, Gilead, and Locust Streets, (between Blackman and Arlington Avenues). This lower density form of development did not require the provision of such public services as sanitary sewers and improved streets at the time the dwellings were constructed. These services were provided later, although at a higher cost because longer utility lines are needed where dwellings are separated by greater distances.

Finally, "strip" residential development occurs along many streets in the Plan Area. This is not a new phenomenon. A report published by the Duluth City Planning Department in 1940 entitled "Land Platting History" states that, "the tendency in recent years is for the settlement upon acre or large plats upon state, county, or major highways, in what is known as 'strip' development." Platting in this manner can be



This view (looking northeast from the intersection of Orange St. and Teak Ave.-Circa 1894,) shows the relatively dense pattern of development first established in Duluth Heights.

done with little expense for required improvements, as street frontage is already provided. Immediately after World War II, this pattern of development was dominant in the Duluth Heights area. Vacant land along arterial and collector streets such as Decker, Anderson, Trinity and Maple Grove Roads was developed in a "strip" residential pattern. This development eliminated or greatly reduced access to large expanses of vacant land behind the homes fronting on these streets.

The Highland Mobile Home Park, located on Miller Trunk Highway one-fourth mile east of Haines Road, was first approved in 1958 as an interim use which would eventually give way to industrial development. The original 73 lots were adjacent to undeveloped land. In 1966 an expansion to allow a total of 300 to 320 mobile home sites was approved, although it was ultimately developed to provide 178 sites.

The relative absence of multiple family dwellings in the Plan Area is noteworthy. Multiple dwellings in the Area are limited to the Pennel Park apartments for the elderly, the Miller Hill Manor and two minor apartment dwellings on Central Entrance. (Within a short distance from the Plan Area there are several multiple family developments, including Highland Village and Viking Townhouses.) In 1979, less than two-tenths of one percent of the Plan Area was zoned "R-3" Apartment Residential, consisting solely of the Pennel Park apartment site. While multiple dwellings are permitted in commercial districts, the Miller Hill Manor is the only such use which was constructed in a commercial district in the Plan Area.

Other Significant Land Use Factors

Another major characteristic of the Plan Area is that it contains almost no manufacturing uses. The only manufacturing use is the Duluth Ready Mix cement plant, a legal nonconforming use in a commercial zoning district. The Airport Industrial Park contains light industrial uses primarily oriented toward wholesale trade. Since retail and personal service uses are not permitted in this Industrial Park, it has not significantly affected transportation patterns in the Plan Area.

The 1958 Comprehensive Plan for Duluth identified the lack of manufacturing zoning districts as a major issue. The 1958 zoning ordinance

created a 195 acre "M-1" Manufacturing district on both sides of Miller Trunk Highway, between Haines Road and Maple Grove Road. This district was created to provide land for highway-oriented manufacturing uses. Unlike the Airport Industrial Park, the "M-1" district permits commercial uses and was, therefore, a significant feature affecting development in the Plan Area. In addition to the Target store, other commercial uses which have been constructed in this district include a restaurant, a branch bank, an auto rustproofing shop, a mobile home sales office, and a warehouse. (The remaining land uses consist of several nonconforming single family homes and the Highland Mobile Home Park.) Over eighty percent of this district is currently undeveloped wetlands.

Land in the Plan Area designated for parks and recreational facilities is sparse. Such land consists of slightly over 11 acres within the Duluth Heights Recreation Field (including the nearby ballfield), and a public access easement over a portion of the former Pennel Park site on Central Entrance. This comprises only one-half of one percent of the Plan Area. These facilities serve approximately 1,300 dwelling units in the Area. Large areas of vacant land partially compensate for this lack of public parks and recreational facilities.

The 1971 "Guide to Metropolitan Growth" by the Head of the Lakes Council of Governments proposed that a corridor through each of the streams in the developed areas of Duluth be declared open space as part of the Citywide park plan. In the Plan Area, much of the land adjacent to Miller, Coffee and West Branch Chester Creeks is undeveloped and tax-forfeited, offering the opportunity for use of it for park purposes. Lincoln Park (downstream on Miller Creek) and Chester Park (downstream on Chester Creek) could eventually be connected to the Plan Area.

A portion of the Memorial Municipal Forest located on the south edge of the Plan Area (between Orange Street and Arlington Avenue), provides open space for the neighborhood. This Municipal Forest includes much of the Coffee Creek ravine. This Municipal Forest primarily consists of tax-forfeited land. The remaining tax-forfeited lands in the Plan Area consist of steep slopes, wetlands and landlocked areas behind "strip" residential developments. (See Appendix.)

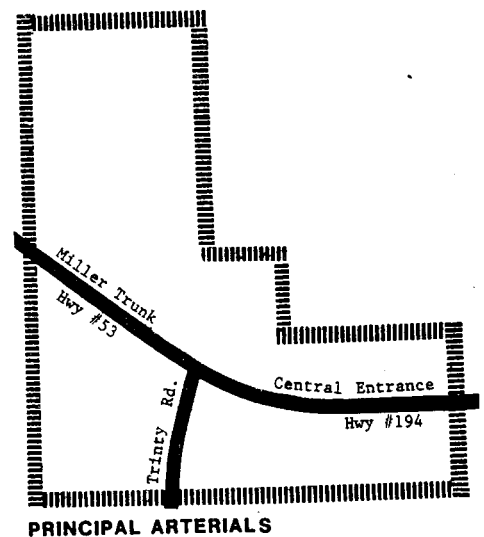
What Are the Traffic Effects of the Development Which has Occurred in the Plan Area ?

As Highway #53 was constructed to the Iron Range, the value of the adjacent land for commercial uses increased because of its high visibility and good access to passing motorists. The major commercial developments which took advantage of this access (such as the Target store and the Miller Hill Mall) became traffic generators themselves, attracting more motorists. These generators in turn stimulated "spinoff" developments (such as restaurants and auto services) which increased the variety of shopping activities and, therefore, improved the commercial attractiveness of the area. These "spinoff" developments contribute to traffic congestion by producing additional trips between businesses and by increasing the number of turning movements.

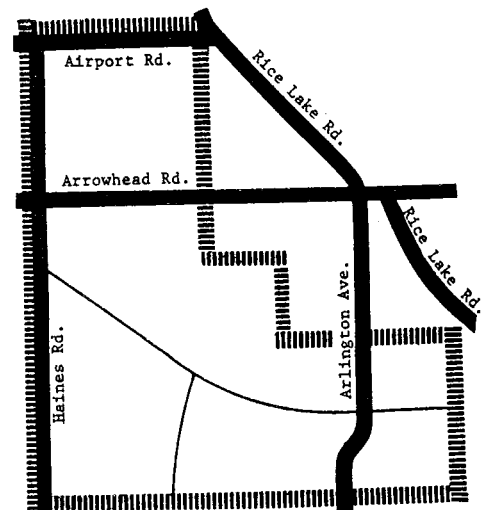
Traffic on Central Entrance at Arlington Avenue increased by approximately 50 percent from 1956 to 1969, from approximately 8,400 to 12,200 average daily trips. This is a $3\frac{1}{2}$ percent increase per year. From 1969 to 1976 traffic volume increased at an annual rate of over 12 percent. In 1976 there were 22,700 average daily trips on Central Entrance, a volume which is exceeded in Duluth only by segments of Interstate 35. When the traffic volume is low (during off-peak hours), even though the number of curb cuts on Central Entrance is high, access to the abutting uses does not result in any serious conflict. However, when traffic volume increases during peak hours, the situation quickly becomes intolerable.

This increase in traffic destined for the Miller Hill Corridor Area also impacts adjacent neighborhoods such as Duluth Heights, Kenwood and Piedmont Heights. Arrowhead Road, for example, has accommodated increased traffic as a major route to the Miller Hill area. More serious effects occur on collector streets such as Swan Lake Road and Maple Grove Road, and on local streets such as Eklund Avenue, which are not designed to serve intracity traffic. As increased traffic volume produces localized negative effects on residential neighborhoods, the quality of their residential character decreases. In addition, where peak traffic volume exceeds the capacity of the street, major capital expenditures for roadway improvements are required.

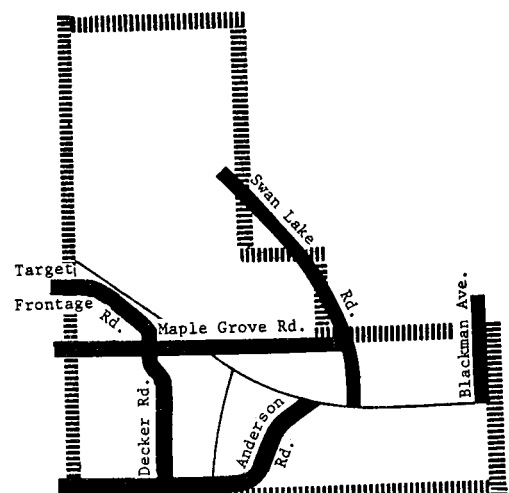
STREET CLASSIFICATION



PRINCIPAL ARTERIALS



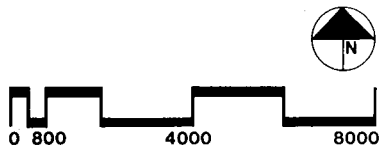
MINOR ARTERIALS



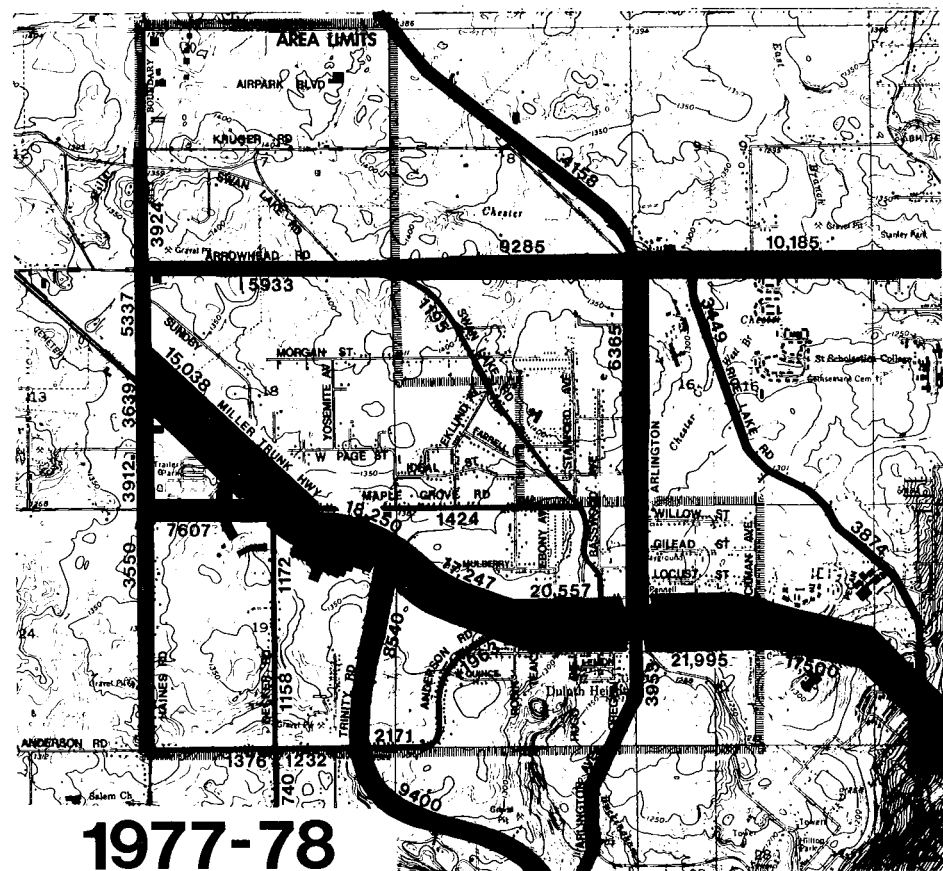
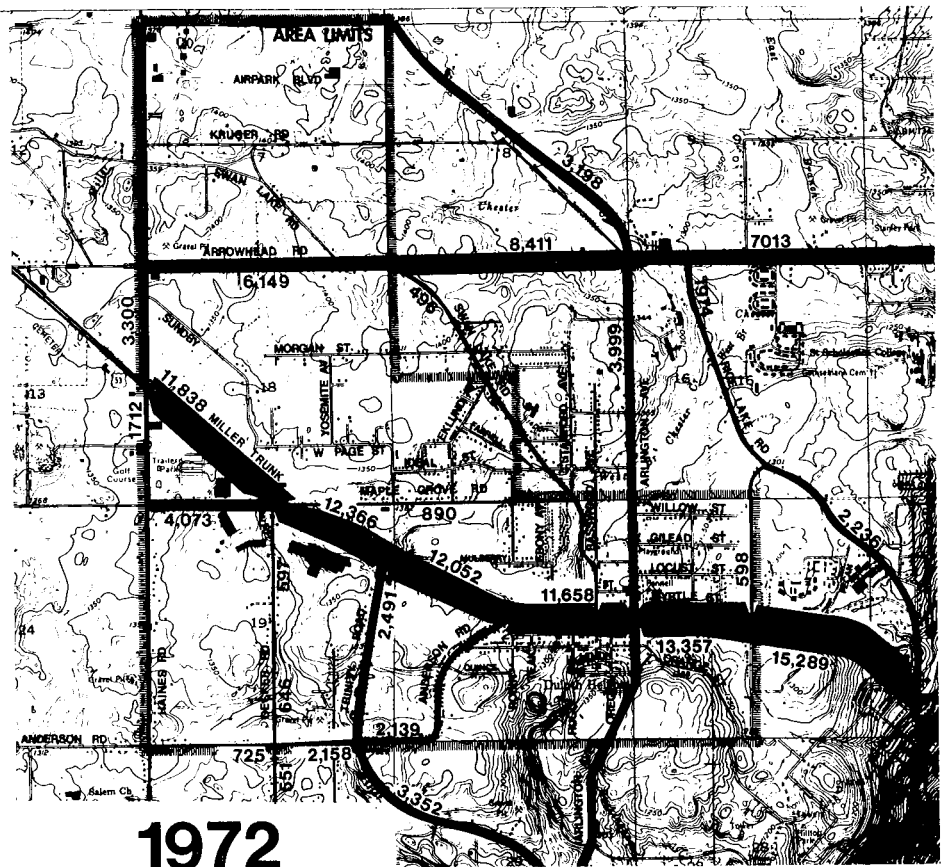
COLLECTORS

TRAFFIC VOLUMES

AVERAGE ANNUAL DAILY
TRAFFIC (AADT)



SOURCE: CITY OF DULUTH
TRAFFIC ENGINEERING DIVISION



How do We Determine the Capacity of Natural Systems for Growth ?

In the preparation of this Master Plan, a detailed study was conducted to determine the capacity of the existing natural systems of the Miller Hill Corridor Area. In order to assess the development suitability of the Plan Area a team of city planners spent several months collecting data and preparing maps of watersheds, soil conditions, topography, storm sewers, creeks and flood hazard areas. Environmental specialists from the Minneapolis firm of Barr Engineering, Inc. were hired to identify and accurately map wetland areas using color infrared aerial photographs with extensive field verification. (See Appendix.)

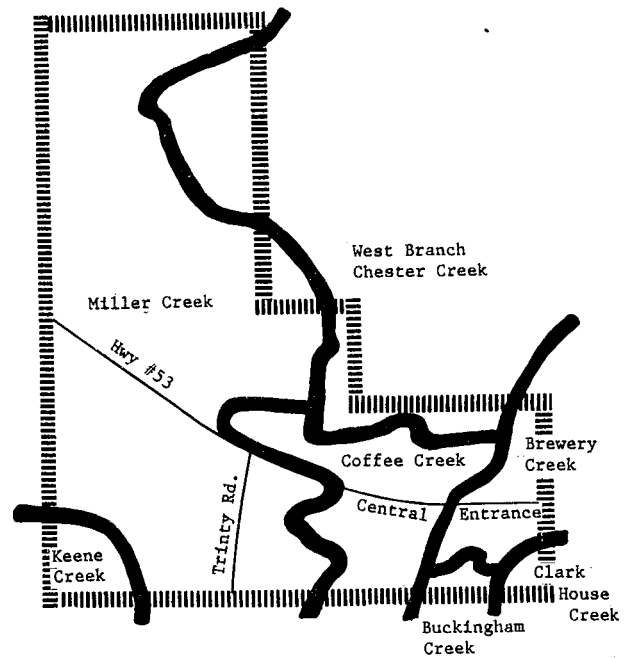
These maps were overlaid as a composite to identify those critical environmental areas that are not under most circumstances suitable for construction due to a concentration of wetlands, steep slopes or floodplains. These maps were also used to identify areas with potential problems in advance so that proper measures can be taken during the design and construction of new developments. (See page 15.)

Creeks and Watersheds

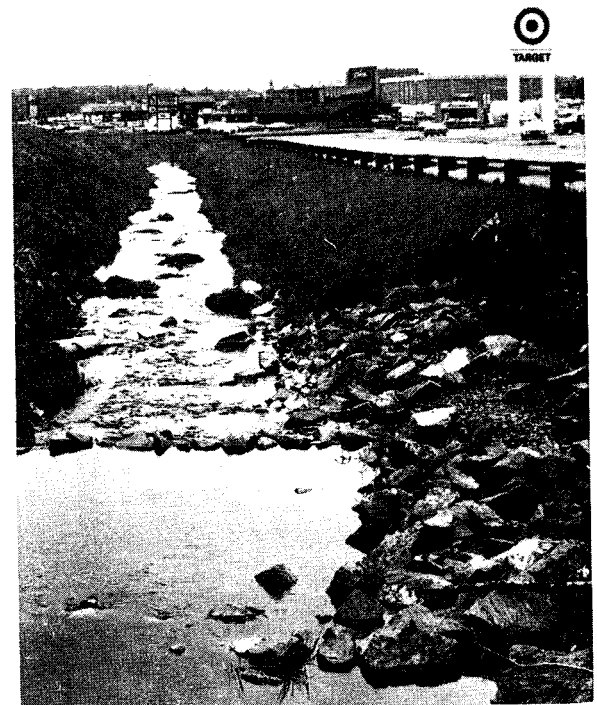
The Plan Area is relatively level, containing portions of seven creeks (including the headwaters of those underlined): Miller, Coffee, Brewery, West Branch Chester, Clarkhouse, Buckingham and Keane.

Miller Creek is the largest of the streams within the Plan Area. The channelization of the creek in some areas (such as adjacent to the Target store), the removal of trees, and the construction of parking lots and other hard-surfaced areas have had a major effect on Miller Creek. The most serious problems are: 1) siltation which covers the rocky bottom and destroys the habitat of many organisms; 2) the lack of shade causing an increase in water temperature; 3) the lack of cover for fish; 4) the debris which has accumulated along its banks; and 5) the increase in the rate of runoff under storm conditions.

The Minnesota Department of Natural Resources has long listed Miller Creek as a designated trout stream. A 1944 Minnesota Department of Natural Resources report indicates that at that



Watershed boundaries of the seven creeks within the Plan Area Limits.







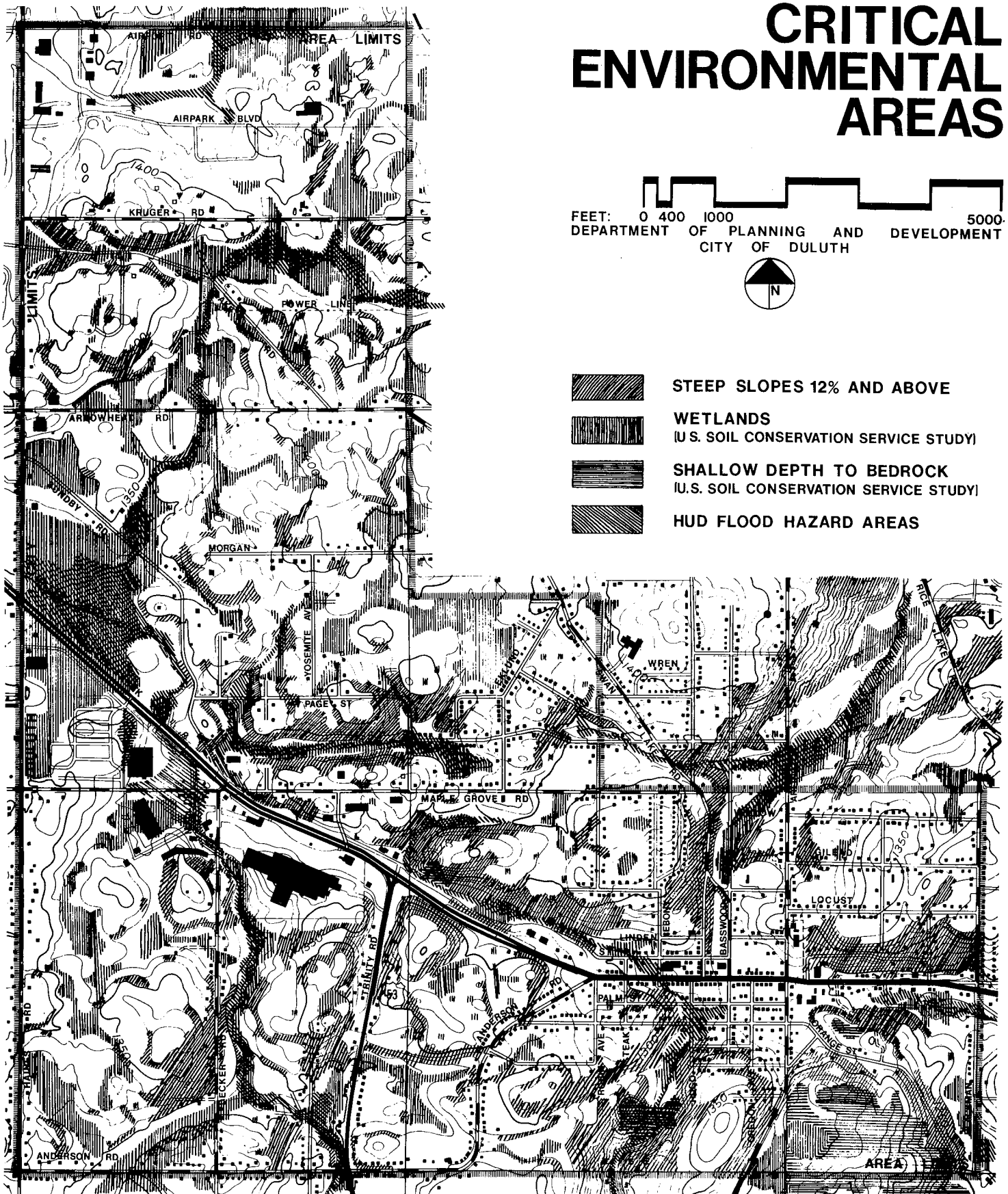
The natural characteristics of Miller Creek adjacent to the Target Frontage Road have been virtually eliminated.

CRITICAL ENVIRONMENTAL AREAS

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CITY OF DULUTH



-  STEEP SLOPES 12% AND ABOVE
-  WETLANDS
(U.S. SOIL CONSERVATION SERVICE STUDY)
-  SHALLOW DEPTH TO BEDROCK
(U.S. SOIL CONSERVATION SERVICE STUDY)
-  HUD FLOOD HAZARD AREAS



time Miller Creek was a heavily-fished, good, natural trout stream. This report recommended the planting of willows where needed. Stocking of the creek began in 1916 and continued until 1973. Since that time, no stocking has been done because of the existing and potential development within the Area. Despite this, trout continue to inhabit Miller Creek.

Major portions of the Coffee, Brewery and West Branch Chester Creek watersheds are located in the Plan Area. Like Miller Creek these streams have relatively level gradients in the Miller Hill Corridor Area, changing to steep gradients in the hillside area of Duluth before leveling out near Lake Superior and the St. Louis River. Impacts on the upper portions of these creeks are carried to the hillside neighborhoods below.

The Plan Area has experienced flooding during each of four recent storms classified as being likely to occur only once in one hundred years. These occurred on: August 20, 1972; September 20, 1972; August 23, 1978; and, May 10, 1979. Flood damages within the Plan Area were identified by the Corps of Engineers Duluth Area Storm Water Study* as being due to slow flood recession, rather than high flow velocity (which was exhibited in the hillside portions of Duluth). The major reasons for this flood damage are:

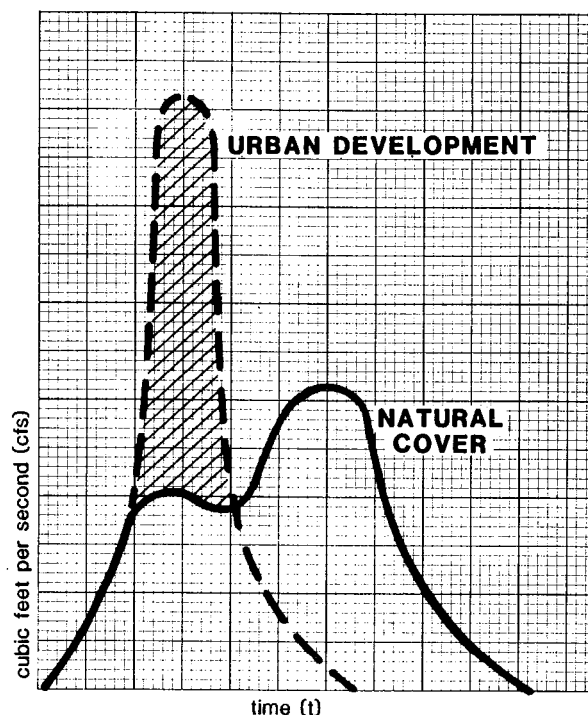
1. the areas damaged by flooding are relatively level;
2. the addition of impervious surfaces has greatly increased the concentration of stormwater runoff;
3. several culverts within the Plan Area restrict the flow of stormwater runoff;
4. stormwater infiltration into the Hermantown Interceptor (which is the sanitary sewer main serving the Miller Creek watershed) causes the Interceptor to overflow during heavy rainfalls; and,
5. the capacity for water storage is reduced by the filling of wetlands.

* Department of the Army Corps of Engineers. Duluth Area Storm Water Study. St. Paul District; June, 1973.

** Tourbier, Joachim and Richard Westmacott. Water Resources Protection Measures In Land Development - a Handbook. Newark, Delaware; University of Delaware; April, 1974, p. 12.



Development in the Plan Area contributes to the flood damages along Miller Creek in Lincoln Park, downstream in the West End neighborhood. (July 2, 1979)



*Schematic hydrographs showing the increased intensity of stormwater runoff accompanying urban development. ***

HAZARD FLOOD AREAS*

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CITY OF DULUTH

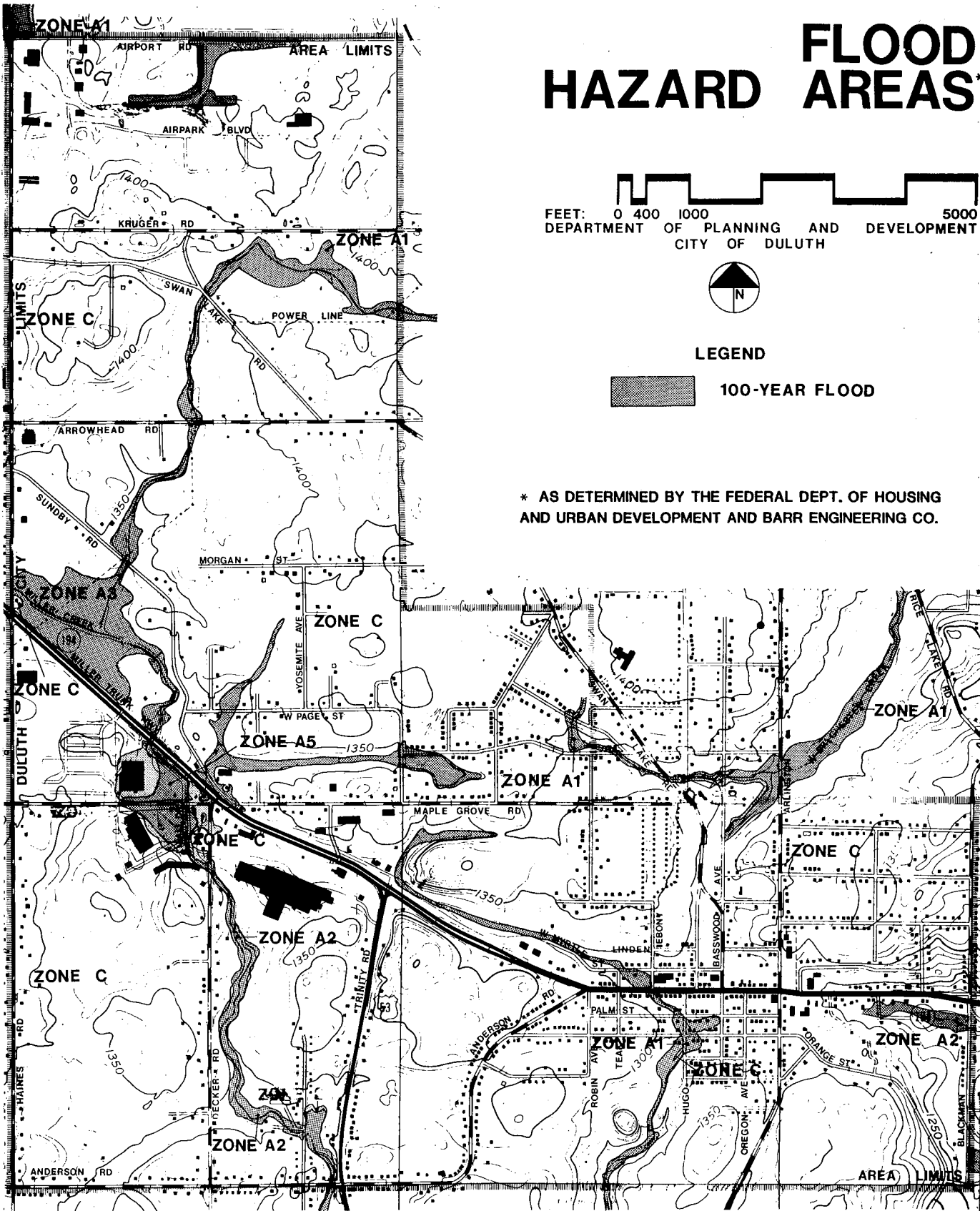


LEGEND



100-YEAR FLOOD

* AS DETERMINED BY THE FEDERAL DEPT. OF HOUSING
AND URBAN DEVELOPMENT AND BARR ENGINEERING CO.



The Miller Creek watershed experienced \$622,000 in damages in the September 20, 1972 flood, the highest of any watershed within Duluth. After this flood the National Flood Insurance Administration conducted a flood insurance study which included the Plan Area. A major product of this study was the identification of 100 and 500 year floodplains for portions of Miller, Coffee, West Branch Chester, and Brewery Creeks. The flood hazard areas of Miller Creek are the most significant within the Plan Area because they comprise the largest area and include significant amounts of commercially developed and zoned property. The 100 year floodplain of Miller Creek in the Mall Drive area contains portions of sites of the Target store, Country Kitchen, Mr. Steak, K-Mart and the Village Mall.

Wetlands

Wetlands are one of the major distinguishing natural features in the Plan Area. They play an important role as natural controllers of floods. During heavy rainstorms or snow melts, wetlands store water and slow the rate of runoff with dense, deep-rooted vegetation. This stored water is slowly released, lowering the flood crest, decreasing soil erosion and minimizing property damage downstream.

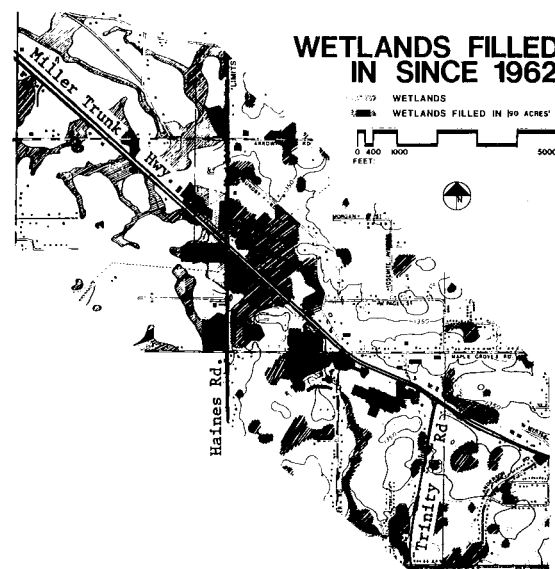
Historically, development in the Miller Hill Corridor has included the filling of wetlands. For example, the development of the Target site involved the filling of a major wetland area. The development of wetland areas requires additional costs of construction for filling and special foundations, therefore, those areas which do not contain wetlands have tended to be developed first. However, the zoning existing in 1979 made the prospect for future development a critical concern: within the Miller Creek watershed alone, 92 acres of wetlands were zoned "M-1" Manufacturing or "C-2" Highway Commercial, which would allow a significant amount of new development to occur. This potential wetland loss required a complete wetland inventory for the Plan Area. Wetland areas were identified by vegetation as one of eight types as defined by the U.S. Fish and Wildlife Service.* (See page 19.)



The addition of impervious surfaces greatly increases the concentration of stormwater runoff.



Wetlands store water and filter impurities.



Wetlands along Highway #53 filled since 1962.

* U.S. Dept. of the Interior, Fish and Wildlife Service. Wetlands of the United States. Circular 36; 1956.

WETLANDS



Vegetative Type Wetland Type

23/6

WETLAND TYPES ¹

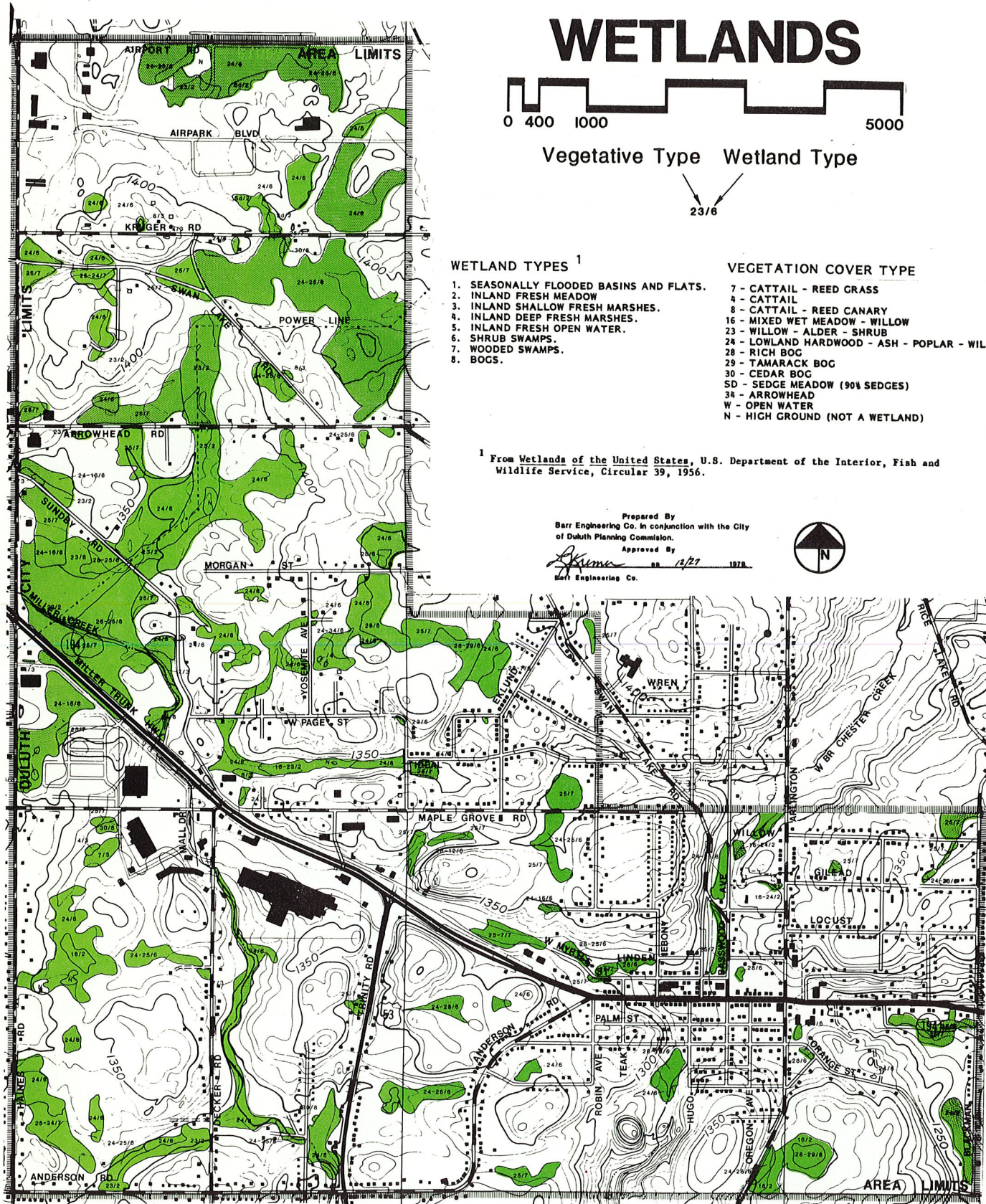
1. SEASONALLY FLOODED BASINS AND FLATS.
2. INLAND FRESH MEADOW
3. INLAND SHALLOW FRESH MARSHES.
4. INLAND DEEP FRESH MARSHES.
5. INLAND FRESH OPEN WATER.
6. SHRUB SWAMPS.
7. WOODED SWAMPS.
8. BOGS.

VEGETATION COVER TYPE

- 7 - CATTAIL - REED GRASS
- 8 - CATTAIL
- 8 - CATTAIL - REED CANARY
- 16 - MIXED WET MEADOW - WILLOW
- 23 - WILLOW - ALDER - SHRUB
- 24 - LOWLAND HARDWOOD - ASH - POPLAR - WILLOW
- 28 - RICH BOG
- 29 - TAMARACK BOG
- 30 - CEDAR BOG
- SD - SEDGE MEADOW (90% SEDGES)
- 34 - ARROWHEAD
- W - OPEN WATER
- N - HIGH GROUND (NOT A WETLAND)

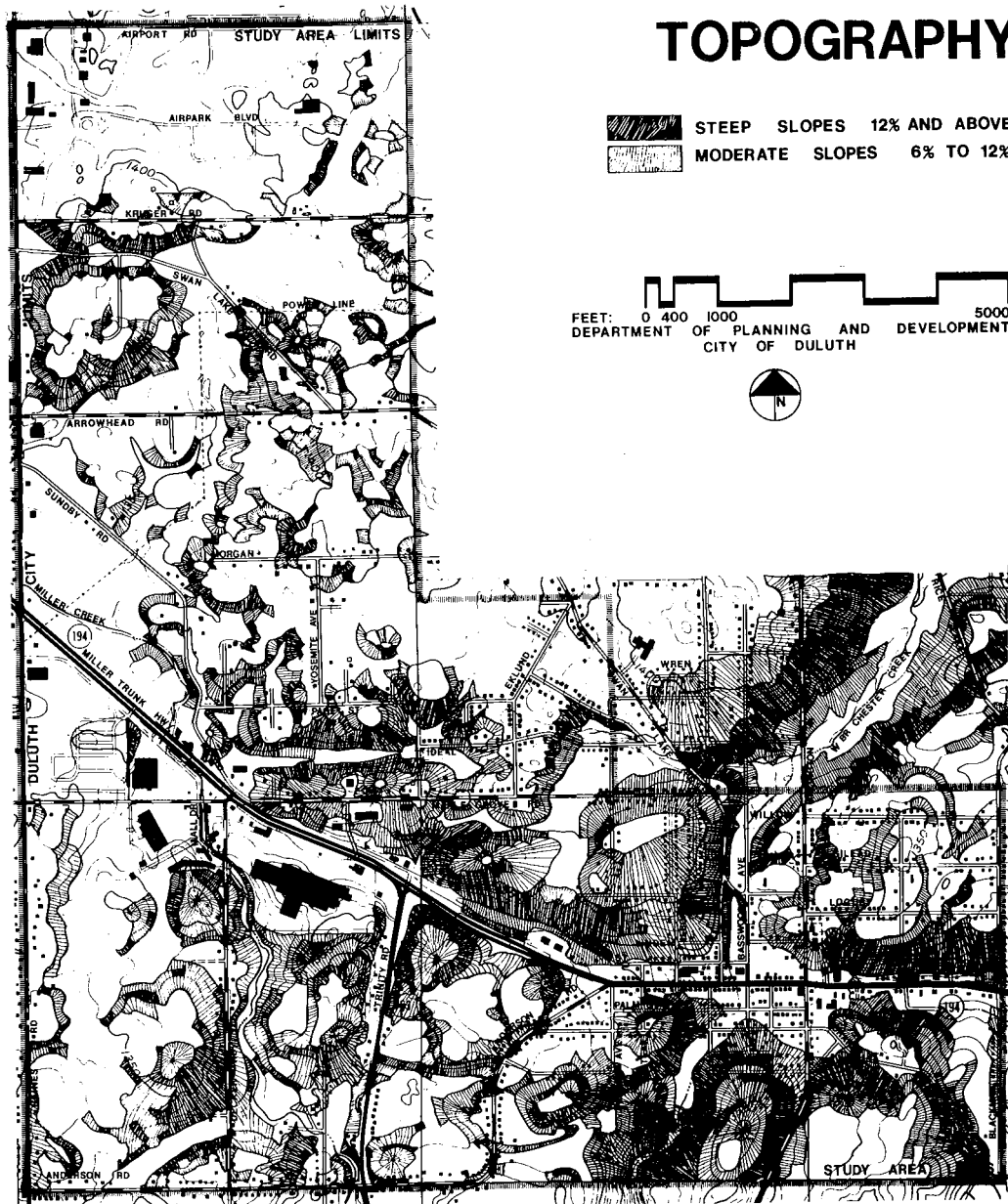
¹ From Wetlands of the United States, U.S. Department of the Interior, Fish and Wildlife Service, Circular 39, 1956.

Prepared By
Barr Engineering Co. in conjunction with the City
of Duluth Planning Commission.
Approved By
[Signature] 12/27 1978
Barr Engineering Co.



Soils, Topography and Vegetation

The Plan Area is comprised of generally rolling or flat areas of glacial till, which is the characteristic surface material in Northeastern Minnesota. Steep slopes generally located on the north side of Highway #53 and Central Entrance define an edge of the highway corridor area. Other areas with steep slopes are located along Coffee and West Branch Chester Creeks. The Corps of Engineers classifies the Plan Area as Great Lakes Pine Forest. Almost all traces of this forest are gone now as the consequence of lumber activities in the late 1800's and numerous fires (including those in 1908 and 1918). Vegetation is dominated by trembling aspen and paper birch on slopes, with tag alder and black ash adjacent to creek beds and the broad swampy areas nearby.



SCENARIOS

Experience over the years with master plans in many communities has shown that the preparation of a fixed land use map as the principal product of those efforts has had little success in achieving the desired results. Because circumstances affecting building and development are constantly changing, an effective master plan must include the development of a process which can respond to change. This Master Plan developed such a process through the active participation of Planning Commissioners, neighbors, businessmen, City Councilors, planners, and interest groups. A major element of this participation was the technique of preparing alternative scenarios of future development.

How are Scenarios Used as a Study Tool in This Master Plan ?

Scenarios are images of the future, based upon different predictions, forecasts and assumptions. In the process of developing scenarios, the participants are actively involved in the design of the future. Six scenarios of "what the future could be" in the year 1995 were developed and evaluated:

- I. No Change
- II. Current Rate of Development Extended
- III. Development Boom
- IV. Energy Crisis
- V. Environmental Concern
- VI. Planned/Controlled Development

A desired outcome - consisting of the Planned/Controlled Development scenario with elements of the Energy Crisis and Environmental Concern scenarios - was selected by the Miller Hill Corridor Plan Committee to serve as the basis for development of this Master Plan.

I. No Change

The No Change scenario consists of an inventory of existing conditions with minor changes. This scenario is provided for comparative purposes, as the difference between the No Change scenario and the desired outcome represents the "problem gap" which must be solved by the implementation of the master plan. Some public service capital improvements - such as new water mains and the addition of a fifth lane to Central Entrance - would be made even in the No Change scenario. This represents the characteristic lag between development and the public improvements which serve that development.

***The future influences the present
just as much as the past.***

Friedrich Nietzsche

II. Current Rate of Development Extended

In this scenario development continues toward the merging of the Miller Hill Mall and Duluth Heights commercial districts. Businesses also locate along other major streets such as Haines and Trinity Roads. Industrial development continues at a modest rate in the Airport Industrial Park and in undeveloped areas along Haines Road zoned to allow manufacturing uses. Apartments are constructed on scattered sites based upon the ownership of land by developers and neighbor reactions. Single family home development continues in a "sprawl" pattern as builders attempt to maximize privacy and minimize roadway construction.

The result is a decrease in the residential quality of the neighborhood. The filling of wetlands and construction of buildings and parking lots increases flooding and decreases the quality of the creeks. There are few amenities such as developed parks serving the residents. Traffic congestion is an increasing complaint, partially resolved by the construction of moderate improvements to such arterials as Haines Road, Central Entrance, Joshua Avenue and Rice Lake Road. The Duluth Heights neighborhood is severed by the high traffic volume along Central Entrance. The demand for public services such as police and fire protection, mass transit and utilities becomes a burden to the City, offsetting increases in the tax base.

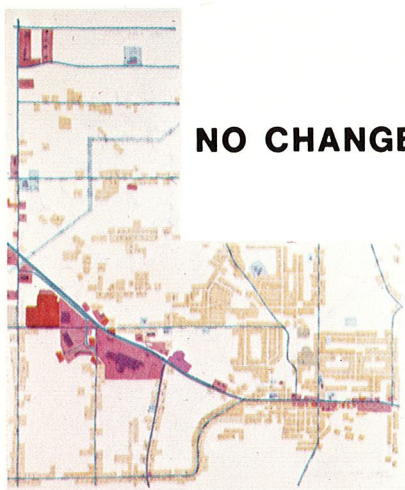
III. Development Boom

A major amount of new commercial development occurs in the area of the intersection of Haines Road and Highway #53. This development extends north to the Airport. A complete merging of the Miller Hill Mall area with the Duluth Heights business district is accomplished. Scattered commercial developments are located throughout the area. The Miller Hill Corridor Area culminates as the commercial center of the region. Prime parcels are developed for office uses. Apartment and single family home construction in scattered areas reflects the demand for residences in close proximity to employment.

ALTERNATIVE SCENARIOS

■ MULTIPLE
 ■ MOBILE HOMES
 ■ SINGLE FAMILY, DUPLEXES
 ■ PARKS, RECREATION
 □ VACANT

■ MANUFACTURING
 ■ WHOLESALE TRADE
 ■ RETAIL TRADE
 ■ OFFICE
 ■ GOV'T, SCHOOLS, CHURCHES, UTILITIES



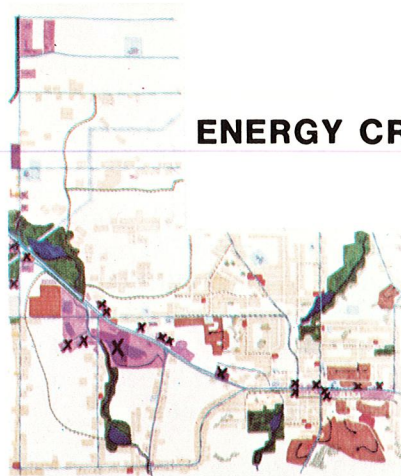
NO CHANGE



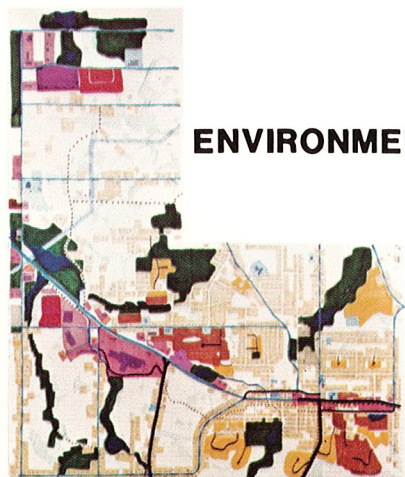
**CURRENT RATE OF
DEVELOPMENT EXTENDED**



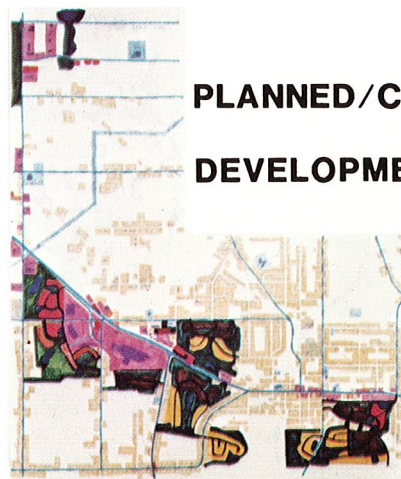
DEVELOPMENT BOOM



ENERGY CRISIS



ENVIRONMENTAL CONCERN



**PLANNED/CONTROLLED
DEVELOPMENT**



FEET: 0 1000 5000

The major physical characteristic of the area is the proliferation of new highways constructed to meet increased traffic demands. Limited access highways have been constructed on new alignments to replace Highway #53 and Central Entrance. The identity of Duluth Heights as a neighborhood is lost in the expansion of new development and roadway construction.

Automobile dependence is a major feature of this scenario. The automobile provides the connection between this new commercial center and the cultural and governmental center in downtown Duluth. Effects on the environment are substantial. The dramatic increase in filling wetlands has resulted in annual flood damage to many businesses. In an attempt to prevent this, Miller Creek and other streams in the area have been widened and channelized as open storm sewers.

IV. Energy Crisis

This scenario is based on assumptions of sharply increasing energy costs and decreasing supplies. Some commercial businesses in the area close, reflecting the reinstitution of Downtown Duluth as the area's dominant retail center and the decrease in automobile travel. New commercial developments are limited to scattered neighborhood stores within walking distance of their customers. Residential development consists of the conversion of single family homes to duplexes, and the construction of a moderate number of multiple dwellings close to shops and bus routes. Some remote single family homes have been abandoned. Townhouses are the most popular type of new family housing.

There is little change in the environment. Trees are planted on the north sides of homes for wind breaks. Vegetation which interfered with greenhouses and solar collectors has been removed. Several new parks have been acquired to serve nearby residences. Walking and bicycling are popular, and new trails are developed throughout the area. Due to decreased demand and funding, no new roads have been constructed. Bus and other forms of mass transit service provide convenient access to all parts of Duluth. Duluth Heights has a strong neighborhood identity, as it is consolidated to use urban services most efficiently. Employment and population decreases have slowed the pace of life of the residents, who work together to pool resources. Almost every yard has a garden.

V. Environmental Concern

Modest commercial and residential construction occurs to infill vacant parcels between developed areas. New developments have landscaped yards with stormwater retention basins. Some older developments have replaced a portion of their parking spaces with these features. A major new park serving the south half of the Duluth Heights neighborhood is established. Parks have been developed to provide interneighborhood connections along Miller, Coffee and West Branch Chester Creeks. Trees are planted along these creeks, and public stormwater retention basins reduce the effects of storms.

The residential character of the neighborhood is considerably upgraded, and housing values have increased faster than other areas of the City. Residents are recreation oriented. Wildlife has rediscovered the wetlands located throughout the area. Traffic congestion is reduced by improvements to existing streets, including the construction of a fifth lane on Central Entrance in Duluth Heights, and by improved mass transit service.

VI. Planned/Controlled Development

This scenario provides moderate commercial expansion centered around the Miller Hill Mall and Duluth Heights business districts. Planned residential developments are provided within walking distance from these commercial centers. These developments consist of a mixture of single family homes, duplexes and multiple dwellings, connected with interior local streets and semi-public open spaces. Retention basins and development standards avoid many of the problems created by new construction.

Growth is accommodated by limiting it to the capacity of the natural and man-made systems. Based upon a detailed evaluation of those systems, the location of new development is established by zoning changes. Wetlands and other critical environmental areas remain vacant. A more active review process ensures that developments are planned to accommodate the concerns of those who live, work, own businesses and shop in the area.

GOALS

What are the Goals of the Master Plan ?

After analyzing the inventory and discussing the alternative scenarios, the Miller Hill Corridor Plan Committee identified six major goals. A common theme of these goals is the balancing of demands on natural and man made systems with the capacities of those systems. The discussion following each of the following goals summarizes those critical issues which that goal must address. (See Appendix for a detailed list of critical issues.)

1) FUTURE DEVELOPMENT AND IMPROVEMENTS SHOULD BE DIRECTED TOWARDS MAKING THE PLAN AREA ATTRACTIVE FOR RESIDENTIAL USES.

Since the 1890's Duluth Heights has been a viable residential neighborhood. The establishment of a regional commercial district in the Miller Hill Mall area, and the consequent "spin-off" commercial development, has had many effects on the residential quality of Duluth Heights. Some beneficial effects include close proximity to regional shopping facilities and employment, and improved mass transit service (because the Miller Hill Mall is a major destination.) However, a significant number of effects have been negative. These effects include: increased traffic congestion; visual impacts of "strip" commercial development and signage; air and noise pollution; through traffic on residential streets, such as Eklund Avenue; and, reduced safety for motorists and pedestrians.

2) THE VIABILITY OF EXISTING COMMERCIAL AND LIGHT INDUSTRIAL DEVELOPMENTS WITHIN THE PLAN AREA SHOULD BE MAINTAINED.

The Miller Hill Mall commercial area -- containing five department stores and more area devoted to retail use than the Duluth Central Business District -- is a regional commercial center. Developable commercial land in the area has a relatively high land value, contributing toward the tax base. The commercial businesses in the area represent a considerable private investment. Significant public investments have also been made in streets and utilities, the Airport Industrial Park, and the Duluth International Airport (located just beyond the Plan Area limits). The Airport Industrial Park contributes to the economic vitality of the City by providing needed space for industrial development. The Airport needs to be conveniently accessible by automobile.



Control of the signage on Central Entrance would improve the residential character of Duluth Heights.

3) THE IRREVERSIBLE ALTERATION OF CRITICAL NATURAL RESOURCES WITHIN THE PLAN AREA SHOULD BE PREVENTED.

The 1958 rezoning of Duluth designated approximately 345 acres in the Plan Area for commercial or manufacturing uses. Within the Miller Creek watershed alone approximately 92 of these acres are currently vacant wetlands. These wetlands play an important role controlling floods, filtering pollutants, preventing soil erosion, and reducing water evaporation and water temperature. Creeks are resources which also provide public benefits by retaining stormwater runoff and provide scenic areas for recreational use. The Plan Area contains portions of the upper watersheds of seven creeks. Uncontrolled commercial or residential development could significantly affect the natural environment in the Plan Area and in downstream portions of Duluth, such as the West End neighborhood.

4) A PATTERN OF LAND USE WHICH DOES NOT NECESSITATE EXCESSIVE EXPENDITURES SHOULD BE ENCOURAGED.

Development in the Plan Area is characterized by urban sprawl at both the citywide and local scales. At the citywide scale, developments within outer portions of Duluth (such as the Plan Area) generally increase the public costs for streets, utilities and mass transit. This was documented in the "The Costs of Sprawl" study conducted by the Real Estate Research Corporation in 1974.* Local negative effects are demonstrated by the "strip" pattern of residential development which exists along Anderson, Haines, and Trinity Roads. This isolates areas of vacant land behind the residences fronting on those streets. Areas of urban sprawl often are not served by public sanitary sewers. Approximately 333 dwelling units within the Plan Area are served by septic systems. In the long term, this form of sewage disposal is more costly both economically and environmentally to homeowners when compared to publicly-sewered areas.



The trend towards filling wetlands can be reversed.

* Real Estate Research Corp., The Costs of Sprawl. Washington, D.C.: U.S. GPO; April, 1974.

5) PROPERTY WITHIN THE PLAN AREA SHOULD BE PROTECTED FROM FLOOD DAMAGE.

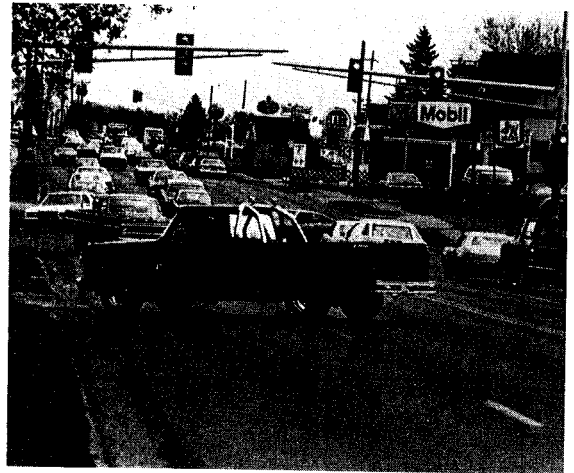
Flooding within the Plan Area has become increasingly serious and threatens the value of commercial properties and buildings adjacent to Miller Creek. The effects of flooding are also increasing downstream, such as in the West End neighborhood. This is due to the loss of wetland areas, the increase in impervious surfaces and the removal of vegetation.

6) IMPROVEMENTS WITHIN THE PLAN AREA SHOULD REDUCE TRAFFIC CONGESTION AND INCREASE TRAFFIC SAFETY.

Prior to 1962, traffic on Miller Trunk Highway was primarily directed towards the Iron Range and outlying residential communities. The construction of the Target store and - more significantly - the Miller Hill Mall, resulted in a significant increase in traffic. The development of property currently zoned for commercial uses in Hermantown could further accelerate traffic increases. Traffic congestion reduces accessibility to the Miller Hill Mall area and the adjacent neighborhoods of Kenwood, Duluth Heights, and Piedmont Heights. Traffic safety is reduced by the "strip" pattern of development which characterizes much of the Plan Area. Many residential portions of the Area, such as Anderson and Trinity Roads, were developed along arterial and collector streets which were constructed to accommodate through traffic rather than local access. The proliferation of curb cuts on these streets reduces traffic safety due to the high number of turning locations. Those streets which exhibit both high volume and high turning movements, such as along Central Entrance in Duluth Heights, represent the areas most in need of traffic safety improvements. Another serious traffic safety problem is the use of local streets, such as Eklund Avenue, as shortcuts to the Miller Hill Mall.



Flood damages can be reduced. (Target parking lot, May 10, 1979.)



Improvements to Central Entrance can reduce traffic congestion and increase traffic safety.

PLANNING POLICIES

Development in the Miller Hill Corridor Area which occurred prior to the adoption of this Master Plan was based upon implicit policies or rules of action. The "M-1" Manufacturing district on both sides of Highway #53 east of Haines Road - for example - reflected the unwritten rule that wetlands were wastelands which should be filled and developed. A major purpose of this Master Plan is to provide new policies which state what we can do to accomplish our goals for the Plan Area.

What are the Policy Recommendations of the Master Plan?

Commercial Development

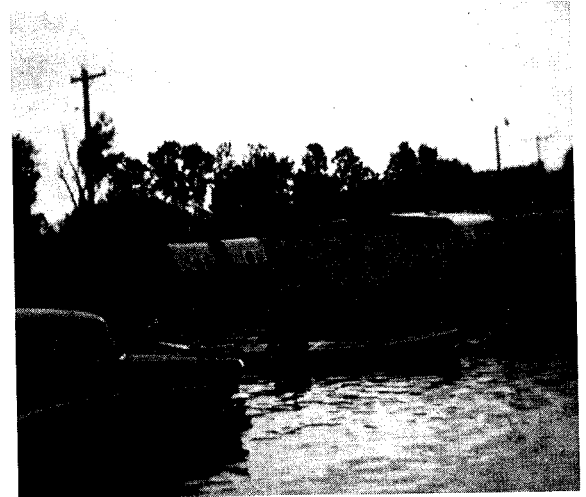
1. The Duluth Heights business district should primarily provide for neighborhood service commercial uses.
2. New commercial developments in Duluth Heights on Central Entrance should consist of infilling between existing businesses, and no expansion beyond the east or west limits of the existing commercial zone should be permitted.
3. The City Public Works Repair Shop site on Central Entrance is a good location for commercial redevelopment.
4. New commercial developments adjacent to residences should provide landscaped buffer areas.
5. Commercial development in Duluth Heights should not be extended into those vacant and residential areas which lie at the top of the steep hillside located north and south of Central Entrance.
6. New commercial development should protect the aesthetic and residential character of the Area and avoid adverse effects on creeks, wetlands and steep slopes.
7. The connection of the two business districts within the Plan Area (i.e. - Duluth Heights and the Miller Hill Mall area) should not occur by the extension of commercial development along Central Entrance between Trinity and Anderson Roads. Each district should be encouraged to consolidate to reduce the amount of interface with residential neighborhoods.
8. Commercial development on the north side of Highway #53 from Haines Road to Joshua Avenue should be limited to those properties which are connected to Highway #53 by direct

vehicular access and by similar topographic level, and which do not have critical natural features (i.e. - wetlands, steep slopes, and floodplains). In addition to protecting critical natural features, this policy will protect the residential neighborhood on Maple Grove Road.

9. New commercial developments should be carefully reviewed to ensure that they provide proper stormwater facilities, utilities, easements, and controlled curb cuts.
10. Additional commercial development should not be extended along Haines Road north of Highway #53, but should be consolidated within the Miller Hill Mall area south of Highway #53.
11. New commercial development should be encouraged in the area south of Maple Grove Road and west of Burning Tree Road, provided that an adequate buffer from residential properties to the west is retained and existing wetlands are preserved.
12. Retail commercial uses should continue to be limited within the Airport Industrial Park, to discourage any expansion of existing commercial areas.
13. Commercial development generally located north of Highway #53 should be limited because of the lack of adequate arterial and collector streets.

Residential Development

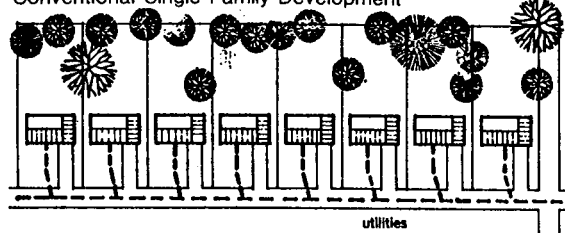
1. Moderate "R-2" density residential uses should be encouraged within walking distance of the Miller Hill Mall and Duluth Heights business districts.
2. The area south of the Village Mall is appropriate for moderate "R-2" density residential uses and would be separated from the adjacent commercial area by a rock cliff and a change in elevation.
3. The area in Duluth Heights south of the proposed rear service road for Central Entrance (between Arlington and Blackman Avenues) is appropriate for moderate "R-2" density residential uses, and would be separated by a change in elevation from the commercial district to the north and northeast.
4. Residential development should be encouraged in areas within one quarter mile of existing bus routes and commercial uses.



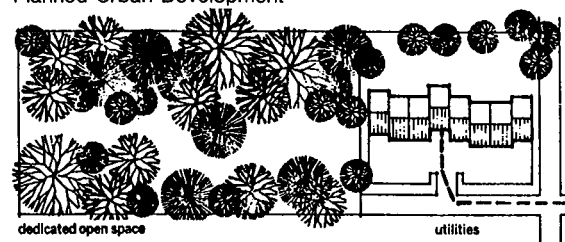
Proper stormwater facilities could reduce the effects of flooding in the level area compromising much of the Duluth Heights business district. (Basswood Ave. south of Central Entrance- August 20, 1972.)

5. A full range of urban services (e.g., sidewalks, utilities, and mass transit) should be provided in the "primary urban neighborhood" of Duluth Heights.
6. Larger tracts of vacant areas should be encouraged to be developed as Planned Urban Developments to protect critical natural features, provide a variety of housing types (to accommodate smaller households and more energy efficient designs), and furnish semi-public open space (to alleviate the present lack of public parks).
7. New residential construction in rural residential areas (e.g. - Page Street) should maintain the low density of existing development.
8. Additional mobile home sites should be considered in or adjacent to the Plan Area (especially to replace units phased out of the Highland Mobile Home Park).

Conventional Single Family Development



Planned Urban Development



Planned Urban Developments allow for more open space and shorter utility extensions without increasing the density.

Industrial Development

1. No heavy industrial uses should be permitted in the Plan Area.
2. Except for the consideration of stormwater retention basins and wetlands, site development standards and allowable uses for the Airport Industrial Park are adequately controlled by the existing rezoning conditions and covenants. Future development should include retention basins to prevent an increase in the rate of stormwater runoff as a result of development. Wetlands in the Industrial Park should be preserved.
3. Industrial development within the Plan Area should be limited to the Airport Industrial Park.

Public Parks and Recreational Facilities

1. Portions of Miller, West Branch Chester and Coffee Creeks should be publicly acquired and developed as passive parks, extending into adjoining neighborhoods.
2. The Duluth Heights Recreation Area should be enlarged to connect the ballfield with the Community Club area.
3. A system of interneighborhood public trail easements should be provided to connect the major proposed public open space areas.
4. Semipublic recreational facilities should be provided in Planned Urban Developments, so that larger residential developments will provide their own recreational facilities.

5. A system of public stormwater retention basins should be provided to reduce the effects of stormwater runoff onto areas downstream.
6. Easements for public trail connections should be located in areas with critical environmental features (e.g., floodplains, steep slopes and wetlands) and along tributaries of creeks.
7. Public sidewalks should be encouraged within the limits of the "primary urban neighborhood" of Duluth Heights and in the Miller Hill Mall area.

Environmental

1. Development should occur in a manner which allows wetland areas to be maintained in their natural state.
2. Development should be controlled within floodplain areas.
3. During new construction measures should be provided to decrease the effects of soil erosion and sedimentation.
4. Building along steep slopes should be restricted to retain those areas as buffers.
5. Development should include improvements to control the increase in stormwater runoff to reduce the effects of flooding downstream.

Transportation

1. No new major highway corridor relocation for Highway #53 or Central Entrance should be programmed. This will avoid the resulting adverse effects on the Duluth Heights neighborhood which would be caused by the removal of homes and the division of the neighborhood. Improvements in accordance with current MnDOT plans for a fifth lane on Central Entrance from Blackman Avenue to Anderson Road should be made to reduce the large number of turning movements and traffic congestion.
2. Excessive curb cuts for individual businesses should be discouraged. Attempts should be made to provide access via frontage roads, especially for properties fronting on arterial streets. The example of existing developments which have multiple or improperly located curb cuts should not be used to justify additional curb cuts which will compound these problems.
3. Bus routes should be located on collector and arterial streets and not on local streets.



Soil erosion during the construction of K-Mart in 1975.

LAND USE AND TRANSPORTATION PLAN MAP

Using the selected scenarios as a basis, the desired outcome for the Plan Area in the year 1995 was developed as the Land Use and Transportation Plan Map. This Map documents the intended use of the various portions of the Plan Area and indicates the relationships between them. The five basic features of the Plan Map explain how the demands of our goals are balanced with the capacities of streets, utilities and the natural environment.

What are the Five Basic Features of the Land Use and Transportation Plan Map ?

1) MODEST COMMERCIAL EXPANSION IN A PLANNED, ORDERLY FASHION.

The natural environment, streets and public utilities in the Plan Area have the capacity to serve additional commercial developments which are properly located and planned. New commercial development should be consolidated around the two existing business areas: the Miller Hill Mall area and the Duluth Heights business district. By doing so the adverse effects of expanding commercial uses on residential areas will be minimized. This will also preserve the identities of these two business areas and offer the opportunity for the development of new residences close to places of employment and shopping facilities.

The Duluth Heights business district has been altered from its status as a neighborhood commercial center - as it was identified in the 1958 Comprehensive Plan - to a major "strip" commercial district servicing through traffic on Central Entrance. No expansion of this business district along Central Entrance beyond its existing east and west limits at Basswood and Blackman Avenues is proposed.

Commercial growth in Duluth Heights will consist of "infill" between existing businesses and limited expansion in two areas. The first, on the south side of Myrtle Street between Basswood and Arlington Avenues, will allow needed off-street parking to be provided for adjacent businesses. The second, south of Central Entrance between Stroll and Blackman Avenues, will have good street access at the time the rear service road is constructed as part of the fifth lane widening of Central Entrance. This



The "strip" commercial district along Central Entrance in Duluth Heights serves regional traffic.

area is separated by a steep hillside from the residential area to the west and south. On the north side of Central Entrance, west of Basswood Avenue, another steep hillside defines the limits of commercial development and separates it from the residential area along Myrtle Street.

Where possible, neighborhood commercial uses should be encouraged to locate in the Duluth Heights business district. Commercial uses which serve a larger area should be encouraged to locate near the Miller Hill Mall regional shopping center.

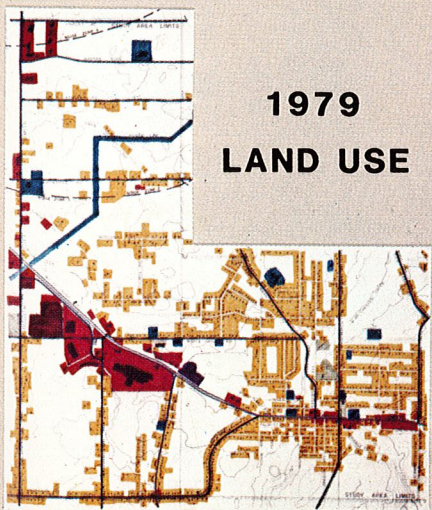
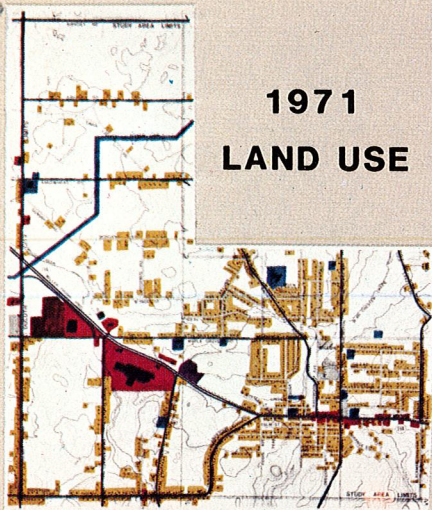
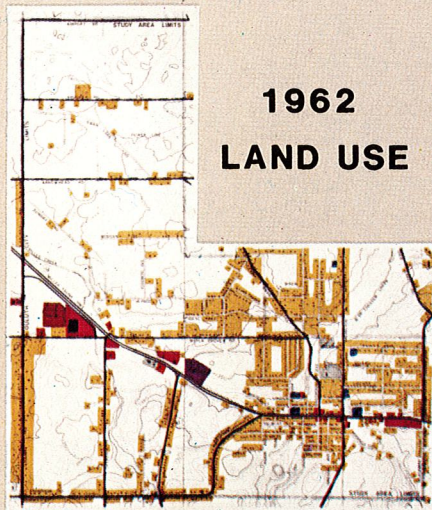
In the Miller Hill area, topography and wetlands provide significant boundaries for commercial growth. The large wetland area on the north side of Highway #53, east of Haines Road, cannot be developed for commercial uses without major impacts on the Miller Creek watershed. A ridge line with adjacent steep slopes between this wetland area and Cottonwood Avenue to the east serves as a natural boundary for the residential area along Maple Grove Road. Development of this area for commercial use is not feasible because curb cuts onto Highway #53 would produce traffic conflicts, and excavation of the steep hillside would be environmentally undesirable. Little opportunity for expansion exists on the north side of Highway #53. This area lacks good collector streets.










The ridge line discussed above continues east behind the Highland Supper Club, where the adjacent grade becomes less severe. This area offers the opportunity for the development of "transitional" commercial uses - such as offices and motels - between the commercial and residential areas.

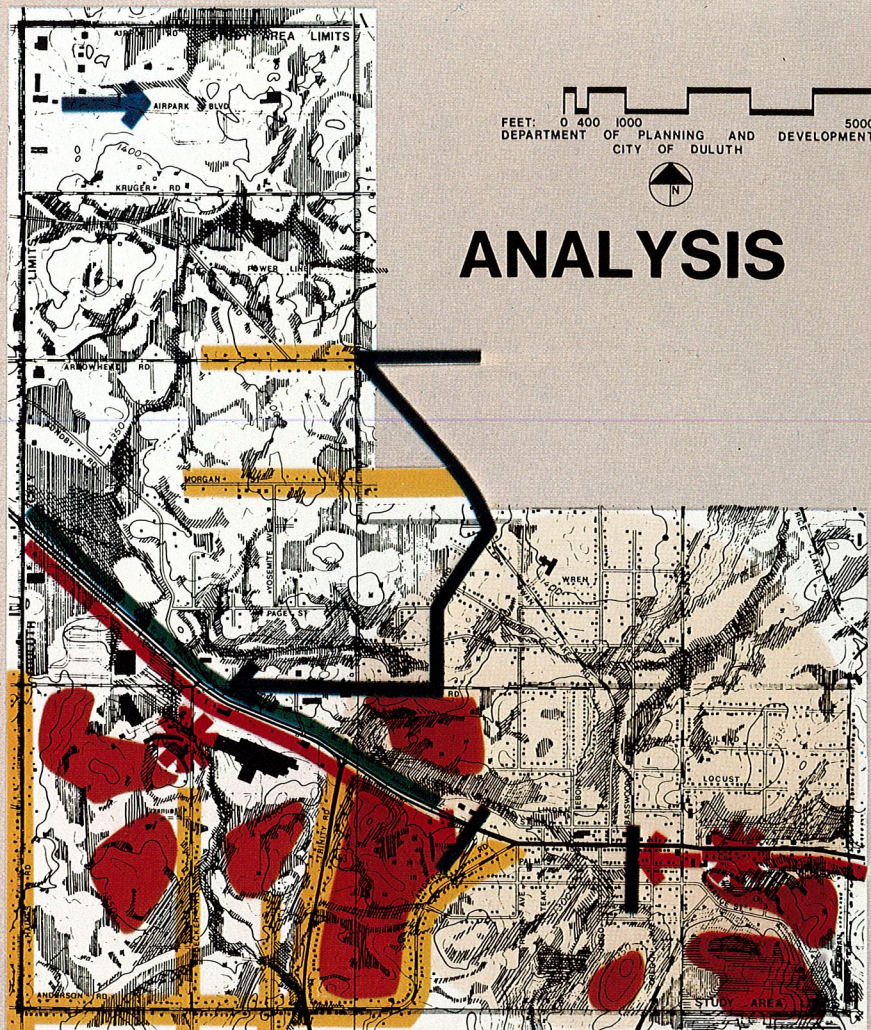
East of Joshua Avenue, steep slopes provide a natural edge for commercial development. The Duluth Ready Mix cement plant area can accommodate commercial uses up to the edge of the filled area adjacent to Coffee Creek. Development beyond this filled area toward Toyota of Duluth should not occur in order to prevent expansion toward the Duluth Heights business district, avoid adverse effects on Coffee Creek and the adjacent steep slopes, and avert additional traffic congestion along Highway #53. (Continued on page 48.)



Steep slopes on the north side of Highway #53 across from the Miller Hill Mall serve as a natural boundary for commercial growth.



-  A full range of urban facilities should be provided within the limits of the Duluth Heights Neighborhood.
-  Wetlands, floodplains and steep slopes need protection.
-  "Through Traffic" destined for the Miller Hill Mall area disrupts residential streets.
-  Land for light industrial development is available in the Airpark Industrial Park.
-  "Strip" residential areas extend public service requirements and bypass useable land.
-  Steep Slopes and Wetlands provide a natural boundary for commercial growth.
-  Significant areas for new infill development exist near the two business districts.
-  New commercial growth should occur around the Duluth Heights and Miller Hill Mall business districts.
-  The trend towards merging the two business districts should be concluded.



- | | |
|---|--|
|  Single Family Dwellings, Duplexes |  Office |
|  Multiple |  Government, Schools, Churches, Utilities |
|  Mobile Homes |  Manufacturing |
|  Retail Trade |  Parks, Recreation |
|  Wholesale Trade |  Vacant |

Land Use and Transportation Plan Map Notes

- 1 Small neighborhood convenience goods and retail service facilities should be located within residential areas (specific locations to be subsequently determined).
- 2 Planned Unit Development (PUD) areas restrict density to approximately that for which the land is zoned. However, a wider range of uses such as multiple dwellings are allowed. For example, townhouses may be located in a single family district, but only if the number of units per acre observes the limitation provided for single family homes. The arrangement of streets, stormwater retention basins, buffers, playgrounds, and walkways shown on the Plan Map indicate desirable general concepts. These concepts could be achieved with other designs. (Detailed drawings must be reviewed and approved after public hearings held by the Planning Commission and City Council.)
- 3 The construction of Joshua Avenue should be accomplished in its entirety from Highway #53 to Arrowhead Road. Construction of only that portion located south of and connecting to Maple Grove Road would result in undesirable traffic effects on residential areas. The function of this street is to provide an arterial connection between the Mall area and Kenwood and other eastern neighborhoods. It also defines the edge of the "Primary Urban Neighborhood" of Duluth Heights.
- 4 This Plan represents a net expansion of commercial areas from those existing in 1979. The total amount of commercial area is based upon the existing and planned capacity of natural features, streets, utilities and other services. Any rezoning which would add to the amount of commercial areas on the Plan Map should include a corresponding reduction in those areas.
- 5 Central Entrance should be widened to five lanes, and include the backage road as indicated. Fewer curb cuts for businesses and limited egress onto Central Entrance should be implemented with this improvement.
- 6 Trees and other appropriate vegetation should be placed along Miller Creek between Highway #53 and the Miller Hill Mall.
- 7 Landscaped setback areas should be provided within the front yards of commercial developments fronting on Central Entrance, and within commercial developments adjacent to residential areas. Parking and signage should be excluded from those setback areas.
- 8 During construction, sedimentation basins to reduce the effects of soil erosion should be provided.
- 9 Airpark expansion to the second stage area should be implemented only after the original Airpark area is developed.
- 10 Within the limits of the "Primary Urban Neighborhood" of Duluth Heights, a complete range of neighborhood services and facilities such as parks and walkways should be provided.

Commercial growth in the Miller Hill Mall area will be primarily located on the south side of Highway #53. Parcels in this vicinity have good access to arterial and collector streets. Critical environmental areas can be avoided, while sufficient land area for development remains. Developed portions of the Highland Mobile Home Park can be utilized for commercial purposes without adverse environmental effects. A smaller area fronting on Haines Road, south of the J. C. Penney Warehouse, is also outside of the wetlands. The expansion of commercial uses on the south side of Maple Grove Road, west of the K-Mart store, can occur without adverse effects on the residential areas to the west and south if an adequate buffer is retained. The rock cliff behind the Village Mall is a natural edge of the Miller Hill Mall commercial area. Miller Creek provides a continuation of this edge. Commercial uses are not proposed south of the Miller Hill Mall, as this would create adverse effects on the adjacent residential neighborhood by the establishment of a new direction of commercial growth.

2) COMPLETE FACILITIES PROVIDED WITHIN THE "PRIMARY URBAN NEIGHBORHOOD" OF DULUTH HEIGHTS

Private developments and public improvements should work to strengthen this neighborhood, centered on its business district. Increased amenities for residents - such as nearby parks and shopping facilities - should be provided, while the costs of public services for new development should be minimized. Residential growth should "infill" vacant land between developed areas.

The residential density in Duluth Heights should be within the range of the single family zoning districts, except for two areas adjacent to the business district. Duplex density development in these areas will allow more residents to be located within walking distance of urban services, such as shops and bus lines. The first area - located on the south side of Myrtle Street between the Public Works Repair Shop and Stroll Avenue - will provide a transition between the single family district to the north and the commercial businesses on Central Entrance. The second area is located on Orange Street, generally between Arlington and Blackman Avenues.

The Duluth Heights neighborhood is divided in half by the pedestrian barrier of Central Entrance. Developed public parks should be provided within each half. The Duluth Heights Recreation Area is a priority. This area should be expanded along the West Branch Chester Creek to add a passive recreational area to the active recreational facilities already provided. The south portion of the neighborhood should be served by the development of both active and passive recreational facilities on tax-forfeited land adjacent to Coffee Creek.

Walkways should be concentrated within one half mile of the business district, with connections to new residential areas. Bikeways and intraneighborhood trails should be located along Coffee and West Branch Chester Creeks.

3) RECOGNITION OF THE EFFECTS OF DECREASING ENERGY AVAILABILITY

Locating new residential developments close to each of the two business districts can encourage energy conservation. This will allow more trips to be made by walking and will promote bus usage by locating homes near bus stops. In the Miller Hill Mall area, three duplex density residential areas are provided: on the plateau south of the Village Mall; on Trinity Road south of the Miller Mall parking lot; and, on Maple Grove Road between Joshua Avenue and Highway #53. (See Plan Map, page 46.)

The Planned Urban Development (PUD) areas on the Land Use and Transportation Plan Map encourage energy efficiency through the development of housing types which require less energy consumption for heating. Townhouses and multiple dwellings are allowed in these areas by special use permit. PUD's can include a minor amount of convenience commercial uses, reducing the amount of energy consumed for transportation.

Small neighborhood convenience goods and retail service facilities should also be located within existing residential areas. Specific locations will be subsequently determined. This land use pattern will reduce energy consumption by increasing the number of trips by walking and decreasing the length of some automobile trips.

On a citywide scale, the overall concept of limiting commercial growth within the Plan Area will contribute towards energy efficiency. The Williams-Kuebelbeck study (1978) indicates that there is a significant increase in the total miles of travel, hours of travel, and gallons of gasoline consumed for a new development at the scale of a regional shopping center in the Miller Hill Mall area as compared to a downtown location. Spinoff commercial developments of the type occurring in the Plan Area have a greater trip generation rate than a regional shopping center. Therefore, unless they are controlled, these developments would produce energy effects similar to those indicated in the Williams-Kuebelbeck study.

4) PROTECTION OF CRITICAL NATURAL FEATURES

Wetland and 100 year floodplain areas should be preserved by strict regulations. Floodplain zoning will (in addition to reducing flood losses) also help retain the natural characteristics of creeks, improving water quality and preserving the habitat for fish and other wildlife. Many floodplains along Miller, Coffee and West Branch Chester Creeks are also tax-forfeited lands which should be dedicated as public open space. As Miller Creek is the most affected by development, the dedication of tax-forfeited lands adjacent to it is a priority.

Throughout the Plan Area, tax-forfeited lands containing wetlands should also become public open space. Larger parcels are located between Eklund and Joshua Avenues, and on the north side of Arrowhead Road, east of Haines Road. Privately owned wetland and floodplain areas in commercial zoning districts should be preserved through careful site plan review and platting.

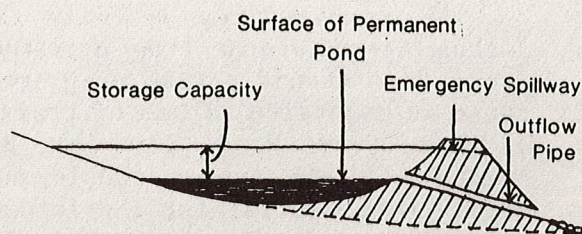
Planned Urban Developments allow critical natural features to be preserved by consolidating residential buildings onto those areas which do not have such limitations. Rural residential areas can preserve wetlands, floodplains, and steep slopes by limiting density to allow most of each housing site to remain undeveloped. That portion of the Plan Area generally located north of Highway #53 and Maple Grove Road, west of Joshua Avenue, is comprised of a high percentage of wetland and floodplain areas. This should be designated as a rural residential area. The provision of trees and other vegetation along



Wetland and 100 year of floodplain areas adjacent to Miller Creek should be preserved.

Miller Creek from Haines Road to the Mall would be an inexpensive first step toward the improvement of the creek in this area. (See photo on page 14.)

Stormwater retention basins for individual projects can partially offset the the effects of increased impervious surfaces caused by the construction of parking lots and buildings. However, retention basins cannot replace all of the benefits of wetlands, which provide habitat for wildlife, contain vegetation to reduce the temperature of the water, and eliminate some of the impurities in the water. Improper design, construction or maintenance of stormwater retention basins can greatly reduce or eliminate their effectiveness. New plats and Planned Unit Developments can provide more effective retention basins which serve a larger area. Finally, publicly-developed retention basins can provide significant improvements in the existing stormwater runoff system by serving even larger portions of the Plan Area. The Land Use and Transportation Plan Map suggests several workable locations for public stormwater retention basins. In addition to providing environmental benefits, these basins will reduce property losses by flooding.



Retention basins can partially compensate for the effects of urban development.

In order to determine the effects of future development in the Miller Hill area, a program to monitor the flows and quality of Miller Creek should be established. Monitor stations should be located at Haines Road and south of the Miller Hill Mall. This will allow land use and development controls to be revised as feedback is obtained on the effects of development.

5) STREET IMPROVEMENTS TO REDUCE THE ADVERSE EFFECTS OF TRAFFIC ON DULUTH HEIGHTS AND THE MILLER HILL MALL AREA

The development of a minor arterial or collector street along the alignment of Joshua Avenue - from Highway #53 to Arrowhead Road - will alleviate many of the effects of through traffic on the north half of Duluth Heights. This recommendation was also made in the City's 1927 Major Street Plan. This alignment is located midway between Haines Road and Arlington Avenue, which are the two existing north-south arterials in the Plan Area. The south end of Joshua Avenue will intersect Highway #53 at a controlled location (where it intersects with Trinity Road).

The construction of only that portion of Joshua Avenue connecting Highway #53 and Maple Grove Road should not be programmed. This would cause an excessive volume of traffic to be placed on Maple Grove Road, Swan Lake Road, and Eklund Avenue. Joshua Avenue should not be developed until the potential for the future connection of it to Rice Lake Road is carefully considered as such a connection could place a significant amount of additional traffic onto Trinity Road.

MnDOT's plans for a fifth lane on Central Entrance should include some related access limitations. The elimination and relocation of some curb cuts should be accomplished as part of the negotiations to acquire additional right-of-way. Some properties on Central Entrance should be designated to allow entrance only, with egress provided onto the proposed rear access road. By reducing the number and locations of turning movements, these revisions will decrease traffic congestion in Duluth Heights. If these access limitations are not made, the effectiveness of the fifth lane project in improving the traffic level of service will be diminished.

In order to better service the Miller Hill Mall commercial area, the extension of Burning Tree Road from Highway #53 to Decker Road is proposed. This collector street would improve access to Highway #53 and reduce demand at the already congested intersection of Highway #53 and Maple Grove Road. The extension of this collector street to Decker Road will provide good access to Piedmont Heights, furnish street frontage for adjacent vacant land, and avoid that portion of Decker Road which would be most costly to improve.

An internal collector driveway on the Miller Hill Mall site could significantly improve traffic flow and traffic safety for Mall customers. Such a driveway could be defined by curbed, landscaped islands.

Finally, improvements along Central Entrance and Highway #53 should be made to increase pedestrian safety. This would reduce traffic congestion, encourage pedestrian travel and improve the residential character of the area. These improvements could include signalized crosswalks and sidewalks.

EPILOGUE

How Will This Master Plan be Implemented ?

This Master Plan emphasizes the development of a process to positively affect development within the Plan Area. The implementation of some of the major recommendations of this Plan was an integral part of this process, occurring concurrently with the formulation of it. Within several weeks after the adoption of this Plan, the Duluth City Council encouraged Planned Urban Developments by reducing the minimum land area required from twenty acres to four acres. At the same time the "C-5" Planned Commercial District was created to provide more careful review of new projects. (Ordinance No. 8494).

These actions were followed on January 2, 1980, by a comprehensive revision of the zoning districts within the Plan Area. (Ordinance No. 8496. See pages 56 and 57.) Finally, the adoption of the Water Resource Management Ordinance, which governs work in floodplains, shorelands and wetlands, is intended to achieve a balance between urban growth and the protection of the natural environment. (Ordinance No. 8501). These revisions reflect the planning policies and the five concepts of the Land Use and Transportation Plan Map.

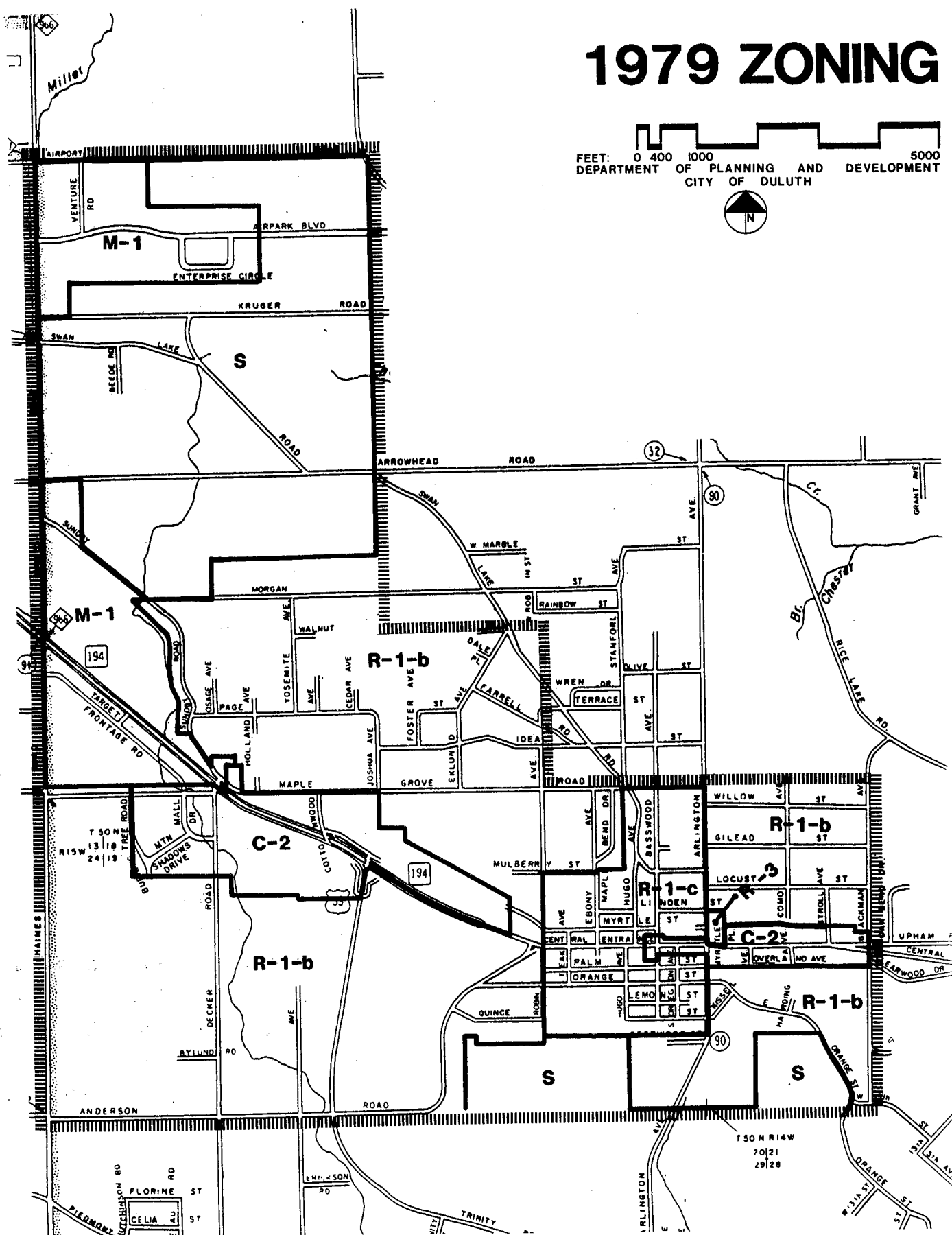
While these actions represent a significant change in the controls affecting future development of the Miller Hill Corridor Area, additional measures need to be implemented. Items to be considered include the location of convenience stores within walking distance of residences, signage regulations, steep slope preservation and sedimentation controls during construction.

The implementation of this Plan will achieve some of the desired results established in the scenario process. External influences, such as reduced commercial expansion during 1981-82 due to a slackening economy, result in additional changes which affect development in the Plan Area. These changes can be successfully dealt with if this planning process is a continuous one, incorporating feedback into it. As public and private decisions are made, this Master Plan should be referred to as a guide. The active use of this Plan and the periodic updating of it will ensure continued progress toward accomplishing our goals. As this Plan continues to achieve results, new horizons and new possibilities for the future of the Miller Hill Corridor Area will be opened up.

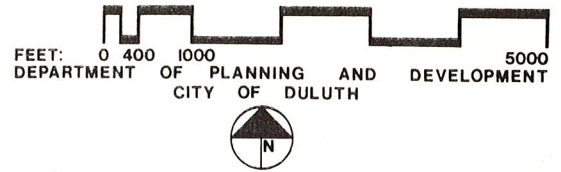
There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.

Niccolo Machiavelli


DEPARTMENT OF PLANNING AND DEVELOPMENT
CITY OF DULUTH

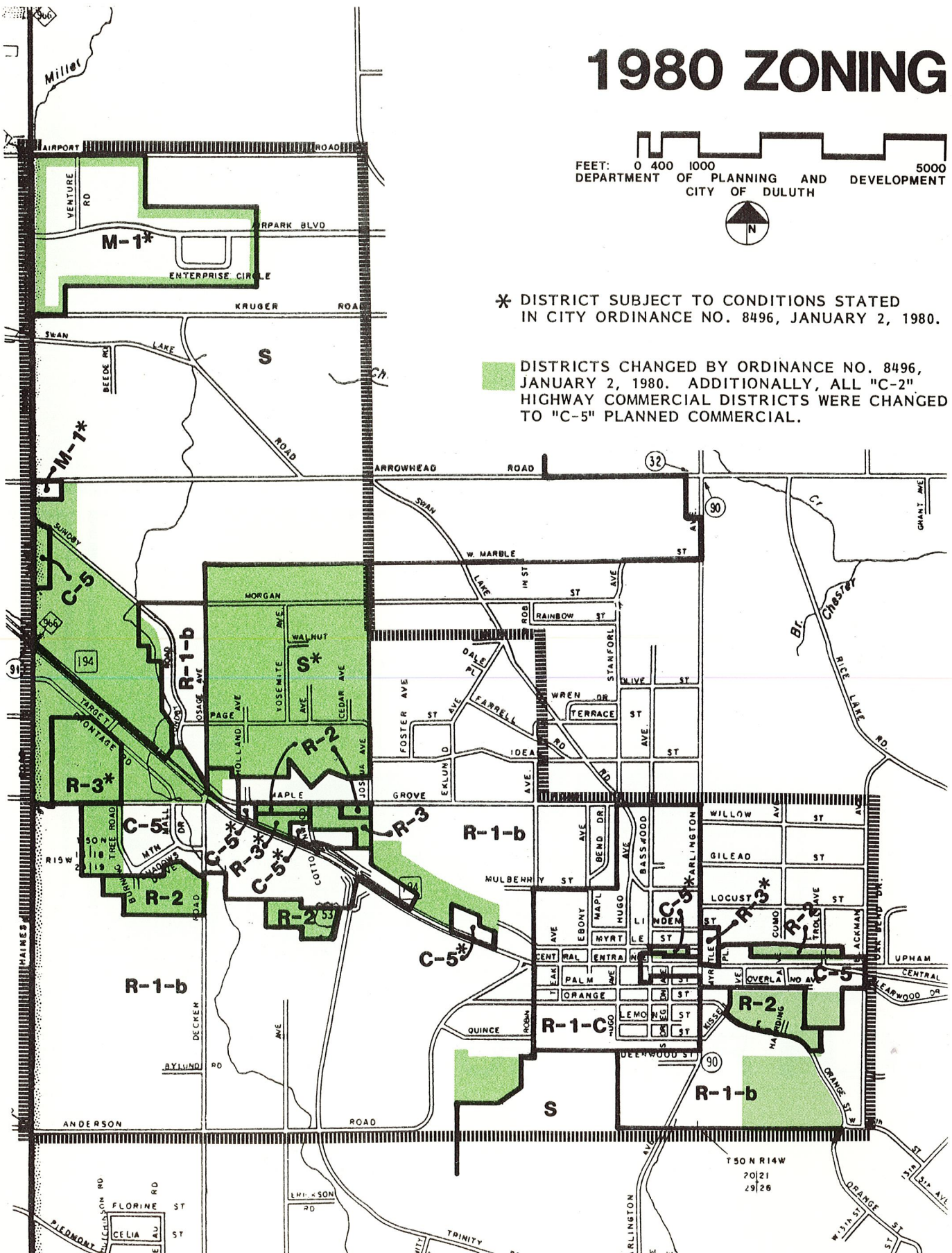


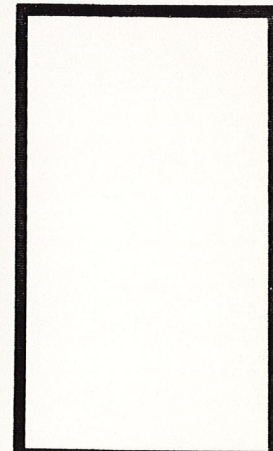
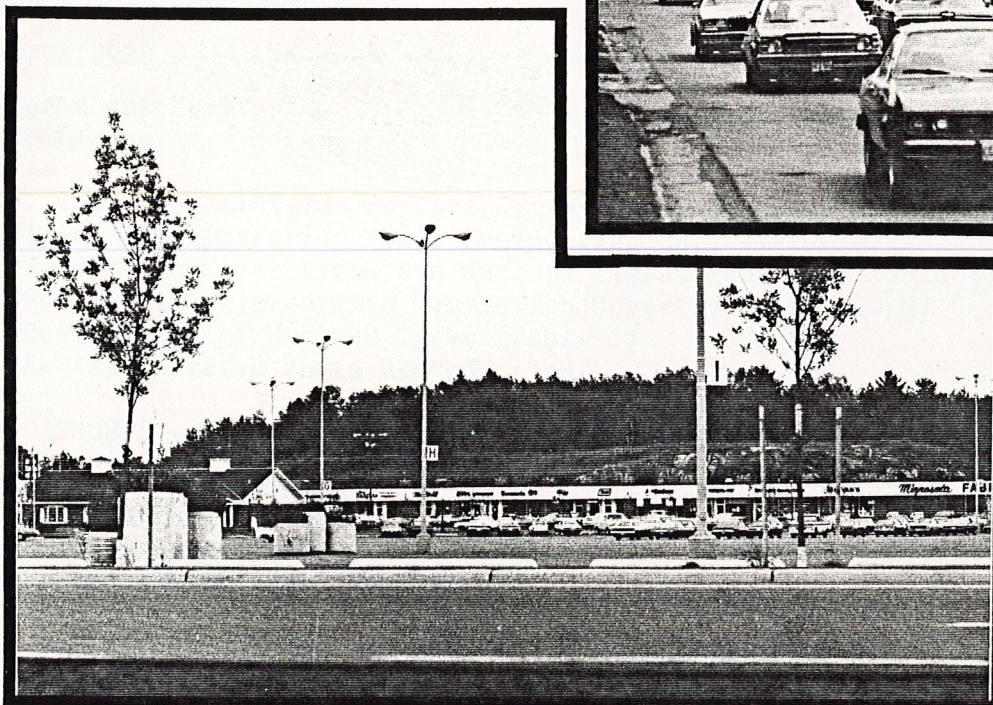
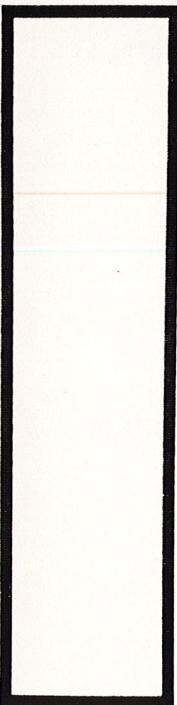
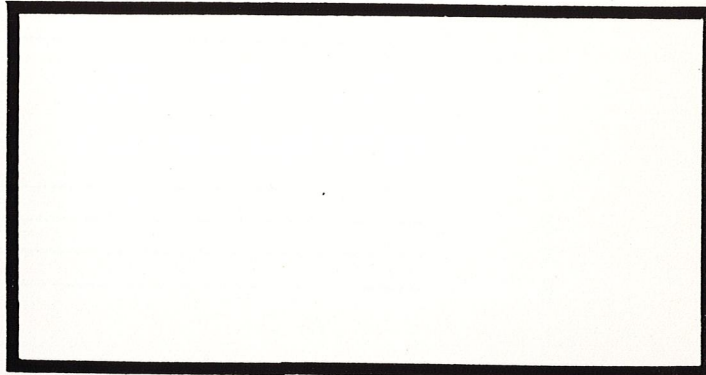
1980 ZONING



* DISTRICT SUBJECT TO CONDITIONS STATED
IN CITY ORDINANCE NO. 8496, JANUARY 2, 1980.

 DISTRICTS CHANGED BY ORDINANCE NO. 8496,
JANUARY 2, 1980. ADDITIONALLY, ALL "C-2"
HIGHWAY COMMERCIAL DISTRICTS WERE CHANGED
TO "C-5" PLANNED COMMERCIAL.





MILLER HILL CORRIDOR PLAN

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Prepared by the City of Duluth Department of Planning and Development in September, 1982, as an Appendix to the Miller Hill Corridor Plan.