RULS – AD – 1977 – 80

12 | 1977

Plan for First Phase Implementation of An Open Space Community in Beaminster (Exhibit A)

Pg 55

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Exhibit "A"
(AFFIDAVIT OF E. JAMES MURAR)

RULS - AD - 1977 - 80

duplicate of
AD 1978 10
do not scan

PLAN FOR FIRST PHASE IMPLEMENTATION OF AN OPEN SPACE COMMUNITY IN BEDMINSTER TOWNSHIP

Allan - Deane Corporation

PLAN FOR FIRST PHASE IMPLEMENTATION
OF AN OPEN SPACE COMMUNITY
IN BEDMINSTER TOWNSHIP

Allan-Deane Corporation

A Subsidiary of Johns-Manville Properties Corporation

December 1977

PLAN FOR FIRST PHASE IMPLEMENTATION

OF AN OPEN SPACE COMMUNITY

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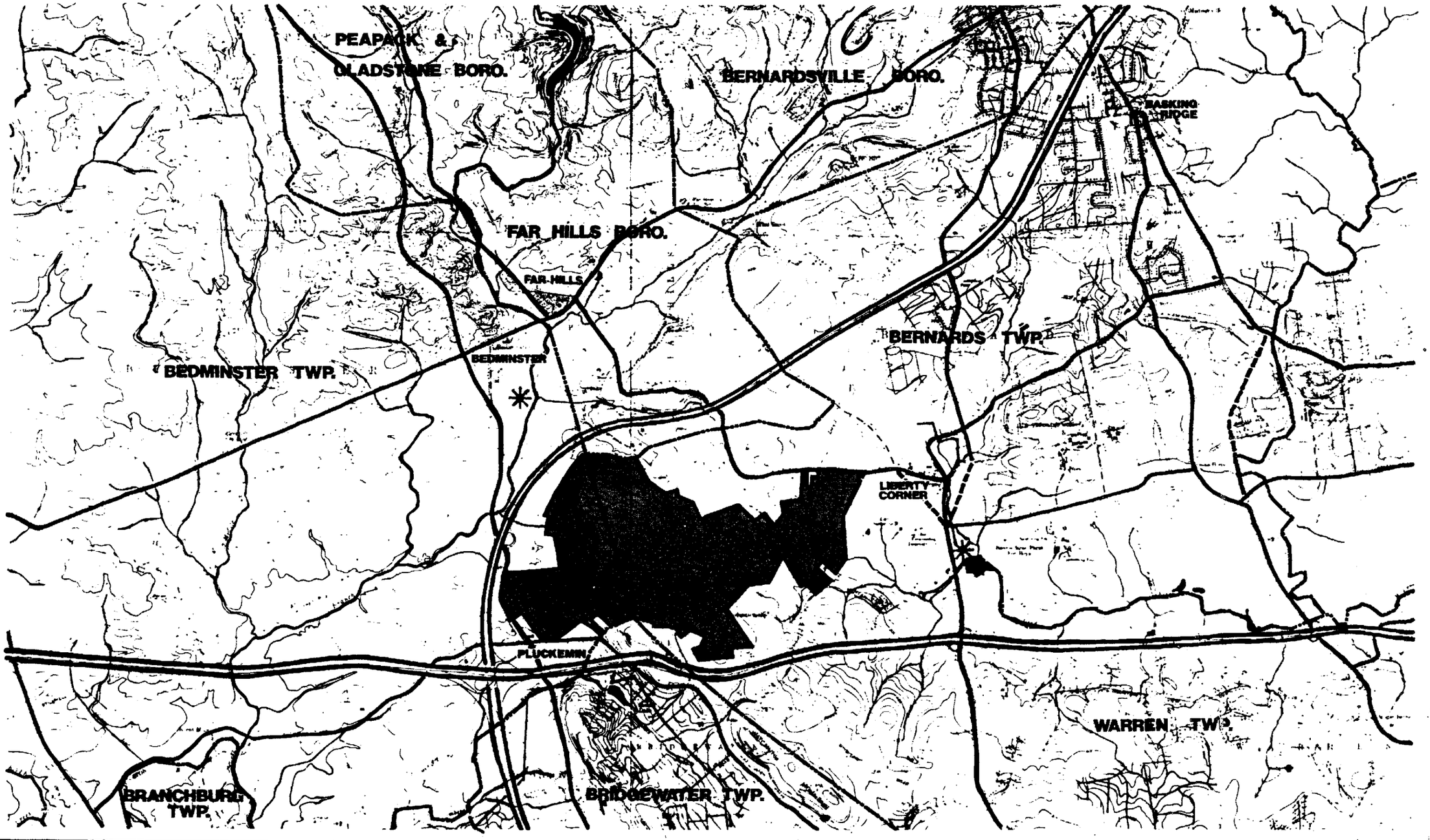
COMMUNITY LOCATION

Allan-Deane Corporation has proposed an open space community on a 1,532 acre site located in the Somerset Hills of north central New Jersey, partly in Bernards Township (1,071 acres) and partly in the Township of Bedminster (461 acres) at the headwaters of the Passaic River which flows through the Great Swamp National Wildlife Refuge as well as the headwaters of the Raritan River. The site is located less than one mile from the interchange of Interstate Routes 287 and 78 and is approximately 45 minutes from Manhattan. In addition, the Erie Lackawanna Railroad has two stations within Bernards Township providing commuter service to New York. The development pattern adjacent to the site is characterized by large residential lots and three areas of more intensive development - Pluckemin Center and Liberty Corners, which are developed with a mixture of single family residences on small lots and various business uses, and the built-up residential area of Bridgewater Township south of Route 78. To the north of the site on Route 287 is the new AT&T longlines facility, providing an additional 3,500 jobs to the local economy.


PEAPACK & GLADSTONE BORO.
BERNARDSVILLE BORO.
BASKING RIDGE
FAR HILLS BORO.
FAR HILLS
BEDMINSTER
BEDMINSTER TWP.
BERNARDS TWP.
LIBERTY CORNER
PLUCKEMIN
WARREN TWP.
BRANCHBURG TWP.
BRIDGEWATER TWP.
LEGEND
MAJOR INTERSTATE
ARTERIAL ROADS
MAJOR SEWER INTERCEPTOR
SEWAGE TREATMENT FACILITY
EXISTING DEVELOPMENT
BEDMINSTER & BERNARDS TWP
SITE
ALLAN DEANE PROPERTY
COMMUNITY CONTEXT
1

PROPOSED OPEN SPACE COMMUNITY

The proposed community was planned with several objectives in mind. The first objective is to respect the natural environment of the site, preserving the most sensitive areas as open space and determining the location and type of development most appropriate to the natural landscape. The second objective is to create a balanced community which meets the diverse needs of the regional housing market, including the need for low and moderate income opportunities. Accordingly, there will be a variety of housing types and prices: multi-family and single family attached dwellings for young couples and retired "empty-nesters", larger, single family attached and detached dwellings ranging from modest to luxurious to accommodate the full cycle of family growth. Thirdly, the plan seeks to create well defined neighborhoods, with open space areas in close proximity to housing and convenient access to recreation opportunities as well as a network of bicycle and pedestrian paths.

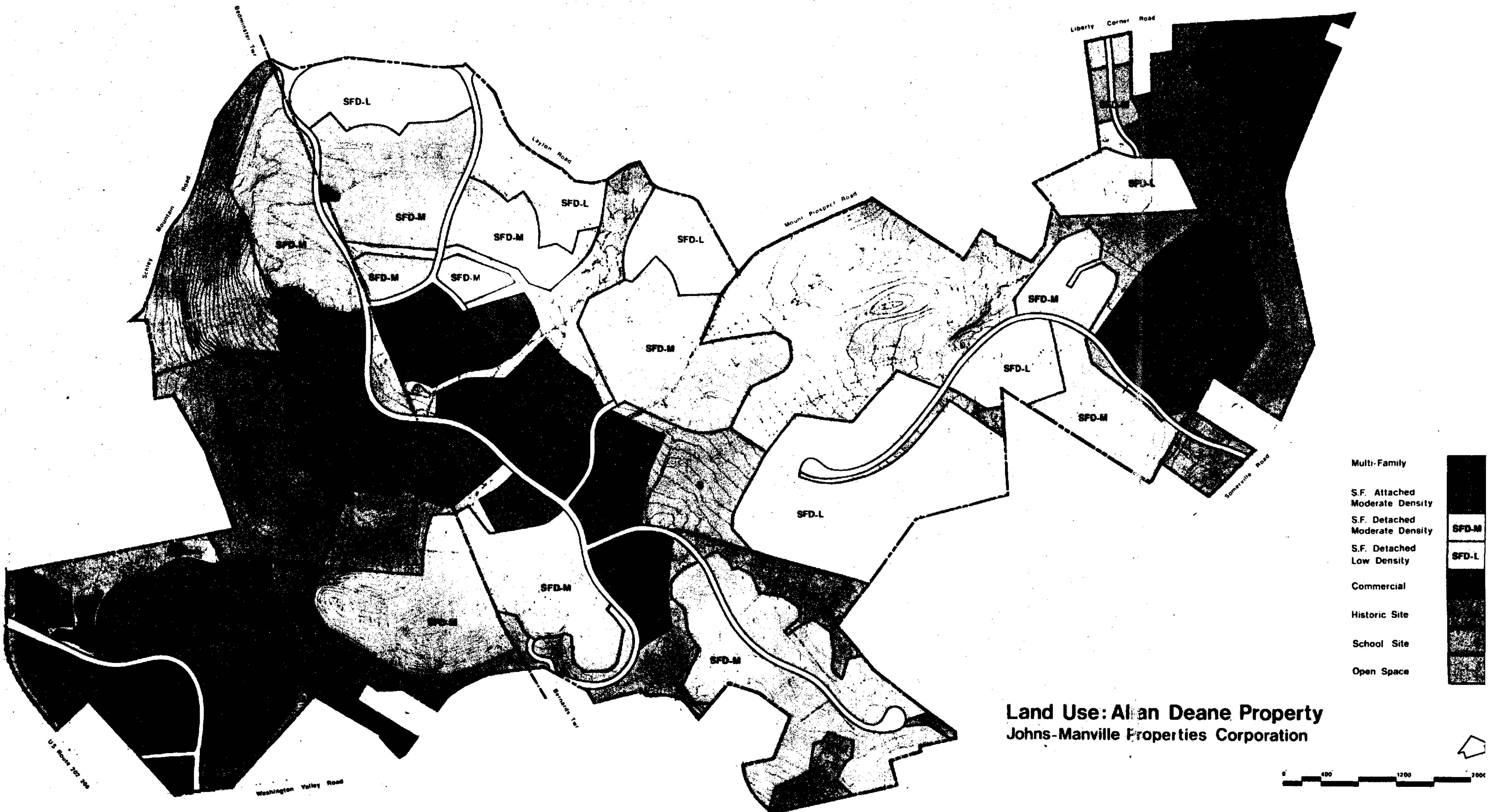
The Land Use Plan

The environmental conditions of the site suggest a design solution which utilizes clusters of development defined and connected by open space areas. This solution

not only responds to the dictates of the site's natural features, but results in distinct, readily identifiable residential neighborhoods.

One neighborhood will be located on the open field between Pluckemin Center and the face of Watchung Mountain. With access to Washington Valley Road and Route 206, land uses in this section consist of single family attached and multi-family dwellings with two small neighborhood commercial sites near Pluckemin Center. A second neighborhood will be developed along a new north-south collector linking Washington Valley Road and Schley Mountain Road. Areas near the western face of the mountain will be devoted to large lot, single family dwellings, and the central area will be devoted to single family attached and multi-family dwellings. Single family areas will be placed on the perimeter of the site to ensure compatibility with land uses adjacent to the site. At the center of this neighborhood will be a village center with a school site, convenience shops, and a site reserved for such institutional uses as a church or a YM-YWCA.

The third neighborhood of the proposed community will be oriented toward Somerville Road with single family attached and multi-family dwellings facing onto a wide open space corridor along the floodplain of the Dead River. To the west will be single



Land Use: Allan Deane Property
Johns-Manville Properties Corporation

family lots of low to medium density served by a system of culs-de-sac. A small neighborhood commercial center has been located at the intersection of Somerville Road and Liberty Corner Road to meet convenience needs.

Open Space

The proposed community will have three major open space areas, which will be permanently preserved. One area will include the face of Watchung Mountain, a significant visual feature of the region and will include the 64 acre historic Washington Campground site. The second area, which is located on Mount Prospect Road, will be over a hundred acres in size and entirely covered with mixed deciduous forest. The third area will include the Dead River floodplain which is also extensively wooded. These major areas will be linked with smaller open space areas and corridors appropriate for the construction of pedestrian and bicycle paths.

Onsite Circulation

In order to achieve optimum traffic flow and maximum safety, the circulation system is composed of different types of streets which separate traffic according to its function. Collectors accommodate major through-site traffic with local roads providing access to the individual land use parcels. There will be no lotting along collector roads. Single family residential areas are served by culs-de-sac or loop roads which prevent through traffic and result in a quieter and safer street.

FIRST PHASE IMPLEMENTATION - BEDMINISTER DEVELOPMENT

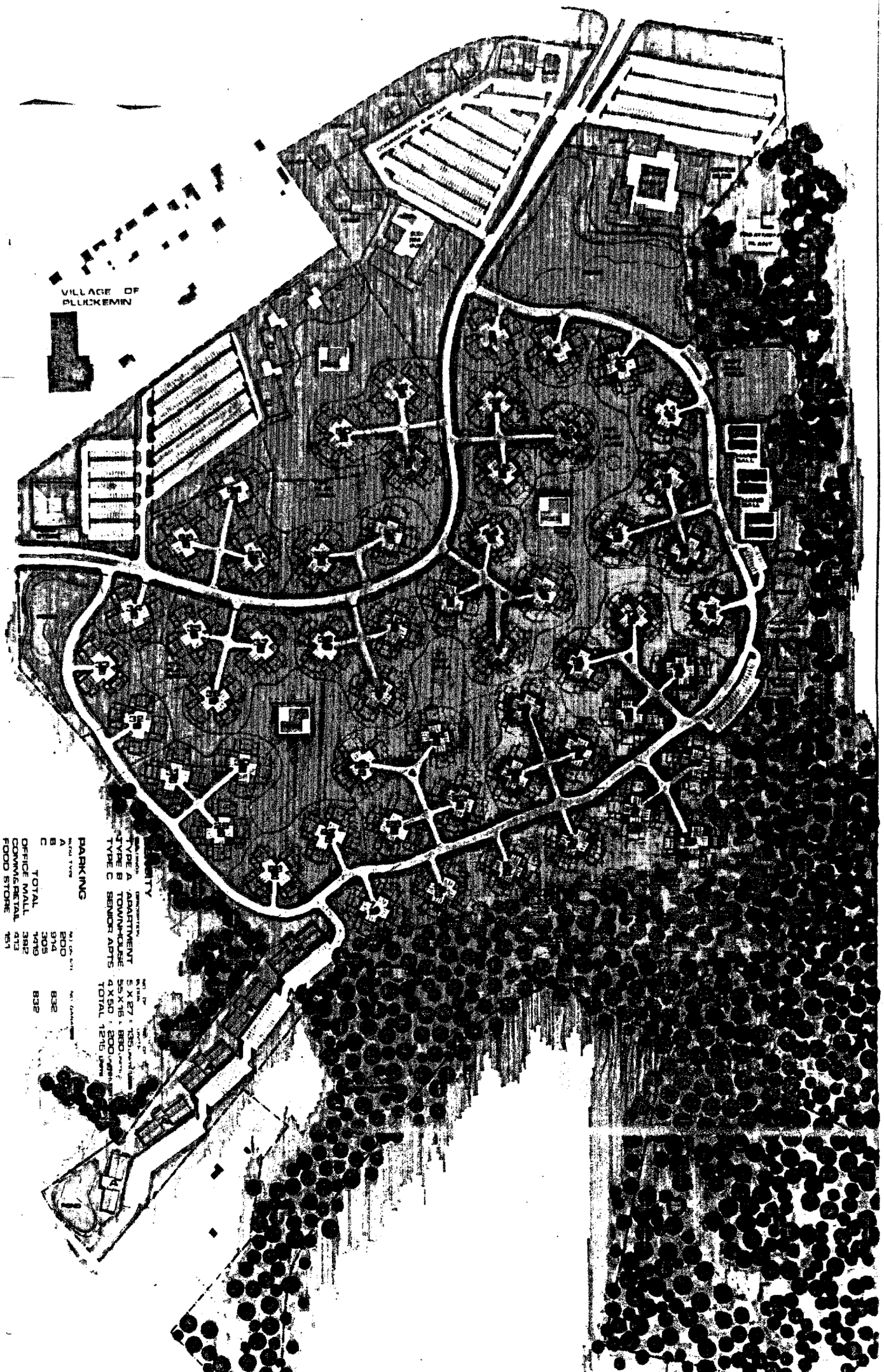
It is proposed that the new community be constructed over a five to ten year building period. It has been determined that the initial phase of development will occur in Bedminster Township in the open field near Pluckemin and along the north-south collector road linking Washington Valley Road and Schley Mountain Road.

Allan-Deane Corporation has undertaken the preparation of a detail site plan supported by exhaustive studies for the implementation of this initial phase. Working in conjunction with architects, environmental engineers, planners and builders, site and architectural plans have been prepared for five separate projects in the initial phase.

The detail plan for the 461 acres provides for an overall density of 4 units per acre for a total of 1,849 dwelling units. A summary of acreage and uses is set forth in the following table and shown on the detail site plan.

SUMMARY OF SITE PLAN-BEDMINSTER TOWNSHIP

Land Use Category	Ac.	% of Site	No. of Dwelling Units
Pluckemin Area:			
Residential			
Courtyard Homes or Apartments	84	18%	880
Subsidized Apartments	7	2	135
Senior Citizen Housing	8	2	200
	99	22	1215
Commercial	28	6	
Open Space	20	4	
Total	147	30	
Highland Area:			
Residential			
Townhomes	57	12	504
Single Family detached	92	20	130
Total	149	32	634
Open Space:			
Historic Site	58		
Other Open Space	107		
Total	165	36	
Total	461	100%	1849



PARKING

	REQUIRED	PROVIDED
A	200	832
B	914	
C	305	
TOTAL	1419	832
OFFICE MALL	382	
COMM'L RETAIL	413	
FOOD STORE	151	

DENSITY

TYPE A	APARTMENT	55 X 27 = 135 UNITS
TYPE B	TOWNHOUSE	55 X 16 = 880 UNITS
TYPE C	SENIOR APTS	4 X 50 = 200 UNITS
		TOTAL 1215 UNITS

KHACHADOURIAN AND GAHILL ARCHITECTS

ALLAN - DEANE PROPERTY

ALLAN-DEANE
PROPERTY

KHACHADOURIAN AND
CAHILL ARCHITECTS
130 WASHINGTON STREET BLOOMFIELD NEW JERSEY

SITE PLAN

DENSITY

TYPE CA CONDOMINIUM APTS 504

	504
GARAGE PARKING	504
ON SITE PARKING	504
PARKING (POOL AREA)	80
TOTAL NO. PARKING	1088

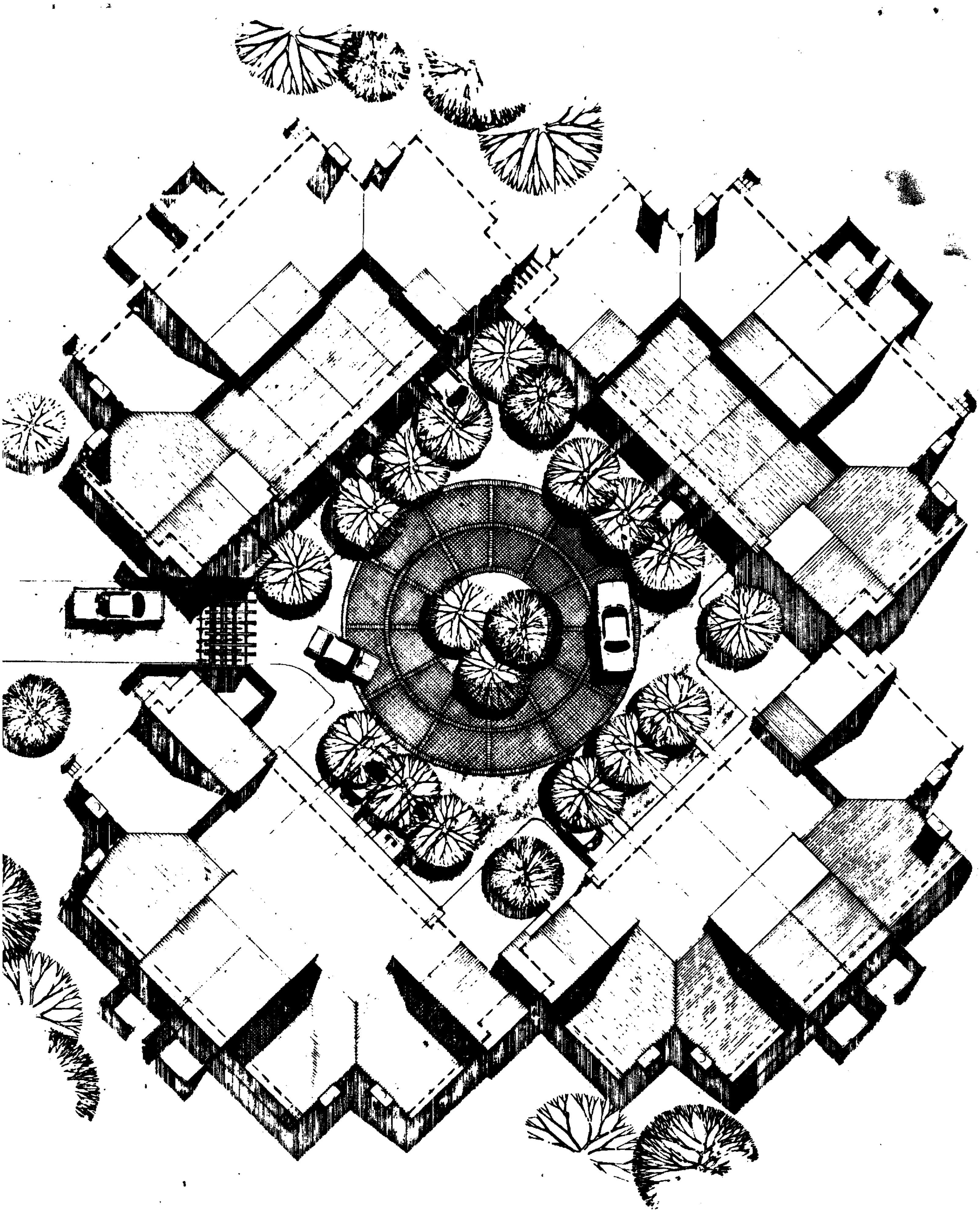
Each of the five projects is summarized in the following text as well as shown on the larger scale blow-up of typical units and clusters.

Courtyard Homes

The courtyard homes are clusters of 4 dwelling units per building with 4 buildings grouped around a courtyard. Each courtyard would thus contain 16 living units. The units would be composed of a mix of 2 bedroom, 2 bedroom + den and 3 bedroom units. The units would average approximately 1300 sq.ft. per unit. Two covered parking spaces per living unit would be provided as part of the design. The units would be 2 stories with no separate unit over or below another living unit. Some units may have partial or full basements.

Each courtyard cluster would be served by a 20 foot wide private driveway to the private collector road 24 feet in width.

The open space would be interconnected with pedestrian paths that would also lead to the 6 tennis courts, 2 handball courts, activity center, fields and play yards and 2 swimming pools. All of the above referenced



DESCRIPTION	KHACHADOURIAN AND CAHILL ARCHITECTS	
COURT PLAN	110 WASHINGTON STREET BLOOMFIELD NEW JERSEY	
DWN. BY / CHK. BY		A

facilities, including the open space and detention/retention ponds, would be owned and maintained by a homeowner's association.

It is anticipated that these courtyard homes would be marketed in the $55,000 to $75,000 price range, based on 1977 costs of construction. The market research conducted by a marketing specialist, Alfred Gobar Associates (a copy of which is included as Exhibit A), indicates an estimated annual absorption of 110 units.

Examples of the courtyard home plan are two projects, "Tower Hill" and "The Meadows", being successfully marketed in Redbank and Hillsborough, New Jersey respectively. Brochures and information on these projects are included as Exhibit B.

The courtyard plan has the added flexibility for implementation as for rent apartments if market conditions dictate.

Subsidized Apartments

The subsidized apartments are contained in 5 buildings with each

building containing 27 units. Each building would be composed of a mix of approximately 3 one bedroom (approximately 650 sq.ft.), 18 two bedroom (approximately 850 sq.ft.) and 6 three bedroom (approximately 1,000 sq.ft). One and one-half parking spaces are provided for each unit.

The parking would access to the private collector road and Mt. Prospect Road.

The feasibility study concerning subsidized housing (attached as Exhibit C) completed by Alan Mallach Associates indicates the feasibility of funding approximately 50 units from a 515/section 8 Family Garden and 85 of the units by NJHFA Section 8 Family Garden over the initial 4 year period. This report also indicates estimated rentals and projected costs of operation. Allan-Deane will make available the land through a series of options to a non-profit or a limited dividend corporation. Allan-Deane will also provide initial start up assistance to the corporation in the form of preliminary architectural services.

Senior Citizen

The senior citizen apartments are contained in 4 buildings of 4 stories each immediately adjacent to the commercial facilities and Pluckemin Village, thus providing easy access to services and shops. The estimated mix as projected by Allan Mallach Associates indicates 80 efficiency of 550 sq.ft., 100 one bedroom of 650 sq.ft. and 20 two bedroom of 750 sq.ft. One and one-half open parking spaces per unit are provided.

The Mallach study indicates the feasibility of financing such a project through NJHFA Section 8 Senior Citizen program. Allan-Deane will make land available for this project to a non-profit or limited divided corporation in the same manner as for the subsidized apartments.

COMMERCIAL

The commercial areas are separated into 3 areas as summarized on the following table:

SUMMARY OF COMMERCIAL USES

Commercial Uses	Area	Sq. Ft. Building	Parking Spaces
Area 1:	4.6 ac.		
Food market		32,000	150
Area 2:	15.0 ac.		
Conference Center/Inn		150,000	
Convenience shops		23,000	413
Bank		10,000	
Area 3:	8.4 ac.		
Restaurant		13,000	
Bank		10,000	392
Office buildings		70,000	
Total	28.0 ac.	308,000	955

Area 1 provides for a new market. A&P has already offered to purchase 4 acres for the construction of a new supermarket to be integrated with the existing center to meet current demand.

Area 2 is composed of a new Conference Center/Inn complex integrated through plan and architecture with the existing Eoff House to blend harmoniously with the surrounding area. The remainder of Area 2 includes a bank and individual shops architecturally controlled and integrated with Pluckemin through a Village Green. There exists an extreme shortage of meeting and overnight lodging facilities due to location of major office complexes in the area. Recently constructed on/off ramps provide immediate access to I287 thus not creating undue traffic burden. At least two banks have inquired as to possible sites.

Area 3 includes a complex of professional offices, a bank and a restaurant located adjacent to the detention/retention pond.

Townhomes

The townhomes located in the Highland area will be contained in 31 buildings of 16 units each plus 1 building of 8 units. The buildings

are adapted to the variation in grade in order to achieve economies of construction and are 2 and 3 story in height. The living units are composed of 1 bedroom + den (950 sq.ft.), 2 bedroom (1,050 sq.ft.) and 2 bedroom + den units (1,100 sq.ft.). One covered and one uncovered parking space per unit is provided. The units are served by private 20 foot wide roads from a 24 foot collector road. The open space, 2 tennis courts, pool, clubhouse, play yard and detention/retention pond will be maintained and owned by a homeowner's association. Under the auspices and direction of the New Jersey Department of Environmental Protection Allan-Deane initiated a program of selectively harvesting timber throughout this site to insure a sensitive and compatible forest management program.

It is anticipated that these townhomes would be marketed in the $40,000 to $55,000 price range based on 1977 costs of construction. Allan-Deane will commit through a system of internal subsidy with the builder to provide at least 50 units of for sale townhomes in the $30,000 to $40,000 range under a Section 235 program. The market research completed by Alfred Gobar Associates indicates an annual demand of approximately 130 units

for products in this price range.

An example of the townhome project planned for the Allan-Deane site is the "Union Gap" project in Clinton, New Jersey. (Information included as Exhibit D).

Single Family Detached

These homes are clustered and individually sited based on terrain and existing features such as trees and rocks. The units would be of 1 and 2 storey design and range in size from 1700 sq.ft. to 2500 sq.ft. with 2, 3 and 4 bedroom units. Two covered parking spaces would be provided per unit.

The units would be served by private roads from the 24 foot major collector road shown on the site plan.

As with other products, common open space, recreation facilities and detention/retention ponds would be owned and maintained by a homeowner's association.

It is anticipated that these homes would be marketed at prices ranging from $90,000 to $130,000 based on 1977 costs of construction. Estimated absorption is 40 units per year according to Gobar Associates.

An excellent example of such a program is "Lyons Farm" in Greenwich, Connecticut. (Information on this project is included as Exhibit E.)

Conclusion

In summary, the first phase development and site plan incorporates a wide variety of housing types from 550 sq. ft. efficiency units for senior citizens to 3,500 sq. ft. single family detached homes. A wide variety of size units is proposed as well as a range of prices from $30,000 to $130,000. "For Rent" housing is also an integral part of the plan. While over 20% of the units are designated for low and moderate subsidized programs, an additional 55% of the units are planned to sell for under $65,000, helping to provide least cost housing.

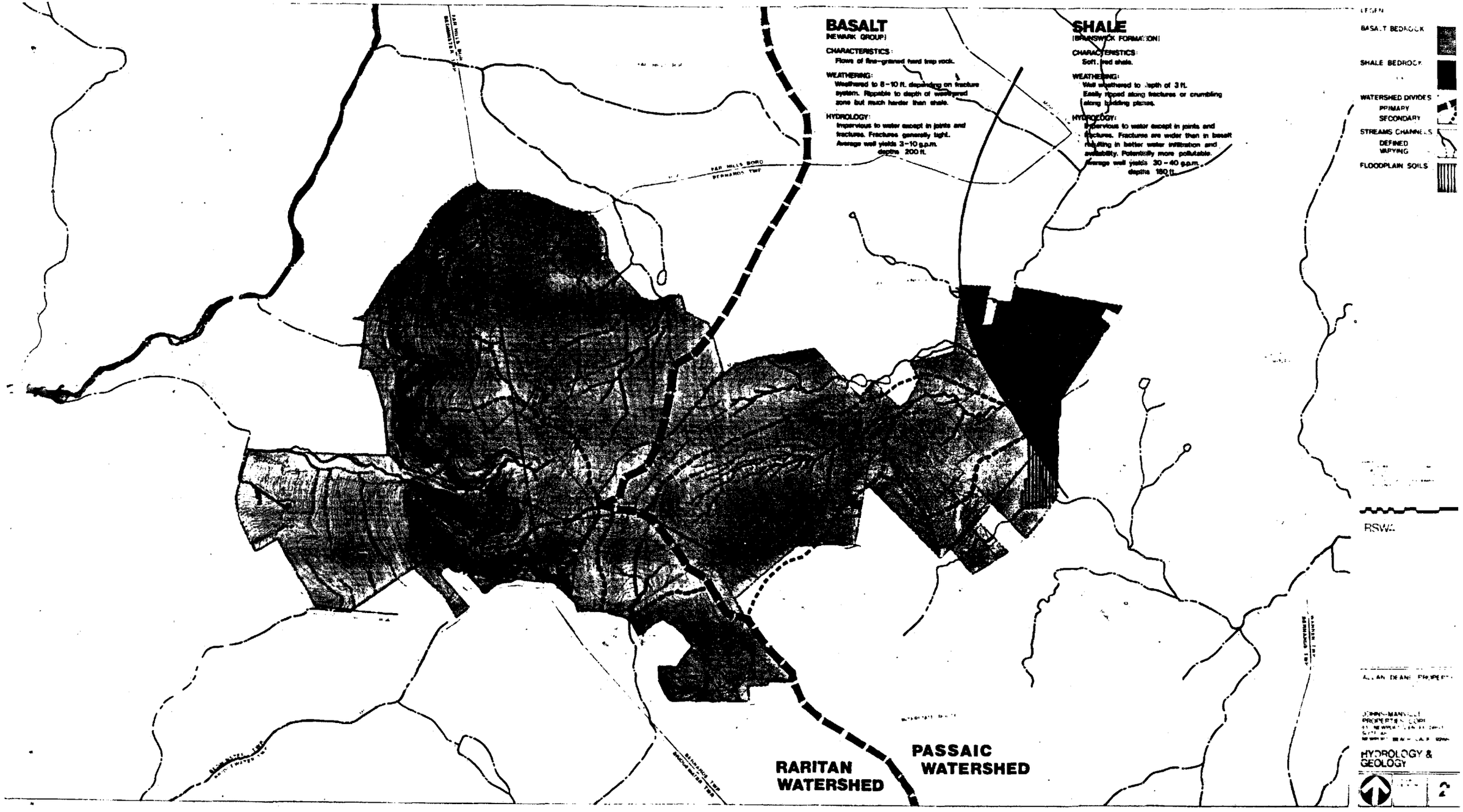
ENVIRONMENTAL ANALYSIS

An analysis of the site's natural environment was undertaken to serve as the basis for planning the proposed open space community. Bedrock, soil, water table, slope, and vegetation conditions were examined with the objective of determining the capacity for development on each portion of the site. These conditions were mapped at a scale of 1" = 400' and reproductions of these maps are included within this report.

Geology

There are two rock formations on the site: soft red shale with interbedded sandstone (Brunswick Formation - Triassic), and basalt flows of fine grained trap rock (Newark Group - Triassic). The latter is characteristic of the Watchung Mountains. Approximately 90% of the site is underlain with basaltic rock varying in depth from 3½ to 4½ feet and the remaining 10% of the site (near Liberty Corners) is underlain with shale varying in depth from 1½ to 3½ feet. The shale is soft and can be ripped to depths of 3 feet where it has expanded along fractures or crumbled on bedding planes. The basalt bedrock is fractured in places to a depth of about 10 feet, which can be worked, but

with somewhat greater difficulty. These conditions generally are not suitable for septic systems and for this reason septic systems are not contemplated for this development proposal. The use of a low pressure waste water collection system, one of the alternatives being studied, would reduce the need for extensive bedrock removal.


BASALT
(NEWARK GROUP)
CHARACTERISTICS:
Flows of fine-grained hard trap rock.
WEATHERING:
Weathered to 6-10 ft. depending on fracture system. Rippable to depth of weathered zone but much harder than shale.
HYDROLOGY:
Impervious to water except in joints and fractures. Fractures generally tight.
Average well yields 3-10 g.p.m.
depths 200 ft.
SHALE
(BRUNSWICK FORMATION)
CHARACTERISTICS:
Soft, red shale.
WEATHERING:
Well weathered to depth of 3 ft.
Easily ripped along fractures or crumbling along bedding planes.
HYDROLOGY:
Impervious to water except in joints and fractures. Fractures are wider than in basalt resulting in better water infiltration and availability. Potentially more pollutable.
Average well yields 30-40 g.p.m.
depths 150 ft.
LEGEND
BASALT BEDROCK
SHALE BEDROCK
WATERSHED DIVIDES
PRIMARY
SECONDARY
STREAMS CHANNELS
DEFINED
VARYING
FLOODPLAIN SOILS
RSWA
RARITAN WATERSHED
PASSAIC WATERSHED
HYDROLOGY & GEOLOGY

Hydrology

The site does not contain any aquifers which would be a significant source of water, nor does it have any potential aquifer recharge areas. There are existing wells near the site, but since septic systems are not contemplated, there is little risk of affecting these water sources. We anticipate that water for the proposed community will be obtained from public water supply.

Onsite investigations have identified two types of streams on the site. One type is characterized by well defined channels (indicated by solid lines on the Geology-Hydrology Map); the second type are underground seeps (indicated by dash lines on the map). Floodplains and wetlands associated with both types of water courses have been identified and are proposed for conservation as open space.

An important topographic as well as hydrologic feature of the site is the boundary between the Raritan River and Passaic River Watersheds, with the site occupying a position in the headwaters of both watersheds. Because the site generally slopes downward in all directions from the center, storm water retention devices are proposed in perimeter locations to prevent increased runoff.

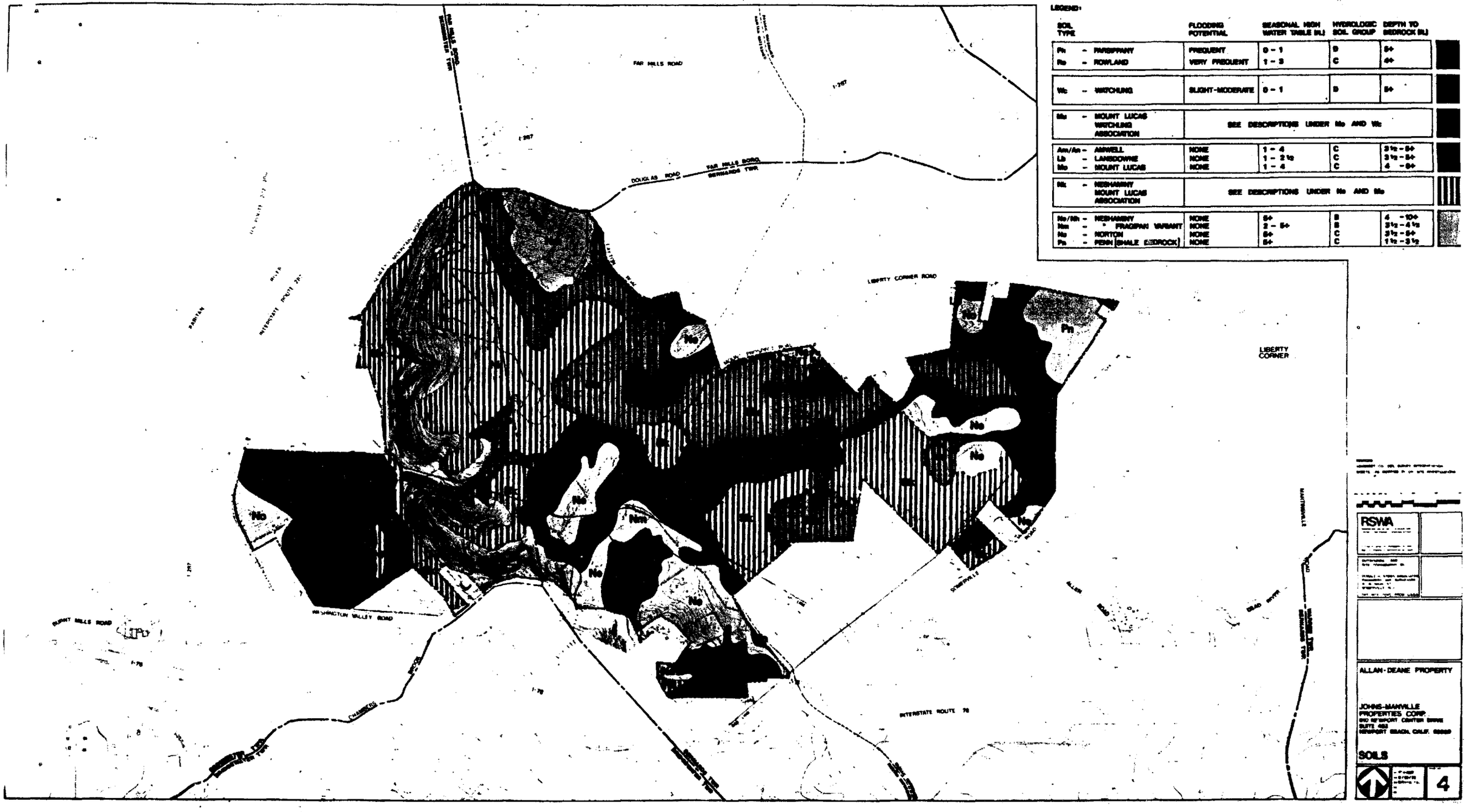
Slope Conditions

The site, which is located in the Second Watchung Mountains contains some steep slopes, primarily along the face of the basaltic outflow on the western portion of the site. Slope conditions have been mapped on 2 feet contour intervals with areas of more than 20% slope being restricted from development. Limited development can be accommodated on areas with 15 to 20% slopes and more intensive development has been clustered on slopes of less than 15%. Initial investigation and on-site inspection with Soil Conservation Service representatives indicated that the soils are not particularly erodable, but in some locations sediment catch basins are proposed.

Soils

Several soil types are found on the site with some soil associations exhibiting mixed characteristics. Floodplains and soils subject to frequent flooding occupy small areas, largely in the northeast corner of the site. Another category shown on the soils map identifies soils subject to moderate to slight flooding or seasonal high water table from 0 to 1 feet. These areas are unsuitable for construction and have been designated as restricted. Other areas of the site exhibit mixed


LEGEND
20% +
15 - 20 %
12 - 15 %
8 - 12 %
3 - 8 %
0 - 3 %
FAR HILLS ROAD
LIBERTY CORNER ROAD
LIBERTY CORNER
RSWA
ALLAN DEANE PROPERTY
JOHNS MANVILLE PROPERTIES CORP
SLOPE



LEGEND:

SOIL TYPE		FLOODING POTENTIAL	SEASONAL HIGH WATER TABLE (ft.)	HYDROLOGIC SOIL GROUP	DEPTH TO BEDROCK (ft.)
Pn – PARSIPPANY		FREQUENT	0 – 1	B	5+
Ro – ROWLAND		VERY FREQUENT	1 – 3	C	4+
Wc – WATCHUNG		SLIGHT-MODERATE	0 – 1	B	5+
Mo – MOUNT LUCAS WATCHUNG ASSOCIATION		SEE DESCRIPTIONS UNDER Mo AND Wc			
Am/As – ANNELL		NONE	1 – 4	C	3½ – 5+
Lb – LANSDOWNE		NONE	1 – 2½	C	3½ – 5+
Mo – MOUNT LUCAS		NONE	1 – 4	C	4 – 6+
Mt – NESHANNOCK MOUNT LUCAS ASSOCIATION		SEE DESCRIPTIONS UNDER Mo AND Mo			
No/Nh – NESHANNOCK		NONE	5+	B	4 – 10+
Nm – " FRAGIPAN VARIANT		NONE	2 – 5+	B	3½ – 4½
No – NORTON		NONE	5+	C	3½ – 5+
Pn – PENN (SHALE BEDROCK)		NONE	5+	C	1½ – 3½

RSWA

ALLAN-DEANE PROPERTY

JOHNS-MANVILLE PROPERTIES CORP.
840 NEWPORT CENTER DRIVE
SUITE 480
NEWPORT BEACH, CALIF. 92660

SOILS

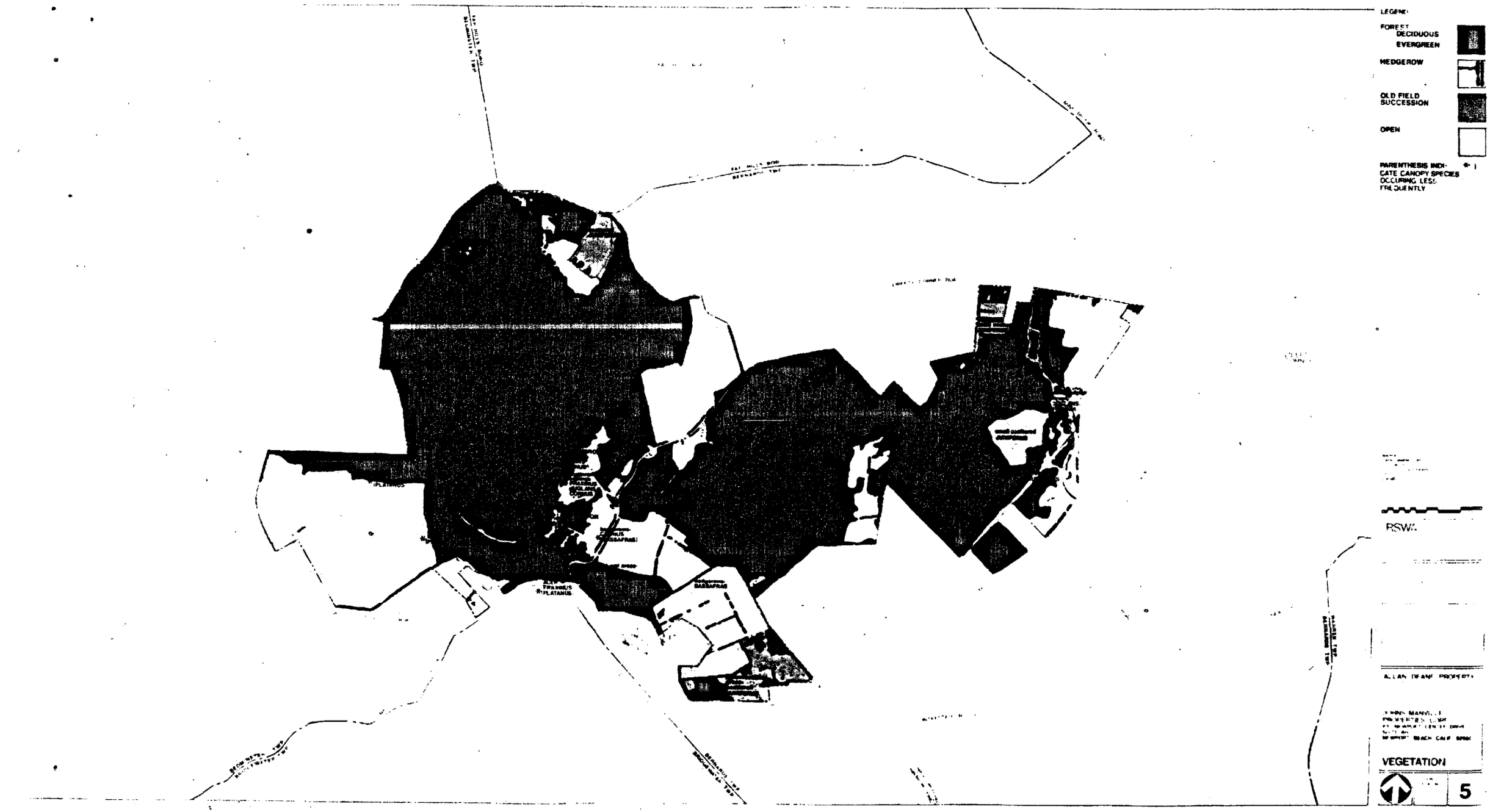
4

soil associations with variable depths to bedrock and seasonal high water table ranging from 1 to 4 feet. Remaining areas have seasonal high water table at depths of 5 feet or more and pose few restrictions for development.

Sources of soil information were the Soil Conservation Service's Soil Survey of Somerset County supplemented by onsite investigations with Soil Conservation Service representatives, and categories of development suitability are those of the Soil Conservation Service.

Vegetation

Examination of color aerial photos taken in the spring of 1975 shows the majority of the site is covered with a mixed deciduous forest consisting largely of oak, hickory, maple, beech, and birch. Small areas of the site contain evergreen species - largely juniper. Other vegetation features of the site include old field conditions and hedgerows (sassafras, dogwood, and other species), old field succession (shrubs, juniper and sumac), and open, abandoned fields, formerly pasture and meadow.

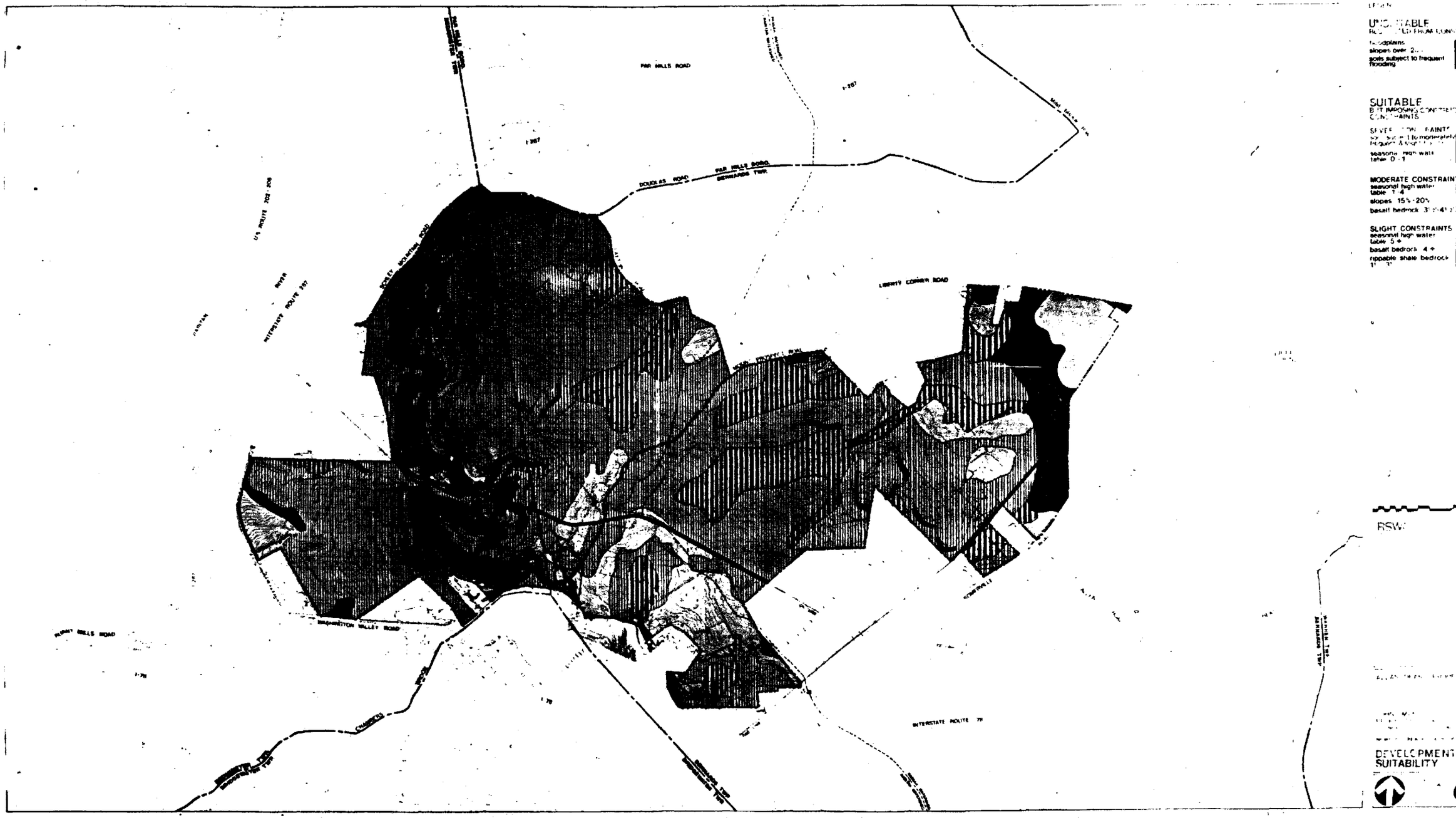

LEGEND
FOREST
DECIDUOUS
EVERGREEN
HEDGEROW
OLD FIELD SUCCESSION
OPEN
PARENTHESIS INDICATE CANOPY SPECIES OCCURING LESS FREQUENTLY
RSW
ALLAN DRANE PROPERTY
VEGETATION
5

Historic

It has been determined that an area of the Allan-Deane property located along the slope in Bedminster Township may be a site of historical significance. No development has been planned for this area and an agreement has been entered into with Robert A. Brooks & Associates to investigate this potential historical site. (See Exhibit F for Agreement.)

Development Suitability

The environmental conditions exhibited by the site have been assessed for their suitability for development and summarized graphically on the Development Suitability Map. One category of the map includes conditions which are environmentally unsuitable for construction: areas of more than 20% slope, floodplains, or soils subject to frequent flooding. Three additional categories have been established for varying degrees of environmental suitability. Areas of severe construction constraints include soils subject to moderate to frequent flooding and a seasonal high water table of 0 to 1 foot. Moderate construction constraints apply to areas with basaltic bedrock depth ranging from 3½ to 4½ foot, slopes between 15 and 20% or seasonal high water table from 1 to 4 feet. The category of Slight Construction Constraints was applied to areas with seasonal high water table greater than 5 feet, basaltic bedrock greater than 4 feet or rippable shale at a depth of 1½ to 3½ feet. The resulting composite map served as the basis for the land use plan which is shown in this report.


PAR HILLS ROAD
DOUGLAS ROAD
PAR HILLS ROAD
SCALES MOUNTING ROAD
US ROUTE 202 - 206
INTERSTATE ROUTE 287
LIBERTY CORNER ROAD
WASHINGTON VALLEY ROAD
PARK HILLS ROAD
INTERSTATE ROUTE 78
UNSUITABLE
floodplains
slopes over 20%
soils subject to frequent flooding
SUITABLE
BUT IMPOSING CONSTRUCTION CONSTRAINTS
SEVERE CONSTRAINTS
seasonal high water table 0 - 1
MODERATE CONSTRAINTS
seasonal high water table 1 - 4
slopes 15% - 20%
basalt bedrock 3' - 4½'
SLIGHT CONSTRAINTS
seasonal high water table 5 +
basalt bedrock 4 +
rippable shale bedrock 1' - 3'
RSW
DEVELOPMENT SUITABILITY
6

PHYSICAL SYSTEMS

Detailed engineering studies have been undertaken of the physical systems which will serve the proposed community - traffic, water supply, wastewater treatment and stormwater control. The objective of these studies is to identify the project impacts and the propose solutions which will minimize these impacts on the township.

Roads and Traffic

Located at the interchange of Interstate 78 (an east-west route from New York City to northern Pennsylvania) and Interchange 287 (a circumferential highway around the New York Metropolitan Region), the site has excellent access to the region. Furthermore, U.S. Route 206, a north-south highway, provides additional access along the western edge of the site.

Orth Rodgers & Associates conducted a traffic, air and noise impact study of the proposed first phase Bedminster development in order to analyze the impact of the additional traffic upon the surrounding roadways and land uses. From this analysis, the highway improvements required to accommodate the site generated traffic volumes were determined. (Complete study attached as Exhibit F).

In addition to current traffic conditions and the expansion created by the proposed Allan-Deane development, the study expanded traffic to reflect future growth from all other sources to the 1981 design year. Some of the other sources would include the completed AT&T Long Lines development.

In summary, the traffic analysis of roadways capacities, before and after the Allan-Deane development, demonstrates that the surrounding highway network has sufficient capacity to adequately service the additional traffic generated by the proposed development, providing that the highway improvements (noted in the body of the report) are implemented. The numerous access routings to the site (e.f., Interstate Route 287 and Interstate Route 78) will enable a wide dispersal of Allan-Deane development traffic throughout the surrounding highway network without negatively impacting existing residential and commercial land uses. Furthermore, the analysis revealed that additional development could be located on the Allan-Deane site (over 1400 acres) without exceeding the remaining available highway capacity of the surrounding roadway.

An air quality impact analysis was completed using proposed Environmental Protection Agency (EPA) guidelines and the volume/capacity analysis contained in the traffic impact analysis section of this report. An estimate of peak Carbon Monoxide (CO) concentrations at roadways and intersections near the site was completed for three alternative conditions: 1) 1977-Existing; 2) 1981-Without Development Generated Traffic; and 3) 1981-With Development Traffic.

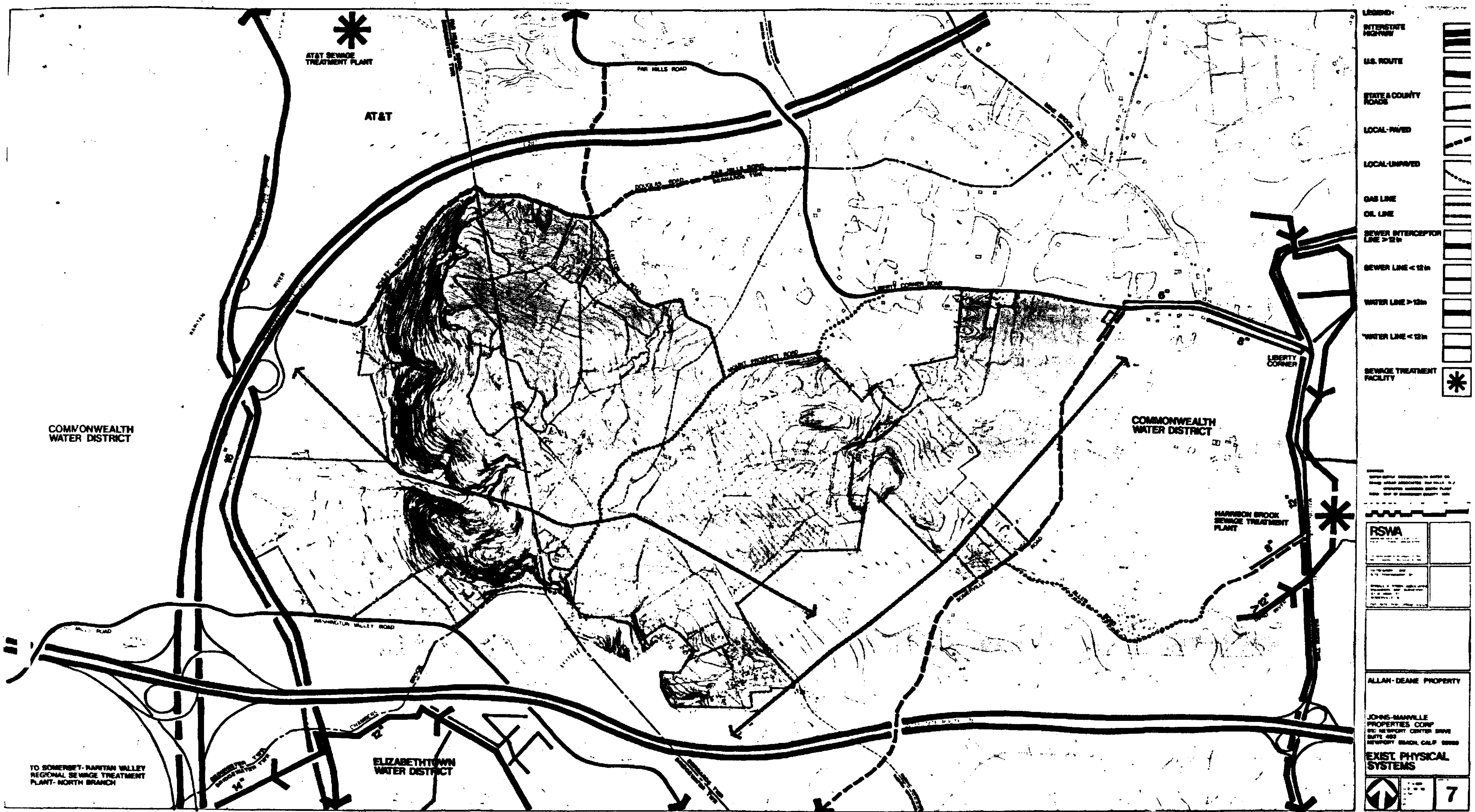
The air quality analysis revealed that all of the locations investigated will operate substantially below the national standard for CO. The highest predicted concentration will occur during the evening peak traffic hour at the intersection of U.S. 202/206 and Washington Valley Road, yet this level will only represent 48% of the national standard.

A noise impact analysis was also completed at various existing and proposed land uses along U.S. 202/206 and Washington Valley Road to determine the impact of 1981 traffic volumes after development. These predicted noise levels were then compared with recommended Design Noise Levels for each land use category.

The analysis revealed that acceptable noise levels would be achieved for all of the units shown on the Allan-Deane development site plan and three of the four existing land uses along U.S. 202/206 and Washington Valley Road. The sole exception would occur at the existing dwelling units along U.S. 202/206. A comparison of predicted noise levels for these units revealed 1981 ambient levels 5dBA above that desired for residences. It is interesting to note that the calculated existing 1977 ambient noise level and the 1981 noise level without Allan-Deane development traffic are also in excess of the desired standard by 3dBA and 5dBA, respectively. In all cases, a reduction in the posted speed limit on U.S. 202/206 to 30 miles per hour would alleviate these undesirable conditions with predicted noise levels dropping to 70dBA or less.

Water Supply

The western portion of the proposed community will be served by the Commonwealth Water Company (See Will Serve letter attached as Exhibit) which has a 16-inch main along Route 202-206. With purchases of



AT&T SEWAGE TREATMENT PLANT
AT&T
FAR HILLS ROAD
DOUGLAS ROAD
LIBERTY CORNER ROAD
MOUNT PROSPECT ROAD
RIVER
RARITAN
COMMONWEALTH WATER DISTRICT
COMMONWEALTH WATER DISTRICT
LIBERTY CORNER
HARRISON BROOK SEWAGE TREATMENT PLANT
WASHINGTON VALLEY ROAD
SOMERVILLE ROAD
CHAMBERS
ELIZABETHTOWN WATER DISTRICT
TO SOMERSET-RARITAN VALLEY REGIONAL SEWAGE TREATMENT PLANT-NORTH BRANCH
LEGEND:
INTERSTATE HIGHWAY
U.S. ROUTE
STATE & COUNTY ROADS
LOCAL-PAVED
LOCAL-UNPAVED
GAS LINE
OIL LINE
SEWER INTERCEPTOR LINE >12 in
SEWER LINE <12 in
WATER LINE >12 in
WATER LINE <12 in
SEWAGE TREATMENT FACILITY
RSWA
ALLAN-DEANE PROPERTY
JOHNS-MANVILLE PROPERTIES CORP
EXIST. PHYSICAL SYSTEMS
7

additional water from Bridgewater Township and the Elizabethtown Water Company, there will be an adequate supply. A booster station will be installed on-site to lift water to a storage tank to be built on the ridge. This will insure adequate pressure and sufficient water for fire protection. Detail engineering studies are in process to complete the preliminary design of such facilities.

The eastern portion of the site will also be served by the Commonwealth Water Company from a system which is connected with the Bridgewater Township water system. At present there is a 12-inch main along Martinsville Road with a 6-inch main reaching the site along Liberty Corner Road and a short 8-inch main along a portion of Allen Road. Neither of these smaller mains will provide sufficient capacity; therefore the developer proposes to contribute to the construction of larger mains to serve the eastern portion of the site.

Waste Water Systems & Water Resource Impacts

Several feasible alternatives have been analyzed and evaluated by Clinton Bogert Associates. Throughout the principle focus has

concentrated on a regional approach based on watershed areas rather than political boundaries. The use of septic systems is not among the alternatives under consideration. The completed study (copy attached as Exhibit I) has been submitted to the New Jersey Department of Environmental Protection for conceptual approval.

A complete evaluation of the water resource impacts of the development program has been completed by Resource Analysis, Inc. of Waltham, Massachusetts (full copy attached as Exhibit J). This report concludes as follows on each of the significant hydrologic issues:

Flooding -

The provisions for storage for control of downstream flooding incorporated into the plan will help to keep conditions at least as good as before development.

Effluent Disposal Impacts -

One of the principle alternatives for effluent disposal is for

on-site tertiary treatment with discharge to either, local surface waters, spray irrigation or rapid infiltration into the deep groundwater system. Resource Analysis has concluded that discharge of all or part of the tertiary treated sewage developed on the site to the Raritan would not violate the stringent New Jersey water quality standards for the stream (public water supply and high grade fisheries) nor antidegradation requirements; that spray irrigation can be carried out on-site with little, if any, negative impact on ground and surface water quality; and that direct recharge to groundwater by rapid infiltration ponds is limited by quantity rather than quality.

Storm Water Quality -

The controls proposed for dealing with increased quantities of runoff, i.e., detention ponds, also effectively improve the quality of the runoff. A large portion of the sediment solids would be removed by settling in passing slowly through the ponds.

Significant quantities of BOD, heavy metals, hydrocarbons, and other pollutants are known to be associated with this sediment and therefore would also be removed. The net result is that the change in stormwater quality resulting from the Allan-Deane development is expected to have a negligible impact on surface water quality.

Groundwater Quality and Quantity -

Local and regional groundwater quality should not be effected by the development. The limited permeability of the deep groundwater system limits the total amount of water that can reach the system. This water is either tertiary treated in the case of sewage effluent or partially treated and highly diluted in the case of the more innocuous storm water before entering the system thus leading to little quality impact.

COMPATIBILITY OF PLAN

Tri-State Regional Plan:

The first phase of development located in Bedminster Township is classified as an "Urban Area" in the Tri-State Regional Plan. Thus the planned development in concept and actual density is compatible with the overall regional plan and furthers its objectives as set forth in the text of plan.

State of New Jersey Development Guide Plan:

The site is designated as a "Growth Area" in the State Development Guide Plan. "It is within the 'Growth Areas' that much of the State's investments in development encouraging facilities and services should be made." Thus the development plan is in furtherance of the objectives of the State of New Jersey.

Somerset County Master Plan of Land Use:

The County Plan designates an approximately 500 acre area around Pluckemin as Village Neighborhood. The plan states "The existing Villages often form a society embracing all income levels of the population, and in this respect they are microcosms of the nation.

The housing ranges from modest houses to substantial residential establishments, often placed jowl to jowl. The compactness of the neighborhood and the close relationship between economic classes is part of the charming quality of the Villages. Existing desnsities of development range over a considerable spectrum and there is no need to set up stringent density definitions. Density is also dependent upon the amount of open space preserved, but the compact areas of development may well approximate five to fifteen families per acres and the size of the Village may vary ultimately from one to ten thousand persons."

Thus the plan suggests a density range from 2,500 units to 7,500 units. The 1849 units planned for this area, which will result in a population of approximately 5583, are well within the objectives of the County Plan even with the inclusion of land ownerships other than Allan-Deane in the Pluckemin area.

The concept of a totally planned village with pedestrian ways, recreation facilities and open space incorporated with business

and commercial uses as set forth in this site plan, is a unique opportunity to accomplish in a controlled manner precisely the objectives the County has set forth in the description of a Village Neighborhood.

CONSULTANTS ASSISTING IN PREPARATION OF OPEN SPACE COMMUNITY PLAN

AND DETAIL SITE PLAN

Land Planners	Rahenkamp, Sachs, Wells & Associates, Inc. Philadelphia, Pennsylvania
Architects & Site Planners	Kachadourian and Cahill Bloomfield, New Jersey
Civil Engineers - Waste Water Treatment Water Supply	Clinton Bogert Associates Fort Lee, New Jersey
Civil Engineers	Apgar Associates Far Hills, New Jersey
Water Resource Impacts	Resource Analysis, Inc. Waltham, Massachusetts
Storm Water Control	Vincent McKeever Philadelphia, Pennsylvania
Spray Irrigation	William E. Sopper State College, Pennsylvania
Traffic Engineers	Orth Rodgers & Associates, Philadelphia, Pennsylvania Simpson and Curtin, Philadelphia, Pennsylvania
Low & Moderate Income Housing Study	Alan Mallach/Associates Trenton, New Jersey

Market Research	Alfred Gobar Associates Brea, California
Socio-Economic Profile- Bedminster Township	Richard Reading Associates Princeton, New Jersey
Planning Consultants	Carl Lindbloom, Princeton, New Jersey John Exley, San Rafael, California
Historical Significance	Robert A. Brooks & Associates Pottersville, New Jersey
Legal Counsel	Mason, Griffin & Pierson Princeton, New Jersey

SOURCES (Continued)

Master Plan of Land Use, Somerset County, New Jersey, prepared by the Somerset County Planning Board, September 1971

The Second Regional Plan, A Draft for Discussion, prepared by the Regional Plan Association, November 1968.

Regional Development Guide, Goals and Plan for the Tri-State Region, prepared by the Tri-State Transportation Commission, October 1968.

Regional Development Guide, Technical Perspectives, prepared by the Tri-State Transportation Commission, November 1969.

Managing the Natural Environment, A Regional Plan for Water, Sewage, Air and Refuse, prepared by the Tri-State Transportation Commission, March 1970.

Bernards Township Natural Resource Inventory, Report and Appendix, prepared by the Upper Raritan Watershed Assoc., and the Bernards Township Environmental Commission, November 1975.

Master Plan, Bernards Township, prepared by the Bernards Township Planning Board, December 1975.

Municipal Land Use Decisions by Candace M. Ashmun and Peter W. Larson, published cooperatively by the Bedminster Township Environmental Commission and The Upper Raritan Watershed Association, December 1974.

Soil Survey of Somerset County, Soil Conservation Service, June, 1975.