

DESIGN GUIDELINES FOR CONSERVATION SUBDIVISIONS

IN WALLKILL, NEW YORK



Town of Wallkill
New York

December 2009

DESIGN GUIDELINES FOR CONSERVATION SUBDIVISIONS

IN THE TOWN OF WALLKILL, NY

A resource guide to be used in conjunction with
Section §249-80 of the Town Zoning Code

Unless otherwise noted for copyright by others,
Copyright © 2009 Behan Planning Associates, LLC

All rights reserved.

This work may be copied, reproduced, or otherwise shared for any and all projects in the
Town of Wallkill, New York.

This work represents a body of work established over 25 years of professional practice.
This work, or parts thereof, may not otherwise be reproduced in any form without permission.

For information about permission to reproduce selections from this work,

e-mail: info@behanplanning.com or write

Behan Planning and Design,
112 Spring Street, Suite 305,
Saratoga Springs, NY 12866

Prepared by:



Contents

Part One - Introduction	
The purpose of these Design Guidelines.....	4
What is a Conservation Subdivision?.....	4
Using the Land to Your Advantage.....	5
Conservation Analysis – A Three Step Process.....	5
Part Two - The Design Process	
Step One - Identifying Land Resources.....	6
Creating the Resource Analysis Map.....	9
Step Two - Conservation Areas & Development Areas.....	10
Preserved Areas.....	11
Step Three - Develop Design Layout.....	12
Conventional Layout Yield Plan.....	12
Conservation Layout Sketch Plan.....	13
Part Three - Case Studies	
Case Study 1 - An Old Farm.....	15
Case Study 2 - Open Meadows.....	17
Case Study 3 - Multifamily Development.....	18
Case Study 4 - Low Density Subdivision.....	22
Conservation Design Tips.....	23
Part Four - The Approval Process	
The Review & Approval Process.....	24
Example Lot Calculations.....	25
Common Questions.....	27
Reference Documents.....	27



Introduction

Purpose of the Design Guidelines

The purpose of these design guidelines is to direct the planning and design of future residential developments within the Town of Wallkill in a manner that respects the natural and cultural resources of the land and preserves the character, and even function, of the rural landscape. This document is intended to act as an illustrated guide to the Conservation Subdivision process, covered in section §249-80 of the Town Zoning Code.

What is a Conservation Subdivision?

A conservation subdivision is an alternative method of subdividing properties which allows natural areas of land to be preserved by constructing the same project in a smaller area. This allows more natural or undeveloped areas to remain undisturbed, reinforcing the surrounding beauty and acting as buffers to continued development. It also encourages the preservation of certain areas of land or features to be conserved and showcased as part of a richer landscape design. A conservation subdivision must benefit the town by advancing local conservation goals in addition to benefitting the developer and future lot owners.



Example of a farm on a town road. The existing meadow is a very attractive asset to the road and provides natural views.



Undesirable - Development of the farm using conventional zoning undermines the natural setting of the meadow.



Desirable - Alternative development protects the farm by clustering the homes in discrete areas away from the meadow, protecting the natural setting and views.

The examples above illustrate the basic concept of conservation design. The most important natural feature of the site – the old farm meadow – is identified as a visual and cultural resource which defines the character of the road and offers potential for continued agricultural use. Instead of altering the character of the meadow and building atop of prime agricultural soils with a new housing development, it can be protected by placing the houses in smaller clusters within the wooded areas around the perimeter. This examples also recognizes that some resources must be impacted. Here, the woodlands were determined to be best suited to accommodate the development, allowing the farmland to be preserved.

Images: © Copyright 1995-1996 Center for Rural Massachusetts, Department of Landscape Architecture and Regional Planning, University of Massachusetts, Amherst, used by permission.

Using the Land to Your Advantage

The best site plans use the features of the land to their advantage both environmentally and economically. Before beginning a conservation subdivision, a review of the landscape should be conducted to identify the characteristics and special features of the site that can guide the design. Certain areas may be better suited for preservation to protect the long-term beauty of the site. These areas may be considered as part of a permanent conservation easement to ensure some of the natural setting is retained as the area develops. Additionally, some features of the land may be useful to preserve as part of the site design to add special character.



Conservation Analysis – A Three Step Process

The conservation analysis and design approach includes a three-step system that places the identification and conservation of resources as the primary and leading goal. This approach reverses the conventional site planning approach which typically begins by laying out the streets, lot lines and building footprints as the first part of the process. Instead of first identifying development areas, the conservation design process begins by analyzing on-site resources and the site's connections to surrounding resources in order to identify what areas are best for preserving and those areas of the site that can best accommodate development.

- 1 Step One** – Create a resource analysis map of the site which inventories the basic natural features of the property.
- 2 Step Two** – Review the resource analysis map with the town to determine the areas and features of the property that are best suited for protection, and what areas are best suited for development.
- 3 Step Three** – Develop a proposed design layout which stays within the areas best suited for development.

This conservation analysis process will help the developer, the Planning Board, and the public gain a deeper understanding of how proposed change to a site affects the future landscape. This understanding forms the basis for design decisions, which in the end will help to protect the long-term beauty and culture of Wallkill's residential lands.

The Design Process

Step One - Identifying Resources

1

The first step in the design process is to identify and map the natural and cultural characteristics of a site on a resource analysis map. This should be done before any preliminary site designs or plans are developed. Some examples of the site features which should be looked for and mapped as resources are illustrated below.



Meadows or open fields. Open meadows provide a wonderful view across the landscape which appeals to people and makes these areas attractive for development. However, developing in the meadow itself can undermine the beauty that attracts people in the first place. In some cases these meadows may be better kept in their natural state, while development can instead occur in adjacent wooded areas. Further, open fields may offer continued agricultural potential which should be considered as part of the site analysis. Early successional habitats such as meadows are generally in decline yet they are highly productive and important for many animals and plants.



Large, older growth trees and tree clusters. Established trees on a property are a valuable resource which can improve the look of a development. These can be identified early in the planning process and offer design opportunities as a special feature of the landscape. While many of the trees found in modern developments are newly planted saplings, these older existing trees can be saved and showcased. Clusters of trees found in an otherwise open landscape should be integrated into site design to maintain healthy tree cover that provides shelter and habitat for many species. Preserving a diversity of ages and species of tree is also important as the spread of exotic pests continues to be a problem in the Northeast.



Existing farm hedgerows. Hedgerows once divided old farm plots, and today serve to break up the landscape into a patchwork quilt pattern. Many modern developments erase these old lines as they lay out a new subdivision, yet they offer many design opportunities. Clusters of houses can be grouped together in areas bounded by aged hedgerows, creating smaller “sub neighborhoods” within a development. The hedgerows also provide privacy to residents and new roads which run alongside them create a formal driveway feeling. Wide hedgerows can provide cover and serve as corridors for plant and animal movement.

Old stone walls. Many properties have old stone walls which once divided farm fields and land parcels, and today they are a charming reminder of the past. Although they may no longer function as dividers, they can be kept in place and used as a design feature that adds character to a site. A stone wall can be used to line the side of a new entrance road, where it could be seen and enjoyed by residents and visitors.



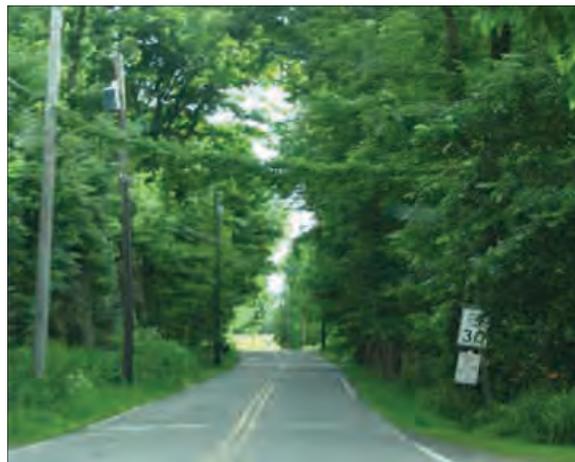
Local viewshed and prominent hillsides. Prominent hillsides or other highly visible areas contribute to the overall character and quality of the town. When a hillside is developed, much more land above it and below it must be re-graded to level the area, making it an inefficient place to build and destroying more of the natural landscape. Such hillsides are often better left undisturbed or special care should be taken to ensure that the visibility of a development is minimized through careful site planning to preserve beautiful views.



Old farmsteads, pastures or fences. Older farm structures, pastures and fences sometimes create picturesque scenes that add to the beauty of the landscape. These places can be preserved to maintain the allure they bring to an area. A farm along the road can be preserved as a functioning farmstead and also serve as an entrance way to new development. By placing new development behind it, a picturesque view greets people as they enter.



Views along the road. The natural setting and picturesque landscapes viewed while travelling along roadways strongly define the character of different areas of town. These can be wooded areas, open meadows or farmland. Often these views can be protected by minimizing the amount of disturbance to the land along these travel corridors, helping to maintain the natural character which makes these areas attractive to people in the first place. Natural areas along the road can be preserved to maintain the desired look, while placing development further back where it can be more private.





Waterway Buffers. Natural vegetation around water resources such as rivers, streams, and ponds often provide a layer to protect water quality and provide habitat to a variety of plant and animal life. It is often best to leave these areas buffered with vegetation, but can sometimes make excellent locations for trails for people to take a leisurely walk. Buffers provide many benefits including filtering water pollutants, absorbing water to help lessen flooding impacts, and provide shade to help regulate stream temperatures. Recommended buffer sizes to protect local ecology can be found in the NYCDEC's *Conserving Natural Areas and Wildlife in Your Community*.



Wetlands and vernal pools. Wetlands and vernal pools are highly productive and important for biodiversity but often times are not mapped. Vernal pools are small and only seasonally wet, therefore they are very vulnerable to development and alteration. They are hard to map because they are seasonal bodies of water that are often filled in the spring with snow melt or runoff and typically dry by summer. Because they do not support fish populations they offer breeding grounds for invertebrates and amphibians where there is no threat of fish predation.



Soil quality. Soils can be an indication of agricultural and ecological quality. Prime farmland soils that are nationally designated and statewide designated important soils should be identified for their value in agricultural production. Hydric soils are typically unsuitable for development and also good indicators of wetlands and habitat quality.

Such areas and features should be photographed and inventoried on a resource analysis map for discussion with a review team of town planning officials. The map is used to assess what parts of the property are best suited for development, and what parts are best for leaving undisturbed. While it is not always possible or desirable to preserve all of these resources on a given site, the resource analysis map allows developers and planners to make choices about what features would provide the most community value.

Preserving special areas such as these can not only greatly enhance the beauty and value of the neighborhood, but also the value of the homes themselves.

Creating the Resource Analysis Map

Understanding a site's resources is key to designing a successful conservation subdivision. A resource analysis map of the property should be prepared in advance of a preliminary review meeting with representatives of the Planning Board. The analysis map allows the applicant and the town to review and discuss what areas of the site are best suited for development, and what areas might be best suited for preservation. These areas should be determined and approved by a review team of representatives of the Planning Board prior to any preliminary sketch plan submissions.

A resource analysis map should illustrate the following information about a site:

1. The extents of existing wooded areas and any tree-lines, fields or meadows.
2. Site constraints such as wetlands, streams or other bodies of water. Water bodies should be drawn with any required buffer zones associated with their protection under Federal or State wetland protection laws, and as may be required by section §249-81 of the town zoning code.
3. Site constraints such as areas of steep slopes exceeding 20% or as specified in code, building setbacks, easements and similar non-buildable areas.
4. General topographic information, with contours at intervals of 20 feet or less.
5. The locations of any cultural resources such as historic or locally important houses, barns, stone walls, wells, foundations etc.
6. The locations of any unique land features, illustrated on the previous pages, such as large old-growth trees, hedgerows, rock outcroppings, meadows, water bodies or similar attractive elements which could be showcased as part of the design.
7. The locations of any known plant or animal habitats which are unique, rare or endangered.
8. The location of any trails or adjacent trails which could be linked and preserved as part of a passive recreation system.
9. The location of any active or formerly active agricultural lands.
10. The location of any existing roads or known easements.
11. The locations of any adjacent recreation, conservation, or protected land areas which could be expanded.
12. Any road frontage which provides significant public views of the parcel as part of the local streetscape or viewshed.
13. Any views of the site which can be seen from other areas of town due to its location on a prominent hillside or bluff.

Note: For a complete listing of the submittal and resource analysis map requirements, refer to Step One of the Conservation Subdivisions, §249-80 G(1).

Resource analysis maps do not have to be engineered surveys. They may be hand-drawn or hard lined, to scale on paper no less than 20"x30" in size and reasonably accurate for review and discussion purposes. If accurate site survey information is available however, this information should be used to help create the map.

Photographs of and around the site, including any specific land features, should be taken as well. Aerial photographs, such as those commonly obtained from online sources, are very useful for helping to create and discuss these resource analysis maps. Such photographs should try to include the general vicinity around the property as well for context purposes. Sites with large areas of steep slopes or wetlands should be surveyed prior to resource analysis. For a listing of all of the submission requirements for the first review work session, see Step 1 of §249-80 Conservation Subdivisions.

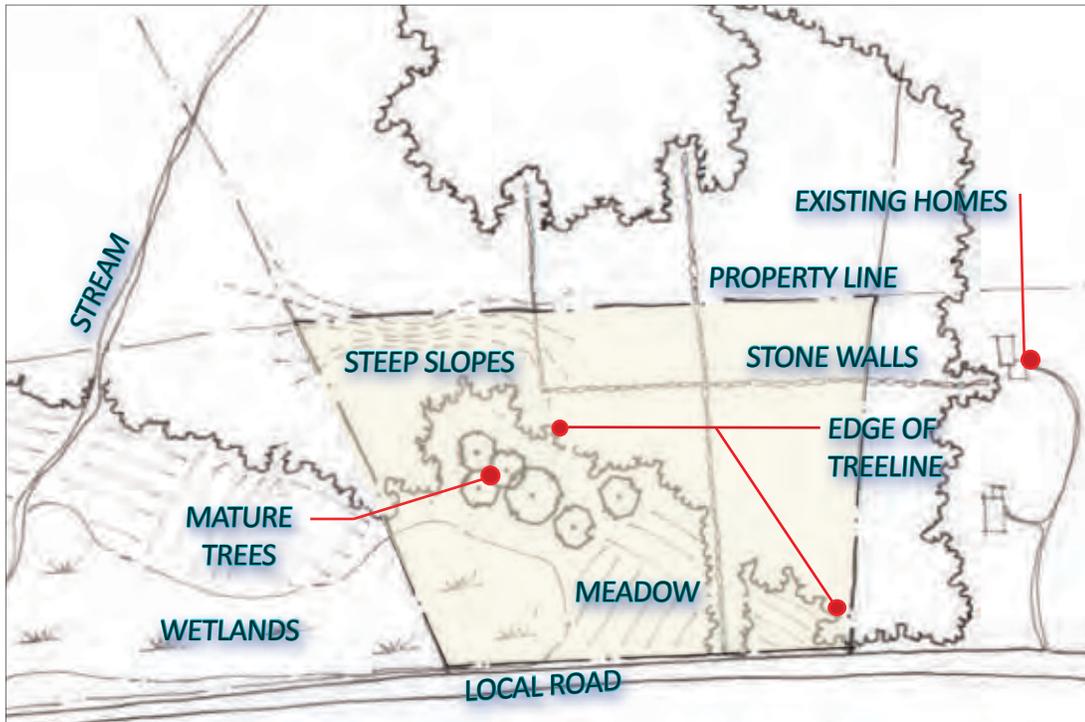


Figure 1: A sample of what a Resource Analysis Map might look like. The map illustrates the basic physical features of the property, including the location of wetlands, large trees and old stone walls found there.

In this example, we are showing a fully hand-drawn map, although professional surveys or even maps drawn over aerial photographs can also be used.

The purpose is to identify what areas are best to develop and what features of the property could be made a special part of the design.

Step Two - Conservation Areas & Development Areas

2

Once a resource analysis map is fully prepared, the applicant should schedule a site visit and work session to discuss the site with a review team of the town's planning representatives as outlined in Step 2 of §249-80. The work session is used to review the resource analysis map, identify the best areas of the site for development and the best areas to preserve. Unlike conventional development (which designs all the buildings and roads on the site first, leaving the leftover areas undisturbed), conservation development begins with setting aside the most important natural resources first, and then designing the land around it.

If the resource analysis has not been completed and presented to the satisfaction of the review team, the applicant will be asked to revise their submittal.

During the preliminary work session, the review team discusses the resource analysis map and photos with the applicant to identify areas that could be preserved and areas that would be best for developing. Using the example site shown in Figure 1, the review team identifies a number of features of the site which could be considered for preserving, including the view of the meadow from the road, the cluster of older growth trees,

the woods and the old stone walls. They also identify the areas of wetlands and steep slopes as development constraints. In this example, although the woods and the stone walls are quite picturesque, they do not appear to be as prominent of a visual asset as the rolling meadow along the road and its potential for low intensity agricultural use (grazing, hay fields, etc.). After some discussion, it is agreed that the view from the road appears to have the best natural features worth protecting with the rolling hills and the large, mature trees beyond. A boundary is then drawn around this area on the resource analysis map and it is identified as the priority “Conservation Area.” This area will be conserved as permanently protected open space by a conservation easement. Outside of this boundary are the best areas to develop.

Figure 2: After discussions with the town review team, the meadows and mature older growth trees are selected as being priority areas for conservation, and a boundary is drawn around those resources. The conservation area is adjacent to a stream and wetland complex (natural resources), and the development area is adjacent to existing homes.

The area outside of that boundary is selected as the best location for new development which will protect the primary natural features of the site.

Also, priority conservations have resources of interest to local land trusts, especially considering the land trusts on nearby property holding potential for future conservation subdivisions on adjacent property.



The History of the Land. The old stone walls and hedgerows which once marked the boundaries of old farmland can be wonderful guides to future development. If preserved, they can provide screening between homes and maintain the natural beauty of the landscape.

Preserved Areas

During the work session, the review team also identifies the old stone walls, and asks that these be left undisturbed and incorporated into the design wherever possible as “Preserved Areas.” Preserved areas are not protected the same way conservation areas are, but are instead meant to be left undisturbed or otherwise incorporated into the site design as a special feature and integrated into the design as possible. They do not have to be included within the formal protection of a conservation easement, but can provide visual elements to a development that can enhance the design.

Once these areas are determined and approved by the review team, the applicant may proceed with preparing a sketch plan which works within the areas for development.

Step Three - Develop Design Layout

3

Conventional Layout (Yield Plan)

The process for determining the lot count of a conservation subdivision requires that a traditional, or “conventional layout”, subdivision plan be prepared to determine the number of lots which could be yielded under normal conditions. This is only a temporary plan to determine the lot count and does not take into account the protection of any land resources.

The layout below illustrates what the example site might look like if developed as a conventional subdivision, with a cul-de-sac road being built through the meadow. Note that in this design, the entire property is divided up into individual parcels. While this design maximizes the number of lots which could fit on the property, it would also eliminate the large older growth trees and require that much of the wooded area and stone walls be removed during excavation and clearing. It would also place a new road and houses in the middle of the open meadow.



Figure 3: An example of what the property in question might look like if designed as a conventional subdivision. Note that in this design, the entire property is divided up into individual parcels. It does not attempt to preserve any of the existing features of the land such as the meadow or woods, which are cut back to develop the roads and build houses.

Conventional layouts such as this are used to determine the number of lots which the site can accommodate using the regular zoning requirements.

Once the number of lots is established, a conservation design is then created which instead preserves the natural features agreed upon on the resource analysis map.

While this is an example of how *not* to do a conservation subdivision, conventional layouts such as this are used to get an accurate measurement of the number of building lots which could be approved on the site under the conventional zoning regulations. For examples of how the lot sizes for a conventional layout are determined, see the [Example Lot Calculations](#) included in Part 4.

A conventional layout yield plan for the site should be prepared based on the requirements of a regular zoning subdivision. Although shown as an informal sketch in this example, conventional layout yield plans submitted for review should be accurate and drawn to scale. The number and arrangement of housing lots on the conventional subdivision plan must represent a realistic plan which



A common conventional subdivision layout which spreads itself over a wide area, consuming large areas of land, trees and often undermining the natural setting that was once there.

conforms to zoning, subdivision and public health codes. This layout should be submitted to the review team, and may even be prepared in advance of the work session so that it can be discussed and approved at the same time.

When the conventional layout yield plan is submitted to the review team, it is reviewed for accuracy and may be granted a preliminary approval. The number of lots given preliminary approval on the yield plan then becomes the maximum number of lots which should be designed in the conservation subdivision sketch plan.

Note that the final number of approved lots is only determined by a formal review of the layout by the Planning Board, based on their review of the yield plan and the layout of the proposed conservation subdivision.

Conservation Layout Sketch Plan

Once the number of lots has been given preliminary approval, a conservation layout sketch plan should be designed which may include up to that number of building lots. The sketch plan should cluster no more than the approved number of lots in the areas designated for development, while maintaining as much of the conserved areas and preserved areas as possible. In effect, this is enabling the applicant to place the same number of building units on the site using smaller lot sizes.

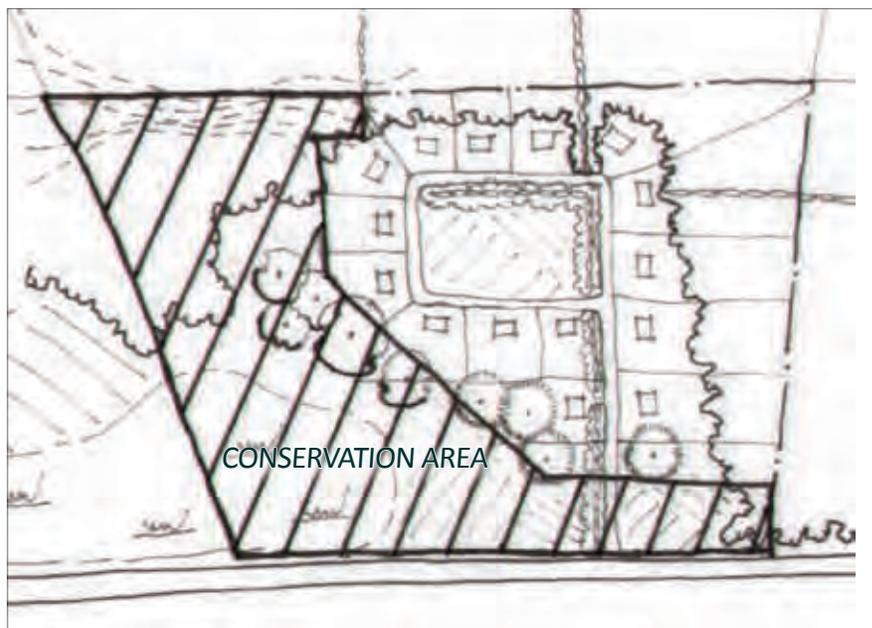
The conservation sketch example shown below illustrates the clustering of homes outside of the areas designated for conservation. Note that the stone walls and hedgerows have been incorporated into the design, allowing for roads and driveways to punch through only where needed, but are mostly left undisturbed. The open meadow has been maintained, and ideally kept for working farm fields, hay, or pasture land. The mature trees have also been conserved, and the wetlands and steep slopes left undisturbed. The new parcels created are only proposed in the areas of development – the conservation area is not subdivided into lots.

Although this design places much of the proposed development in the wooded area, care can be taken to limit the amount of clearing as much as possible. It is best to locate and mark the larger, healthy trees in the woods and work around them to incorporate them into the design. This helps to maintain an attractive natural residential setting, provides privacy, shade trees and increases the value of the real estate overall.

Figure 4: An example of what the property in question might look like if designed as a conservation subdivision. Note that the same number of houses have now been clustered on smaller lots instead of spread out across the entire property. This allows the design to preserve the open meadow and large trees identified as visual assets to the site.

Additionally, the layout works with the existing stone walls so that much of the roads run alongside them, making them visible amenities that add character to the development.

Almost all of the homes and site disturbances are kept in the back of the property and screened from view from the road. This helps to preserve the look and character of this rural stretch of road.



The conservation layout sketch plan should be prepared which conserves the required percentage of land and uses the reduced lot sizes outlined in the zoning. For examples of how the lot sizes for a conservation layout are determined, see the [Example Lot Calculations](#) included in Part 4.

Although a proposed sketch plan must be drawn to scale, it does not need to be based on a fully engineered field survey. However, it must be a realistic layout reflecting a development pattern that could reasonably be expected to be implemented, taking into account the presence of any constraints such as wetlands, steep slopes, easements and, if unsewered, the suitability of soils. Any features identified on the resource analysis map which would be removed or disturbed should be identified as such on the proposed sketch plan.

Once the conservation layout sketch plan has been completed, it should be submitted to the Planning Board and scheduled for a sketch plan review meeting along with a copy of the resource analysis map, the conventional layout yield plan and any other required documentation listed in Step 3 of §249-80.

The Planning Board will review the submitted materials prior to the meeting along with other interested agencies, including representatives of the Wallkill Commission for Conservation of the Environment and Town Board. During the sketch plan review meeting, the merits and approach of the conservation proposal including consideration of how the project benefits the town and options/potential stewardship of the conservation areas (land trust, home owners association, etc.) will be weighed, along with the number of proposed building lots. At that time, the Planning Board may approve the proposed number of building lots, or request modifications. The Planning Board may make a decision to approve to proceed to the next steps, approve with modifications or to deny the sketch plan. Once the sketch plan is approved, the applicant may proceed to Preliminary Plat submission as part of the normal review and approval process.



Tip!

Conservation Design Tip

Note that in the previous example, the meadow in the foreground was conserved and the development was placed in back, however in some cases the reverse approach may be more desirable.

For example, if the rear of the property was on a visible hillside, or adjacent to other conservation land, it may have been better to preserve the visible hillside from development, and instead locate the houses near the front.

Such options vary from site to site and should be discussed with the review team to decide what area of the property has the best natural and visual resources to protect overall. Care in the design at these early stages can make a lasting improvement on the value and appeal of a development and its surrounding neighborhood.

The purpose of these first three steps is to develop a reasonable conservation design concept which meets the goals of the town before significant design and engineering costs are incurred by the applicant to develop a detailed subdivision plan.

The following pages illustrate case studies of successful conservation subdivision design, and how it can be applied in different scenarios.

Conservation Subdivisions such as Hickey Corners in Saratoga Springs, NY are examples of how beautiful views of the landscape can be preserved while still providing development in less obtrusive areas.

Case Studies

Case Study 1 - An Old Farm

In this case study, a large parcel of land became available which had formerly been a family farm along a country road. This farm was characterized by smaller fields divided by many hedgerows and stone walls, as seen below.



Figure 5

Conventional Plan - In a conventional development, all of the available building area would typically be subdivided into large lots, similar to the next illustration. However, this design would drastically alter the character of the land and would erase the smaller fields defined by the hedgerows and stone walls, cut down many more trees and negatively impact the view from the road.



Figure 6

Resource Analysis - As an alternative, it was agreed that the farmland along the road presented the most valuable visual resource because of its high-visibility and picturesque views along the road. This area was selected for conservation protection, allowing further subdivision to take place behind it. Likewise, the woods, wetlands and steep hills behind the farm are not as suitable for development, and are also selected for inclusion in the conservation easement. The existing hedgerows and rock walls are to be preserved wherever possible.

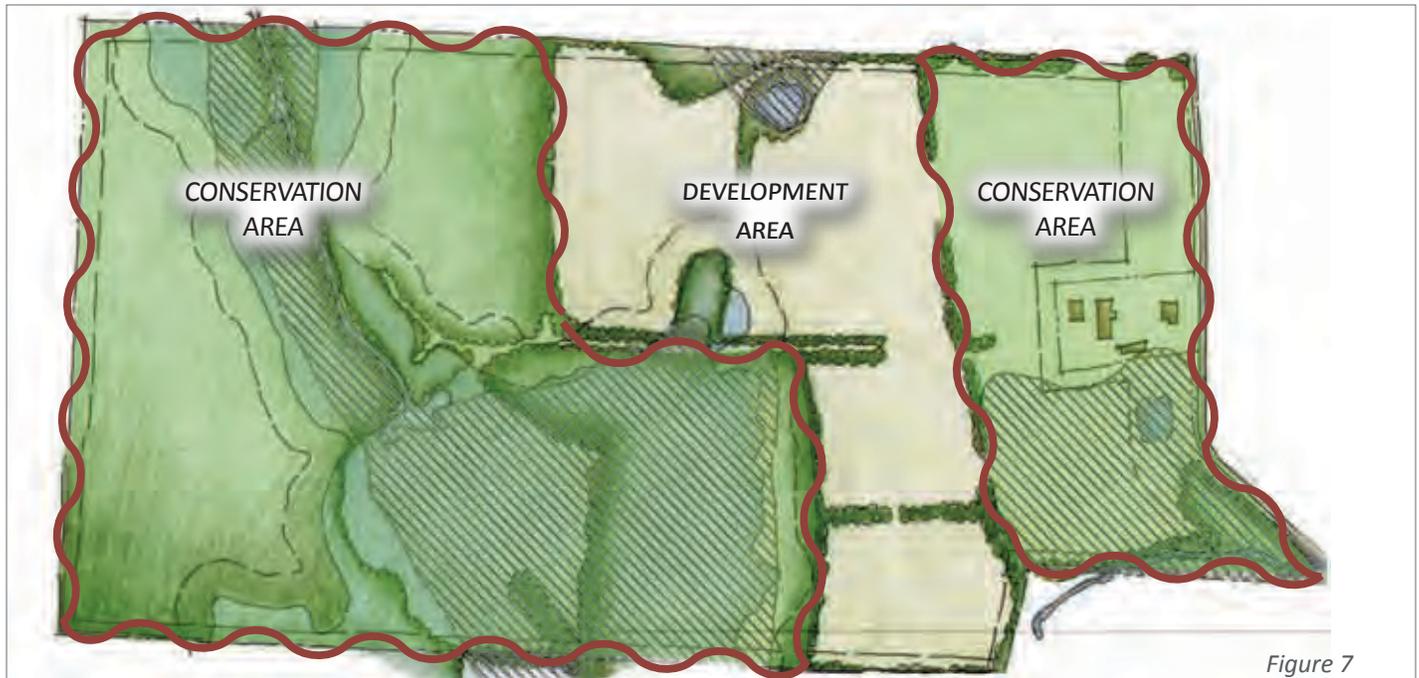


Figure 7

Conservation Plan - Using smaller lot sizes and a much more sensitive design, the same number of houses are accommodated within the development area. This preserves the character of the small farm plots, the view from the road, creates areas for trails in the back and an attractive drive into the new development. The result is a more attractive development which protects the local landscape.

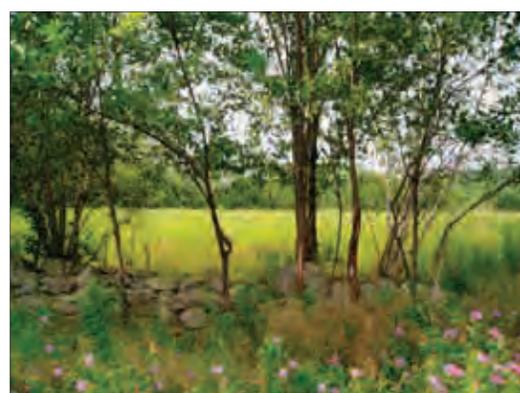
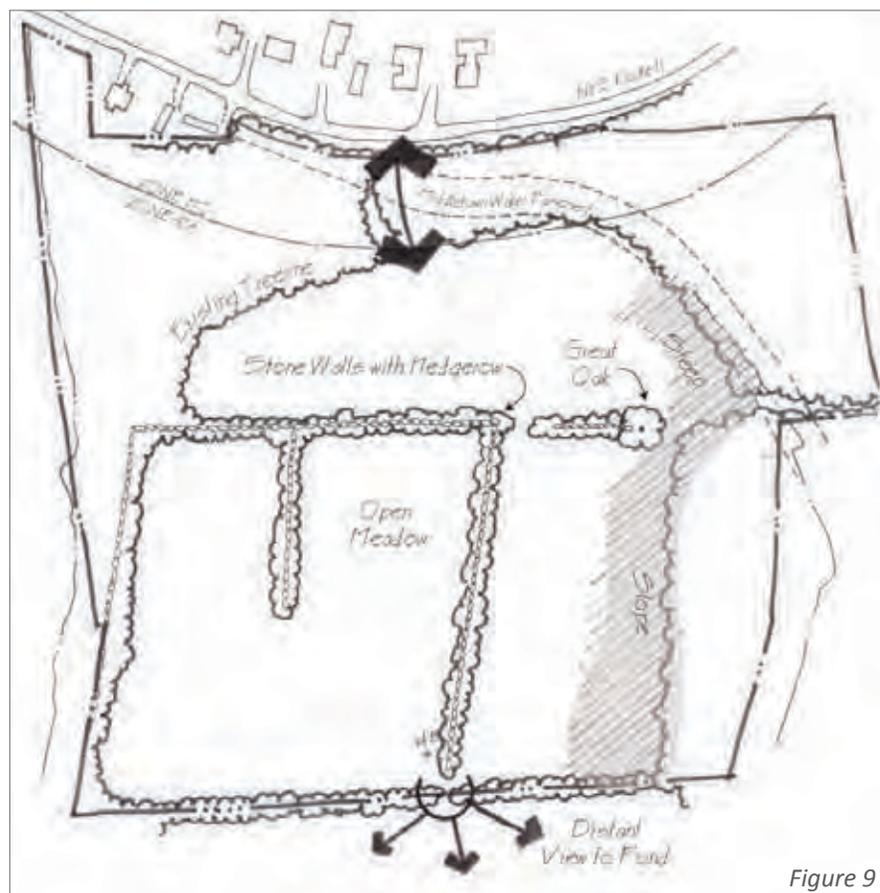


Figure 8

Case Study 2 - Open Meadows

The previous scenario was one where the lands at the front of the property were most desirable for protecting, but that is not always the case. An alternate scenario may be one where the land at the rear of the property may have greater conservation value. The project illustrated in this second case study is one such example.

The site featured an existing open meadow with stone walls and hedgerows. The meadow is a very attractive feature of the property, as well as habitat for butterflies and birds, and included a very large and prominent oak tree as well as excellent views of a pond to the south. Based on a site visit and the resource map analysis, it was determined that these features, including the large oak tree, had excellent conservation value. These elements were used to guide the design of the conservation development. The site analysis below shows these features in plan view, with photographs.



Hedgerows and stone wall (above) and the large oak tree (below) were regarded as interesting elements of the site that should be maintained.



The objective in this scenario was to fit 12 building lots on the property while conserving the stone walls, the large oak tree and as much of the open meadow as possible. Additionally, the view of the pond should be made available to as many homes as possible to increase their value. This could be accomplished by keeping the area with the view as common/conserved land, and building a walking trail through the developer or home owners association.

The conservation layout illustrated in the next diagram shows the 12 lots configured to preserve most of the meadow and stone walls, as well as the large oak tree.



Figure 10

By locating most of the houses along one side of the road, most residents would have visual access to the conservation land, and the open character of the property would be maintained. Much of the wooded buffer between the road and development had been maintained in order to preserve the rural character of the road, buffer the residents from traffic and the existing nearby homes from the new development.

Using smaller lot sizes and a more sensitive design, the same number of houses are accommodated within the development area. This preserves the character of the small farm plots, the view from the road, creates areas for trails in the back and an attractive drive into the new development.

Case Study 3 - Multifamily Development

The next case study is an example of a multi-family conservation development which demonstrates common mistakes and important elements which should be considered during the design and review of a conservation development.

Conservation easements must include features or land areas that have discernible conservation value. A common mistake is that many rejected submittals propose conservation areas that are meager fragments of land which are simply leftover after the development has been designed. In this example, the conservation easements originally proposed were along the outside edge of the development in areas that would have been required for buffers in any case (see Figure 11). Although this design met the minimum required area of conservation land, these conservation areas were not considered adequate due to their thin size and fragmented arrangement. Conservation easement areas should not be thin strips of land or fragmented, but should instead be meaningful areas which are typically contiguous or immediately adjacent to one another to provide the sense that they act as one natural area.



The site included nice wooded areas and was adjacent to an existing park.

The features being conserved should also be considered assets to the development of the place being created. In this example, a site analysis found that the front of the property includes a wooded area which is immediately adjacent to existing parkland, as well as stand of large, mature trees just beyond. (Figure 12). These were identified as potential assets to the property which could be incorporated into the design to enhance it. The original proposed design instead eliminated the stand of trees and cut down much of the wooded area at the front of the site, which was not considered the best option.

The remainder of the site consisted mostly of previously disturbed land, with spotty areas of cleared and scrub vegetation.

The trees and wooded area near the front of the property were seen as a potential way to buffer the development from the road, and also to continue the natural setting of the park into the property. Leaving these woods at the front of the property would also create a nice arrival “gateway” for residents and visitors. Design elements such as these which are incorporated into the project have the potential to increase the demand, and therefore value, of units within a development.

After analysis, it was concluded that it would be better to build in the southern portion of the property and conserve the area of mature trees and the unique stand of younger trees adjacent to the state park (Figure 13).

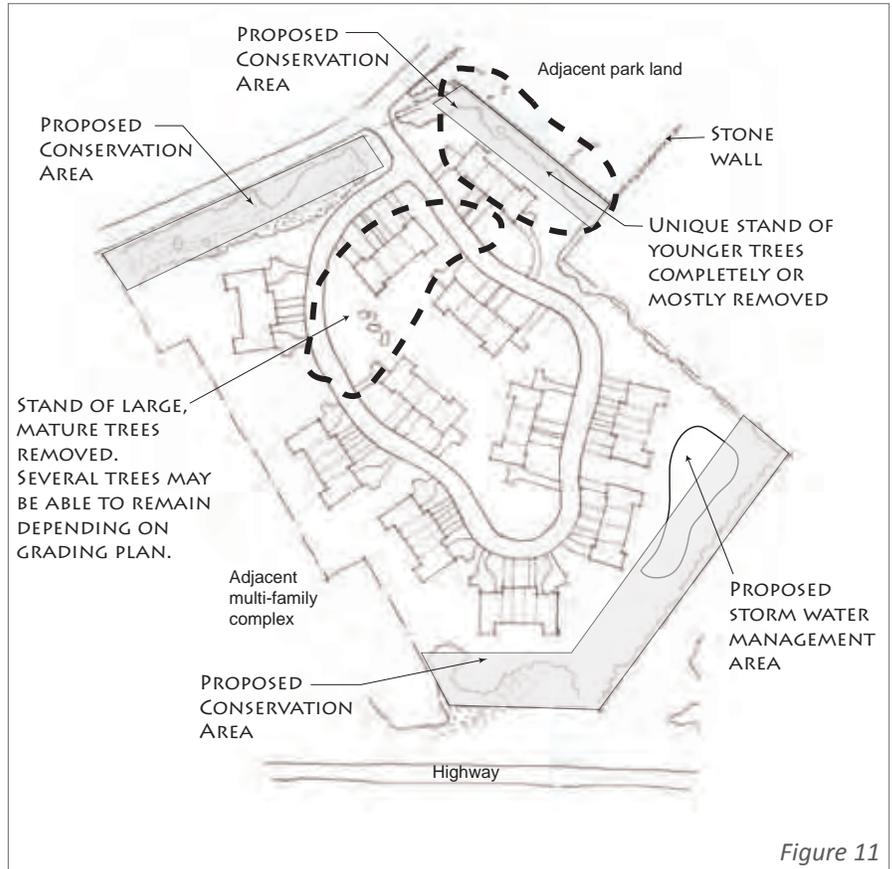


Figure 11

The original design proposal above (Figure 11) offered only leftover strips of land as conservation areas, and did not take into account the existing resources that the site revealed after analysis (Figure 12).

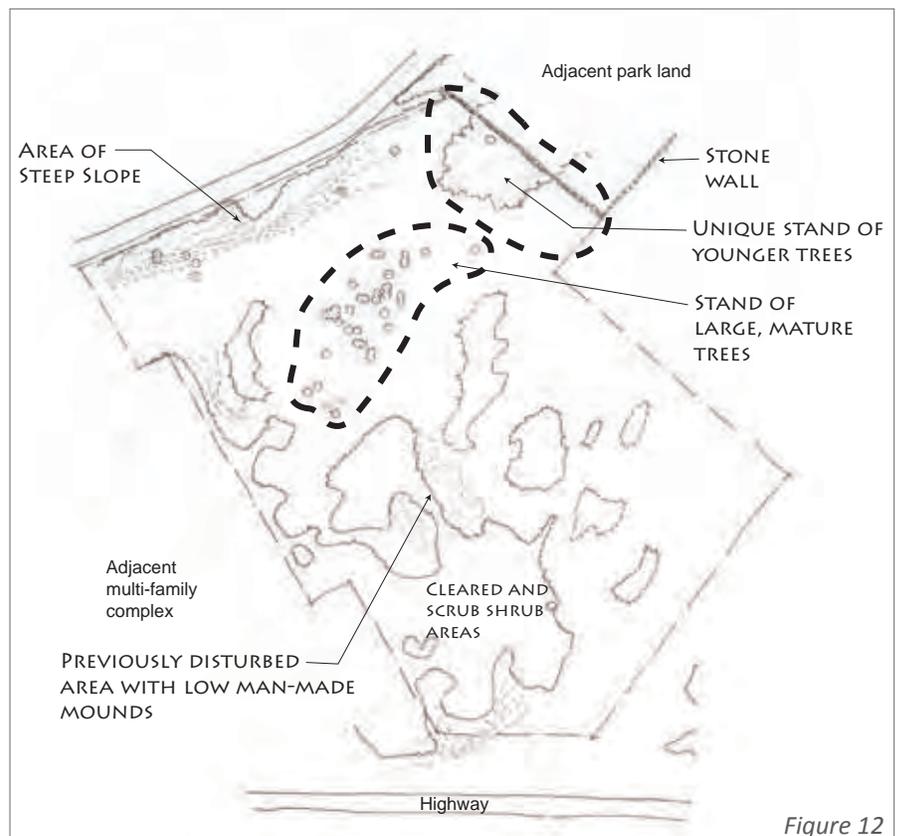


Figure 12

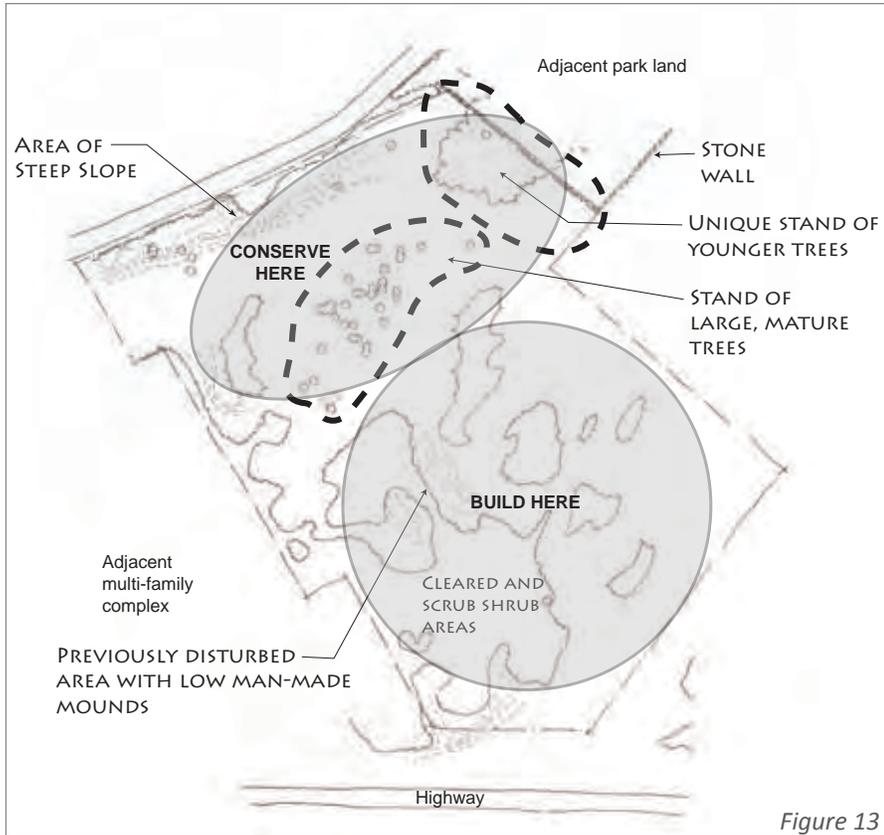


Figure 13

Site analysis above (Figure 13) concluded that it would be best to conserve the land at the front of the development, and build in the back. The final design below (Figure 14) provided a nicer entrance to the development, created a more contiguous conservation area and helped to extend the woods of the adjacent park land.

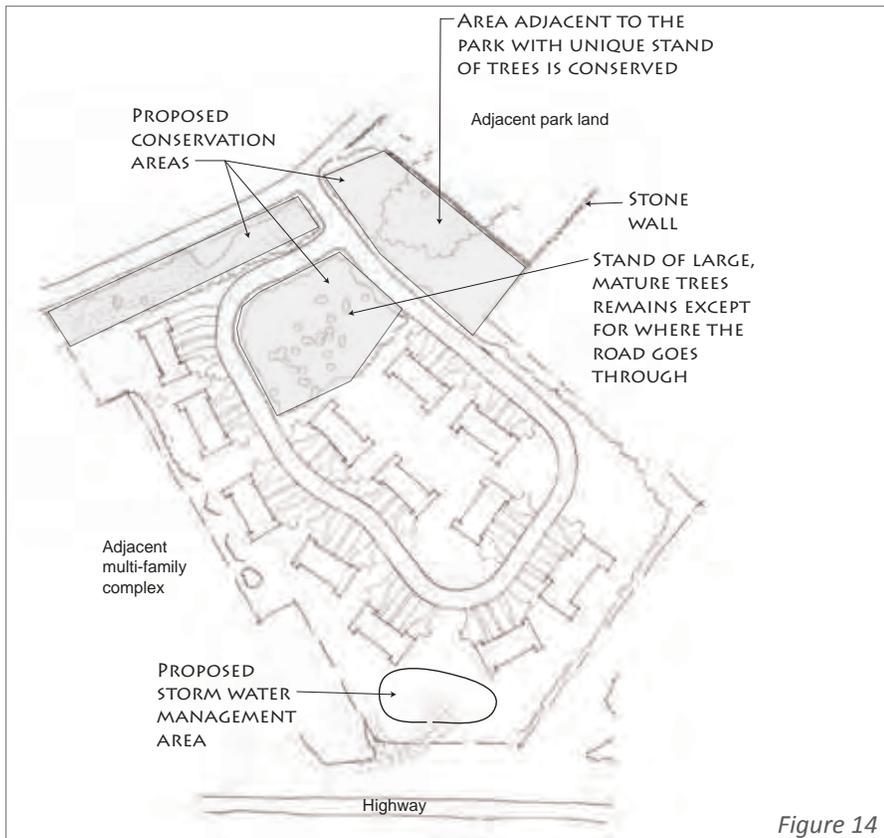


Figure 14

The conservation areas proposed in a later design submission attempted to cluster the conservation land together into larger, more meaningful, areas which included the more valuable site features. This permitted the development to be visually improved by these features and enjoyed by the residents. It also created a natural expansion of the adjacent park lands, creating the feeling that it is extended into the development.



Figure 15. Conservation subdivisions which only conserve leftover strips of land or perimeter areas, such as the shaded portions shown above, are not considered valuable.



Figure 16. Multi-family developments do not always have to have each building look the same. Some of the most interesting developments use a variety of materials and details to give different buildings a unique identity and improve the character of the community.

Multifamily Conservation Design Concepts

Conservation subdivision design can be applied successfully to multifamily, condo or townhouse developments where permitted by zoning. When doing a conservation design with multifamily or condominium buildings, these buildings are required to be arranged and organized within the landscape more efficiently as a traditional neighborhood cluster, creating well defined outdoor spaces, plazas, parks greens and other community or “campus-style” spaces.

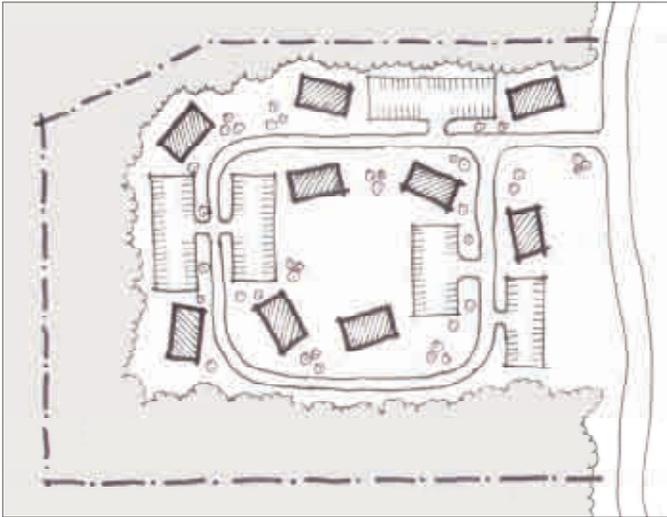


Figure 17. Typical Multifamily. The illustration above is an example of a bad site design layout typically found in a multifamily or condominium project. The individual buildings are scattered haphazardly throughout the property, each with their own parking lot, connected only by a loop road. A majority of the trees on the site were bulldozed during clearing, and only sparse pockets of new landscaping have been added to replace them.

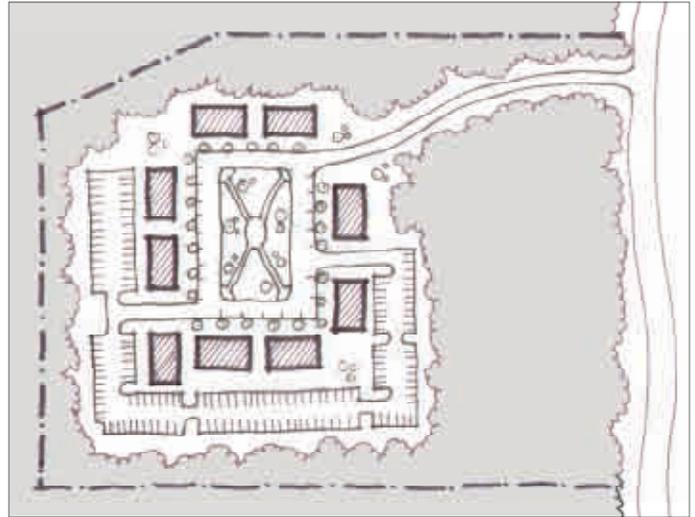


Figure 18. Preferred Layout. The preferred layout is one where the buildings are clustered together to form a neighborhood of outdoor spaces. This design includes a central green “town square” with on street parking and sidewalks. The parking is consolidated in back of the buildings and a large area of land along the road remains undisturbed as conservation land.

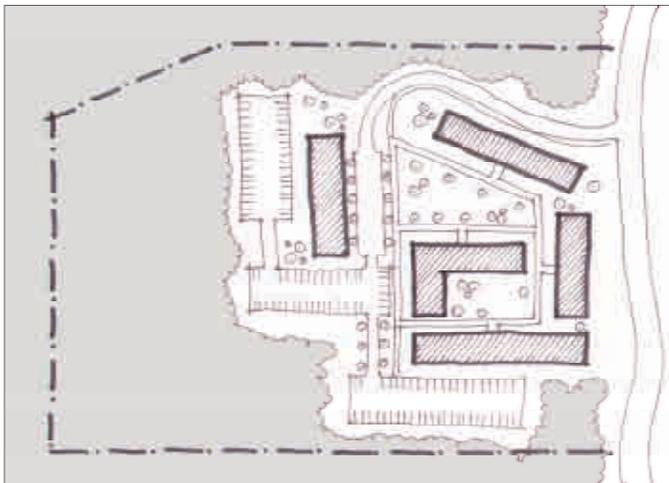


Figure 19. Campus Style. An alternative layout for a more urban setting may include larger buildings arranged to create courtyards and a campus-like environment. The buildings form courtyard green spaces while the parking lots are again concealed in the rear. Instead of conserving the land along the road, this option conserves the rear of the lot, allowing it to be continuous with the undeveloped property behind it.

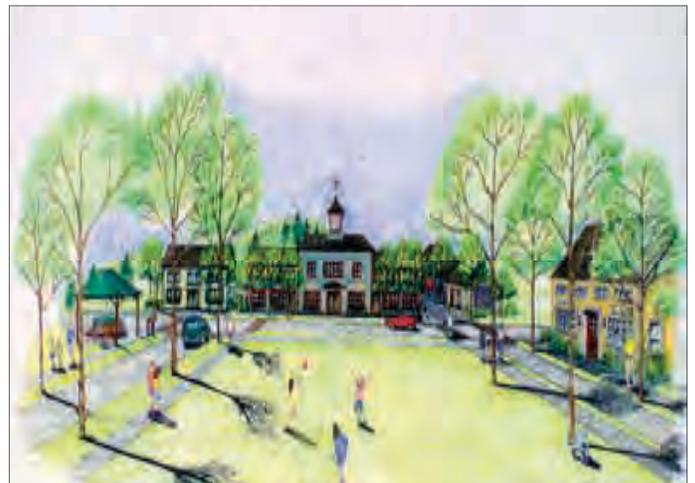


Figure 20. Campus Style Courtyard. A campus style arrangement of buildings can create outdoor spaces, courtyards, village greens and similar places that improve the look and feel of a residential development, and provide common recreation areas.

Case Study 4 - Farmland Commons Development: Low Density Conservation Subdivision

Here, a 137-acre family farm is planned for subdivision and sold to a number of purchasers who each are interested in owning farmland as part of their interest in building a new home. For the farmland owner, this scenario presents several advantages; the farm stays a farm, the cost of preparing the farm for sale (design engineering, etc.) are within reach as a “do-it-yourself” project, and the net return is more than that of selling “raw” land (i.e., land without approvals or on-site infrastructure). For the purchasers, each is provided with full shared access to the farmland in addition to their respective house lot.



Low Density Alternative

The “low density” conservation development is one that conserves more than 75% of the site (Figure 22). This is a method that would better promote the preservation of open space and agricultural land, and may provide a simpler review and approval process for the applicant. Low density subdivision plans such as this are further explained in §249-80(E) of the zoning code.



This low density example illustrates six 1 to 2 acre lots subdivided from the existing 137 acre parcel, with a common barn or recreation facility. The homes are hidden from the main roadway to create a physical separation from the road and from the existing farmhouse to the south. Instead of multiple driveways or a new access road, the homes are accessible by one private road, limiting the number of access points and improving safety.

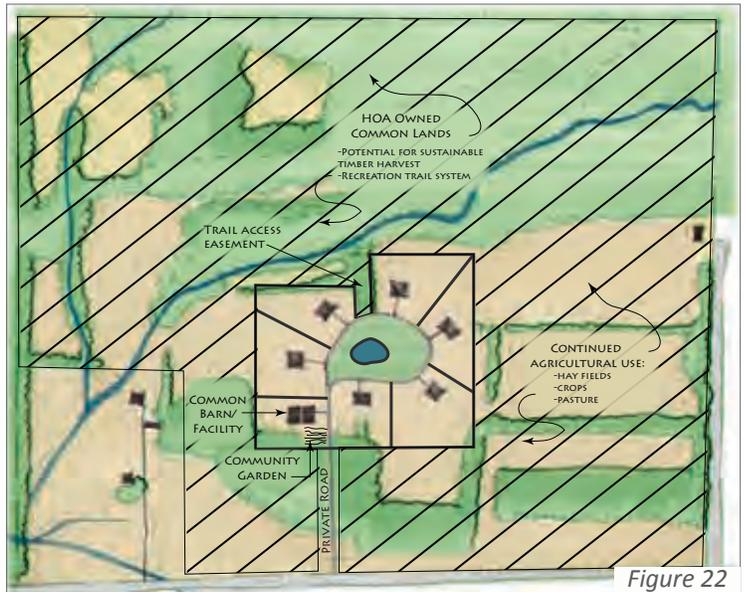


Figure 22

This design also provides additional amenities that would be owned and managed by the homeowners’ association established as part of the project, such as recreational space, multi-use trails, equestrian trails and stables, community gardens, and a cooperative used lot.

Funding to support common areas such as these in the subdivision can come from a variety of sources, including limited timber harvesting, haying, and limited crop production. The number and size of developable lots could be more or less dependent upon what is economically viable; landowner needs and vision for the property; or the desire to conserve open space.

A green circular icon with a white border and a dotted pattern, containing the word "Tip!" in a yellow, stylized font.

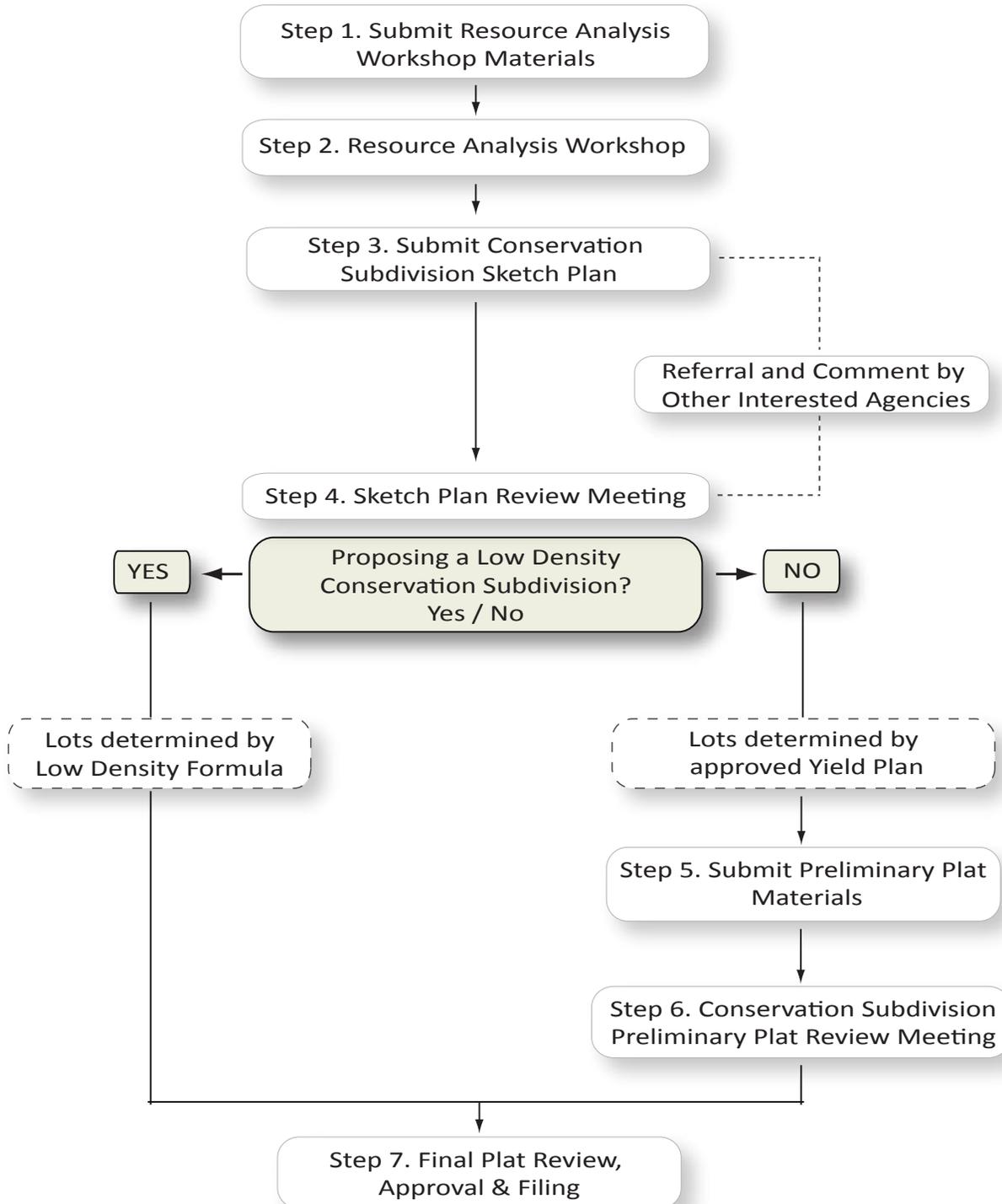
Conservation Design Tips

1. Conservation lands should be designed to create cohesive meaningful natural areas. Thin strips of land used only as a perimeter buffer are not considered viable conservation areas.
2. Conservation lands should be designed in contiguous areas unless the Planning Board has determined that there would be reasonable benefits to producing separate areas.
3. Conservation lands should provide linkages to adjacent natural areas, or when possible, to other conservation or protected lands.
4. Conservation areas should be kept separate from the subdivided lots of a property. Splitting open space into homeowner lots is not considered a viable conservation area.
5. Should never have an open space parcel be separately owned unless it is controlled by a Landowner's Association and it has a specific function for the residents.
6. Site plans should attempt to minimize the amount of site disturbance and tree removal. Utilize the trees that are already on the property wherever possible.
7. Trees and other vegetation that are added as part of the development's landscape plan should be in keeping with the character of the site. For example, strategically placed tree groupings may be more in character for a rural site than evenly spaced street trees which result in a more formal, urban/sub-urban character.
8. Elements determined to have conservation value, such as stone walls, mature trees, or open meadow, should be incorporated into the design as much as possible. By highlighting these features rather than keeping them hidden, they become appreciated and treasured by the community, which promotes awareness and encourages further conservation.

The Approval Process

Illustrated below is an overview of the basic review and approval process for Conservation Subdivisions. For details of each step, refer to §249-80 Conservation Subdivisions.

TOWN OF WALLKILL | OVERVIEW OF APPROVAL PROCESS



Example Lot Calculations

Example: 40 acres in the RA-1 zoning district – proposed single family homes. 5 acres of land is constrained by wetlands and steep slopes. The remaining 35 acres of land is made of various soils as follows: 5 acres of type 78A soil, 10 acres of 38C, 10 acres of 5A and 10 acres of 80A soils.

Step 1 – Resource Analysis Map: A resource analysis map is submitted and reviewed. During review, the Planning Board identifies approximately 16 acres of land which it would prefer be included within the conservation areas. These areas are delineated on the map for future reference.

Step 2 – Prepare Yield Plan & Sketch Plan: In order to determine the number of allowable lots, a conventional subdivision “yield plan” layout must be prepared and submitted for review to determine the maximum number of lots which could be accommodated on the site. To do this, the number of lots and lot sizes must be determined. Although this will use a conventional layout, it should use the Type II conservation subdivision environmental factors listed in §249-19.1 E(2)b and the lot width, depth and yard requirements for the RA-1 district as follows:

2a. Refer to the RA-1 district regulations in the zoning found at §249-19.1.

2b. The lot and building standards for the RA-1 district listed in §249-19.1 E(1) indicate that the minimum lot area is based on the environmental control formula, (Acres x Environmental Factor = # of Lots) but shall not be less than 3 acres for a Type II conservation subdivision. To use the environmental control formula, first refer to the Soils Reference Table §249-19.1 E(2) to look up the corresponding soil group of each soil type of found on the property. Soils which are on unbuildable areas of land due to the presence of wetlands, steep slopes or easements should not be included in the calculations. This information is entered into the formula shown in §249-19.1 E(3) as illustrated below:

Environmental Control Formula				
Soil Type	Soil Group	Acreege x	Environmental Factor	= Buildable Lots
78A	II	5		
38C	III	10		
5A	IV	10		
80A	V	10		
TOTAL:		35		TOTAL:

2c. We then look up the Environmental Factors for conservation subdivisions in the RA-1 district listed for each of the soil groups, found in §249-19.1 E(2)b and enter this information into the table as well.

From §249-19.1 E(2)b:

Environmental Factors – Type II Lots, Conservation:
 Soil 78A = Group II = 0.45
 Soil 38C = Group III = 0.33
 Soil 5A = Group IV = 0.24
 Soil 80A = Group V = 0.22

The acreage of each soil type should then be multiplied by the corresponding environmental factor to get the maximum number of lots. The total number of lots is then added together, to determine the maximum number of lots the site could contain. As shown below, the total number of lots is calculated at 10.15, however fractional results are rounded down, so the maximum total of lots on the property comes to 10.

Environmental Control Formula - Type II Conservation				
Soil Type	Soil Group	Acreage x	Environmental Factor	= Buildable Lots
78A	II	5	0.45	2.25
38C	III	10	0.33	3.3
5A	IV	10	0.24	2.4
80A	V	10	0.22	2.2
TOTAL:		35	TOTAL:	10.15 = Maximum 10 lots

2d. Now that the maximum number of lots which potentially could be accommodated has been determined, the minimum lot size should be calculated. The lot size is determined by which soil group the proposed septic systems would be placed on. Referencing the §249-19.1 E(2)b table for conservation subdivisions in the RA-1 district again, all of the soil groups found on the property have a minimum lot size of 3 acres. In this example, no matter where the septic systems are placed, the minimum lot size would be 3 acres.

2e. It has now been determined that a maximum of 10 lots no smaller than 3 acres would be permitted in the conventional layout. A conventional layout plan is then designed using those parameters. The design layout must take into account all constraints such as required setbacks, required yards, frontages, roads and unbuildable areas which would normally be required of a conventional subdivision in that district. However in this example, it is discovered that due to site constraints only 7 lots can actually be fit on the property with the roads and setbacks. This conventional layout plan is then submitted for review and approval with 7 lots.

2f. If the Planning Board confirms that the conventional layout plan is accurate and correct, the maximum number of lots to be approved for the conservation subdivision would be set at 7. Alternately, if there are errors in the layout plan, the Planning Board may reject it and require the applicant to resubmit.

Step 3: Conservation Subdivision Sketch Plan. A conservation subdivision sketch plan is then prepared and submitted which would allow no more than the 7 approved lots. The requirements for these conservation lots are now found in §249-80 Conservation Subdivisions. Referring to §249-80(G)(3)(a), the RA-1 district requires that a minimum of 40% of the property must remain as a permanently protected conservation area, and this conservation area must include 25% of the total buildable land. Referring to the Area and Bulk Table in §249-80 G(3)b, we find that the minimum lot size is 32,670 s.f. and the minimum width is 100 feet. A development design is then drawn up which avoids the protected conservation areas and includes up to 7 lots using those size parameters. The protected conservation area should include the areas designated for protection on the approved Resource Analysis Map.

Common Questions

What happens to land set aside for conservation?

For every conservation subdivision, the local municipality and/or land trust is granted an easement over this land so that it is protected from development in perpetuity. This easement governs that the conservation area cannot be further subdivided, developed or used for other than a few select purposes. Nature preserves, active and passive recreation, farming and forestry practices are permitted uses within a conservation area. Stormwater management systems and septic systems may also be allowed.

Who owns or controls conservation land?

It is important that an appropriate entity be identified to manage the conservation land. As part of the review process the local land trust is consulted to determine potential interest in managing the conservation area. Lands which are large in acreage, contain important natural features and which otherwise advance the land trust goals would be favorably considered. A stewardship to secure long-term monitoring and protection of these lands is negotiated between the trust and developer. In some cases, the land would be held fully in private ownership with the town holding an enforceable conservation easement. In those instances where town and public benefit (e.g. grant of land to expand adjacent town-owned land) the town could own and maintain these conservation lands.

In some cases, a property owner may desire and/or the planning board may require for a proposed subdivision to be governed by a Homeowner's Association (HOA). A HOA is a legal entity that is enacted to maintain common areas and to enforce the deed restrictions of a subdivision. Typically, a HOA is set up by a developer to allow control of the development of the subdivision through Covenants, Conditions, and Restrictions (CC&R's) that are tied to the deed signed by a property owner at property closing and run with the land. In most cases, the developer initially has control over the subdivision, with control gradually being turned over to the property owners as the subdivision is developed. The HOA typically assesses property owners within the subdivision for maintenance costs of roads and stormwater facilities, as well as insurance and legal costs.

Reference Documents

- *New York State Better Site Design* – NYS Department of Environmental Conservation
- *Better Site Design* – Center for Watershed Protection
- *Recommended Model Development Principles* – Town of Clinton, NY
- *Conserving Natural Areas and Wildlife in Your Community: Smart Growth Strategies for Protecting the Biological Diversity of New York's Hudson River Valley* - NYS Department of Environmental Conservation



