NATURAL RESOURCES INVENTORY
BOROUGH OF ROOSEVELT
PHASES II & III

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Prepared for:

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GOALS

The comprehensive resources analysis of Roosevelt Borough involved three phases. The goal of the first phase was to develop a set of overlay maps for the Environmental Commission of the Borough. The descriptions, sources of information and interpretation of those maps were provided in the first report. The goal of the second phase was to elaborate on the first phase's natural resource data, and to add cultural resource information. The details of the second phase are outlined in this report. The third phase involves the synthesis of findings from phases one and two into a set of guidelines that will be useful in planning for Roosevelt's future growth. These recommendations are found at the conclusion of this report.

APPROACH

A team of ecology and landscape architecture students participated in collecting and analyzing information for presentation to the Roosevelt Environmental Commission under the direction of Dr. Jean Marie Hartman, Department of Landscape Architecture, Cook College, Rutgers - The State University. The data collected falls broadly into two separate categories: natural resources and cultural resources. Whenever possible, information was represented on maps. These maps were digitized onto a geographic information system (GIS) and then used to analyze the location of significant resources within the borough. Use of GIS technology is new to municipalities. This study was used to test the applicability of GIS to resource inventory and planning at the municipal scale. Roosevelt was an excellent test case because of its complex environmental system, its cultural features, and its small size.

This report summarizes and interprets the results of our efforts in two separate sections. A final section includes specific recommendations for use of this information by various municipal commissions and boards.
ACKNOWLEDGEMENTS

This study involved the time and efforts of many Roosevelt residents. Each person who found time to participate in surveys, brief or lengthy interviews, and listen to our presentations contributed to our understanding of what a special community Roosevelt is. We are especially appreciative of the time the members of the Environmental Commission found in their schedules to talk with us, listen to us and guide us.

In addition, the staff of the Cook College Remote Sensing Center gave hours of free assistance to each of the students involved in using the GIS. Their support was essential in the application of this technology to the inventory and planning study.
BACKGROUND

Geographic Information Systems (GIS)

Geographic information systems (GIS) are made up of groups of computer programs that can store, analyze and display spatial information. Spatial information refers to any type of information that can be mapped. A GIS database is a powerful tool for analyzing and mapping landscape characteristics.

The work described in this report relied on GRASS, the Geographical Resources Analysis Support System. This software is "Public Domain" and available through:

Grass Information Center
U.S. Army CERL
P.O. Box 9005
Champaign, Illinois 61826-9005

(217)373-7220

We used the computer facilities at the Cook College Remote Sensing Center, Rutgers - The State University of New Jersey.

The four basic steps in using this system are:

1.) input information
Maps can be input to the computer system as digital data (such as the output from a satellite) or by digitizing existing maps. Each type of information is entered as a separate layer. For example, five of the Roosevelt layers are the boundary, soils, vegetation, property lines, and roads.

2.) align information
Maps of the same area cannot always be overlaid onto one another because of discrepancies in the survey or base-map used to produce them. The computer can re-align the maps so that landmarks such as road intersections, buildings, etc. can be precisely overlaid. In the Roosevelt data, the topography was based on a U.S. Geologic Survey quad map whereas the vegetation was based on aerial photos.
These sources of information were not only at different scales, but after they were reduced and enlarged to the same scale they could not be laid over each other so that the roads would line up. The computer system includes software that "stretches" the maps over the same base so that the information from different sources can be aligned.

3.) **look for patterns**
The next phase analyzes the information on various combinations of map layers. For instance, we looked for the relationship between soil types and vegetation or between slope and soil erodibility.

4.) **model**
GIS allows the use of observed patterns to predict potential scenarios for the future. For instance, wetland regulations will prevent development of property in wetlands and highly regulate property within a surrounding buffer. By mapping the location of wetlands and buffer zones, we can show areas where development is restricted.

The great benefit of GIS is that a variety of scenarios can easily be explored. This allows a planner to study the effects of changing regulations and land use patterns.

The danger of GIS is that convincing models can be put together to meet almost any goal. In each case where a map is presented, it is important to understand what information was used, how exactly it was combined and how it was categorized in order to judge the validity of the results.
SECTION I:

NATURAL RESOURCES
The following natural resources were inventoried and mapped during the first phase of this study:
- soils and slope
- vegetation
- streams
- wetlands

Maps illustrating this information were digitized for GIS during this study.

The vegetation types designated in phase I were broad habitat categories which included several community types. In phase II, these designations were expanded to more detailed descriptions based on dominant species in the canopy and understory.

The field technique used in gathering the detailed information is called "Vegetation Entitation". This phase of mapping occurred during April 1993. During the field survey, management concerns such as dumping and invasive species were also identified for these units. The detailed vegetation information was combined with the natural resource maps noted above, using GIS. Analysis of these maps provided a basis for animal habitat assessment.

Vegetation Entitation

Methods

A vegetation survey method from the New York City Department of Parks and Recreation called "entitation" was borrowed and modified for this project. Entitation is a method for describing and delineating discrete vegetative "entities" or units. Teams of two students would begin by first walking through a portion of the forest and deciding where one community type changes into another. Communities were defined as a successional stage or vegetation formation (e.g. meadow, woodland, forest) with a distinct species composition.

Criteria for these decisions are outlined on a worksheet (see Appendix A) which the teams used to document overall formation, understory vegetation, as well as dominant and associated species. The vegetation of an area must remain true to these characteristics in order to be included within the boundaries of a single unit.

Blueprints of aerial photos of Roosevelt were used for mapping the approximate boundaries of these units. North lines were
drawn onto the photos so that compasses could be used in the field to check location relative to visible landmarks such as roads, houses, or even individual trees. A species list of common plants and animals encountered within a unit was also completed.

The finished entitation map on the air photo was redrafted onto a mylar basemap of the borough and reduced to a 1" : 400' scale. This map was then digitized onto the GIS at the Cook College Remote Sensing Laboratory. All analyses on the GIS were performed using the GRASS system program.

Results

The first entitation map (Map 1a) represents Roosevelt with 167 distinct units, including areas such as housing and a few anomalous designations for a sand pit and bamboo stand. Although each entitation unit represents an area of vegetation distinct from areas immediately adjacent to it, a unit type may occur repeatedly in disjunct areas throughout Roosevelt. For example, a bottomland forest with a predominantly red maple canopy and an understory of spicebush characterizes several units of forest cover across Roosevelt. In order to easily interpret the landscape and resources of the borough, it was desirable to consolidate structurally and functionally similar habitat under a single category. To accomplish this, a series of regroupings or reclassifications were undertaken using GRASS. The units were first reclassified according to formation, dominant canopy species, and understory vegetation. This reclassification resulted in 57 community categories (Map 1b). Only the categories of formation and dominant species were selected for a second round of reclassification which resulted in 27 categories (Map 1c). A third and final regrouping resulted in 10 categories of formation (Map 1d); this corresponds well with the map generated during Phase I.

Various analyses of spatial data were performed using GRASS. For example, Roosevelt contains 1197.9 acres on the digitized map; the majority of this area is forested. An analysis of cover by formation and dominant species reveals, that of the forested areas, 40 percent or 246 acres are dominated by red maple and 19 percent by sweetgum. Since these two canopy trees are more often present in association with each other than in monospecific stands, nearly 60 percent of Roosevelt's forests are wet bottomlands of red maple and sweetgum.

Understory vegetation may vary beneath this canopy: wetter areas contain mostly herbaceous vegetation such as skunk
MAP 1B

Vegetation Reclass #2

Scale 1 : 20,000
MAP 1C

Vegetation Reclass #3

1) Forest
2) Scrub
3) Herbs/grass
4) Vineland
5) Bamboo
6) Lawn
7) Agricultural
8) Meadow
9) Sand Pit
10) Pond

Scale 1 : 20,000
MAP 1D

1) Forest
2) Meadow, Scrub and Lawn
3) Agricultural
4) Pond

Scale 1 : 20,000

Vegetation Reclass #4
Roosevelt Resource Inventory

cabbage while less saturated areas contain a shrub layer of spicebush and arrowwood.

Less than a quarter of the forested areas are upland stands. Of these, red oak associations account for 119 acres and black birch comprises roughly 40 acres. These drier forests tend to be more diverse in composition and have fairly open understories.

Disturbances and management concerns were evaluated in the field for each unit and this information has also been incorporated into the GIS. For each sample unit, the survey teams noted if there was any evidence of these problems. Four main categories exist: dumping, invasive/exotic species, herbivory, and erosion/compaction.

Dumping was defined to include excessive litter or trash, piles of yard waste, construction materials, and any other extraordinary deposits such as car batteries or furniture.

The observation of exotic or potentially invasive species earned mention as a management concern. No standard of abundance for such species was followed here and a unit under this category is not necessarily threatened by species turnover or decreased diversity. The purpose was to indicate presence or absence and, given the management problems posed by these species in other parks and municipalities, provide the opportunity to investigate possible removal of individuals from vulnerable areas. Species include Norway maple, Japanese barberry, Phragmites, Japanese knotweed, mugwort, Japanese honeysuckle and catbrier.

Herbivory was listed when deer browse was so intense that woody species were not able to reproduce.

Erosion/compaction, typically associated with the above categories, was defined most often by hooves or vehicular traffic, especially on slopes, as well as by the presence of excavations.
MAP 2

Disturbance

1) None reported
2) Erosion
3) Compaction
4) Dumping
5) Herbivory
6) Invasive species
7) Erosion, Compaction and Herbivory
8) Erosion, Compaction and Invasives
9) Dumping and Invasives
10) Herbivory and Invasives

Scale 1 : 20,000
These management concerns are presented on Map 2. The reclassification on the GIS shows where these existed alone or in combination. Caution should be used when interpreting this map. Because the area that is shaded is defined by community formation and not by the actual space occupied by an invasive species or dump site, the impression of the magnitude of the problem is exaggerated. It is also important to point out that some types of dumped materials such as wood panels and boards may enhance habitat for reptiles and amphibians.

Roosevelt's natural areas are by and large in good shape -- no problems were reported in the largest category, i.e. areas colored yellow. Invasives alone and invasives in combination with dumping are the prevalent problem categories.

**Wildlife Habitat Assessment**

Phase I of the Natural Resources Inventory for Roosevelt describes in general terms the species of wildlife that may occur within the borough. Phase I also makes note of the possible occurrence of New Jersey State threatened and endangered species within the borough.

**Methods**

Time constraints prevented us from performing sampling of animal populations for habitat assessment of the entire borough. However, we can draw some generalizations from the detailed vegetation survey and analysis using the GIS.

Since over half the borough still contains natural areas, it provides a relatively large amount of wildlife habitat. Even more importantly, these tend to be a few fairly large areas, rather than many small patches. This enhances their value for species that require such large contiguous areas. Finally, Roosevelt's proximity to the Assunpink Wildlife Management Area also results in increased value for wildlife.

For this phase of the project, we used the GIS to characterize the location of potential habitat for the two threatened species, the Wood Turtle (*Clemmys insculpta*) and the Barred Owl (*Strix varia*) that have historically been recorded in the vicinity. In addition, we used the GIS to model habitat appropriate for mink (*Mustela vison*), an indicator species of floodplain forests. Finally, we identified the extent of forest-field edges, an important habitat component in a community (Mapset 3).
MAP 3A

Potential Wood Turtle Habitat
MAP 3B

- Suitable Habitat
- Unsuitable Habitat
- Developed/Agricultural
- Ponds
  - Municipal Boundary
  - Property Lines
  - Roads
  - Streams

Potential Barred Owl Habitat
Results

Wood Turtle

Wood Turtles are officially listed as threatened by the state of New Jersey. A summary of Wood Turtle information (Holt 1993) indicates that this species requires two habitat components: small flowing streams for mating and hibernation, and any of a variety of terrestrial habitats at other times. These terrestrial habitats can include forests, fields, and even agricultural areas. A recent study (Holt 1993) comparing Wood Turtle sites and typical wetland sites show that this species prefer streams adjacent to fairly open wooded areas.

Potential Wood Turtle habitat was identified using the GIS database, combining stream and vegetation data to map those areas which may be turtle habitat (Map 3a). A 150 meter buffer was placed around all streams within the borough. This buffer was then matched with areas of wooded vegetation and fields which appear to correspond with Wood Turtle requirements. Of the identified areas, several small isolated patches deemed unlikely were removed from the map.

The main areas that were identified include the wooded areas and greenbelts along Assunpink Creek and Empty Box Brook. These areas correspond to those in which Wood Turtles have been sighted in the borough in the past. A dead Wood Turtle was found during the vegetation survey along Empty Box Brook between Farm Lane and Lake Drive. Potential Wood Turtle habitat as identified in this report includes 507 acres of the borough.

Barred Owl

The Barred Owl is also listed as a threatened species in New Jersey. It was more difficult to identify potential Barred Owl habitat within the borough due to the owl’s need for large contiguous tracts. Much of the potential habitat within Roosevelt lies along the borough’s borders, making it difficult to ascertain whether these forest tracts as a whole are large enough to support Barred Owls. The main areas likely to be Barred Owl habitat are the wooded areas along Assunpink Creek (due to its proximity to Assunpink Wildlife Management Area), and the wooded areas along the eastern border of the borough which are contiguous with similar forested land in Millstone (Map 3b).
Mink

Mink (Mustela vison) are lively amphibious carnivores which occur throughout much of North America. Minks are found along streams, lakes and standing waters. They prefer forested, log-strewn and thicketed areas and are indicator species of Eastern floodplain forests. Nocturnal and solitary, minks are active throughout most of the year and are known to wander far along water courses and shorelines in search of prey. The home range of females is about 20 square miles while that of males may be several square miles. Minks construct below-ground dens typically under stumps or logs and along stream banks, or take over abandoned muskrat houses. Main prey items are birds, crayfish, frogs, fish and muskrats. Mink will also consume mice, voles, rabbits and squirrels, especially during winter when they will roam farther from water in search of food. Dogs, coyotes and great horned owls are potential predators of mink.

Minks have been spotted only rarely by residents of Roosevelt (Phase I). Within the Borough’s woodlands, there are several streams, ponds, and seasonal wet depressions which are home to healthy populations of frogs and birds and would provide excellent habitat for mink. The GIS map of potential mink habitat (Map 3c) highlights wet forests within or adjacent to wetland designated areas. This habitat measures approximately 480 acres. The habitat along the southern border is especially important as it is sizable, contains several streams and depressions, and borders the Assunpink Wildlife Management Area which contains substantial wetlands. Roosevelt’s mink habitat provides a valuable corridor for foraging and dispersing minks from the Assunpink Wildlife Management Area to habitat outside the borough.

Edge habitat

Edge habitat was identified and mapped within the borough using the GIS database. Buffers were created around all forested and field areas. Overlapping buffers were then identified as edge habitats. Edges were first identified around natural fields. Agricultural fields were then included, and finally lawn areas were included. Each subsequent pass identified more edge habitat (Map 3d).

Historically, edge areas have been considered an asset because they provide important habitat for many game species, such as deer. Because the deer population is at such high level in Roosevelt at this time, the prevalence of edge habitat could be considered more of a problem than an asset.
In addition, fragmentation of large areas of forest is now recognized as detrimental to many of the less common animal species that currently utilize these areas. In addition, some songbird species may be negatively impacted by cowbird parasitism, which increases with greater amounts of edge.
SECTION II:
CULTURAL RESOURCES
Roosevelt Resource Inventory

lasted for about an hour. Individuals were encouraged to voice their feelings and opinions about what they saw during the walk and offer any background information that they felt was important to the study. Notes and photographs were taken by study members during the walk.

Results

The physical features discussed during the walk are listed in Appendix B. A review of the list shows that the residents were very aware of the structure and character of the community. In addition, a number of the observations reflected their image of how Roosevelt ought to look.

Some of the results were not specific features or locations that can be pinpointed on a map, as they describe overall feelings and opinions about the quality of living, general appearance, etc. One opinion that was prevalent among the participants is that the bauhaus architecture should be preserved. In addition, there was a general concern that greenway and forest resources of the community could be better managed. There was also discussion concerning the importance of the community addressing needs as a whole rather than the needs of individuals. However, no specific examples or problems were explained relative to this point.

Generally, the participants in the community walk noted numerous positive aspects of living in Roosevelt. The high level of community involvement seemed particularly important. This was related to many aspects of social/cultural character of the small community. Repeatedly, the post office, school, and amphitheater were pointed out as community focal points or as landmarks of the town center. Both the affordable housing and safety of community were appreciated, as was the site plan of the village with its greenbelts, streams and trails.

A broad range of concerns were expressed by the participants. Some that were repeated in more than one group or seemed to receive consensus in group discussion were:

- The litter in the greenbelts and along roads must be cleared.
- There is a lack of youth activities and public amenities.
- The presence of ticks has diminished outdoor activities.
- The water and sewage bills are too high, and payment does not reflect usage due to the lack of water meters.
- The influx of newcomers has lessened the sense of community.
- Concerns that the high deer population causes car accidents and damage to vegetation conflict with concerns over safety hazards related to hunting.
- Curbs and sidewalks are desirable for children's safety, but they change the small town look.
- The wastewater treatment plant is unattractive.
- The appearance of Rossi's Deli is disjointed with local architecture, although its function is considered essential.
- Uniform housing setbacks and large lot zoning are contrary to the existing style of the community plan.

Although numerous problems were pointed out, there was a positive tone throughout the discussion. This indicated to us that, although improvements could be made, the participants were genuinely fond of their community.

Resident Employed Photography

The purpose of the Resident Employed Photography was to obtain both good and bad views of Roosevelt as perceived through the eyes of its residents. This method of gathering cultural information differs from the community walk and other survey methods by allowing residents to focus on any particular area in Roosevelt as they wished. Residents were free to photograph scenes wherever they chose, from their own backyards to remote areas of Roosevelt that might otherwise have been overlooked by the study team. As stated in the provided survey form (Appendix C), "it could be as personal as the tree where you first kissed or an ideal view or scenic corridor".

Methods

Residents who attended the Borough Hall Clean-up/Community Walk, as well as others, were provided with disposable cameras for the resident employed photography phase of the study. Participants were instructed to take photos in Roosevelt over a period of several weeks and then return the cameras to a designated drop-off at the post office, from which they were collected for processing.
Roosevelt Resource Inventory

Results

A total of 211 photographs were taken. Photographs were ranked in categories based on the number of pictures taken of any particular setting, object or activity of concern. The following five general categories describe both positive and negative scenes.

Architecture

Issues raised by residents concerning Roosevelt's architecture focus on recent construction that does not conform with the original Greenbelt design and Bauhaus architecture. The residents that participated in this survey felt that the greenbelts and Bauhaus architecture are what make Roosevelt unique. Ranch and geodesic styles, as well as "non conforming" modifications to original bauhaus homes, were included in sets of negative images.

School/Amphitheater/Playground/Park

This whole area provides passive and active recreation for all ages. The area's close proximity to the town's central public facilities and commercial area make it an important feature of the town center. However, comments indicated a desire that efforts made to make the town center more cohesive visually.

North-Rochdale Entry

The vast open fields, punctuated by the presence of the picturesque oak tree, make this entry to Roosevelt distinct, peaceful and welcoming.

Condition of Public and Private Land

These photos focused on conditions of abandoned homes and household debris. Remote roads such as Witch's Hollow were photographed to illustrate improper disposal of construction waste. Natural features, such as the greenbelts, were pictured as unmanaged with fallen branches and other debris.

Streetscapes

On the subject of curbs and sidewalks, controversy stems from the difficult choice between practical needs, aesthetics and safety issues. Benefits of sidewalks and curbs include increased child safety and the reduction of soil erosion. However, this may not only lead to a less rural/ more suburban
appearance, but curbs tend to cause debris to accumulate and clog sewers. One resident's reaction to new curbing was "Why was this done? The timeless character of a sleepy and beautiful country road was utterly destroyed by this single act of development!"

Written Survey

A written survey (Appendix D) was conducted to build on our initial database. Our goal was to detail the resources of Roosevelt from the residents' perspectives, and to place them in historical and cultural context. A comparison of the results of the written survey with those collected using previous methods generated higher confidence in the initial data collected.

The specific goals of the survey were:

- To understand the cultural and historic elements of Roosevelt and their relative importance to the community.

- To understand how the residents perceive and interact with their natural and built environment.

- To understand what the residents prefer to see in terms of preservation and growth.

- To collect general background information for use in more detailed analyses such as visual preference survey, visual corridors and genius loci analysis.

Analysis

Of 400 surveys that were mailed we received 63 responses, a response rate of sixteen percent. Although the sample size was small, we confirmed that it was representative by comparing the mean responses from surveys received early and late and finding that they were essentially the same. In addition, we compared responses to similar questions and found that they were consistent. Due to the small sample size, statistical analysis of some questions was not feasible. However, we did find trends in responses to a number of issues, some of which were statistically significant.

A profile of survey respondents was compared to 1990 census data, revealing that a higher percentage of long term (5-20
year) residents returned surveys. In relation to the relative proportion of income levels in the census data, a higher percentage of survey respondents in the $50,000 or greater income bracket responded. Also, more households with children responded than what was expected based on the census. Subsequently, the profile of our survey respondent was not typical of the Roosevelt resident depicted by the census data. Therefore, we analyzed the responses by different groupings to see if the data was biased. For the analysis, responses were grouped based on length of residency, household income, and presence/absence of children.

When we looked at the responses to questions concerning growth, plans to stay in Roosevelt, land conversion and Bauhaus architecture we found no significant differences between the groupings.

Appendix D includes the results from the survey. Each question number is noted so that the reader may refer to the survey directly. The questions for which consistent response patterns were found are discussed below.

**Historical and Cultural Elements**

Q4a When asked to write in a natural feature of historical and/or cultural significance, it was found that:

"Greenbelt" had the largest response rate at 49%. This was more than three times the response for any other natural feature. This response is particularly meaningful because the survey question did not prompt a particular response: the selection was written in by those answering the survey.

Q4b When asked to write in a man-made structure with historical and/or cultural significance, it was found that:

the Shahn mural and the Roosevelt bust received the most responses.

**Natural Features**

Q3 When asked to independently rate the importance of a list of natural features on a scale of most important to least important it was found that:
Greenbelt, woodlands and streams were rated highly. 98%, 92% and 87% (respectively) of respondents considered them most important and no one considered them unimportant.

Meadows and farmland were also considered important but less so, and a small percentage (9% and 11% respectively) of respondents rated them as least important.

Q7 When asked what types of activities in the natural environment residents participate in, it was found that:

92% watch wildlife, 87% walk, 76% garden and 73% bird watch.

These results emphasize the high level of interaction that respondents have with their natural environment.

Preservation and Growth

Q16 When asked to identify places, structures or features they value and would like to see stay the same a wide variety of responses were received. They were:

Greenbelt 14%; school 11%; other elements of note included woodlands, the cemetery and Bauhaus architecture.

Q15 When asked to independently rate a list of land use conversions from unacceptable to desirable, it was found that:

Conversion of forest to housing or forest to farm was most frequently considered unacceptable.

Conversion of farms to woodland was found to be 69% acceptable and 20% desirable.

Conversion of farms to housing received a more ambivalent response, with 47% unacceptable, 48% acceptable and 5% desirable.
These results suggest that respondents are more willing to allow conversion of farmland than forest.

Q11 When asked how they think the borough is growing, results showed:

70% answered about right, 17% too fast and 13% too slow.

Q1 When asked to rate the overall quality of life in Roosevelt:

65% rated it excellent to outstanding, 31% rated it good, 5% rated it as fair and no one rated it as poor.

The strongly positive responses to both Q1 and Q11 suggest that respondents like living in Roosevelt.

The compilation of data from the written survey, interviews and the community walk was used in to develop the visual preference survey. This information was also utilized to set up the visual corridors analysis and to create the final overlays for the genius loci analysis.

**Visual Preference Survey**

The purpose for the visual preference survey was to allow Roosevelt residents to express what they perceive to be either appropriate or inappropriate images for their borough’s future.

**Methods**

A visual preference survey of Roosevelt residents was conducted at the Borough Hall on the evening of April 7, 1993. The survey followed a scheduled Environmental Commission meeting. Twenty-four residents participated in the survey. Two control groups were also surveyed prior to April 7 for comparison. One group was a class of junior landscape architecture students at Rutgers who were unfamiliar with Roosevelt. The other group included the study team members, who were non-residents but familiar with Roosevelt due to their involvement in this project.
The survey involved a 40 minute slide show displaying 160 slides at 10-second intervals. Scenes from within Roosevelt were randomly mixed with scenes from outside of the borough. The wide variety of scenes displayed during the survey were meant to provide residents with a mechanism for expressing their basic reactions to various visual elements.

In the process of selecting the slides for the survey, the first step was to outline the general characteristics for the slides. Of the many slides available for each category, 160 were then selected in a stratified random manner for the survey. The ten main categories are listed below:

- Residential
- Commercial
- Landscape
- Industrial
- Institutional
- Corporate
- Passive/Active Recreation
- Managed/ Unmanaged
- Woods
- Signage
- Roadway

First impressions of survey participants during each 10-second slide display were recorded on a scantron so that numerical results could be easily tabulated and interpreted. Participants were asked to rate each slide in terms of its appropriateness to Roosevelt on a scale of 1-5. The results were cross-referenced with a list of 40 significant elements that were visible in the slides, as noted by study team members. Some of these visual elements included:

- overall exposure/composition of photo
- time of year/weather
- sense of openness
- condition of built and natural features
- type of natural feature or overall site
- type of built feature
- presence of people/animals/utilities

Results

By using the visual elements outlined above and comparing Roosevelt residents' responses with non-residents' responses, inferences were made regarding how certain visual elements within a whole scene affected the viewers' perceptions. The following are the general results of the visual preference survey based on resident responses:
Five of the top 10% (most appropriate) images for Roosevelt:

**Field with silo** - residents found that slides with an agricultural character extremely appropriate. Certain elements such as openness, forest edge, and even good weather may have played some role in the high score. More likely, the setting's close similarity to the fields along N. Rochdale and the farm houses on Nurko Road may have resulted in the high score.

**Horse Farm** - typically, rural settings such as the horse farm were ranked highly in appropriateness. Again, the resemblance of this scene to Roosevelt's own horse farm may have resulted in its high rating. The presence of certain visual elements such as openness, the wooded backdrop, and the building type also may have had a positive visual impact.

**Dirt Path** - this intimate path set in a naturalistic landscape resembles many of the unpaved, uncurbed, and naturalistic trails found in Roosevelt. Some examples include the ascent to the cemetery, the trail to the school, and Witch's Hollow Road.

**Stream** - the close similarity of this natural setting to Roosevelt's Greenbelts and Empty Box Brook, as well as visual elements including water, was likely to have resulted in a high score.

**Cemetery** - in contrast to the preceding scenes, the Roosevelt cemetery image appeared pale and grey (therefore lacking the good weather element). This scene's high rating was presumably due to its significant cultural/social value for the Roosevelt community. This assumption can be validated by the fact that the same scene was rated poorly by the control group that was non-resident and unfamiliar with Roosevelt.

All of these five slides have one thing in common: they either closely resemble scenes in Roosevelt or, as in the fifth slide of the cemetery, are an actual place in town. A sense of familiarity would appear to be the foremost reason for their high rating. Another observation may be that these are all passive, serene, rustic settings that are virtually timeless. Intrusive visual elements such as modern amenities,
Field With Silo - images with agricultural character scored well.

Horse Farm - images of intimate, rural settings with wooded backdrops scored well.
Walking Path - the image of walking trails through naturalistic landscapes scored well.

Stream Through The Woods - images similar to Empty Box Brook scored well.
Roosevelt Cemetery - familiar images with historic/social value to residents scored well.

Large Corporate Office/Industrial Buildings - large scale, non-residential images scored poorly.
Small Commercial Mall - strip malls, including their paving and cars, scored poorly.

Colonial Streetscape - images that contrast with the Bauhaus-based residential design of Roosevelt scored poorly.
Elevated, Embellished House - imposing homes scored poorly.

High Density Housing - images of anonymous, dense housing with parking lots scored poorly.
utilities etc, or even people do not exist in these scenes. Weather conditions and quality of photography seem to have had little impact on survey results.

Five of the lowest 10% (most inappropriate) images for Roosevelt:

**Large Corporate Office/Industrial Buildings** - residents found all large scale buildings inappropriate, whether they were in an urban or a rural setting. The negative score for this image was probably increased by the presence of cars and extensive paving.

**Small Commercial Mall** - large and small strip malls with their cars and paving also scored low. This suggests that the scores for the deli/liquor store area were lowered by its resemblance to these commercial areas.

**Dense Streetscape** - Though more intimate than the mall scene and without images of car use, this row of stores was still considered inappropriate. The assembled residents believed that this more 'colonial' townscape did not belong in their Bauhaus-based residential neighborhood.

**Elevated Embellished Residential Home** - Imposing houses scored poorly with residents. Control group response data suggests that the score for this particular house may have been even lower if there was no backdrop of trees, because the absence of trees would have made the image even more imposing.

**High Density Housing Units** - Though somewhat similar to the high scoring elderly housing units existing in Roosevelt, all other high density housing units received a negative score from residents. This inconsistency may have arisen from the feeling that elderly housing is appropriate for Roosevelt while, in general, high density units with their larger building masses and their parking lots are not appropriate.

All the slides with low scores have one thing in common, dominating built structures. Many of these structures are foreign or unfamiliar to Roosevelt. Some lack architectural style, others represent uncomfortably high levels of usage density.
While these findings may seem simplistic and obvious, they were useful in bringing to light some of the conflicts Roosevelt residents may be facing in deciding on a course for Roosevelt's future. The largest discrepancy is between what they find visually appropriate for Roosevelt and what they think needs to be done to alleviate the town's current development pressures. For example, based on the Visual Preference Survey, residents' prefer agricultural settings the most. However, this strongly contrasts with the results of this study's Written Survey, where resident's prefer to see rural areas developed over woodland and greenbelt areas.

Phone Interviews

After the written survey was returned and its results tabulated, phone interviews (Appendix E) were conducted. These interviews served as a final method for collecting detailed background information about Roosevelt's cultural resources and were also a means for verifying the results of the written survey.

Over a period of several weeks, 12 Roosevelt residents were telephoned by a member of our study group. Each resident was asked the same list of questions, which took about 15-20 minutes to complete. Questions were divided into four sections:

1.) Brief background information of the interviewee
2.) Whether the respondent had turned in a written survey
3.) Whether the person being interviewed agreed or disagreed with the written survey results
4.) Descriptions by the interviewee of significant cultural social features/events and positive/negative aspects of Roosevelt, etc.

Of the 12 residents interviewed by phone, seven had received the preceding written survey and two of the seven had responded. In general, residents interviewed agreed with the results of the written survey.
SECTION III:

INTERPRETATION AND RECOMMENDATIONS
Genius Loci

All places, including Roosevelt, have a spirit of place which refers to its individual uniqueness, character, and identity. This was referred to as "Genius Loci" by ancient Romans and the term is currently used in community planning. Genius Loci has particular value and meaning to a town's inhabitants. While the interaction of the actual attributes that comprise a town's Genius Loci are often not recognized or understood by its residents, the overall sense of uniqueness in a place is apparent and can bring forth strong mental images. Unplanned change can lead to the irretrievable loss of attributes that comprise the Genius Loci. Without proper planning, the Genius Loci and the quality of life in a town is diminished.

The factors that produce the attributes are based upon:

- aspects of the existing natural environment
- cultural expressions which are a relation to landscape, social history, physical location, human activities, and place as a cultural artifact
- the sensory experience (primarily visual) which results from the interaction of culture with the existing landscape.

The attributes that define Genius Loci are grouped into three major components:

1.) Physical Features
The actual physical structure of a place. The reality of its buildings, landscape, climate and aesthetic quality, e.g.

   a) design and location of spaces
   b) natural and manmade landmarks
   c) open space and natural habitats

2.) Observable Activities and Functions
How a place's people interact with it, how their cultural institutions have affected it, and how the buildings and landscapes are used, e.g.

   a) cultural diversity and history
   b) town-wide activities
   c) daily interactions between residents

3.) Symbols and Meanings
A more complex aspect, primarily the result of human intentions and experiences. Much of a place's character will be derived from peoples' relation to its physical and functional aspects.

Identifying Genius Loci is not a simple matter, since these attributes may be difficult to pinpoint. For town residents, some of these attributes may be so commonplace that they may be taken for granted, or seem self-evident. Other attributes, though, may be hidden or uncommon and therefore may be easily overlooked by both residents and outsiders. Furthermore, an outsider's unique perspective may have an impact on his/her perception of an unfamiliar town's genius loci.

In consideration of these possible inconsistencies in perceptions it is necessary to gather a broad spectrum of information about a town through several sources including, most importantly, its residents as well as literature and field surveys.

To attain the best possible account of Roosevelt's genius loci, our analysis of Roosevelt needed to be as thorough, candid, and unbiased as possible. For the written survey only certain questions were relevant to the Genius Loci of Roosevelt. As with the rest of the survey the results are consistent, with two exceptions. Perceptions of the importance of both meadows and farms in this community are contradictory based on the survey. However through other sources, the importance of these features to Roosevelt's Genius Loci can be verified.

Based on the surveys, the significant features can be organized into the three basic elements:

1.) **Physical Features**
Greenbelt, ruralness, architectural design, streams (especially Empty Box Brook), woods, mural and school, bust and amphitheater, cemetery, the turkey vultures on the watertower, entrance near Nurko Road

2.) **Observed Activities**
Art/culture, community involvement, post office as a meeting place

3.) **Symbols/Meanings**
People (historic, public and familiar figures), sense of small community (anything that implies ruralness, such as uncurbed roads), any symbol
Roosevelt Resource Inventory

recognized as part of history (e.g. school mural).

This information impacts our analysis of future development scenarios for Roosevelt and how they would effect the town's Genius Loci.

Planning Issues

Roosevelt has changed in size and shape from its original plan. However, enough of the garden community character is still in place that it is listed in the National Register of Historic Places.

Much of what gives the community its character is the result of the original design. For instance, the alignment of buildings along the roads creates a unique set of views as one walks or drives along the streets. The high environmental quality of the area is still intact because of the greenbelt system that protected extensive wetland areas. The rural character of the community results from the uncurbed roads and the informal social gathering that occurs around the post office.

Suitability Analysis

In order to assess the suitability of land for additional development we developed a GIS model. We list here the specific categories we used in order to develop the model. This will allow the residents of Roosevelt to agree or disagree with elements of the model, and the model can be run additional times to test its sensitivity to changes in the criteria.

The criteria used to generate the GIS suitability map were based on legal and environmental considerations, property ownership and current land use, building constraints, and scenic and visual corridors. Thirteen classes differing in their level of restriction to development are weighted from 'highly restricted' to 'unrestricted'. The fourteen classes and four levels are as follows:

1.) Primary wetlands - Highly restricted both legally and ecologically.
2.) Agricultural wetlands - Highly restricted both legally and ecologically. Legal restrictions instituted when changes in zoning or development occur.
3.) **State property** - Highly restricted both legally and ecologically. All state owned property in the Borough protected in the Assunpink Wildlife Refuge.

4.) **Wetland buffers (45 m)** - Restricted both legally and ecologically. Under less stringent regulation than designated agricultural wetlands.

5.) **Agricultural wetland buffers (45 m)** - Restricted both legally and ecologically. Under less stringent regulation than designated wetlands.

6.) **Potential wetlands** - Potentially highly restricted both legally and ecologically. May actually be agricultural wetlands.

7.) **Potential wetland buffers (45 m)** - Potentially restricted both legally and ecologically. May actually be agricultural wetland buffers.

8.) **Severe slope (>15%)** - Moderately restricted by engineering constraints, soil erodability and water quality considerations.

9.) **Open municipal** - Moderately restricted by overlap with identified visual and scenic corridors.

10.) **Open agricultural** - Moderately restricted by overlap with identified visual and scenic corridors.

11.) **Municipal** - Unrestricted to development. Must be redeveloped for other uses.

12.) **Developed** - Unrestricted to development.

13.) **Agricultural** - Unrestricted to development.

14.) **Other/Forested** - Unrestricted to development.

Four maps were generated that illustrate each of the general criteria used to determine suitability to development. A final map indicates the sites most likely suited to development based on eliminating areas that show some degree of restriction (this includes both municipal and developed areas, which are primarily greenbelt and previously developed property, respectively). In all maps, regions of overlap that constitute combinations of restriction levels are automatically assigned to the most restrictive class.

**Map 4: Wetlands and Wetland Buffers** - Primary wetlands, agricultural wetlands and potential wetlands with their respective 45m buffer zones.

**Map 5: Property Ownership and Land Use** - State, municipal, developed, and agricultural land.

**Map 6: Visual and Scenic Corridors** - Municipal and agricultural areas considered to have visual and scenic value.
MAP 4

- Primary Wetland
- Agricultural Wetland
- Primary Wetland Buffer
- Agricultural Wetland Buffer
- Potential Wetland
- Potential Wetland Buffer
- Municipal Boundary
- Property Lines
- Roads

Wetland Restrictions on Development in Roosevelt
Property Ownership and Land Use
Municipal and Agricultural Viewsheds in Roosevelt
Slope Restrictions on Development in Roosevelt
Map 7: **Building Constraints** - Areas with slopes greater than 15% are shown along with all above restrictions.

Map 8: **Suitable Development Sites** - Unrestricted areas, excluding municipal (i.e. greenbelts) and developed property.

**Resource Management**

Roosevelt is rich in cultural and natural resources. It will benefit the community over the long term if these resources can be carefully managed while the inevitable changes and growth occur.

The community's history and heritage are part of Roosevelt's genius loci. The first steps towards protecting these have taken place with their documentation and inclusion in the Historic Register. Based on the survey results, we suggest that discussion regarding subdivision design and building design be included in the Planning Board's agenda before additional growth occurs.

Visual characteristics were consistently rated as important by residents. The sequence of spaces upon approaching Roosevelt from the north were repeatedly mentioned as a significant gateway to the community. Changes in land use along the visual corridor will severely impact the rural character of the community. The impact of such changes will become increasingly important as adjacent areas become subdivisions. A detailed review of visual impact should be required in conjunction with any development proposals.

The natural resources of the community have largely been managed with a "hands-off" approach. Litter removal, fines for dumping garbage and yard waste, and removal of exotic species will become increasingly important as the population density in and around Roosevelt continues to increase. Most of this effort can be focused at the forest edges, since the forest and wetland interior are in good repair at this time. We understand that there is an ongoing, voluntary, litter removal effort. Additional support for this effort might be beneficial. Removal of exotic species from the forest edge must also be given priority. Several invasive vines and woody species are beginning to dominate the forest edge. These will become increasingly difficult to manage as they become more common. Eventually, they will also impact the forest interior as they invade naturally occurring disturbance gaps.
There was discussion concerning removal of some of the dead plant material during one of the Environmental Commission Meetings. This must be undertaken with care. If the material is yard waste, it is reasonable and desirable to remove it. If the material is the result of natural regeneration of the forest, its removal may be detrimental to a variety of animals and some plants that utilize dead plant material during part of their life cycle.
APPENDICES
APPENDIX A

DATA SHEET
FOR
VEGETATION ENTITATION
BOROUGH OF ROOSEVELT VEGETATION SURVEY

Section / Unit #___  INITIALS______
Classification___  DATE______

FORMATION

1. Closed Forest
2. Woodland
3. Scrub
4. Herbaceous Community
5. Aquatic
6. Vineland

TOPOGRAPHY

1. Level
2. Depression
3. Slope
4. Knoll
5. Undulating

DOMINANT WOODY PLANTS

1. Deciduous
2. Mixed
3. Evergreen

SOIL CONDITIONS

1. Dry
2. Dry/Moist
3. Moist
4. Wet
5. Surface Water

VEGETATION < 15'

1. Trees
2. Shrubs
3. Grasses
4. Annual herbs
5. Perennial herbs
6. Vines
7. Moss
8. Hydrophytes

DISTURBANCE & MANAGEMENT CONCERNS

1. Fire
2. Erosion
3. Compaction
4. Dumping
5. Herbivory
6. Invasive sp
7. Other____

DOMINANT PLANT SPECIES

<table>
<thead>
<tr>
<th>&gt;30'</th>
<th>5'-30'</th>
<th>&lt;5'</th>
<th>Exotic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Other noteworthy species_____________________________________

Regenerating species_____________________________________

COMMENTS AND OBSERVATIONS: note wildlife habitat / sighting
APPENDIX B

SITES NOTED DURING COMMUNITY WALK
Northern Section (2 residents)

1.) Road and Water Tower - growth disturbing  
2.) Commercial building - appears vacated  
3.) Residential and Commercial buildings - represent conflicting uses, residential architecture is atypical of the borough  
4.) Berm - provides screening, area behind it may also be good for development  
5.) Water Works Plant and Road - Bauhaus style architecture of the plant and the woods south of the road are appreciated  
6.) Nurko Road - point at which one feels one has arrived home  
7.) Tree viewed from Nurko Road - oak tree is beloved landmark  
8.) Disliked View - area where curbs were pointed out as being out of character with the rest of the community  
9&10) Area near pond - lacks Roosevelt identity, not perceived as part of borough

West Section (3 residents)

11.) Wastewater Treatment Plant - negative view, however innocuous since it is at the end of Pine Street  
12.) Forest - highly regarded for its scenic and recreational value; used to have a pond that was used for iceskating but is currently overgrown; thick briar needs to be removed because it prevents the preferred open view through the woods; common ownership of land leads to selfish disregard of this resource which is often used as a dumping ground for garden waste, etc.  
13.) Cul de sacs - provides privacy for those residents yet considered less social because fewer people stroll through; parking sometimes a problem; odd garage arrangements  
14.) 1980 State Autistic Home - fit into initial premise of Roosevelt but failed due to state mismanagement  
15.) School - culturally significant as a meeting place, for plays, recreation, good playground; footpath from Pine frequently traversed by students provides pleasant walking experience through heavy vegetative cover blocking views of nearby homes  
16.) Amphitheater - historically and culturally significant; focal point for 4th of July, graduation, Hiroshima Day, concerts, etc.  
17.) Post Office - important socially as meeting place for
residents, all mail is received through post office boxes

18.) Triangle - important intersection between several significant view corridors

**Eastern Section (4 residents)**

19.) Borough Hall - meeting place that could use some improvement in appearance
20.) North Rochdale Avenue - traffic is light to moderate; sidewalks are not preferred
21.) Homestead Lane - homes are well kept, most are in the Bauhaus style with minor modifications; the streetscape has varying house setbacks and empty wooded lots which provide visual interest; the thicket along the road and the presence of street trees on only one side of the road detracts from the overall image
22.) Cherry Tree Triangle - pleasant appearance, is well liked
23.) Eleanor Drive - turkey vultures on the water tower is a well known and appreciated natural resource; the dirt road and presence of thicket is appropriate for this remote setting with three acre lots; rustic amenities such as street lamp posts and gravel drives are highly preferred; geodesic domes are liked, while bold colors and dominating homes that do not blend with the wooded setting are considered distasteful
24.) Cemetery - place for contemplation and solitude, receives frequent visits; homes in close proximity are not preferred unless they are well screened
25.) Notterman Tract - very highly regarded field with wonderful vista toward North Valley Drive; deer frequently seen
26.) Solar Village - satisfied with the architecture, seems to fit well with community
27.) Farm Lane - some modified original Bauhaus; many newer homes, some Bauhaus style, some split levels; patchy asphalt road lined with uniformly spaced street trees; sewer lines were replaced

**Southern Section (4 residents):**

28.) Horse Ranch - aesthetically pleasing, residents like the openness and take walks to visit the horses; one negative aspect is that the ranch uses a lot of water but pays the same water bill as the individual homeowner
29.) Swim Club - participants of the walk knew little about this site and expressed no opinions about it
30.) "The Estates" - uniform setbacks seem rigid; geodesic domes and their surrounding landscape are well liked, although Bauhaus architecture is preferred; the connector
path between them are used by many residents who do not want to see it connected to main road.

31.) Trails - enjoyable passage through pleasant Assunpink resource; however, trails harbor ticks, are expensive to maintain and are potential liability risks if Roosevelt maintains them.
APPENDIX C

RESIDENT EMPLOYED PHOTOGRAPHY
RESIDENT EMPLOYED PHOTOGRAPHY

Resident Employed Photography is a technique that will help us analyze the visual resources of your community. Your participation will assist us in determining a consensus on desirable and undesirable landscape components. Landscape components are the basic physical elements that make up the landscape and everything else around you. They include landform, vegetation, water, and man made structures in any degree or combination of scenery at various scales. We give you absolute discretion to photograph anything you please.

Instructions:
Each participant will be given a 12 exposure disposable Kodak camera. We would like you to photograph:

• 4 scenes which you perceive to being visually desirable, attractive, or simply special.
• 4 scenes which are visually undesirable, unattractive, or appear to be a problem/issue.
• 4 scenes of either of the above

Please include in the space below a short description of the location of your photograph along with a brief explanation for taking that picture. It could be as personal as the tree where you first kissed or an ideal view or scenic corridor.

Have fun!

Camera #___

photo #13

photo #14

photo #15

photo #16

photo #17
Thank you for your participation
The entry to Roosevelt was important to almost all respondents. They said this field and tree let them know they were home.
Natural and agricultural features received numerous positive responses. The only negative comments associated with natural features dealt with dumping of yard and household waste in the greenbelt or with the need for vegetation management along some roadsides.
The school and surrounding area were frequently selected as important features. The school yard and Roosevelt monument were listed as "desirable" and "significant". Some respondents also noted that there were problems in litter accumulation and upkeep, especially with regards to the monument.
Many people commented on architecture. In general, positive comments were directed at the original house designs and renovations that were in keeping with the original designs. Newer homes received either negative or positive comments, again reflecting whether they were "in character".
Several respondents commented on the streets of the borough. In general, the lack of curbs and sidewalks received positive comments because of the way this fits the small town image. Streets with curbs and sidewalks received positive comments because of safety issues. Parking along the streets creates muddy patches and prevents lawn growth; this was listed as a negative characteristic.
APPENDIX D

WRITTEN SURVEY
NATURAL RESOURCES SURVEY FOR THE BOROUGH OF ROOSEVELT

1. How would you rate the overall quality of life in Roosevelt? (Check one)
   __outstanding  __excellent  __good  __fair  __poor

2. How would you rate the following in terms of their importance to Roosevelt? (Circle one for each item)

<table>
<thead>
<tr>
<th>Most important</th>
<th>Least important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village character of Roosevelt’s planned community</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Historical importance of the founding community</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Historical importance of the original architecture</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Sense of community within the borough</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Agricultural landscape</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Other - please specify</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

3. How would you rate the importance of the following natural features in the borough? (Circle one for each item)

<table>
<thead>
<tr>
<th>Most important</th>
<th>Least important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Woodland</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Meadows</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Roosevelt’s Greenbelt</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Streams</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Other - please specify</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

4. Name one natural feature and one man made structure in Roosevelt which have special historical or cultural significance.

5. Name one natural feature and one man-made structure that you consider a landmark of Roosevelt:

6. How do you feel about the following characteristics of Roosevelt? (Circle one for each item)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Strongly dislike</th>
<th>Neutral</th>
<th>Strongly like</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural environment and open space</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small town / rural character</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historical / cultural character</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of community</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School system</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location (e.g. proximity to work or other facilities)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water and sewage bills</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of services</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolated location</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural improvements to home</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking</td>
<td>1 2 3 4 5</td>
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<td></td>
</tr>
<tr>
<td>Street layout</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bauhaus architecture</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other - please specify</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. What types of activities do you regularly participate in that involve the natural environment? (Check all that apply.)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Within the borough</th>
<th>Outside the borough</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walks in the woods/open areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching wildlife from your home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bird watching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gardening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other - please specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Do you like living in Roosevelt more or less than when you arrived? ___ more ___ less

9. Has anything changed? ___ yes ___ no

   If yes, what ____________________________
   ____________________________

10. How long do you plan to stay in Roosevelt? (Check one)

    ___ leave soon ___ stay for awhile but eventually leave ___ stay through retirement

11. Do you think the borough of Roosevelt is growing......? (Check one)

    ___ too fast ___ about right ___ too slow ___ don't know

12. Do you think the traffic on Rochdale Road is......? (Check one)

    ___ too much ___ just right ___ not enough ___ don't know

13. Do you think the traffic on your road is......? (Check one)

    ___ too much ___ just right ___ not enough ___ don't know

    Please give name of road ____________________________

14. How acceptable or desirable would you find the following types of housing development in Roosevelt? (Circle one for each item)

<table>
<thead>
<tr>
<th>Type of Housing Development</th>
<th>Absolutely acceptable</th>
<th>Acceptable</th>
<th>Strongly desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family houses</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Multi-family houses</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Townhouses / condominiums similar to Solar Village</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Housing development similar to Ridings</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Single family houses on more than 2.0 acre lots (e.g. the houses on Eleanor Ln./Cemetery Rd.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Single family houses on 0.5 acre lots</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(e.g. the original homesteads on Farm Lane)</td>
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</tr>
<tr>
<td>Bauhaus architecture</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Varied architecture</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
15. Which conversions of land use would you find acceptable and/or desirable? (Circle one for each item.)

<table>
<thead>
<tr>
<th>Conversion</th>
<th>Absolutely unacceptable</th>
<th>Acceptable</th>
<th>Strongly desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest to farmland/pasture</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Forest to housing</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Forest to park or municipally owned land</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Farmland to meadows/woodlands</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Farmland to housing</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

16. Please identify places, structures or features of Roosevelt that you value and would like to see stay the same.

17. Please identify places, structures or features of Roosevelt that you dislike and would like to see change.

18. What do you feel best contributes to Roosevelt’s unique character?

19. What do you think Roosevelt needs most?

20. How would you rate Roosevelt in comparison to the surrounding areas for the following attributes? (Circle one for each item.)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Much worse than most</th>
<th>About the same</th>
<th>Much better than most</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural resources (e.g., woodlands, open space, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sense of community</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Overall quality of life</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Street layout</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Traffic</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Taxes</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Municipal services (e.g., water, sewage, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Safety/crime</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

21. In what other town/village located in New Jersey would you like to live?
BACKGROUND INFORMATION

This information will give us a profile of those who answer the survey. We appreciate your cooperation.

1. How long have you lived in Roosevelt?

2. Have you moved away from this area and returned?  __yes  __no

3. Who lives in your household?

   # of adults ___ ages_____________________________
   # of children ___ ages_____________________________

5. Please check your gender.  __female  __male

6. What was your household’s approximate annual gross income from all sources in 1992? (Check one)

   ___less than $25,000      ___$75,000 - $100,000
   ___$25,000 - $50,000      ___over $100,000
   ___$50,000 - $75,000

7. In what type of house do you currently live? (Check one)

   ___Pre-1930’s farmhouse
   ___Original unaltered Bauhaus style house
   ___Altered (i.e. new roof line, additions, etc) Bauhaus style house
   ___Solar village house
   ___Geodesic dome
   ___Newer house (built after 1950) on 0.5 acre lot
   ___Newer house (built after 1980) on 2.0 acre or larger lot
   ___Other - please specify: _______________________

8. Do you work in Roosevelt or commute? (Check one)  ___work in Roosevelt  ___commute

9. If you work outside of Roosevelt where do you commute to?

10. What community or volunteer organizations do you participate in? (Please list all that apply.)

11. Additional comments:
| PROFILE OF SURVEY RESPONDENTS COMPARED TO CENSUS DATA |
|-----------------------------|----------|----------|
|                             | SURVEY   | CENSUS   |
| RESIDENCY                   |          |          |
| 0 to 5 years                | 21%      | 44%      |
| 5 to 20 years               | 50%      | 36%      |
| More than 20 years          | 29%      | 20%      |
| HOUSEHOLDS WITH CHILDREN    | 57%      | 40%      |
| INCOME LEVEL                |          |          |
| Less than $25,000           | 13%      | 20%      |
| $25,000 to $50,000          | 18%      | 27%      |
| $50,000 to $75,000          | 30%      | 29%      |
| $75,000 to $100,000         | 25%      | 13%      |
| More than $100,000          | 15%      | 10%      |
| COMMUTING                   |          |          |
| Commuters                   | 76%      | 91%      |
| Work in Roosevelt           | 24%      | 9%       |
Q3. Importance of Natural Features Within Roosevelt

- Farmland: 67%
- Meadows: 75%
- Streams: 87%
- Woodland: 92%
- Greenbelt: 98%
Q4a. Natural Features of Roosevelt with Historical and/or Cultural Significance

- Memorial: 4%
- Assunpink: 4%
- Wildlife: 7%
- Other: 7%
- Woods: 15%
- Streams: 15%
- Greenbelts: 49%

Q4b. Man-Made Structures with Historical and/or Cultural Significance

- Amphitheater: 6%
- Cemetery: 9%
- Other: 11%
- School: 14%
- Roosevelt bust: 20%
- Mural: 39%
Q5a. Natural Features Considered Landmarks of Roosevelt

- Hills: 8%
- Empty Box brook: 10%
- Vultures: 10%
- Other: 12%
- Nurko tree: 14%
- Woods: 14%
- Greenbelts: 33%

Q5b. Man-Made Structures Considered Landmarks of Roosevelt

- House: 3%
- Memorial: 5%
- Other: 5%
- Bauhaus architecture: 5%
- Post office: 6%
- Cemetery: 6%
- School: 10%
- Water tower: 13%
- Mural: 14%
- Amphitheater: 33%
Q6. Resident’s Opinion Concerning Characteristics of Roosevelt

[Bar chart showing the percentage of respondents who dislike, neutral, and like various aspects of Roosevelt.]

Q7. Resident’s Activities in the Natural Environment

[Bar chart showing the percentage of respondents who engage in different activities within or outside the borough.]
Q8. Do Residents Like Roosevelt More or Less Than on Arrival?

Q9. Resident Opinion: Has Anything Changed?
Q10. How Long do Residents Plan to Stay in Roosevelt?

- Leave soon (4.9%)
- Stay awhile but eventually leave (23.0%)
- Stay through retirement (70.5%)
- No response (1.6%)

Q11. How Do Residents Think the Borough is Growing.....?

- Too fast (16.7%)
- Too slow (13.0%)
- About right (70.4%)
Q16. Elements That Should Remain Unchanged

- Open space: 2.4%
- Community Involvement: 2%
- Park: 3.0%
- Farmland: 11.0%
- Cemetery road: 14.0%
- Factory: 7.3%
- Trees: 11.0%
- Rural character: 4.9%
- Surrounding woods and farmland: 4.9%
- Triangles: 5.5%
- Streams: 7.3%
- Water tower: 5.5%
- Post office: 7.3%
- Roosevelt memorial: 14.0%
- Bauhaus architecture: 11.0%
- Cemetery: 11.0%
- Woodland: 11.0%
- School: 11.0%
- Greenbelt: 11.0%

Q18. Elements That Contribute to Roosevelt's Unique Character

- Remoteness: 2%
- Community Involvement: 4%
- Design: 7%
- Architecture: 7%
- Ruralness: 7%
- Art/culture: 8%
- History: 10%
- Small community: 11%
- Greenbelt: 12%
- Other: 14%
- People: 18%

# OF RESPONSES
Q20. Roosevelt’s Characteristics vs. Surrounding Areas

Q21. Other Places Roosevelt Residents Would Like To Live
APPENDIX E

PHONE SURVEY
FORMAT FOR ROOSEVELT INTERVIEWS

I. INTRODUCTION

Hello, is this ________________?

My name is __________ from Rutgers University. My classmates and I are working for the Roosevelt Environmental Commission on the Natural Resource Inventory. We're very interested in understanding the needs and resources of your community and to accomplish this we sent out a survey towards the end of February.

In addition to the survey we are conducting phone interviews to increase our understanding of the important cultural elements in Roosevelt and their significance to you and your neighbors.

The interview should take about 15 to 20 minutes.

Would you like to be interviewed?

Is now a good time? (If not schedule a time to call back.)

Your identity will remain confidential and responses to our questions will be written up and included in the Natural Resource Inventory. The report will be on file in the Borough Hall.

II. QUESTIONS

1. How long have you lived in Roosevelt?

2. What is your current involvement within the community?

3. Did you receive the survey that was sent out in February?

4. Have you had a chance to send in your response?

5. The initial results of the survey indicate the following items have historical or cultural significance in Roosevelt. I'm going to read through the list and I'd like you to respond to each item with "agree" or "disagree".

<table>
<thead>
<tr>
<th>Greenbelts</th>
<th>Agree</th>
<th>Disagree</th>
<th>Cemetery</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>School mural</td>
<td></td>
<td></td>
<td>School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roosevelt bust</td>
<td></td>
<td></td>
<td>Amphitheater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park memorial</td>
<td></td>
<td></td>
<td>Borough Hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td>Turkey buzzards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streams</td>
<td></td>
<td></td>
<td>Woodturtles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woodlands</td>
<td></td>
<td></td>
<td>Publicly owned space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deer</td>
<td></td>
<td></td>
<td>Assunpink</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. Can you think of anything else in Roosevelt having historical or cultural significance?

7. The following is a list of items from the survey that are considered to be landmarks in Roosevelt. I'm going to read through the list and I'd like you to respond with "agree" or "disagree".

<table>
<thead>
<tr>
<th>Agree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Box Brook</td>
<td>Nurko tree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey vultures</td>
<td>Publicly owned land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenbelt</td>
<td>Woods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surrounding farmland</td>
<td>Openspace entering town</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paradise hill</td>
<td>Park memorial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lawns</td>
<td>Assunpink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake</td>
<td>Water tower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School building</td>
<td>School mural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphitheater</td>
<td>Roosevelt bust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>Shahn house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cemetery</td>
<td>Post Office</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Can you think of any other items considered to be landmarks in Roosevelt?

9. The following is a list of items from the survey considered to contribute to the unique character of Roosevelt. I'm going to read through the list and I'd like you to respond "agree" or "disagree".

<table>
<thead>
<tr>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community involvement</td>
<td>Youth of most newcomers</td>
</tr>
<tr>
<td>Potential for community</td>
<td>History</td>
</tr>
<tr>
<td>The people</td>
<td>Trees</td>
</tr>
<tr>
<td>Sense of small community</td>
<td>Arts and culture</td>
</tr>
<tr>
<td>Remoteness</td>
<td>Mix of population</td>
</tr>
<tr>
<td>Town layout/unique design</td>
<td>Greenbelt</td>
</tr>
</tbody>
</table>
Country village/rural feeling ___ ___ Architecture ___ ___
Location ___ ___ Tolerant attitude ___ ___
School mural ___ ___ Roosevelt bust ___ ___
School building ___ ___

10. Can you think of any other items considered to be especially important to the character of Roosevelt?

11. Do you feel there is a strong sense of community in Roosevelt?

(If NO proceed to question 16.)

12. What places or events help to create a strong sense of community for you?

13. Why?

14. Based on conversations with your friends and neighbors, what do you think they feel contributes to the strong sense of community?

15. Why?

16. We are interested in knowing what places or events in Roosevelt have special meaning to you. These could be places that you visit frequently as part of your routine, or infrequently. These could be events that occur frequently to infrequently. What places or events in Roosevelt have special meaning to you?

(If they need more prompting or don't understand the question use the Post office and driving past the farmland as an example of place. Use meetings or the town clean up as an example of event.)

17. Why?
18. Based on conversations with your friends and neighbors, what places or events in Roosevelt do you think they feel have special meaning to the community?

19. Why?

20. What do like best about Roosevelt?

21. What do you like least about Roosevelt?

22. Would you like to make any comments?

23. Do you have any questions?

III. CONCLUSION

This concludes our interview. I'd like to thank you for taking the time to answer our questions. I would also like to remind you that your participation will be kept confidential. If you are interested in the results of this interview they will be included in the final report of the Natural Resource Inventory which will be on file in the Borough Hall.