

# TOWN OF KENT 2011 BUILDOUT ANALYSIS



A Special Meeting of the Kent Conservation Commission November 19, 2011 ~ 2:00 pm

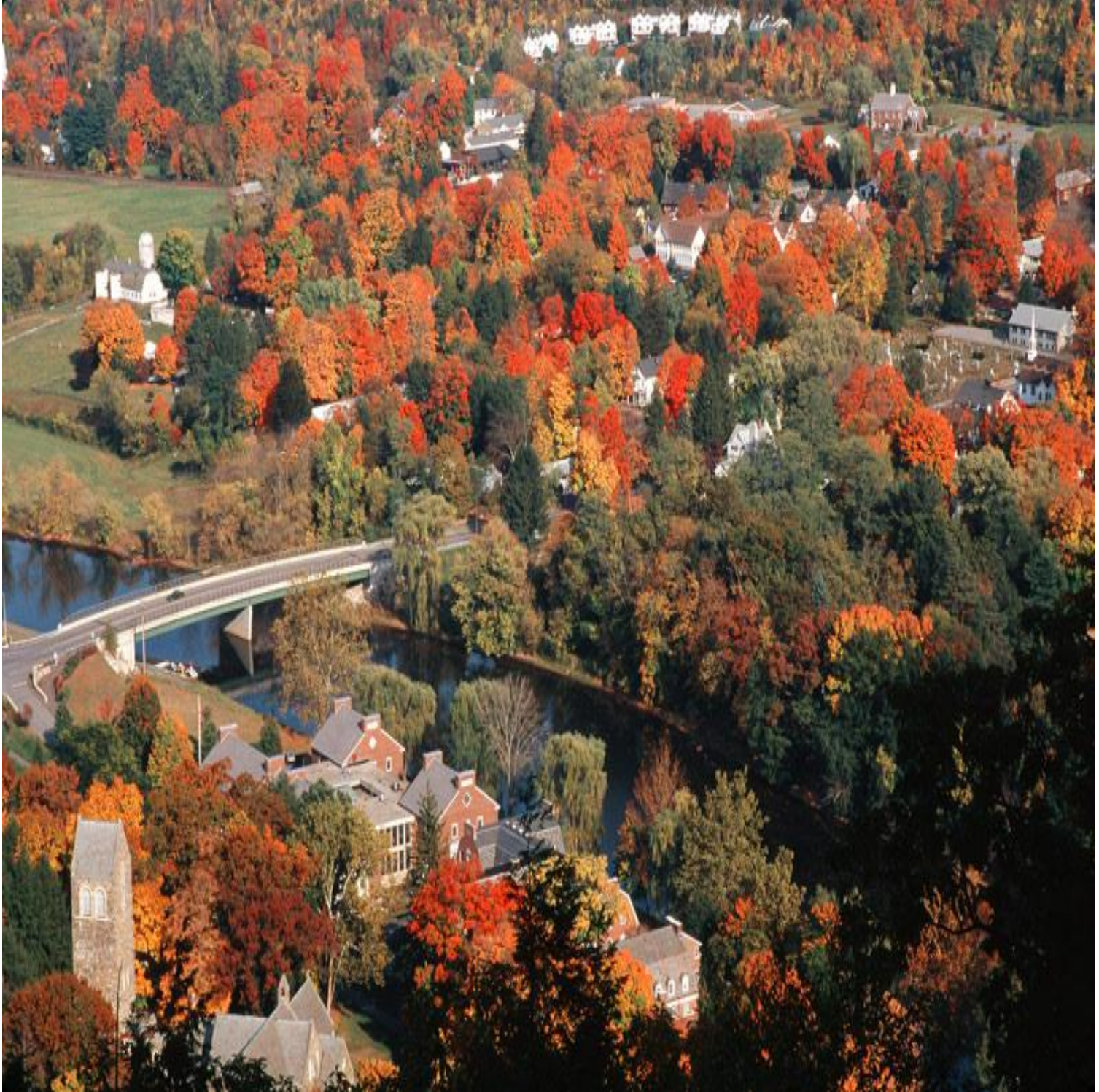


Photo: Randy O'Rourke

## What is a Buildout Analysis?

Simply put, a **Buildout Analysis** is a tool used to project and visualize the degree of development that would occur in a community if it were to build on every available acre of land allowed by current regulations.

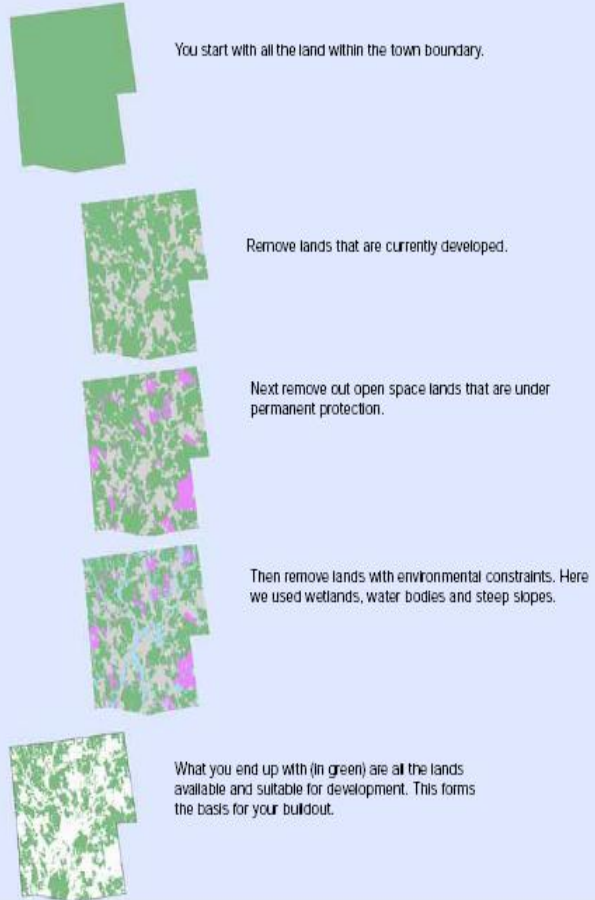
This visual analysis is created using a community's zoning requirements and parcel maps, together with computer geographic software such as Google Earth and ArcGIS (Geographic Information System). For the purposes of the analysis, what is considered buildable land is limited by natural constraints such as steep slopes, shallow soils and wetlands; by land use regulations such as minimum lot acreage, septic requirements, and wetland setbacks; and by existing development or protection status.

Kent's Buildout Analysis benefits from both a **Numeric Buildout**, a data-driven formula multiplying available space by permitted density; and a **Spatial Buildout**, the theoretical placement of buildings on undeveloped land at the parcel level.

No timeframe has been defined. The analysis shows an indefinite future.

### The Buildable Lands Analysis

The first step in the GIS-based buildout is to determine the amount and location of lands available and suitable for development. This analysis, sometimes called the "buildable lands" analysis, is essentially an exercise in subtraction, beginning with all the land in the town and subtracting each GIS data layer that symbolizes lands that cannot support future development.



## Why did Kent Do a Buildout Analysis?

The Kent Conservation Commission wanted to visualize potential development within the town in order to help guide the update of the Town Plan of Conservation and Development, and to evaluate current zoning regulations. The analysis will help Kent assess planning issues related to additional homes and corresponding population increase, as well as additional development, including:

- The number of new homes that could be built in Kent, and their distribution
- The impact of development on natural resources including streams, lakes, wildlife, forests, farmland, sensitive ecosystems and open space
- The increase in impervious surface, with subsequent decrease in groundwater recharge and increase in flooding
- Transportation infrastructure
- Energy infrastructure
- Impacts on the ratio of commercial to residential tax base, and tourism
- Increase in the school age population, and what this would mean for our school system
- Municipal services including police, fire, recreation, waste management, and social services

## Kent's Zoning Regulations

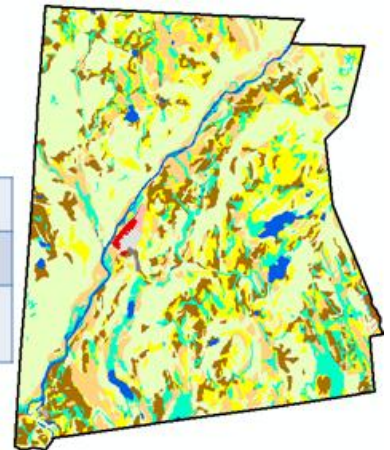
Unlike most Connecticut towns, Kent has **soil based zoning** in the Rural District. The Rural District comprises 99% of the town's acreage (includes waterbodies). The village center has standard zoning with smaller lot sizes, and commercial as well as residential zones.

With soil based zoning the minimum lot acreage is determined by the ability of the soils to handle septic effluent, and of the terrain to accommodate buildings and driveways without excessive grading or offsite drainage. The best soils are relatively level, with good drainage, no ledge, no shallow groundwater table or soil compaction, and the minimum allowable lot size is 1 acre. On medium soils building lots need to be at least 3 acres; on soils and terrain less favorable to development a minimum of 5 acres is needed; while in the least favorable conditions (Miscellaneous soil category) the Planning and Zoning Commission will determine if any construction is allowable based on a detailed soil survey. Wetland soils are generally off-limits to new development.

The zoning and subdivision regulations can be downloaded from the town website [www.townofkentct.org](http://www.townofkentct.org). A general zoning map showing the Rural and Village Center Districts, plus some overlay zones, is also available. The 1, 3, 5 acre and Misc. zones are not shown on the download; Map 6 (Soil-based Zoning) in the Kent Conservation Commission's publication, *Natural & Cultural Riches of Kent*, provides detail about the distribution of these soil-zones.

### Zoning Soil-based Zoning

Non-Rural Zones	282 acres	1% of Kent area
Water	823 acres	3% of Kent area
Rural Zone (Soil-based zoning)	30,171 acres	96% of Kent area



### Village Center Zoning

Zoning categories in the Village Center include:  
VC-R1 residential with minimum lot size 10,000 SF  
VC-R2 residential 30,000 SF  
VC-C commercial 30,000 SF or  
I industrial with minimum lot size 30,000 SF.

## Further Assumptions and Constraints Used in the Analysis

The following were removed from the analysis as “unbuildable” due to use restrictions and environmental constraints:

- Water (823 acres/3% of Kent)
- Very Poorly Drained Soils (2241 acres/7% of Kent)
- Slope 25% or greater (8463 acres/27% of Kent)
- Permanently protected land (11,208 acres/35.3% of Kent)
- Total removed = 18,497 acres/59% of Kent's total land

Note: Permanently protected land acreage overlaps land that contains additional constraints, so the total is not a sum of the above list.

Setbacks – For the spatial buildout, the analysis used minimum side yard 30ft setbacks, for a minimum 60 ft separation between homes.

Efficiency Factor – For the numeric buildout, the analysis used an efficiency factor of 75% (limited the number of new buildings to 75% of the maximum possible to account for the land used for road right of ways, parcel configurations, and for other inefficiencies of subdivision design).

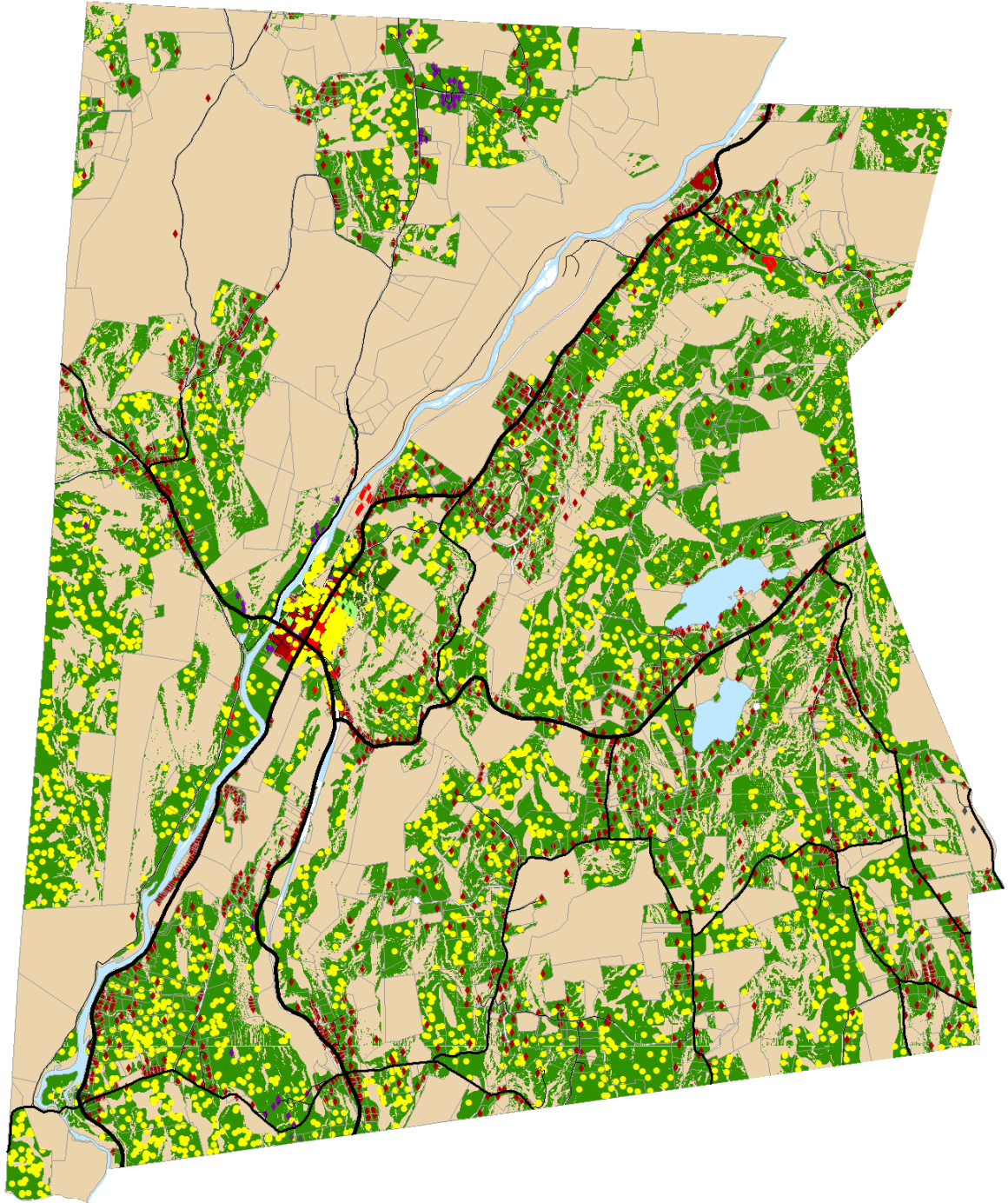
Village Center – The analysis could not account for the complexity and variability of permitted uses including commercial, multi-family housing, accessory apartments, etc.; mixed-use development should be assumed. Rural zoning was applied to parts of parcels outside of the village center-designated area.

## Results of Kent's Buildout – Town-wide




Rural Areas – 2357 new buildings (increase of 184% above current 1279 residences)

Village Center – 226 new buildings (increase of 102% above current 221 buildings)

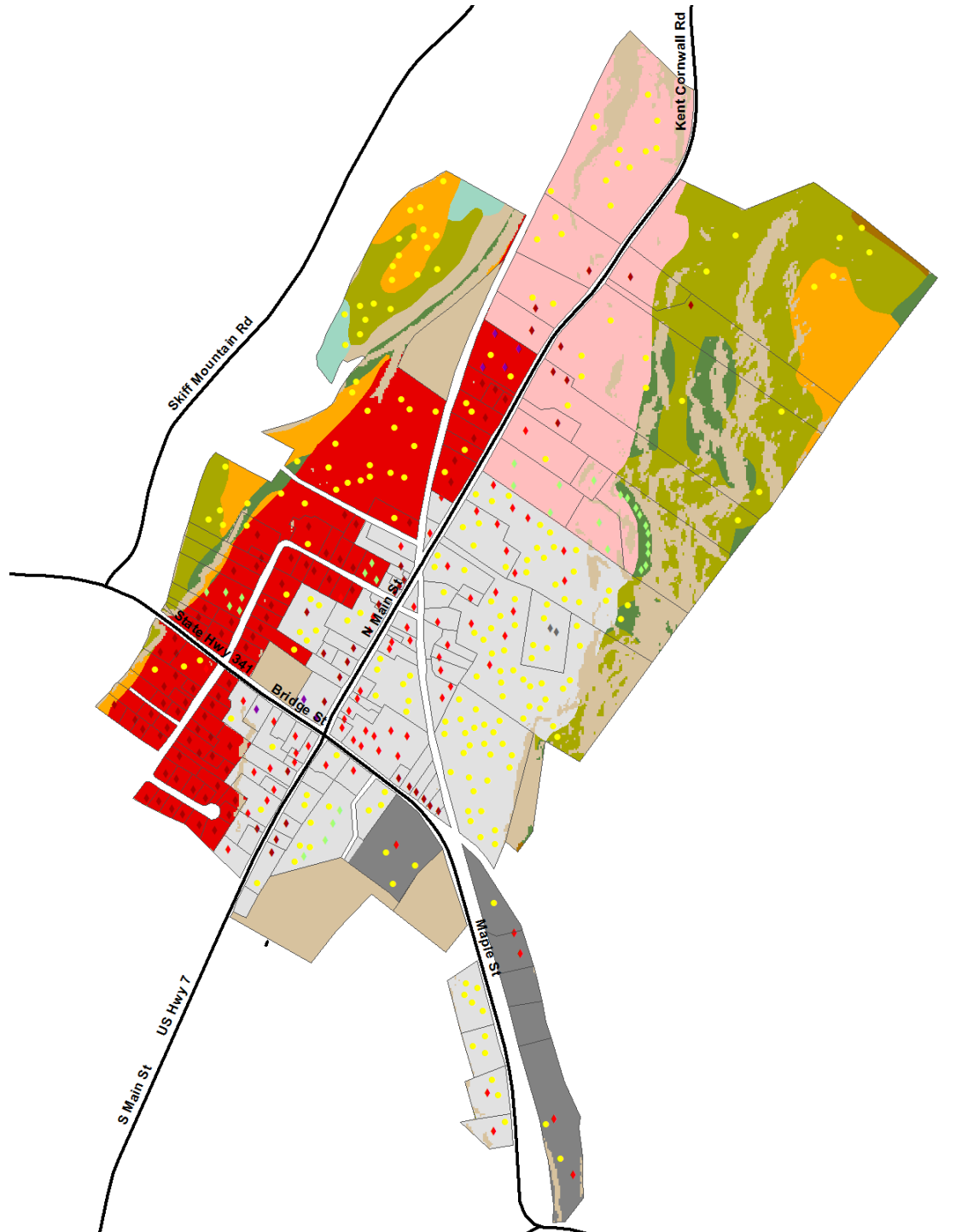
**Total: 2583 new buildings (172% increase)**



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-  Existing Residence
-  Potential New Residence
-  Excluded as "Unbuildable"

## Results of Kent's Buildout – Village Center

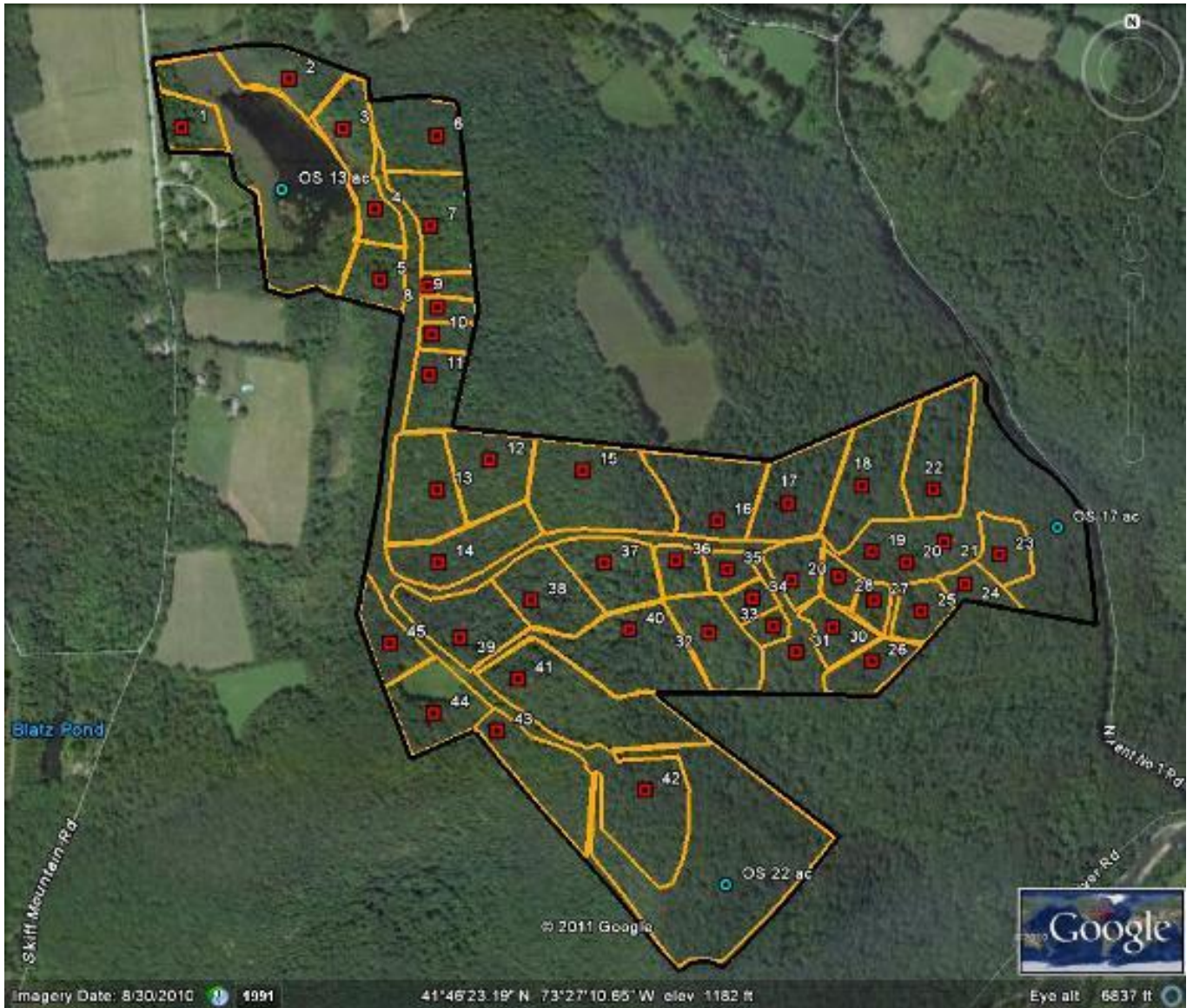


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- ◆ Existing Building
- Potential New Building
- RU Misc
- RU I (1 acre)
- RU II (2 acre)
- RU III (5 acre)
- RU IV (wetlands)
- Industrial District (VC-I)
- Roadside Commercial (RC)
- Village Center Commercial (VC-C)
- Village Center Residential (VC-R1)
- Village Center Residential (VC-R2)

## A Parcel-Level Example

Many in Kent are familiar with the 250± acre parcel atop Skiff Mountain South protected from development in 2003 through the hard work and partnership of local residents and non-profit organizations. If this parcel wasn't permanently protected (remember that permanently protected land is a constraint and therefore considered non-buildable), the buildout would place buildings, shown as red dots, inside vacant parcels. The graphic below illustrates what the resulting 45 potential building lots might look like. The location of the building within the parcel is non-specific.



\*Please note map is not to scale and is a manually prepared visual rendition.

## Acknowledgements

Analysis completed by Emily Wilson, Bruce Hyde & Chester Arnold, UConn Center for Land Use Education & Research (CLEAR)

With assistance from Liddy Baker, Dennis DePaul, Laurie Doss, Carol Franken, Connie Manes, Boone Moore, Wendy Murphy & Jos Spelbos, Kent Conservation Commission; John Johnson, Chairperson, Kent Planning and Zoning Commission; and Marvelwood School students