Town of Groton
Land Use Regulation Assessment

October 29, 2008

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COLLABORATIVE

ASSESSMENT

- The assessment involved three review elements.
  - Stakeholder meetings to determine citizen concerns.
  - Staff discussions and concerns.
  - KKC review of ordinances.

SUMMARY OF FINDINGS

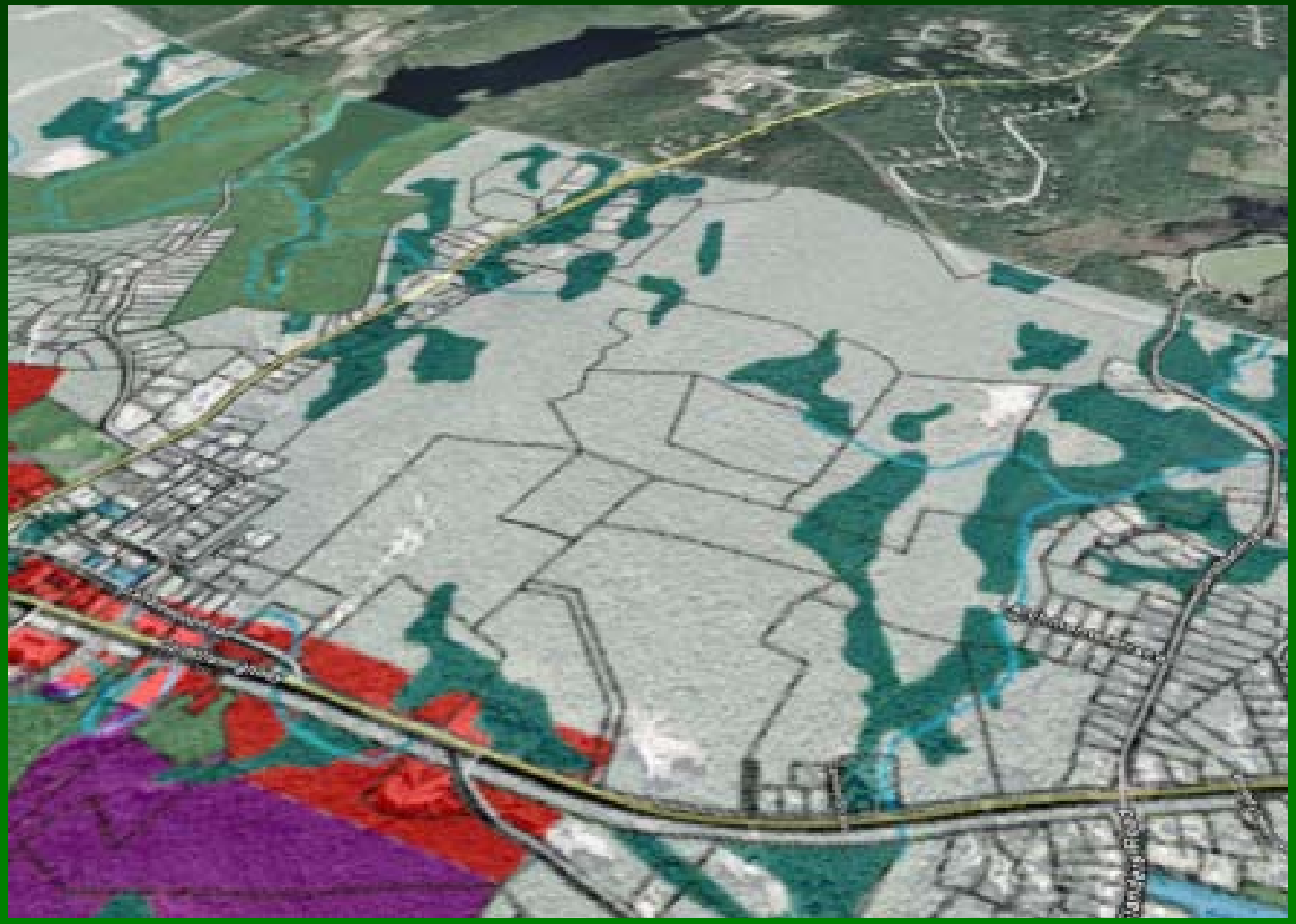
- The code does not provide developers a clear and unambiguous guide.
- Simplify - Too many districts and uses.
- Need to promote good design through clustering and performance standards.
- Create a character focus rather than use.
- Replace 1950's commercial design regulations.

POCD

Plan of Conservation and Development

- Conservation.
  - Protect upland, coastal, and Historic Resources.
  - Preserve open space.
  - Promote community character.
- Development quality enhanced.
- Infrastructure enhanced to support needed economic development.

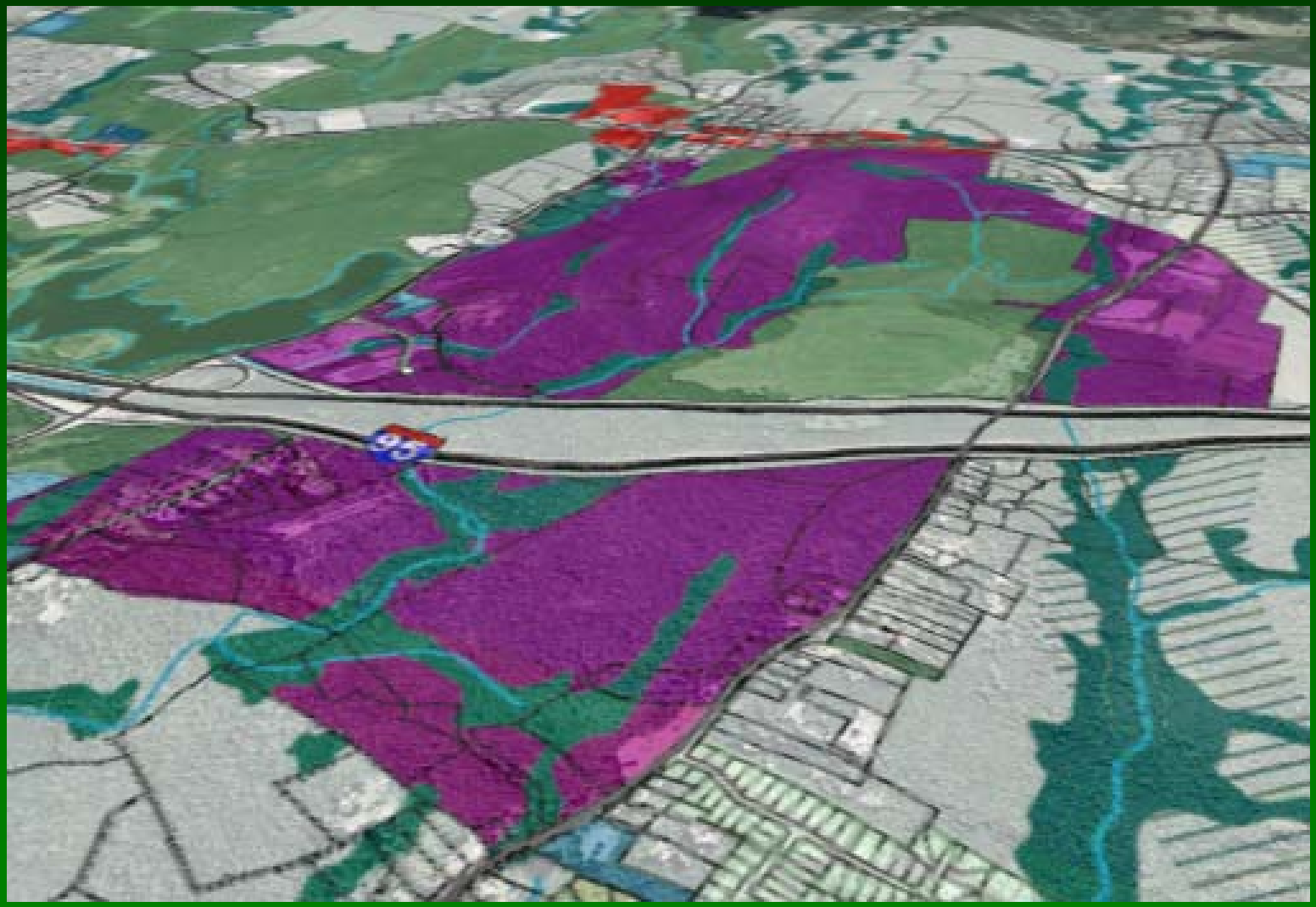
Low Density Area



Low Density Areas

- Density: typically < 1 unit per acre.
- Zoned RU-40, RU-80, RU-20.
- Many areas subject to natural constraints that would further limit practical build-out densities.
- Significant parts in the “No Sewer”/WRP District

Business Park



Business Park

- Designated for industry/business for past 40+ years.
- Zoned IP-80 (residential prohibited).
- Development constrained by natural resources.
- “Prime” areas located in the Sewer Avoidance Area/WRP District.

Open Space

Open Space

Methods to Acquire

- Outright acquisition.
- Resource protection requirements.
- Required buffers.
- Cluster development with conservation easements.
- Low density requirements.

Recommended Changes

- Zoning districts.
- Use table.
- Flexible zoning.
- Resource protection and open space.
- Clustering.
- Design standards.

Zoning Districts

- 24 Zoning Districts – one per 1,722 people.
- Reduce Residential Districts from 11 to 4
  - Neighborhood Conservation avoids the creation of non-conformities.
- Reduce Commercial Districts from 10 to 3
- Reduce Industrial Districts from 4 to 2

Table of Use

- 207 land uses – one per 200 people.
- Reduce commercial uses.
  - Most retail can be grouped under retail sales.
  - No real need for multiple office types.
- Reduce industrial uses.
  - Environmental standards better control than use.
  - Scale and shipping more critical than use.

Flexible Zoning

- Businesses want a ready to build site.
- Delay may mean the use goes to another community.
- Performance standards can protect neighbors.
- Mixed uses reduce trips, congestion, and save energy.

Resource Protection

- Many resources can be mapped.
  - Wetlands, floodplains, rock out crops, steep slopes, and woodlands.
  - Specific protection levels should be specified.
- Negative impacts relate to natural cycles.
  - Impervious surface a major contributor.
  - Some mapped resources mitigate.
  - Development controls can mitigate negative impacts.
  - Performance standards control releases.

Site Capacity Calculation

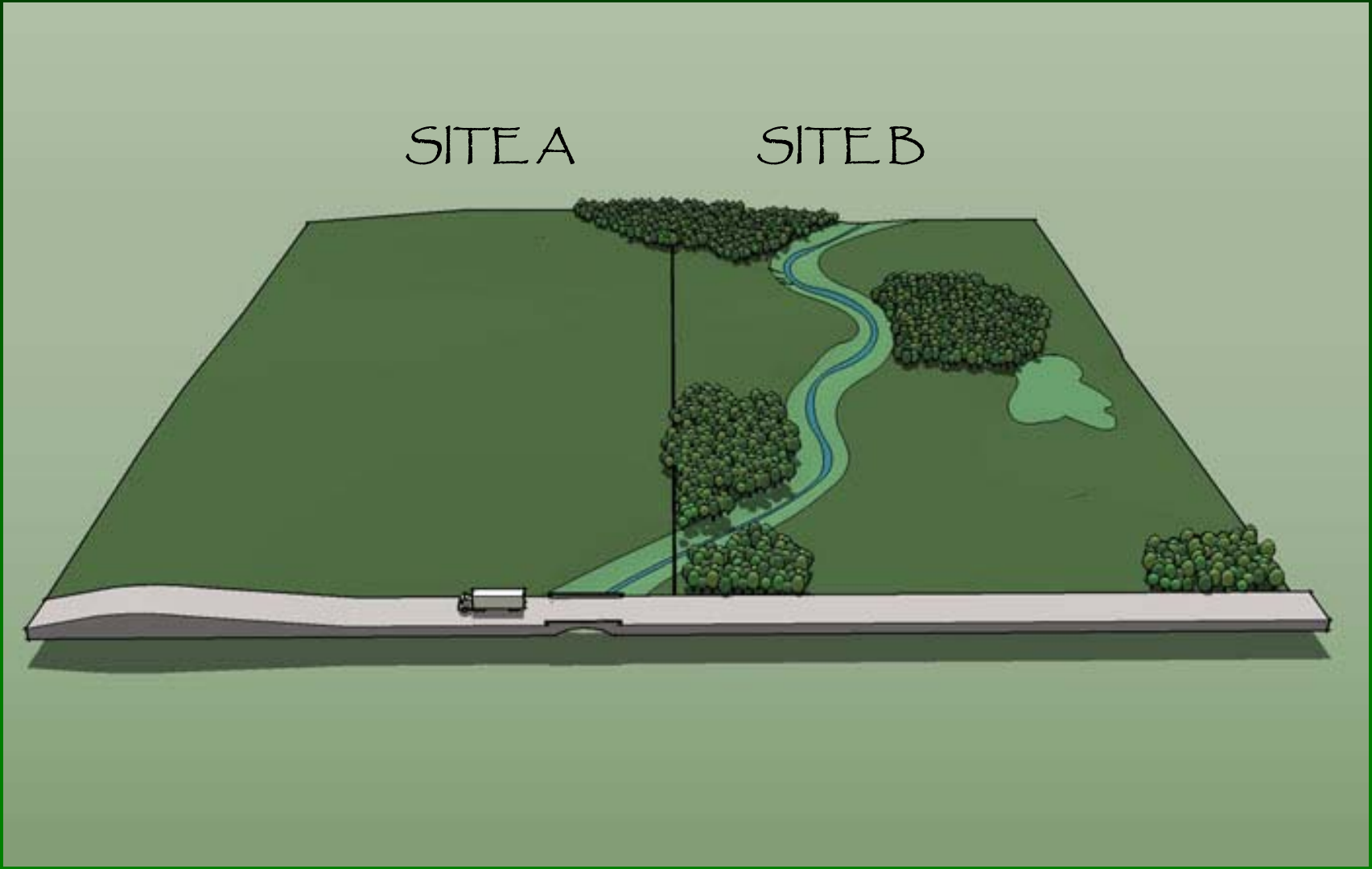
- Resource protection standards - open space ratio.
  - Floodplain 100%.
  - Wetlands 100%
  - Slopes
    - 10-25% slope 60%
    - 25%+ 95%
  - Woodland. 40%
- Site capacity is a carrying capacity calculation.
- Sets a maximum capacity for site.
- Clustering allows protection without loss of density.

Resource Protection Standards

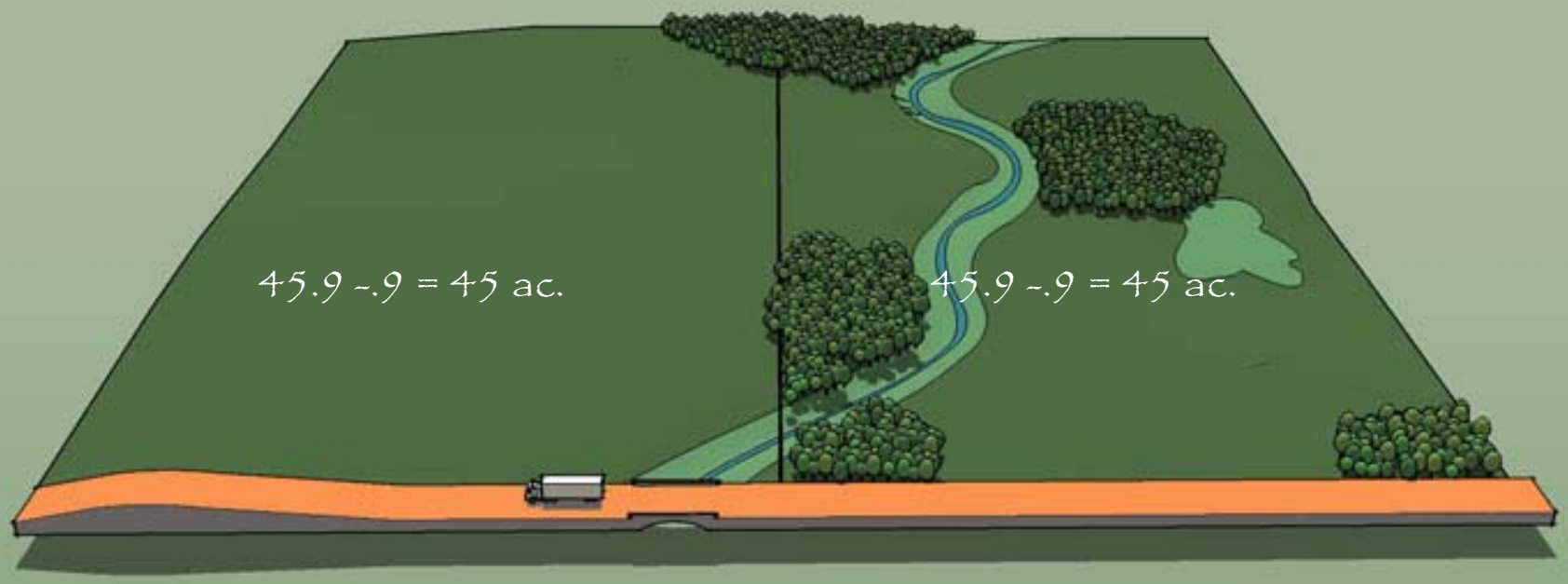
- Resource protection standards - open space ratio.
- Identify the resources on the site.
- Mandate their protection.

Resource	Open Space
Floodplain	100%
Wetlands	100%
Riparian and Wetland Buffers	90%
Steep Slopes	
10 to 25%	60%
More than 25%	95%
Woodlands	40%
Wellhead Protection	90%

Two Sites

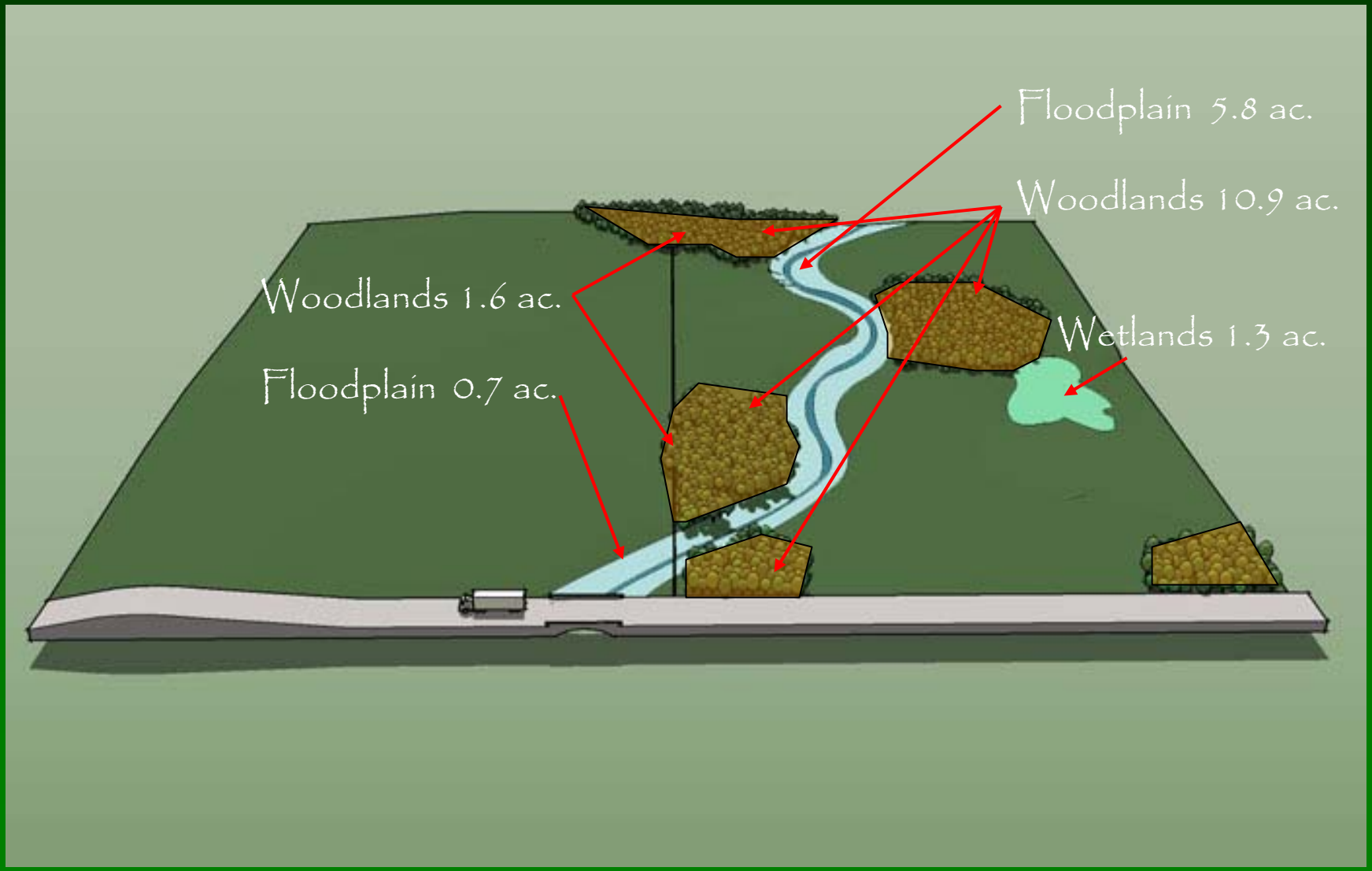


Determine Base Site Area



Subtract any land in the ultimate right-of-way of existing roads.

Measure Resources



Calculate Required Open Space

Resource	Protection Level	Area in Resource	Protected Acres
SITE A			
Floodplain	1.0	0.7	0.70
Woodland	0.8	1.6	1.28
Wetland	1.0	0.0	0.0
Total			1.98
SITE B			
Floodplain	1.0	5.8	5.8
Woodland	0.8	10.9	8.7
Wetland	1.0	1.3	1.3
Total			15.8

Calculate Yield
20,000 sf. Development

	Gross Density	Net Density	Base Site Area	Open Space	Buildable Area	Yield
SITE A						
District	1.405		45	6.55	38.45	63
Site		1.653		1.98	43.02	71
Maximum – Use the lesser of the two yields.						63
SITE B						
District	1.405		45	6.55	38.45	63
Site		1.653		15.82	29.18	48
Maximum – Use the lesser of the two yields.						48

20,000 sf. Developments

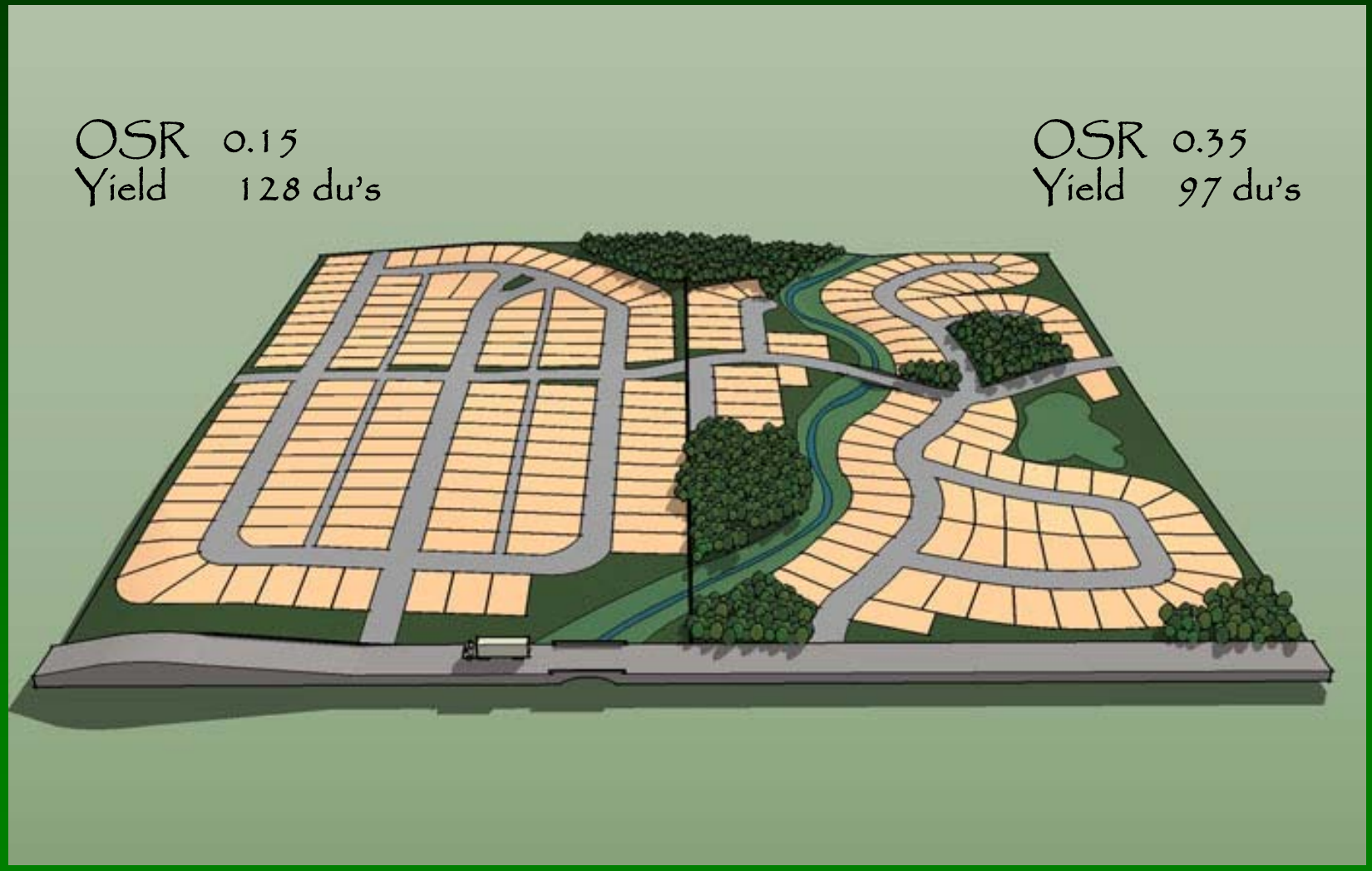
OSR 0.15
Yield 63 du's

OSR 0.35
Yield 48 du's

Calculate Yield
8,400 sf. Development

	Gross Density	Net Density	Base Site Area	Open Space	Buildable Area	Yield
SITE A						
District	2.848		45	6.55	38.45	128
Site		3.350		1.98	43.02	144
Maximum – Use the lesser of the two yields.						128
SITE B						
District	2.848		45	6.55	38.45	128
Site		3.350		15.82	29.18	97
Maximum – Use the lesser of the two yields.						97

8,400 sf. Developments



Community Character

- At zoning hearings the concern is a threat to the character of their neighborhood.
- Myths about zoning.
  - Increased density lowers character.
  - The bigger the lot size the better.
  - Residential has a better character than non-residential.
- Zoning is rigid and limits good design and resource protection.

IT'S NOT DENSITY!

- 1 ac. lots
- Urban street cross section
- Minimal landscaping
- Suburban Character

- 1/3 ac. lots
- 40% open space
- Rural street cross section
- Natural vegetation preserved in front yards
- Somewhat Rural Character

NOR LAND USE!

- Forested village green
- Commercial town center
- Suburban character

- 5 ac. Residential lots
- Ravines in rear
- Suburban character

Non-Residential Design

Both have grid streets with side walk build-to-line!

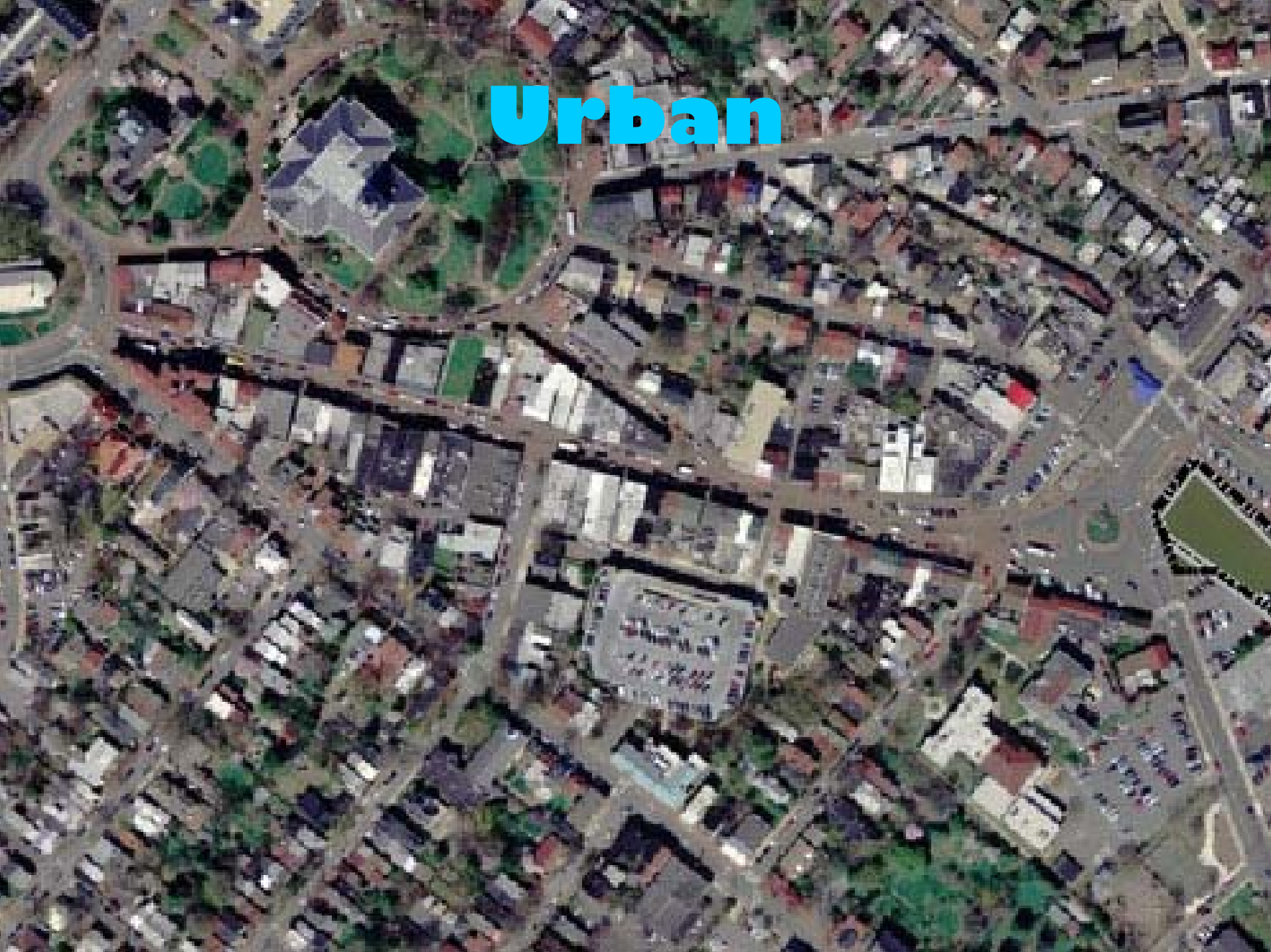
- No Sign Control
- No Design Standard
- Concrete sidewalks
- No Landscaping

- Sign Control
- Architectural Review
- Pavement patterns
- Landscaping and Street Furniture

DESIGN

- Residential design.
  - Flexibility to work with site.
  - Protect natural resources.
  - Protect neighbors and community.
- Non-residential design.
  - Streetscape.
  - Signs.
  - Protect neighbors.

Urban



Urban

- Building enclose space D/H.
- Spaces are streets and plazas.
- Space is architectural

Urban

AUTO-URBAN

Cars consume more land than land use.

Auto-Urban

Better Auto-Urban.

Worse Auto-Urban.

Suburban

Suburban

Typical Suburban Street.

Street with borrowed open space.

more Suburban

Borrowed Open Space

Suburban Commercial

Estate

Estate

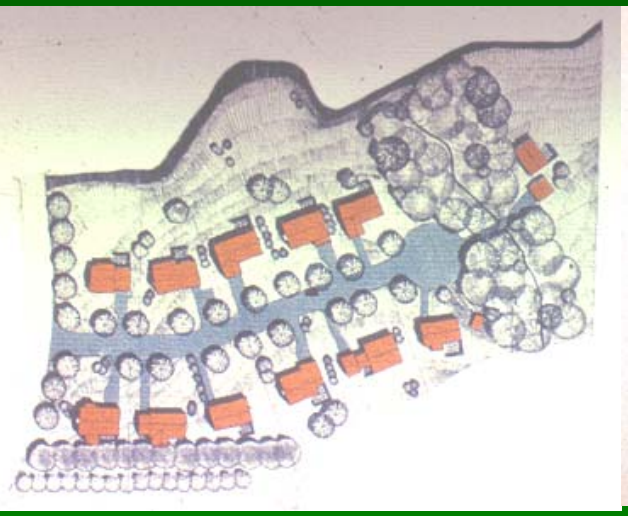
Estate streetscape.

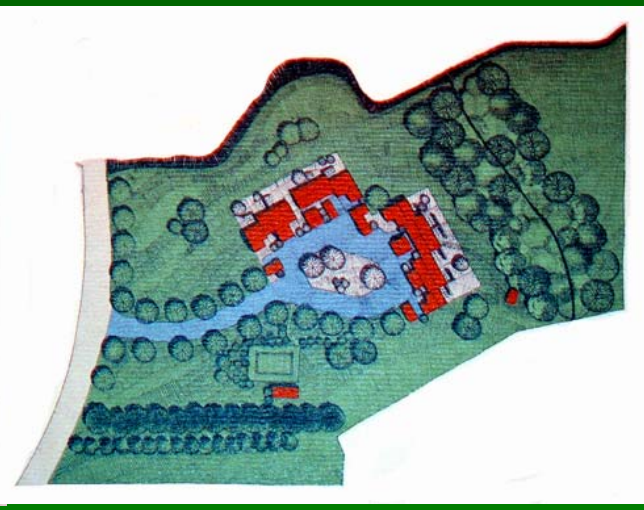
Estate house and yard.

Cluster

Clustering is a development approach where smaller lots are used to provide common open space to protect resources, provide recreation, detention, or buffers.

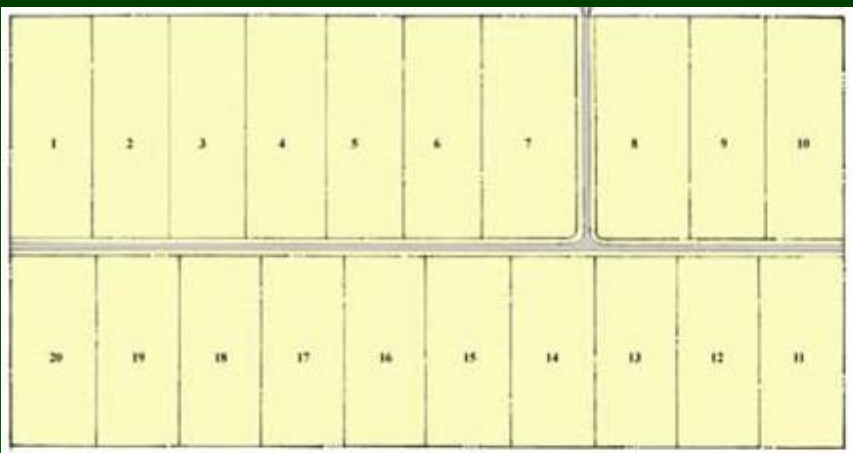
The density is the same, but lots are smaller to create common open space.





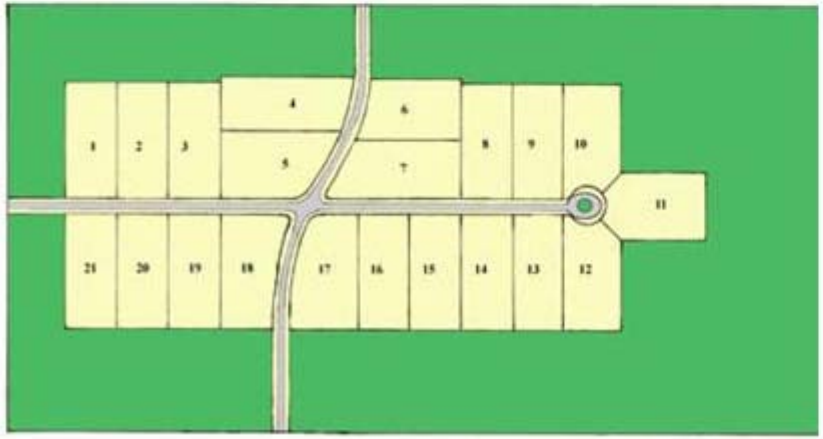
Open Space	none	52%	72%

Development Forms



Conventional OSR 0.00 – 0.15

Cluster OSR 0.16 - 0.45



Conservation Cluster OSR 0.50 – 0.75

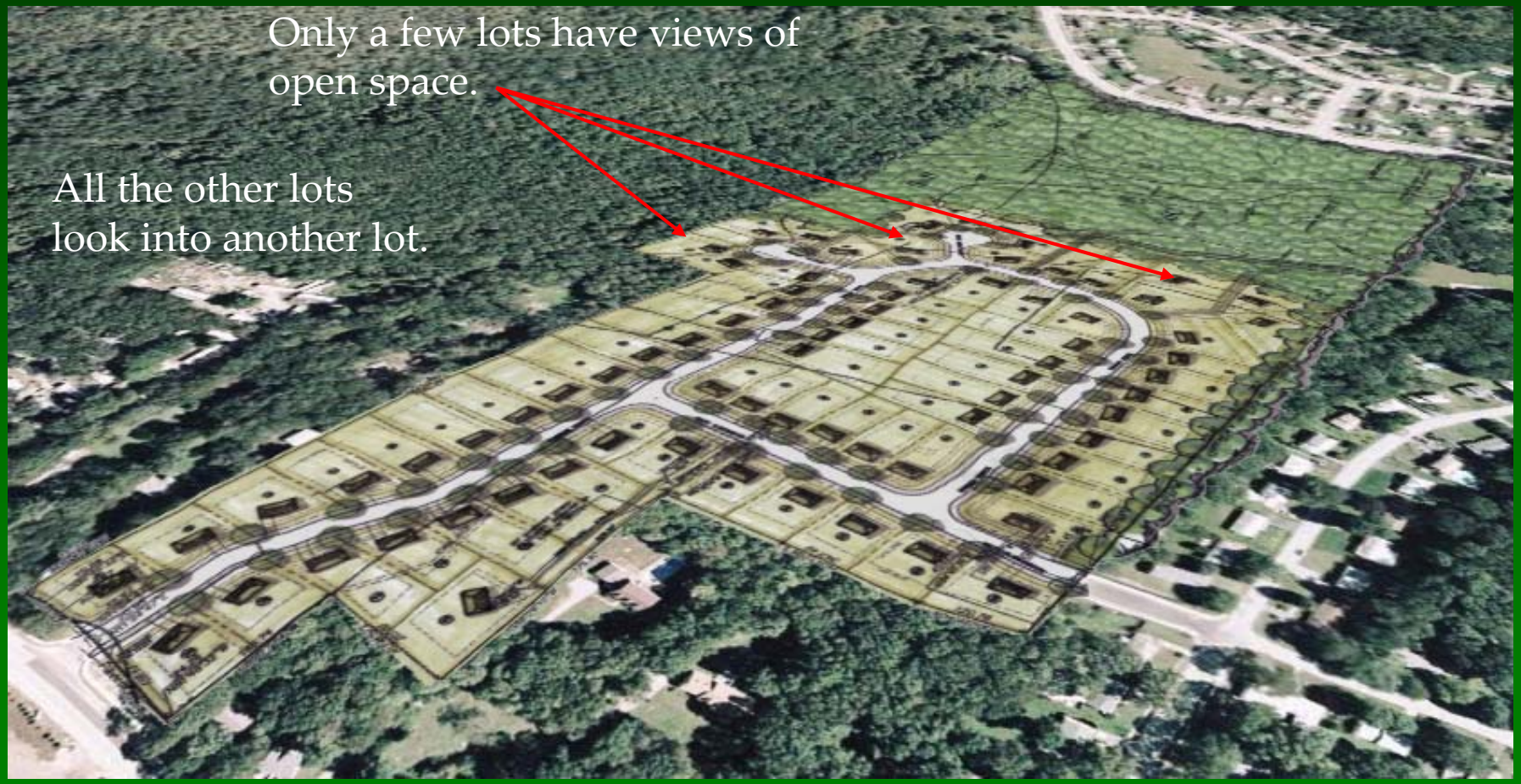
Presevation Cluster OSR 0.80 – 0.95

Residential Design

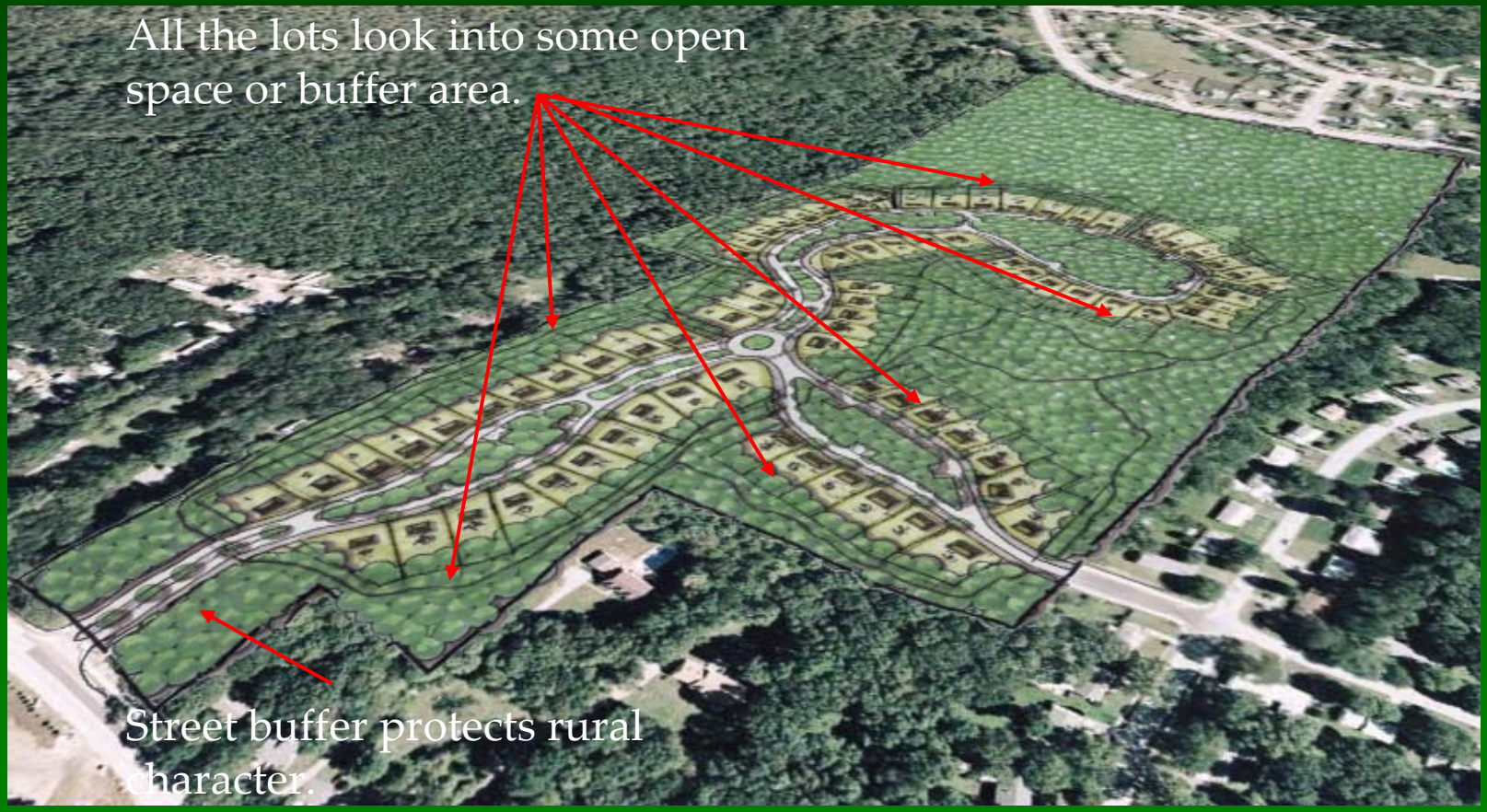
Conventional
305 du's 34% with open space views.
29% open space – wetlands filled and woodland lost.

Cluster Development
263 du's 93% with open space views.
42% open space – no wetlands filled and no woodland lost.

A Groton Cluster



Recommended Cluster



Rural Areas

- The no sewer area encourages a cookie cutter approach unsuited for rural character.
- Small clusters with group septic systems a better approach.
- This should buffer the development and provide greater open space.

2 Ac. Lot Site Plan

Preservation Development – 80% Open Space

Proposed Standards

Suburban and Rural Districts				
Development Type	Lot	Minimum Open Space	Maximum Gross Density	Units on 40 acre tract
Existing RS-20	20,000 sf.	0.10	1.51	60
Open Space Subdivision	10,000 sf.	0.20	1.74	69
Cluster	10,000 sf.	0.40	1.69	67
Conservation Cluster	5,000 sf.	0.65	1.70	68
RU-40	40,000 sf.	0.10	0.82	32
Conservation Cluster	15,000 sf.	0.55	.91	36
Preservation Cluster	5,000 sf.	0.80	0.86	33

Storm Water

- New storm water management ordinance.
  - Storm frequency design assumptions.
  - Pervious surface requirements.
  - Runoff handling techniques.
  - Drainage easements.
  - Standards for sump pumps, downspouts, footing tiles, etc.
  - Design requirements for detention, rain gardens, other structures.

Storm Water

- Require detention and maximize recharge.
  - Minimum open space requirements.
  - Pervious surface regulations.
  - Positive surface drainage and bio-swales.
  - Rain gardens.
  - Green Roofs.

Bio-Swales

Cul-de-sac island with recharge lawn.

Depressed parking lot island.

Light Weight Green Roofs

Over garbage can storage.

On building roof.

Reduce peak and total runoff.
Nitrate loads reduced.
Heat island effect reduced.
Reduce air conditioning and heating loads.

Heavy Green Roofs

Entrance to parking.

Roof of parking garage.

For structured or underground parking.
Same environmental benefits.
Creates a suburban character at very high density.

Rain Gardens and Barrels

Rain garden to recharge.

Rain barrel for watering.

Inland Wetlands

Update IW Regulations

- Reflect changes in Connecticut Statutes
- Expansion of “upland review area” boundaries.
- Provisions for administrative review of minor activities and changes.
- Standards and conditions for allowing limited relocation/mitigation

MX District

Mixed Uses

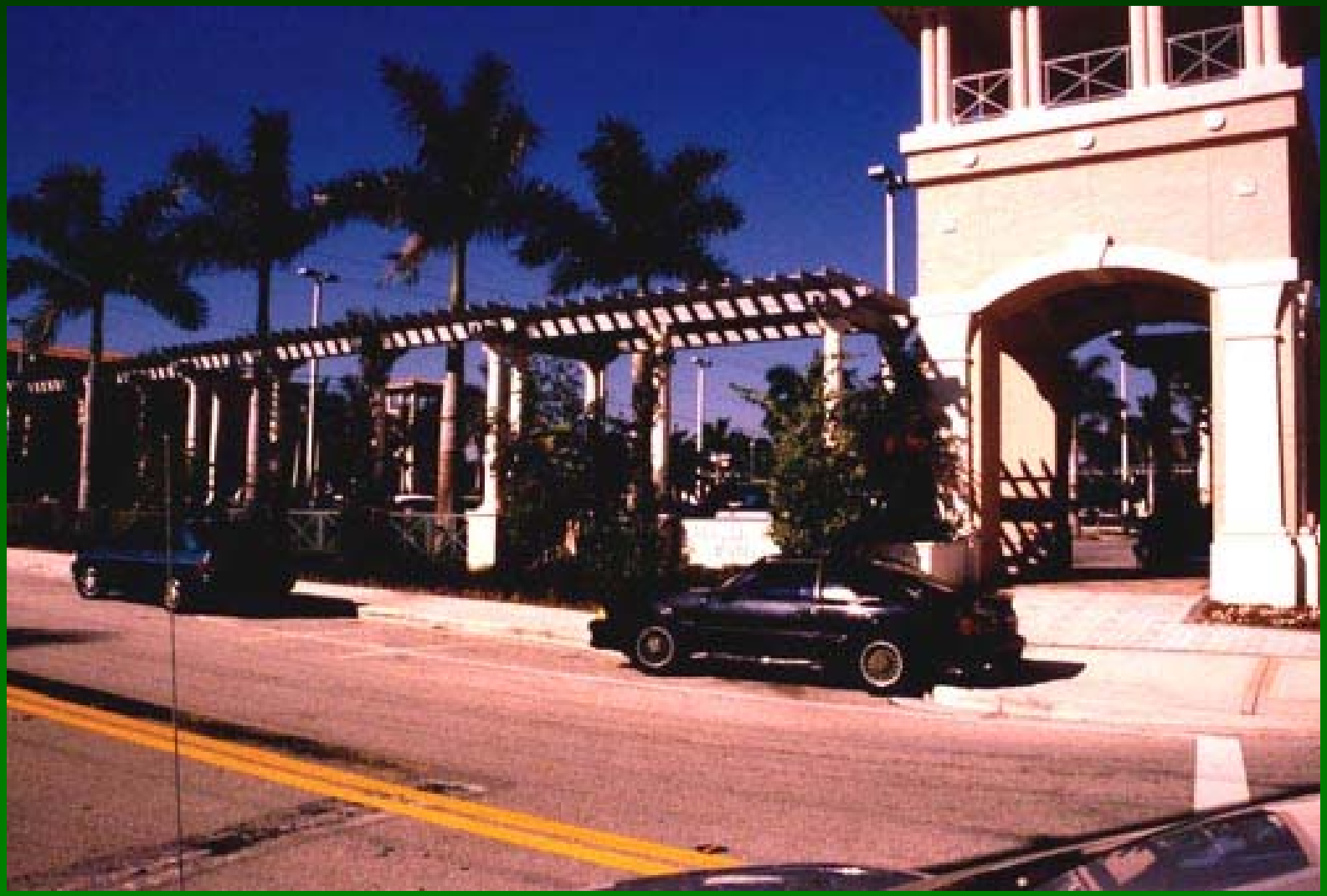
Design Standards

- Standards are required for mixed use buildings.
- The existing center of economic activity on U.S. 1 needs encouragement to upgrade.

Buildings to Street

Wide sidewalks adjoin the street encourages pedestrian activity.

Parking



Parking facing the street screened.

Create Space

Building off-set provides space for tables or seating.

Internal Spaces

Internal spaces, alleys, court yards, or pedestrian walks provide interest to a commercial area and encourage longer shopping visits.

Design Standards

Irregular massing

Large setbacks

Different levels

Varying fenestration

Varying Height

Protruding Balcony

Recessed Balcony

Level Distinction

Other Details

Questions