Final Draft

VILLAGE OF MORELAND HILLS

COMPREHENSIVE LAND USE PLAN

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Photo: Willey Creek
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Acknowledgments

This Comprehensive Land Use Plan was developed at the direction of Mayor Charles M. DeGross for the purpose of addressing community land use issues. A Comprehensive Land Use Committee was formed. This Committee of staff and volunteer residents dedicated many hours to the issues and concepts surrounding land use in the Village. Their involvement in this effort has been invaluable.

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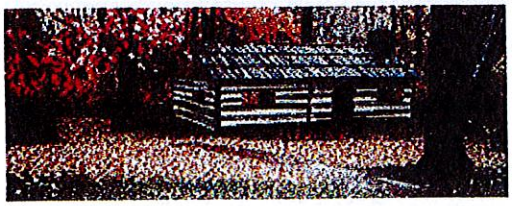

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Chapter 1
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Introduction

This document represents the first comprehensive land use update for Village of Moreland Hills since the 1973 Comprehensive Plan. While a Growth Management Study was completed in the mid-1990's by Cuyahoga County Planning Commission and William Benke Associates, this report was narrowly focused, dealing with sensitive lands such as riparian corridors, steep slopes, etc. Although the report was not adopted, several regulatory measures that resulted from the study were adopted by Council.

Obviously, since the prior Comprehensive Plan, the character and land use conditions in the Village have changed significantly. Moreland Hills has become a quiet suburban community of affluent households. The community character is one of large lots, wooded and sloping residential land with little non-residential development.

Most easily developable parcels of land in the community have been built upon. While vacant land remains, it is mostly subject to development constraints.

This planning effort is intended to provide a vision for the community; a vision that characterizes the Village of Moreland Hills in the next decade. Clarification of a vision for the community makes it possible for municipal staff to focus their efforts on actions necessary to implement the vision, as well as to avoid actions that are contradictory to it. Further, this document provides a means to convey community policy to prospective developers and residents.

Community Goals

Community goals provide the focus for planning efforts. Goals have been developed through discussions within the Comprehensive Land Use Plan Committee, a group organized to facilitate plan development, and through community input gathered at public meetings.

Objectives represent specific actions which implement and support particular goals. Objectives are public policy measures influencing goal attainment. Effective objectives have a rational relationship to the goals as well as to health, safety, and welfare issues. The following are goals and objectives developed for this effort:

Goal: Preserve and protect the value of residential properties.
Objective: Discourage land uses which conflict with existing uses and residential community character.

Objective: Promote residential neighborhood development which is considerate of the scale and character of other residences in the neighborhood.
Objective: Regulate development of lands assembled at the rear of existing developed lots so as not to be incompatible with adjacent uses and so that they would not be inferior due to configuration or poor access.

Goal: Accommodate limited non-residential development.
Objective: Encourage only locally-serving commercial uses.
Objective: Encourage extension of sewer and water infrastructure only in compliance with the Land Use Plan, National Water Quality Objectives and National Pollution Discharge Elimination System (NPDES) requirements.
Objective: Adopt fiscal policies that recognize limited non-residential development and limited sources of non-residential public revenues.

Goal: Avoid roadway congestion and hazards.
Objective: Encourage only limited non-residential land development.
Objective: Encourage low-density residential development.
Objective: Identify high accident locations and eliminate accident hazards.

Goal: Preserve environmental quality
Objective: Require single-family residential lots of sizes sufficiently large to provide for effective on-site waste water disposal where central sewers are not available.
Objective: Eliminate development practices that produce short and long-term erosion, stream sedimentation, and water quality deterioration.
Objective: Identify and acquire areas of unique environmental quality.
Objective: Encourage compliance with Phase II NPDES regulations.
Objective: Encourage expansion of wastewater treatment areas in compliance with regional water quality plans.
Objective: Encourage preservation of open space for public use benefits, environmental quality preservation, and preservation of community character.

Goal: Preserve historic and cultural resources
Objective: Maintain an inventory of historic and cultural resources such as historic cemeteries and the Garfield Birth Site.
Objective: Include historic and cultural resources as an element in land development reviews.
Objective: Preserve and enhance the Garfield Birthsite Park by allowing site improvements sensitive to the park's passive, open character.
Objective: Identify and encourage preservation of open space corridors.

Chapter 2
Historic Growth and Development

General

The Village of Moreland Hills lies within the area known as the "Western Reserve Territory." The Village was founded in 1929 when it separated from Orange Township. The Village grew slowly along arterial roadways serving the region. Earliest land subdivision activity occurred along major roads and in the vicinity of Wiltshire, Ellendale and Giles Roads.

Population of the Village increased gradually as the area was subdivided. In 1930 a total of 114 persons lived in the Village. A spurt of growth brought the total population to 561 persons by 1940. The next two decades each resulted in a doubling of the community's population and by 1970 a total population of 3000 called the Village their home. Since 1970 the Village has experienced substantial subdivision but only increased slightly in total population to a 2000 Census figure of 3,298.

A comprehensive plan prepared for the Village in 1973 indicated that 63 percent of the total land area of the community had been developed. Today, with about 91 percent of the community developed, only remnants of vacant developable land exist. Most vacant parcels are parts of larger multiple-parcel tracts owned by individuals who have a home on one of the tracts owned. Additionally, several large land areas are devoted to public or institutional uses.

Land has been developed almost exclusively for residential purposes. Very limited apartment or conservation development housing exists (see Land Use). As previously mentioned, a few large institutionally owned properties exist. The Metropolitan Park District, Chagrin Valley Country Club, Hiram House Camp and the Orange Board of Education are large landholders in the community. While it is not likely that Board of Education or Metropolitan Park District land could be developed for other than their current open space uses, both Hiram House Camp and Chagrin Valley Country Club could significantly influence the future if they were to be developed for other than institutional or semi-public uses. Except for these large parcels and very limited commercial uses, the community is generally one of large lot, detached single-family residences. Large lots and the existence of plentiful open space imparts a rural character.

Demographic Characteristics

The Village of Moreland Hills is unique in a number of respects. One of those is the community's demographic profile, particularly as compared to Cuyahoga County as a whole. While less significant differences occur, two characteristics stand out in this comparison. They are median age and income.

Age characteristics of Cuyahoga County and Village of Moreland Hills are exhibited in the following table. As indicated, the median age of all residents of Cuyahoga County is 37.3 years. Median age of Village residents is 47.6 years.

Table 1
General Population Characteristics (2000)

	Cuyahoga County		Moreland Hills	
Characteristic	#	%	#	%
Total population	1,393,978	100	3,298	100
Male	658,481	47.2	1,600	48.5
Female	735,497	52.8	1,698	51.5
Median age	37.3	n.a.	47.6	n.a.
In households	1,363,800	97.8	3,288	99.7
Family households	354,615	62.1	1,015	78.9
w/ own children <18	308,699	22.1	735	22.3
Non-family households	216,842	37.9	271	21.1
Living alone	187,395	32.8	245	19.1
Householder >65	68,888	12.1	125	9.7
Ave. household size	2.39	n.a.	2.56	n.a.
Ave. family size	3.05	n.a.	2.93	n.a.

Source: U.S. Census Bureau, Census 2000 Summary File 3 (SF 3), DP-1 Profile of General Demographic Characteristics: 2000.

The Village reflects a lower proportion of non-family households, households where the householder lives alone, and single person households where the householder is over 65 years of age. While average household size is slightly higher than the average of the County, average family sizes are somewhat lower.

Economic characteristics of the Village and County are summarized in Table 2. This table indicates the Village's status as a more mature portion of the County with financially successful residents. Household and family incomes in the Village are nearly three times County medians.

Table 2
Economic Characteristics (2000)

Characteristic	Cuyahoga County #	Cuyahoga County %	Moreland Hills #	Moreland Hills %
Population over 18	1,083,541	100.0	2,680	100.0
In labor force	676,874	62.5	1,603	59.8
Not in labor force	406,667	37.5	1,077	40.2
Females in labor force	330,276	56.5	646	46.8
Mean travel time to work	24.4 min.	n.a.	24.7 min.	n.a.
Worked at home	16,264	2.6	149	9.7
Occupation				
Management, prof.	220,939	34.8	937	59.7
Sales and office	181,884	28.7	440	28.0
Median household income	$ 39,168	n.a.	$ 113,977	n.a.
Median family income	$ 49,559	n.a.	$ 134,621	n.a.

Source: U.S. Census Bureau, Census 2000 Summary File 3 (SF 3), DP-3 Profile of Selected Economic Characteristics: 2000.

Chapter 3
Community Character

Land Use

Existing land use is illustrated on Figure 1. As is apparent from an inspection of this graphic, the bulk of land in the Village is developed for residential purposes and only limited vacant tracts remain. Table 3 provides a summary of land use, as well as a comparison to data presented in the last Comprehensive Plan. This previous data reflects totals for 1972.

Table 3
Land Use (1972 and 2003)

	1972			2003		
Land Use Classification	Acres	Percent of Developed	Percent of Total	Acres	Percent of Developed	Percent of Total
Single Family	**1,900**	**64.4**	**40.8**	**3,071**	**72.9**	**66.1**
Undeveloped s.f.				**434**	**--**	**9.3**
Multiple Dwelling	**7**	**0.2**	**0.1**	**6**	**.1**	**.1**
Retail / Service	**4**	**0.1**	**0.1**	**9**	**.2**	**.2**
Institutional/Semi- public	**525**	**17.8**	**11.3**	**508**	**12.1**	**10.9**
Orange School Dist.	101	3.5	2.2	103	2.5	2.2
Village Hall	7	0.2	0.1	4	.1	.1
Chagrin Valley C.C.	195	6.6	4.2	218	5.2	4.2
Other Village Prop.	--	--	--	28	.6	.6
Hiram House Camp	160	5.4	3.4	155	3.7	3.3
Moreland Hills G. C.	62	2.1	1.4	--	--	--
Parks & Open Space	**267**	**9.1**	**5.7**	**351**	**8.3**	**7.6**
Garfield Birth Site	--	--	--	3	.1	.1
Metroparks	267	9.1	5.7	348	8.3	7.5
Street Right-of-way	**246**	**8.4**	**5.3**	**270**	**6.4**	**5.8**
Total Developed Area	2,949	100.0	63.3	4,215	100.0	90.7
Undeveloped	1,701	---	36.7	434	--	9.3
TOTAL ACREAGE	4,650	---	--	4,649	--	100.0

Note: Difference in total acreage area is due to different methods of mapping land use. Current G.I.S. technology allows more detailed and accurate land use mapping. 1972 data from "General Land Use Plan" – 1973. 2003 data from field survey of May, 2003.

A comparison of 1972 land use statistics to those of 2003 accentuates the nature of recent development practices. Current suburban development practices consume more land than previously. In 1972 a total of 3,000 residents were accommodated on 1,907 acres of residentially used land. This is a ratio of 1.57 persons per acre of residentially used land or .63 acres per person. In 2003 a total of 3,071acres of residential land accommodates approximately 3,300 residents. This represents about 1.07 persons per acre or .93 acres per person. This represents a 32 percent decrease in average density over this period. More land is being utilized to provide for fewer people.

Physical Characteristics

Topography -The Village of Moreland Hills is situated in the glaciated portion of Ohio on rolling land adjacent to the Chagrin River. The eroded valleys of the Chagrin River and its tributaries create both interest and challenge for land development. Topographic relief varies by approximately 400 feet, changing from a low of about 811 feet to slightly over 1,200 feet. Topographic relief is illustrated in Figure 4.

The change in elevation is sometimes dramatic, exceeding 30% (30 feet of vertical change in 100 feet of lateral distance). Slopes exceeding 18% are generally considered not suited for development. Grades of more than 10% are generally not permitted in roads, parking areas and sidewalks. They are difficult to traverse in the winter when ice and snow covers the surface. Slopes exceeding 30%, or one foot of fall for every three feet of lateral distance, cannot be mowed and maintained without special equipment. Such steep grades exacerbate problems associated with soil stability, erosion, slippage, etc.

Figure 5 provides an illustration of topography in the Village. Steeply eroded hillsides adjacent to the Chagrin River and its major tributaries are obvious.

The Village is located entirely within the Chagrin River watershed. Localized catchments drain directly to the Chagrin River or to Wiley Creek, a tributary. Wiley Creek has its confluence with the Chagrin River at the south-east edge of the Village.

Land immediately adjacent to the Chagrin River and Wiley Creek is subject to occasional flooding. Figure 3 provides an illustration of the identified flood hazard area. The flood hazard area indicated is an area that has a one percent (1%) chance of flooding in any particular year. This area has been identified by the Federal Emergency Management Agency after careful examination of historic information, analysis of the cross-section of the stream channel, evaluation of land cover and runoff conditions in the watershed, climatalogical data and estimates of stream flows. Communities with identified flood hazards may participate in flood insurance programs provided appropriate land development regulations have been put in place. In Moreland Hills, property owners in the Jackson Road and Chagrin River Road areas are located partially within the flood hazard area and may be eligible for flood hazard insurance.

Riparian corridors – Riparian areas are those lands situated adjacent to rivers and streams that may be occasionally flooded. These lands possess site characteristics exemplifying a functional and physical relationship with the watercourse. Riparian areas perform many valuable functions and often contain wetlands, unique habitat, unique flora and fauna. Preservation of riparian zones can result in improved surface water quality due to the ability of riparian vegetation to filter sediments and other pollutants, to shade

and cool surface waters, and to mitigate stream channel erosion. Many communities incorporate setback requirements in their development regulations to encourage preservation of riparian corridors.

Riparian corridors are associated with the Chagrin River and Wiley Creek. The Chagrin River riparian corridor is contained almost entirely within lands owned as part of the Chagrin River Reservation of the Cleveland Metropolitan Park District. Its preservation is assured by its public ownership.

The riparian corridor adjacent to Wiley Creek is situated at the backs of privately owned single-family residential lots southeast of SOM Center Road. These are developed lots, many of which utilize the stream corridor as a visual and environmental amenity to their property. Steep slopes adjacent to the stream almost preclude accessing the stream corridor for development purposes.

West of SOM Center Road, Wiley Creek runs through Hiram House Camp and Orange School Board property. Grades and slopes in this reach of the corridor are less extreme than those to the east. Because of the nature of Hiram House Camp, the open space provided by the corridor is an important asset. However, long-term pressures for development could some day result in site development.

That portion of the Wiley Creek corridor running through Orange School District site may be subject to development pressures as the need for expanded school facilities increases in the future. It might be expected that such a public entity would hold itself to a high standard in any future site development and voluntarily comply with minimal riparian corridor setbacks.

Wetlands – Wetlands are areas where a combination of soil hydrology and soil morphology result in damp conditions for at least a portion of the growing season. These conditions result in the growth of vegetation uniquely suited to such an environment. Wetlands perform a variety of important functions. They filter storm water, provide unique habitat, moderate storm water runoff and other functions. Wetlands are located throughout the Village. Figure 6 illustrates their locations.

Soils – Cuyahoga County lies entirely within the glaciated portion of the State of Ohio. Four broad categories of soils are located within the County. They include deep soils on upland sites and higher portions of lake plains; moderate depth soils located on upland sites and lake plains; deep soils on beach ridges, outwash terraces and lake plains; and, deep soils on flood plains and low stream terraces.

Individual soil types have been identified by the Soil Conservation Service. Figure 7 provides a visual display of soil types occurring in the Village. Some soils possess characteristics making them less than desirable for home-sites or roadway locations. Others have slow permeability or extreme soil wetness. These characteristics limit their ability to accommodate on-site wastewater treatment facilities. Aside from extreme slope, which affects many portions of the Village including the majority of vacant remaining tracts, the most significant soils limitations relate to instability and slow permeability.

Because only small portions of the community are served by central wastewater collection and treatment, the nature of soils contributes significantly to the need for larger lots where on-site systems may be successfully operated. Figure 8 illustrates ground water pollution potential. This information is determined by examining various characteristics including soil permeability, depth to bedrock, soil wetness, flooding and

other factors. Higher pollution potential ratings signify a higher potential for improper absorption and treatment of septic tank effluent. Higher pollution potential occurs in the sandy, highly permeable soils of the Chagrin River valley.

A number soil types in the area are prone to slip or slide. Soils prone to slip have characteristics including a high plasticity index. Such soils change from a semi-solid to a more easily flowing, almost plastic consistency with the addition of moisture. Under such conditions these soils can not support loads which may be exerted on them by road surfaces, building foundations, etc. High moisture, combined with pressures from the weight of improvements or from the soil itself, may lead to landslides, property damage and injury.

The following table provides a summary of soils with inherent characteristics that represent significant limitations for developed land uses.

Table 4
Soils With Significant Development Limitations

Soil name	Limiting Characteristic	Severity
Allis	Wetness, depth to bedrock, strength	Severe
Bogart	Wetness, slope	Severe
Brecksville	Slope, slippage, strength	Severe
Canadice	Wetness	Severe
Canadea	Wetness, strength	Severe
Carlisle	Flooding, wetness,strength	Severe
Chagrin	Flooding	Severe
Chili (12% +)	Slope, caving	Severe
Condit	Ponding, strength	Severe
Dekalb	Depth to bedrock	Severe
Ellsworth	Strength, slippage	Severe
Fitchville	Wetness	Severe
Geeburg-Mentor	Slippage, strength, slope	Severe
Glenford	Wetness, frost action	Severe
Holly	Flooding, wetness	Severe
Loudonville	Slope, depth to bedrock	Severe
Mahoning	Wetness, low strength	Severe
Mitiwanga	Wetness, depth to bedrock	Severe
Orville	Flooding, wetness	Severe
Oshtemo	Slope, slippage	Severe
Rittman	Wetness	Severe
Sebring	Low strength, ponding	Severe
Tioga	Flooding	Severe
Wadsworth	Wetness, strength	Severe

Source: Soil Survey of Cuyahoga County, Ohio , Table 8 – Building and Site Development.

Roadway Network

The principal road network in the Village is comprised of two roads running north -south and five roads running east- west.

Three of the five east-west roads, South Woodland Rd. (State Route 87), Chagrin Blvd., and Miles Rd. function as principal arterial roads, which serve the business districts and serve through traffic inter-community trips. The other two east-west roads, Jackson Rd. and Hiram Trail serve as collector roads, providing access to neighborhoods and intra-community trips. Figure 2 depicts the locations of these roadways.

SOM Center Rd. (State Rt. 91) serves as a principal arterial road, and carries the highest traffic volume of all roads in the Village. The other north-south road, Chagrin River Rd. functions as a collector road.

The roadway network functions well, with minimal or no traffic delays due to traffic volumes. Future considerations for possible residential development of one large area, the Chagrin Valley Country Club for example, will not place undue strain on the principal roadway network in the Village.

There are no significant safety concerns in the principal roadway network that are not already being addressed. Some of these safety concerns and their disposition are as follows.

- Left turn prohibition from Hiram Trail to SOM Center Rd. northbound. Council put this prohibition in place due to improper sight distance availability.
- The intersection of SOM Center Rd. and Miles Rd. is currently being constructed to provide left turn lanes and improved sight distance.
- The intersection of South Woodland Rd. and Chagrin River Rd. has been a safety concern with respect to accidents caused by the Chagrin River Rd. traffic. This is in the process of being rectified with both a traffic signal and re-profiling of Chagrin River Rd. to provide for a safer intersection.

The condition of the principal road network and the local road network is good to excellent due to an aggressive road maintenance program over the last four years.

Sanitary Sewers

Approximately 30% of the developed properties in the Village are connected to a publicly owned and operated sanitary sewer system. This system evolved over the years due to residential development. Developers installed sewers and the wastewater treatment plants and pump stations in order to serve the developments.

The Village operates four wastewater treatment plants (wwtp) and five pump stations. See Figure 9. They serve the following neighborhoods: Pebblebrook Development , Easton Lane., Jackson Valley Development, West Juniper Lane, Cableknoll Lane,

Bernwood Dr., Jackson Rd (portions), Twin Acre Ct. Creek View Cir., Windrush, Woodburn, Rydalwood Lane., Quail Hollow Development and Greentree Dr.

The wwtp's also serve several commercial establishments and one property located outside the Village.

The largest wwtp (Jackson Valley) is currently in need of improvements. The Village is planning for its modification. The Quail Hollow wwtp will be expanded to accommodate a new development. The Developer has committed to pay for this expansion.

The majority of the wwtp's are at capacity, with a small amount of capacity remaining at the Woodland Glen wwtp for future development.

Future commercial or higher density residential developments must be constructed near one of these wwtp's and their sanitary sewage conveyance systems. Development that requires sewers but is located lower than the sewer system can be done, with the use of pump stations(s). Adequate capacity must exist at the wwtp that is to service the future development, or the wwtp must be expanded to accept the future flows. Expansion of wwtp's requires permitting from the Ohio EPA and is subject to and antidegredation review. These reviews can prevent an expansion of a wwtp from occurring.

Water

The majority of the Village is served by City of Cleveland or Chagrin Falls water, through public water mains. See Figure 10 for the locations. The Greentree neighborhood has established its own private water system. Development in all areas of the Village has not been hampered by water availability.

All streets west of Chagrin River Rd. are served by public mains, except for Meadowhill Dr., off of Jackson Rd. The properties not served by City water receive their water from individual wells.

Figure 11 illustrates Ground Water information regarding approximate production rates.

Drainage and Storm Sewers

The Village is bisected by two major drainage courses. Wiley Creek and the Chagrin River. Wiley Creek runs northwest to southeast. Its ravines affect the placement of homes and streets for the neighborhoods in the central portion of the Village. The Chagrin River and its minor tributary and associated ravines affect both past and future development in the eastern 1/3 of the Village.

The majority of the drainage system consists of roadside ditches and shallow storm sewer systems. The storm sewers on County roads were installed approximately 70 years ago. Newer subdivisions are typically constructed with roadside ditches consistent with the Village's approved typical roadway section.

Stormwater management is required from all development, from single homes to subdivisions and commercial development. The Village requires that the "critical storm" method be used to size stormwater management ponds to restrict outflow rates. EPA Phase II Stormwater Management Permits will require that the water quality be taken into consideration. This will require larger ponds to conform to the permit.

There are no constraints to future development based on drainage, only those that result from the ravines that resulted from the rivers and creeks.

Environmental Quality

Relatively low development densities have enabled the Village to be developed with substantial tree and vegetation cover. For the most part, sloping sites have been avoided and remain covered with vegetation. Wetlands are situated primarily in the riparian corridors that are mostly isolated by steep slopes. These factors have combined to maintain relatively high surface water quality and to preserve substantial wildlife habitat.

Chapter 4
Land Capability Analysis

Undeveloped land within the Village is limited. While several individual undeveloped lots are scattered throughout the Village, large contiguous undeveloped tracts of land are very limited. Most remaining undeveloped parcels are undeveloped because of severe site limitations. Many of these sites are not capable of cost effective utilization as a result of those severe limitations. Figure 12 illustrates the location of undeveloped and under-utilized properties and how they are affected by major development limitations including slippage prone soils, flood hazard and slope. As is clear after reviewing this figure, with few exceptions, undeveloped land in the Village is undeveloped because of those development constraints.

One of the primary development constraints to existing under-developed and vacant land is steep slope. Per the current Hillside Protection Ordinance, a hillside is considered steep when its grade exceeds 30% (30 feet of fall in 100 feet of horizontal distance).

When development takes place on or near steep slopes, vegetative cover is greatly reduced. Loss of this vegetative cover on steep terrain significantly increases soil instability, and thus the risk of erosion. Soil erosion and sedimentation into waterways poses several threats to public health, safety, and welfare, which are difficult and expensive to correct. Property damage is commonly associated with development on steep slopes. Soil erosion and sedimentation into nearby waters increase the potential for flooding.

The Village has experienced many problems with construction on or near steep slopes that have threatened public health safety and welfare. There has been a minimum of four locations that have recently deteriorated due to construction on or near steep slopes with the same soils:

- Berkeley Rd. – A road slope failed in the 1990's resulting in a Village project to rebuild the slope and roadway at a substantial cost. The Geeburg soil type is prevalent in this location.

- Spear property – Skyline Dr. Slope failure that has resulted in the Village purchasing the property to remove a public nuisance by preventing the house from sliding into the river. The Geeburg soil type is prevalent in this location.

- A property on Canyon Dr. that has eroded/failed to the point of undermining the house structure foundation. The owner has continually worked this on in order to fix the problem, resulting in numerous construction trucks driving through the residential area resulting in safety concerns from the neighbors. Once again, Geeburg soil type is prevalent in this location.

- Chagrin River Rd./River Mountain Dr.- Slope failure has caused the closure of Chagrin River Rd. in several instances to remove mudslides that blocked the road and emergency vehicle access. It has also prevented six lots from being built on. The Geeburg soil types are prevalent in this location.

- Bentleyville Rd. – Two slope failures where Geeburg soils are present have forced the Village to install retaining walls to maintain a passable roadway. There is a third location that has slid and has not been repaired yet.

Steep slope protection will conserve and promote public health, safety, and welfare by minimizing problems due to water runoff and soil erosion incurred in adjustments of topography to meet developmental needs. In addition to public health, safety, and welfare concerns, protecting steep slopes preserves the unique scenic resources and habitats.

Figure 13 provides a graphic depicting larger vacant land tracts and tracts of land with some potential for commercial development. These potential development areas (PDA's) represent those land tracts most likely to provide growth in the Village. Most of these potential development areas were also illustrated on Figure 12. The table that follows provides a listing of Potential Development Areas their current use, size and most significant limitations.

Table 5
Potential Development Areas (PDA's)

Commercial PDA's

Site No.	Use	Size (s.f.)	Acres	Site limitations
1	Com. (pt)	80814	1.85	mod. Slope
2	Res.	115870	2.66	none
3	Res.	148104	3.40	none
4	Res.	174641	4.00	none
5	Res.	179767	4.14	none
6	Com./pt	50260	1.15	no sewer
7	Res.	78408	1.80	slope, no sewer
8	Res.	78000	1.79	slope, no sewer

Table 5 (cont'd)
Potential Development Areas (PDA'a)

Residential PDA's

Site No.	Use	Size (s.f.)	Acres	Site limitations
1	Res.	600000	13.7	none-sewer accessible
2	Res.	653400	15.0	x slope
3	Res.	766656	17.6	slope, no sewer
4a	Vac.	962676	22.1	x slope, no sewer, rip. area, slippage
4b	Res.	1089000	25.0	x slope, slippage
4c	Res.	1149984	26.4	x slope, slippage
5a	Vac.	435600	10.0	x slope, slippage
5b	Vac.	448660	10.3	x slope, slippage
5c	Vac.	448660	10.3	x slope, slippage
6	Res.	1337292	30.7	slope, slippage
7	Res.	575000	13.2	slope, slippage
8	Res.	894823	20.5	slope, slippage
9	Res.	1145628	26.3	mod. slope, no sewer
10	Res.	392040	9.0	x slope, no sewer, slippage
11	Res.	1055023	24.0	slope, slippage, no sewer
12	Res.	468705	10.3	slope, no sewer, slippage
13	Res.	527076	12.1	x slope, slippage
14	Res.	1001880	23.0	slope (50% of site)
15	Res.	1524600	35.0	mod. slope, no sewer
16	Res.	544500	12.5	mod. Slope, no sewer
16	Res.	479160	11.0	slope, stream, no sewer
17	Res.	9494338	218.0	slope, stream, wetlands, slippage
18	Res.	7025156	161.3	slope, stream, wetlands, f.p., slippage

Notes: Res. = residential use.
Vac. = vacant land.
x – implies extreme slope of at least 30% over more than 30% of parcel.
Limitations noted are based on physical observation and data from the "Soil Survey of Cuyahoga County" by the Soil Conservation Service.

Commercial PDA's are identified on Figure 13 by a hexagonal pattern and number. They are concentrated in three general locations in the Village: 1) at the Chagrin Boulevard and SOM Center intersection; 2) at the Jackson Road and SOM Center Road intersection; and 3) at the Miles Road and SOM Center Road intersection. Potential expansion of commercial uses would be expected to occur adjacent to these high traffic volume, high visibility locations. Site size was not considered as a criterion for commercial PDA's. They were identified only as potential commercial areas due to their proximity to existing commercial uses and due to their highly accessible location.

Commercial PDA No. 1 represents the vacant portion of an existing underutilized lot. This lot, at the northwest corner of Chagrin Blvd. and SOM Center Road is not entirely zoned to permit commercial uses.

Commercial PDA No. 2 represents an expansion opportunity for commercial uses. This expansion would occur on the lot immediately east of those commercial lots currently in existence.

Commercial PDA 3, 4, and 5 were identified for consideration as they represent central community locations on a highly traveled and busy intersection. These parcels are not currently utilized for commercial purposes, but could conceivably represent a focal point for the community.

Commercial PDA 6, 7, and 8 were identified as expansion opportunities for commercial uses currently situated at the north half of this intersection.

In addition to these PDA's it should be noted that the land on the northern side of Chagrin Boulevard west of SOM Center Road is subject to high traffic volumes and will be subject to development pressures. As this area is currently occupied by single family residences, conversion here to commercial or more intense residential uses will be discouraged by existing land use and the high cost of assembling property into larger tracts.

Residential PDA's were determined to exist at lots larger than 10 acres. PDA 1 through 5 are large lots adjacent to South Woodland Road. They are owned by individuals where a single family residence is provided somewhere on the lot. While the bulk of each lot is undeveloped the opportunity for subdivision is limited by slope and difficult access.

PDA 4 is adjacent to Chagrin River Road. It is composed of three large lots that are examined separately but owned by the same individual. As the limitations column indicates each is subject to limitations of slope and slip-prone soils. PDA 4a is totally involved in extreme slope (>30%) and is affected by a high quality stream that bisects it laterally. Both PDA 4b and 4c have substantial topographic relief with steep slopes extending over much of the property adjacent to eroded stream corridors. Relatively flat land occurs immediately adjacent to Chagrin River Road, although the depth of the lot to the point of steep slope is only about 500 feet.

PDA 5a, 5b, and 5c share many of the same limitations as PDA 4. These tracts (also adjacent to the Chagrin River) were recently subdivided from a large (32 acre) undeveloped tract. Each tract is slightly over 10 acres in size. They are impacted by severe slope associated with drainage courses. The diagonal orientation of these limiting characteristics serves to make these properties very difficult to access.

PDA 6 is a 30-acre tract situated immediately south of PDA 5c. PDA 6 is more affected by extreme slope (over 30%) than parcel 4 or 5. It is rendered inaccessible from Chagrin River Road because of steep slope.

PDA 7 is a tract of land lying in the interior of the surrounding developed residential area. This lot is accessed from Berkeley Avenue and is marginally affected by slope and slip-prone soils.

PDA 8 and 9 share the characteristics of PDA 7, except that sanitary sewer service is probably not available for PDA 9. PDA 8 is located south of Chagrin Blvd. and accessed from Giles Road. PDA 9 is adjacent to Chagrin Blvd. at the eastern edge of the Village.

PDA 10 through 13 represent land that is, for the most part, un-developable due to slope and slippage conditions. They are located in the extreme southwest edge of the Village in rolling topography. While it may be possible to locate individual home sites on these parcels, they are so severely impacted by slope that access to suitable home sites is extremely limited.

PDA 14 (adjacent to Miles Road) is dissected by several eroded stream channels with steeply sloping walls. These eroded stream channels run west to east. The parcel has no direct access except through adjacent lots.

PDA 15 and 16 which are located on Miles Road both have few limitations for land development. They are impacted only marginally by slope and slip-prone soils. Each gradually slopes to the east. PDA 15 slopes gradually to the east. One eroded stream channel bisects the tract at its mid-point. Another runs along the north margin, making it difficult to access from the north.

PDA 16 is a 12.5-acre tract that slopes gently to the east. This tract possesses few development limitations.

PDA 17 is a large residential tract of land (11 acres) located on Miles Road at the southwest corner of the Village. More intense development of this tract would be affected by a pond and drainage swale. Limited potential exists for more intense development of this area due to its physical characteristics, which include the existence of moderate slope, stream and pond features.

PDA 18 is the site of Chagrin Valley Country Club. Development here is not likely so long as the Country Club remains financially solvent. At 218 acres, there may be some very limited fringe development potential. However, the over-all site is impacted by slope, streams, wetlands and ponds, as well as slip-prone soils on the northern portion.

PDA 19 is Hiram House Camp. Development limitations on this 161-acre site include slope, slip-prone soils, flood hazard, wetlands and ponds.

Chapter 5
Alternative Land Use Plans

Existing land use patterns in Moreland Hills dictate the future for a number of reasons. First, the vast majority of available land in the Village has already been subject to development. The bulk of this development has occurred since 1970. Because of the investment and value it represents, existing land use patterns will not change in the immediate future. Secondly, any proposed land use patterns must be compatible with existing uses and with the land it is to be situated upon.

Land Use Plan: Alternate 1 - Alternate future land use plan scenarios are provided in the following graphics. Figure 14 – Land Use Plan: Alternate 1 provides for a relatively aggressive expansion of commercial uses, including the introduction of a new commercial center at the intersection of SOM Center Road and Jackson Road. It recognizes commercial development pressures associated with the Chagrin Boulevard corridor and suggests commercial and residential conservation development opposite the Orange School District property. At Miles Road and SOM Center, the existing commercial uses are expanded to the adjacent lots. This more aggressive commercial development scenario is designed to address concerns related to diversification of the tax base by increasing potential employment and property tax revenues for the long-term fiscal solvency of the Village.

Alternate 1 suggests continuation of single family residential development at current densities (minimum 87,000 s.f. lot) for those properties where surrounding large lot residential uses require compatible development, and where conservation development practices are discouraged due to the uncertainty of future sewer service. Less constrained tracts could be considered for conservation development, where avoidance of difficult site features is possible through concentrating housing units and leaving constrained areas in open space.

General criteria necessary for consideration of conservation development residential use includes the following:

- Minimum contiguous lot size of at least 10 acres.
- Severe slope (30% or greater) over at least 30% of the site, but over no more than 75% of the site.
- Availability of central sewer facilities.

Conservation development practices would preserve the overall 1 unit per 2 acre gross density but would enable developers to avoid environmentally sensitive areas. The primary benefit of conservation development is based on the ability to concentrate disturbance on a portion of the site while unique and limiting site characteristics are avoided. The overall character of the community would be preserved while allowing responsible, compatible land development. Concentrating units requires sewer service.

Sites where less than 30% of gross area is impacted by steep slope or other development limitations may be developed at the current permitted density without hardship and without imposing density changes that impact neighborhood character.

Sites with more than 75% of their gross area involved with severe development constraints should not be encouraged to develop, even by conservation development practices. The high cost of improvements in such areas, the probability of significant environmental degradation resulting from construction of access and site improvements, the potential for long-term problems associated with site constraints, combined with the limited benefit of development on a small portion of such sites suggests that very low density development is most appropriate.

Other significant aspects of this alternate include the identification of a proposed open space site at the area designated PDA 4. That portion of this PDA that is totally involved in severe slope, grossly impacted by slip-prone soils and involving a high-quality stream channel is proposed to be preserved by acquisition. This Alternate suggests that this tract be joined with an adjacent tract (currently in the process of being acquired by the Village), and a small connecting corridor to extend open space from Chagrin River Road to Berkeley Road.

Land Use Plan: Alternate 2 - Alternate 2 (Figure 15) represents a more conservative approach to commercial area expansion and suggests only moderate expansion of existing centers at SOM Center and Miles Road, and at SOM Center Road and Chagrin Boulevard.

This Alternate also takes a more conservative approach to residential development by continuing existing densities of development to all vacant and under-utilized residential tracts. It also recognizes increased development pressure in the Chagrin Boulevard area west of SOM Center and suggests conservation development here contingent on land assembly.

Chapter 6
Preferred Land Use Plan

The previous chapter provided alternate land use scenarios. As was mentioned, existing land use patterns have a strong influence on future land use patterns, particularly when compatibility of use is considered. As the predominant land use in the community is single-family detached residences on relatively large lots; and as vacant land areas lie in areas not likely to be provided central sewer services in the near future, this use will continue to dominate the community.

A Preferred Land Use Plan is presented in Figure 16. In selected locations single-family conservation development uses are proposed. This use is proposed in locations where existing adjacent properties posses characteristics of lot sizes less than 87,000 square feet, and/or where topographic constraints limit development potential under traditional regulations. Conservation development practices are suggested at areas identified previously as PDA 4b, 4c, 5a, 5b, 5c, 6, 7, 8, 14, 15, 16, 18 and 19. An important pre-requisite to any conservation development is the availability of central sewer services.

This "Preferred Plan" provides for limited expansion of commercial land uses at key intersections. At SOM Center and Chagrin Boulevard, commercial use is proposed to be expanded to the full extent of lots on the northwest corner, and to the adjacent eastern lot on the southeast corner. At the SOM Center and Miles Road intersection, commercial uses are proposed to be expanded to the adjacent lot at the northwest corner. These proposed commercial expansions address community planning goals and objectives related to limited non-residential development.

Village of Moreland Hills planning goals include the preservation of environmental quality. As this goal is supported by the objectives of encouraging preservation of open space for public use benefits, preservation of environmental quality and preservation of community character, the plan includes proposed new open space. Characteristics of these properties include:

- Severe topography
- Mature forests
- Dramatic eroded stream corridors
- Limited accessibility
- Unstable soils
- Unique habitat

Other recommendations reflected in the proposed plan include the perpetuation of semi-public use areas illustrated on the plan including wastewater treatment facilities and pump stations, cemeteries, Orange High School and the Village Hall.

Existing park areas perpetuated by the plan include the Metropark's Chagrin River Reservation and the Garfield Birth Site Park near Village Hall. Also proposed is acquisition of property to the east of the birth site to provide additional support area fronting on SOM Center Road.

As illustrated, the land use plan will support approximately 370 additional housing units. This total includes consideration of conservation development of Chagrin Valley County Club and Hiram House Camp. It also recognizes residential development of existing vacant platted lots at zoning densities similar to existing densities.

The "Preferred Plan" addresses each of the Community Goals and associated objectives outlined in Chapter 1.

Figure 17 suggests an alternative of a greater expansion of the commercial uses at the SOM Center Rd. – Miles Rd. intersection. This plan can be inserted into the "Preferred Plan" Figure 16 for that area. The result is a larger commercial base in the Village.

Chapter 7
Implementation

Plan recommendations may be implemented through the zoning process and through the Village's Capital Improvement program. Certain zoning district regulations will need to be developed to permit the proposed plan to occur.

New zoning district regulations and designation of mapped zoning districts will be required for single-family conservation development. Conservation development district regulations should be drafted which clearly stipulate the pre-requisites for zoning as a conservation development district. The new conservation development district could be administered either as a fixed zoning district or as a floating zone available to properties meeting the stated pre-requisites.

New district regulations and map modifications are required to provide zoning districts for semi-public / institutional uses. Additionally, a new public open space class should be added to the zoning code to recognize the perpetual public open space use of the Chagrin River Reservation, the Garfield Birth Site, and any public open space acquired in the future.

Expansion of commercial land uses in the Village will require modification of the zoning district map. Modifications will take the form of either extending commercial zoning classes to the full extent of existing partially commercial zoned parcels, or including existing adjacent residentially zoned parcels into expanded commercial districts.

As proposed land uses will add relatively few new residences to the community, and as new residences will be distributed widely over the planning area, it is doubtful that significant infrastructure support such as streets, intersection improvements, etc. will be required. However, where conservation development, and expanded commercial land uses are proposed, sewer and water service improvements will likely be required.

The following table provides a summary of probable infrastructure improvements necessary for development of selected PDA's.

Table 6
Probable Infrastructure Improvements by PDA

PDA #	Required Improvements for Recommended Use
1	None
2	None
3	None
4a	Access
4b	Sanitary sewer service, access
4c	Sanitary sewer service, access
5a	Sanitary sewer service, access
5b	Sanitary sewer service, access
5c	Sanitary sewer service, access
6	Sanitary sewer service, access
7	Sanitary sewer service
8	Sanitary sewer service
9	None
10	None
11	None
12	None
13	None
14	Sanitary sewer service, access
15	Sanitary sewer service, access
16	Sanitary sewer service, access
17	None
18	Sanitary sewer service, access
19	Sanitary sewer service, access

Obviously, additional improvements at each site will be necessary including provision of site improvements like water, electricity, circulation roadways, etc. These improvements are typically provided by the developer.