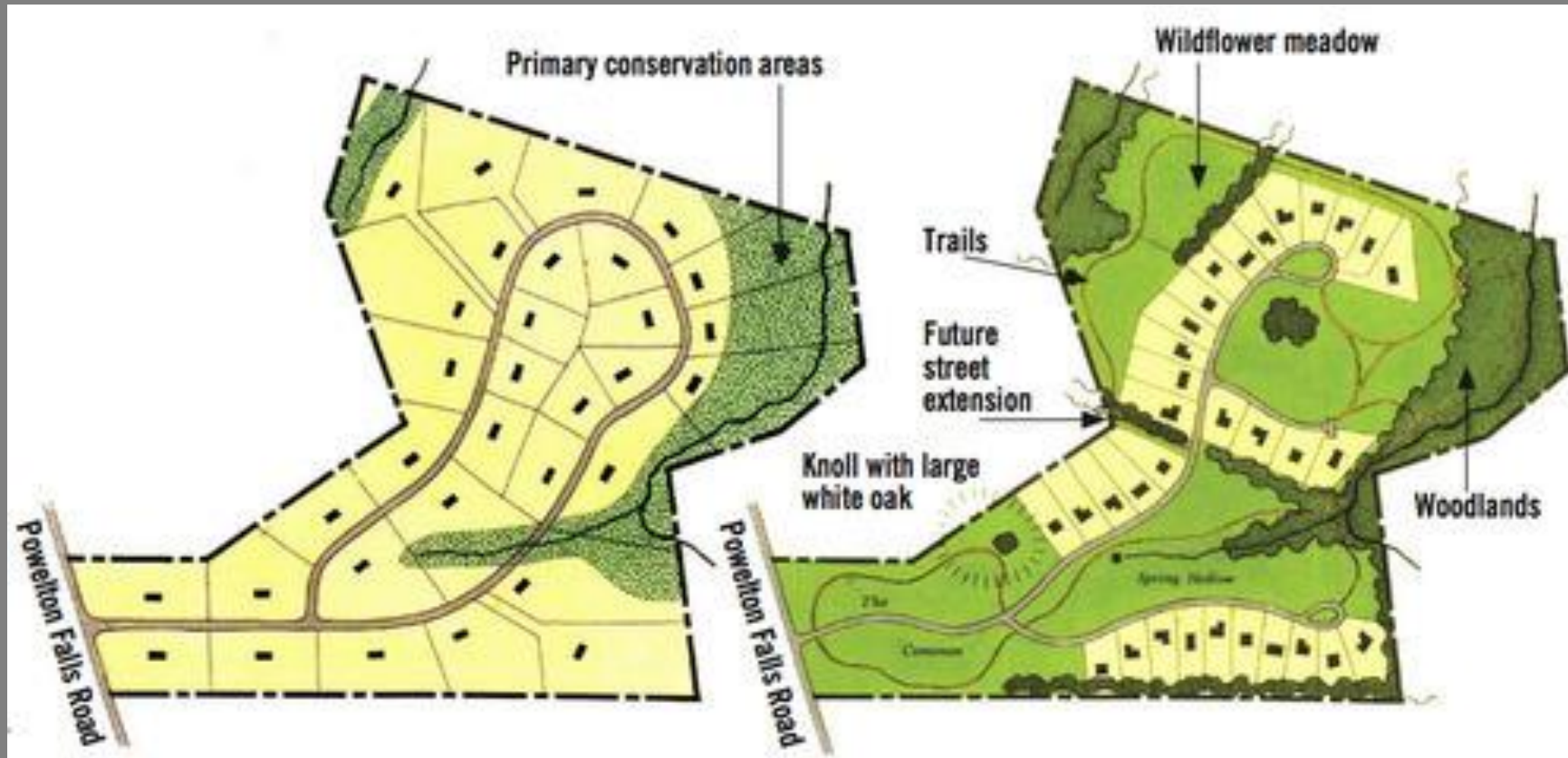


CONSERVATION SUBDIVISIONS

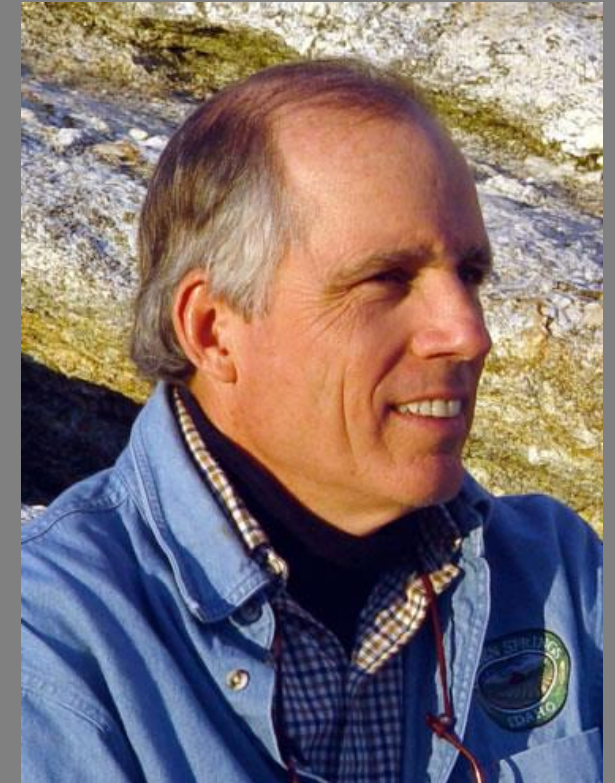
Presentation to the Durham Planning Board
by Town Planner Michael Behrendt
November 12, 2025



WHY CONSERVATION SUBDIVISIONS

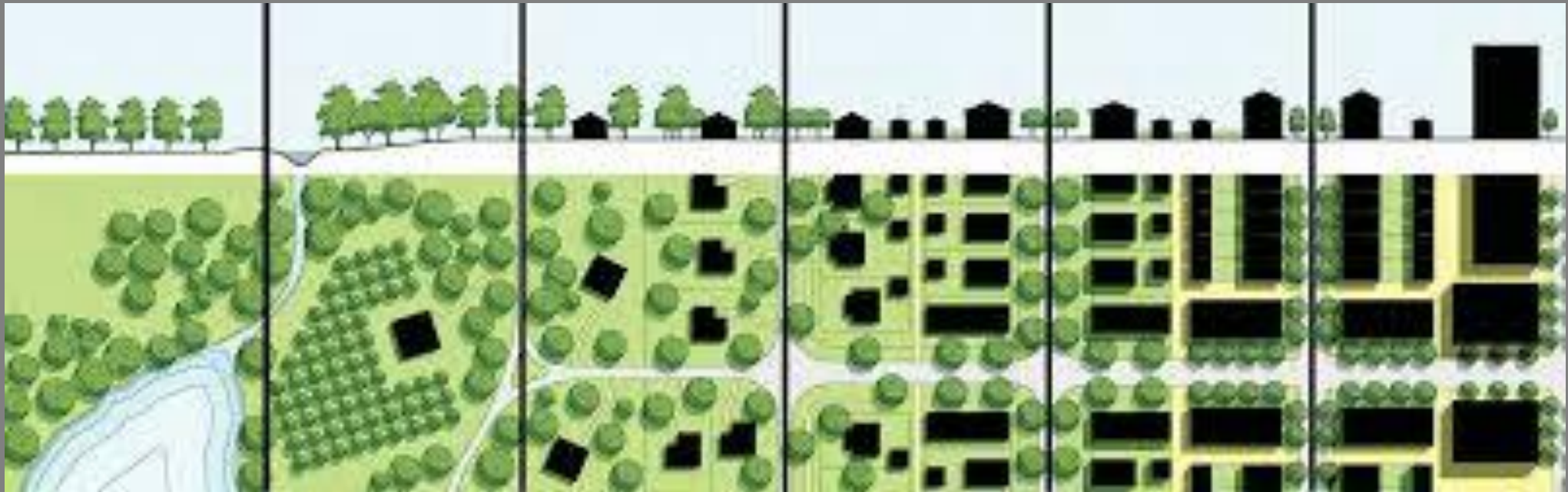


Randall Arendt
Godfather of Conservation
Subdivisions



THE TRANSECT

A key to good planning: proper design oriented to the particular location, from the center to the edges

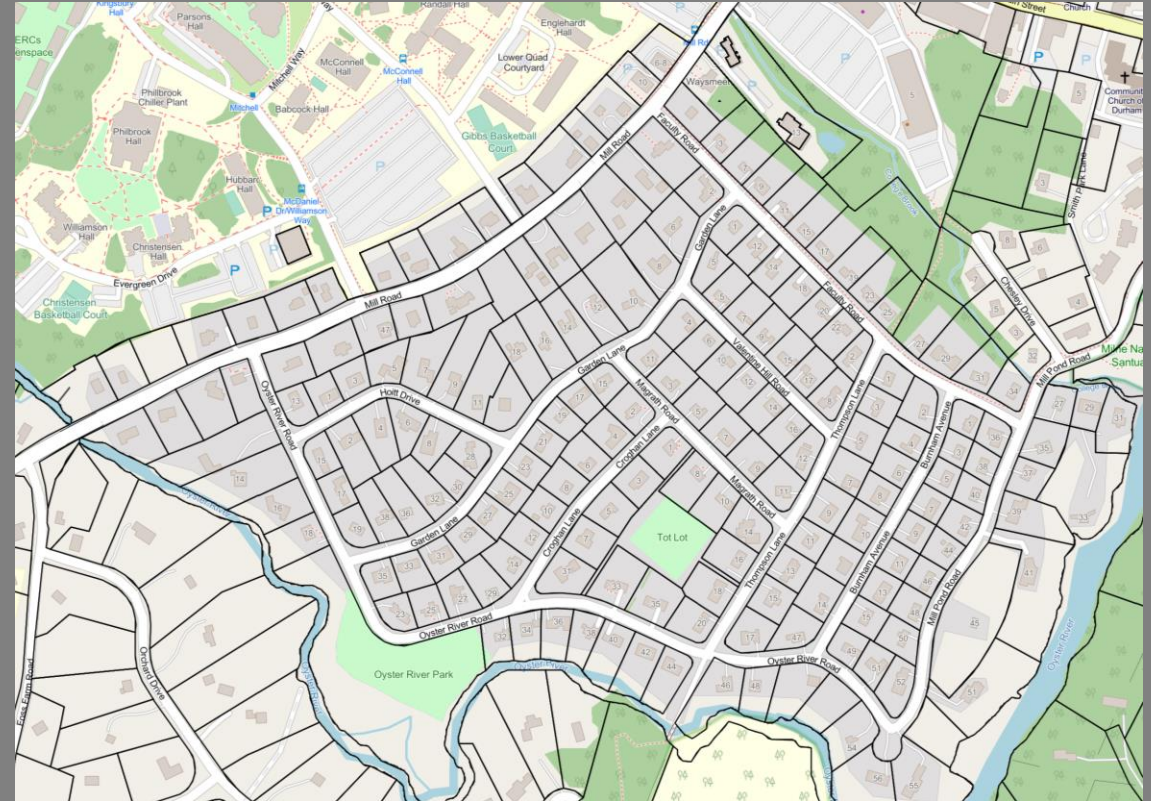


URBAN – SUBURBAN - RURAL



URBAN

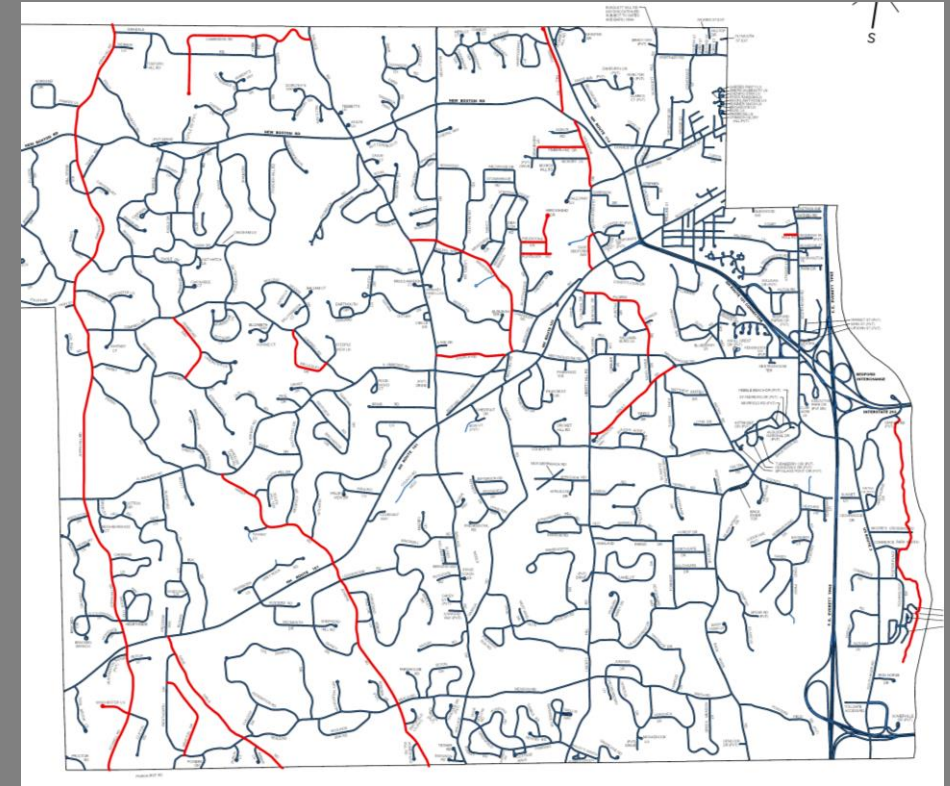
- AKA: town, village, neighborhood, community
- Located in core areas
- Dense and fully built out, small lots
- Walkable
- Variety of routes to take
- Modified grid with short blocks
- Cul de sacs to be avoided
- Interesting things to look at
- May be mixed use
- Near commercial areas
- No need for open space other than possibly a central green, a playground, and buffers along streams



SUBURBAN

- AKA: sprawl
- Large lots 2-5 acres
- Consumes a lot of land inefficiently
- Neither creates a sense of neighborhood nor preserves open space
- Thus, neither advantage of urban nor of rural development forms
- Disconnected street pattern; lots of cul de sacs
- Busy traffic funneled onto collector roads, unsafe for walking
- Nowhere to walk to
- Not much to look at
- Lots too small for agriculture
- Not a desirable development form

Bedford, New Hampshire



RURAL

- Located in outlying areas
- Dominated by open space: farms, fields, forests, wetlands and rivers and streams
- Low density
- Mainly single-family houses with small scale multi-unit residential and limited commercial uses in hamlets usually located at crossroads
- Focus on protection of natural resources
- Character is destroyed by suburban sprawl
- Can accommodate compact residential development if carefully located
- Conservation Subdivisions are the right way residential form
- They preserve open space and cluster development (achieving both urban and rural purposes)
- Should be mandatory form of development when more than a few new lots are created
- But challenging to implement effectively



IN WHICH DISTRICTS IS EACH FORM APPROPRIATE

Urban form:

Residence A

Residence B

Core commercial districts (if land is available and single family housing is appropriate)

Office Research (?) and Durham Business Park (?)

Suburban form:

Do not zone for this specifically anywhere. There are and will always be plenty of large lots available throughout town for those with the desire and means to purchase them.

Rural form:

i.e., mandatory

Conservation

Subdivisions

Rural

Residence Coastal

ORLI

MUDOR

ELEMENTS OF A CONSERVATION SUBDIVISION ORDINANCE

- Where it is required
- Exemptions
- Amount of open space required
- Which area(s) should be designated as the open space
- What is allowed and what is required in the open space
- How to protect the open space
- Which area(s) are designated as the development area
- Density (number of dwelling units) allowed in the development area
- Types of housing and any other uses allowed in the development area
- If there should be some third designation of land as common area
- Overall design goals and street layout
- Dimensional parameters – lot sizes, frontages, setbacks, etc.
- Process for developing and reviewing a proposal
- Incentives for affordable housing

KEEP IN MIND

These components above are addressed separately in the ordinance. Naturally, they are all related and interconnected but one must keep in mind the specific purpose of each.

- Amount of open space
- Priorities for open space
- Which parts of the parcel are actually placed into the open space
- Density of development
- Types of housing in the development

For example. The calculation for the amount of required open space may consider certain elements, such as the area of wetland and shoreland buffers. However, that does not mean that all of these buffers must be designated as open space. (More about this later.)

WHERE A CONSERVATION SUBDIVISION SHOULD BE REQUIRED

Rural form:

i.e., mandatory

Conservation

Subdivisions

Rural

Residence Coastal

ORLI

MUDOR

As noted earlier. It should not be allowed in other zones. There would be no reason to do a conservation subdivision in the Residence A zone, for instance, plus there are few larger parcels. Other mechanisms can provide open space when appropriate (such as with wetland and shoreland buffers). It might be worthwhile giving a density bonus in these areas for optional protection when there is open space worth being conserved.

EXEMPTIONS

Current Exemptions. The current exemptions *generally* work well. Some tweaking might be in order.

- 1) Up to a three-lot subdivision (i.e. creating two new lots) with no allowance for any future subdivision.
- 2) Up to a three-lot subdivision with an allowance for a future subdivision of the remaining land under the conservation subdivision rules.
- 3) Creation of 400,000 square foot lots. These are 9+ acres. I am not aware of this allowance ever having been used. These lots are large enough that they will not change the landscape much as the owners will likely leave most of the lots in their natural condition. Perhaps the size should be reduced to 7 or 8 acres.
- 4) Subdividing one lot no more often than 7 years.

AMOUNT OF OPEN SPACE REQUIRED

- Generally, 50 to 80% of the gross area of the parcel
- Can vary percentage based on the zoning district, with higher percentage in more rural areas
- Have a simple formula for determining the amount of open space (keep this formula separate from the density formula). One should be able to get a rough idea by viewing where the wetlands are or appear to be.
- The formula should consider the area of wetlands and open water and possibly the area of buffers. (It is not essential that buffers be included in this formula as they will be protected anyway in accordance with the WCOD and SPOD and would likely be included in the open space.) For example, it might be appropriate to grant a conditional use for a driveway in a buffer in which case that land would probably not be deemed open space.
- Under the current ordinance one would have very little idea how much open space would be required without paying for a HISS analysis as there are numerous elements that go into the calculation that are not evident without this analysis.

WHAT RESOURCES SHOULD BE PROTECTED?

Upfront consideration of a community's priorities for protection will help guide the implementation of this approach. Some resources that a community might give priority to include in the open space include:

- Floodplains
- Wetlands, including vernal pools
- Riparian areas (land areas adjacent to water bodies) and surrounding uplands
- Habitat for threatened or endangered species
- Highest condition habitat areas defined by NH Wildlife Action Plan
- Wildlife corridors
- Drinking water supply areas, e.g., wellhead protection areas
- Cemeteries
- Historic sites
- Scenic viewsheds
- Contiguous, high-productivity woodlands
- Productive agricultural or forest soils
- Existing or planned hiking, biking, walking, skiing or snowmobile trails through the site

How to determine area(s) to be designated as open space

← From NHDES Model Ordinance

The applicant prepares an analysis of the site and selects areas proposed for open space subject to Planning Board approval.

Other valuable designated areas like a central green are part of the open space.

What is allowed in the open space

- **Agriculture should be allowed as this is clearly a priority for the Durham community.**
- **Forestry?**
- **Definitely access for residents of the subdivision**
- **Passive recreation should be allowed however we choose to define that.**
- **Access for nonresidents?**
- **Any active recreation? Ballfields?**
- **Any buildings like a community center?**
- **Utilities like drainage and leach fields?**
- **Cemeteries?**

How to protect the open space

- **Definitely designated as permanent open space on the plat.**
- **Establishing an easement is not necessary to protect the land but can be helpful.**
- **Owned by the Homeowners Association. Establishment of a Homeowners Association should be required.**
- **Giving an easement to the Town or the Conservation Commission.**
- **Giving an easement to a conservation organization**
- **Giving an easement to another government entity**
- **The land should not be part of individual lots owned by residents of the subdivision**

Density (number of dwelling units) in the development area(s)

- There must be a specific number of allowed dwelling units. It must be readily determinable or have a clear formula that can be determined once wetlands and possibly other factors are determined. Developers and the public want to know what the allowed density is.
- Start with the gross parcel size. Subtract wetlands and open water and other areas that cannot be readily developed.
- Divide the remaining acreage by a set factor. It should vary by zoning district.
- Presently, it is very difficult to get a sense of the number of allowed units at the outset, as it is to determine the amount of open space, because one needs to prepare a detailed HISS analysis to see which areas are to be subtracted from the parcel size (“unusable areas” or “unsuitable areas” such as soil that is shallow to ledge and somewhat poorly drained soils, along with wetlands).
- The number of allowed units is also very restrictive. In the Rural and Residence Coastal District, after deducting the area of “unusable areas” one then divides that figure by 150,000 square feet (3.44 acres). For example, a 20-acre parcel where 25% of the parcel is unusable would allow for only 4 lots. And one could actually build readily in a number of these “unusable areas” (such as on somewhat poorly drained soils).
- The formula should be based very roughly on the number of lots and dwelling units that the developer could theoretically create with a conventional subdivision and then adjusted from there (assuming an appropriate allowed density for a conventional subdivision). Lands that could not be developed in a conventional subdivision, should be subtracted from the parcel size (at 100% or a lower percentage of the area of those lands). Here is one prospective formula: Gross parcel size – (minus) areas of wetlands and open water – floodplains - easements or rights of way where primary structures cannot be built – upland areas of the parcel that cannot readily be accessed – conservation easements - $\frac{1}{2}$ the area of the wetland and shoreland buffers / (all divided by) some square footage figure (which should be less than 150,000 square feet).

Types of housing and other uses allowed in the development area

- The Conservation Subdivision will typically consist mostly or completely of single-family houses on smaller lots.
- Cottage courts, pocket neighborhoods (small houses like bungalows around a central green), and co-housing arrangements would be encouraged.
- While duplexes and small multi-unit residential may not fit in well in a rural area, they can fit into a conservation subdivision provided that the development is well buffered from the road and from neighbors and that they are well designed. You might get more density with inclusion of some duplexes and multi-unit residence. Some architectural review would be in order to ensure compatibility of these housing types. A goal is for them to resemble large single-family houses.
- Conventional commercial uses would not survive if located on the interior of a parcel, though expanded home occupations, especially those oriented to rural areas, might be appropriate.
- The height limit should be 2-1/2 stories.

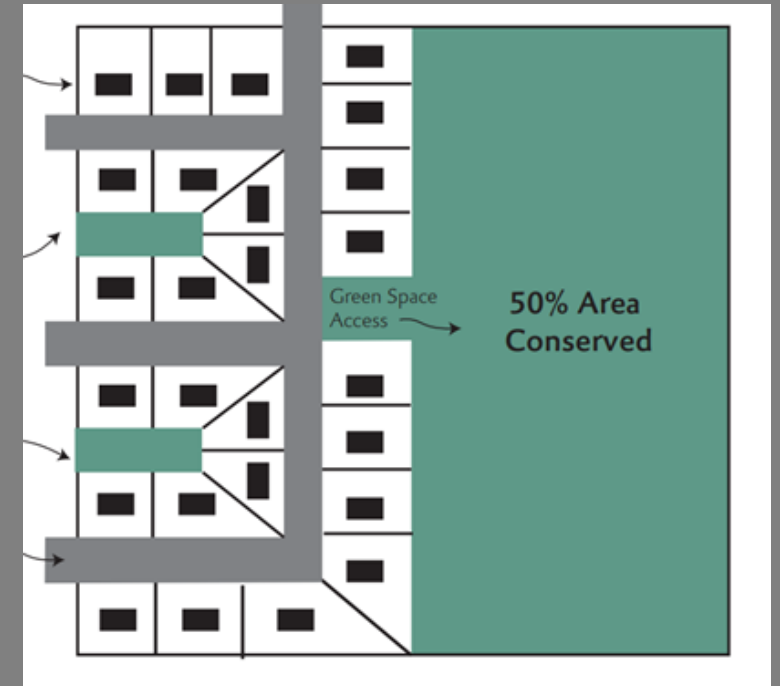
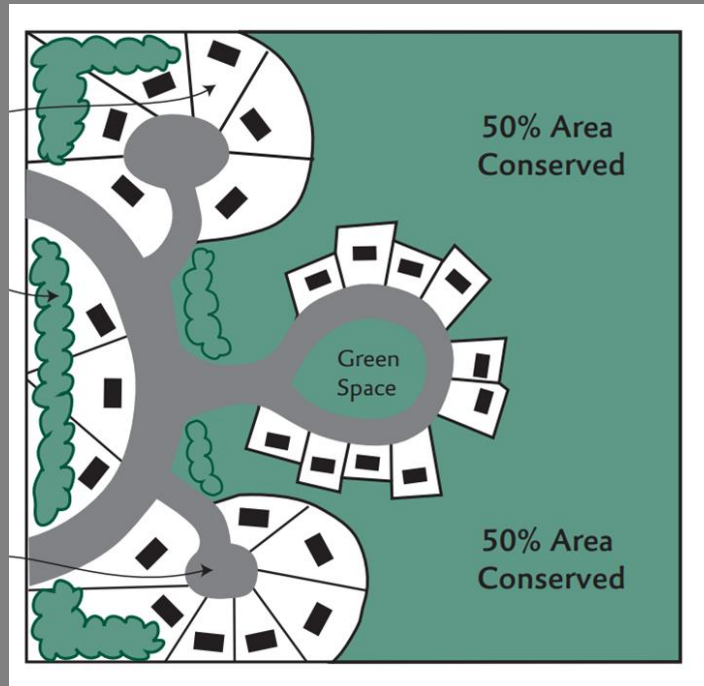
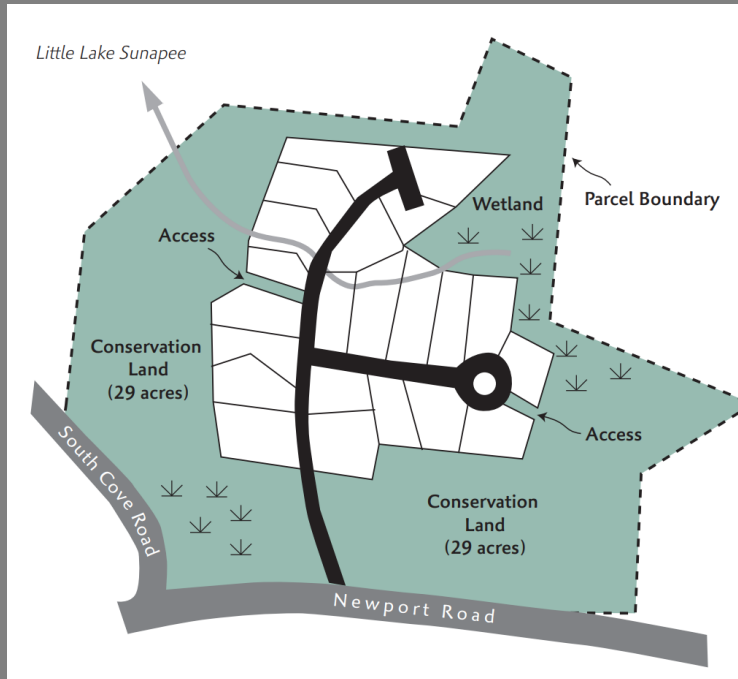
Should there be some third designation of land as common area?

The Planning Board discussed this earlier. It might make sense for such a designation for infrastructure and utilities. Or those uses could be allowed in the open space subject to certain limitations.

Or maybe active recreation or certain utility buildings or even limited commercial could be located there.

TYPES OF DESIGNS OF THE DEVELOPMENT AREAS

Conventional concentrated development area, separate pods, or village style layout



OVERALL DESIGN GOALS AND STREET LAYOUT

- Generally, a conservation subdivision is set back from the road. The existing road is often a rural collector road and the rural character can best be preserved if the dense development area is set back on the interior of the parcel. This is what people usually expect.
- Depending on the goals of the ordinance, house lots may be allowed on the existing road, but there should be a limit to the number of lots placed there or the frontage taken up on the rural road.
- While a sense of neighborhood can be achieved with a tighter modified grid of streets, it is less important in a conservation subdivision than in core areas of town. Residents often enjoy backing up to open space. Cul de sacs are appropriate in a conservation subdivision since the project is small and there is usually not much street connectivity.
- Roads should be Town roads and residents should receive all Town services, except where compelling factors determine otherwise. Reduced road standards are often in order.
- It is preferred, but not necessary, that there be one contiguous development area rather than multiple separate areas.
- Connection from the streets to existing trails is valuable.

Dimensional Parameters – lot sizes, frontages, setbacks, etc.

- Much flexibility is desired.
- The current ordinance allows much flexibility.
- There can be separate lots or the land can be owned in common by the association. In the latter case, there is usually “limited common area” around single-family dwellings where the occupant controls “their yard.”
- The current ordinance requires that dimensional standards for the underlying zoning district apply to new lots that will front on existing roads so that new lots are similar to neighboring existing lots on the road.
- Some minimum lot size and setbacks are needed but frontage requirements can be eliminated to allow flexibility in layout. There may be a shared driveway to a rear lot.

Process for developing and reviewing a proposal

It should be a mandatory two step process with preliminary and formal applications.

The current ordinance requires a three-step process which is complicated, burdensome, and expensive. In combination with the very low density allowed it is not surprising that there have been only two applications for conservation subdivisions in the last dozen years and these were both in the Residence B district which allows a higher density.

The Zoning Ordinance provides the essential parameters – applicability, exemptions, density, lot dimensions, amount of open space, and workforce housing provisions. The process is described in the Subdivision Regulations, which will also need to be amended.

AFFORDABLE HOUSING INCENTIVES

I do not believe that the incentive for workforce housing in the conservation subdivision ordinance has even been used. Building affordable housing is difficult. A substantial incentive is needed to induce developers to include it.

The formula will need to be structured so that there is an inducement. Most conservation subdivisions create single family lots for sale so the incentive should allow for additional lots or multi-unit residential. One prospective formula would be that the applicant can add any number of additional affordable units and get one additional market unit for each (up to some limit such as a 50% increase in the base number of units).

Houses and condominiums intended for sale should include a provision ensuring that they will remain affordable in perpetuity with limited equity at the time of future sales.

Units intended for rent should include a provision tying the rent levels to the HUD Fair Market Rent, as is done in the Durham Attainable Housing Ordinance.

REFERENCES

Arendt, Randall G., et. al., **Rural by Design**. 1994. Chicago: APA Planners Press. 2015 revision. London: Routledge, Taylor & Francis Group.

Arendt, Randall G. et. al., 1999. **Growing Greener: Putting Conservation Into Local Plans and Ordinances**. Washington, D.C., Island Press.

New Hampshire Division of Environmental Services Model Ordinance: [NHDES](#)

