

Site Planning in the USVI

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8/16/06



www.cwp.org
www.stormwatercenter.net



8. Watershed Stewardship



1. Land Use Planning



2. Land Conservation



7. Non-Stormwater Discharges

The 8 Tools of Watershed Protection



3. Aquatic Buffers



6. Stormwater Management



5. Erosion & Sediment Control



4. Better Site Design

What is Better Site Design?

Approach to residential & commercial site design that seeks to:

- ▶ **Reduce** the amount of **impervious cover**
- ▶ **Increase** the **natural lands** set aside for conservation
- ▶ Use pervious areas for more **effective stormwater treatment**
- ▶ Achieve a marketable, cost-effective product

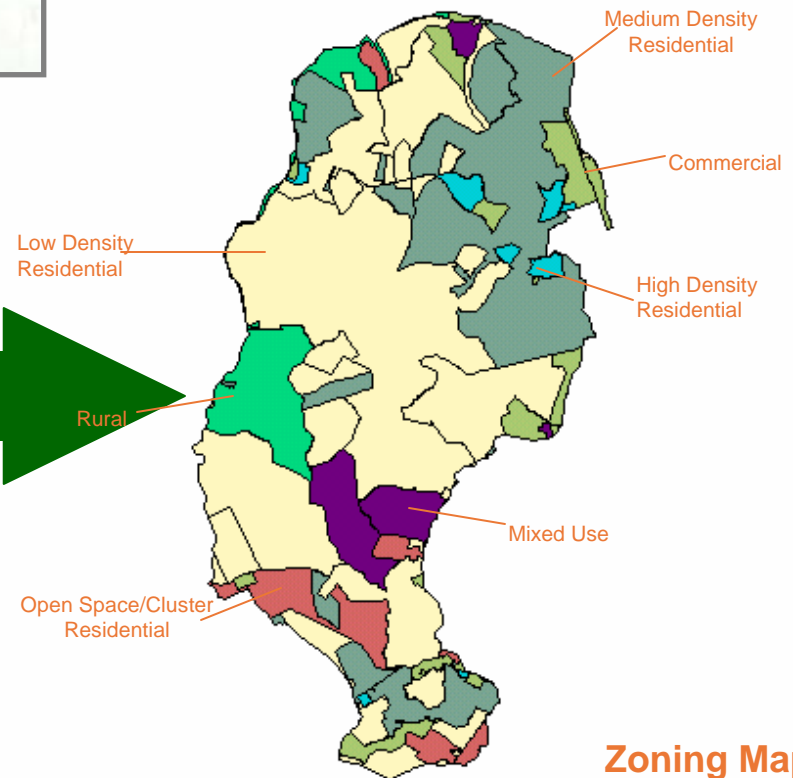


Site Plan



BSD Principles
Address **How**
Development Occurs

BSD Principles Do
Not Address **Where**
Development Occurs



Zoning Map

22 Model Development Principles

Three Categories of Development:



Residential Streets & Parking Lots
(Habitat for Cars)



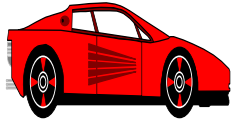
Lot Development
(Habitat for People)



Conservation of Natural Areas
(Habitat for Habitat)

Model Development Principles

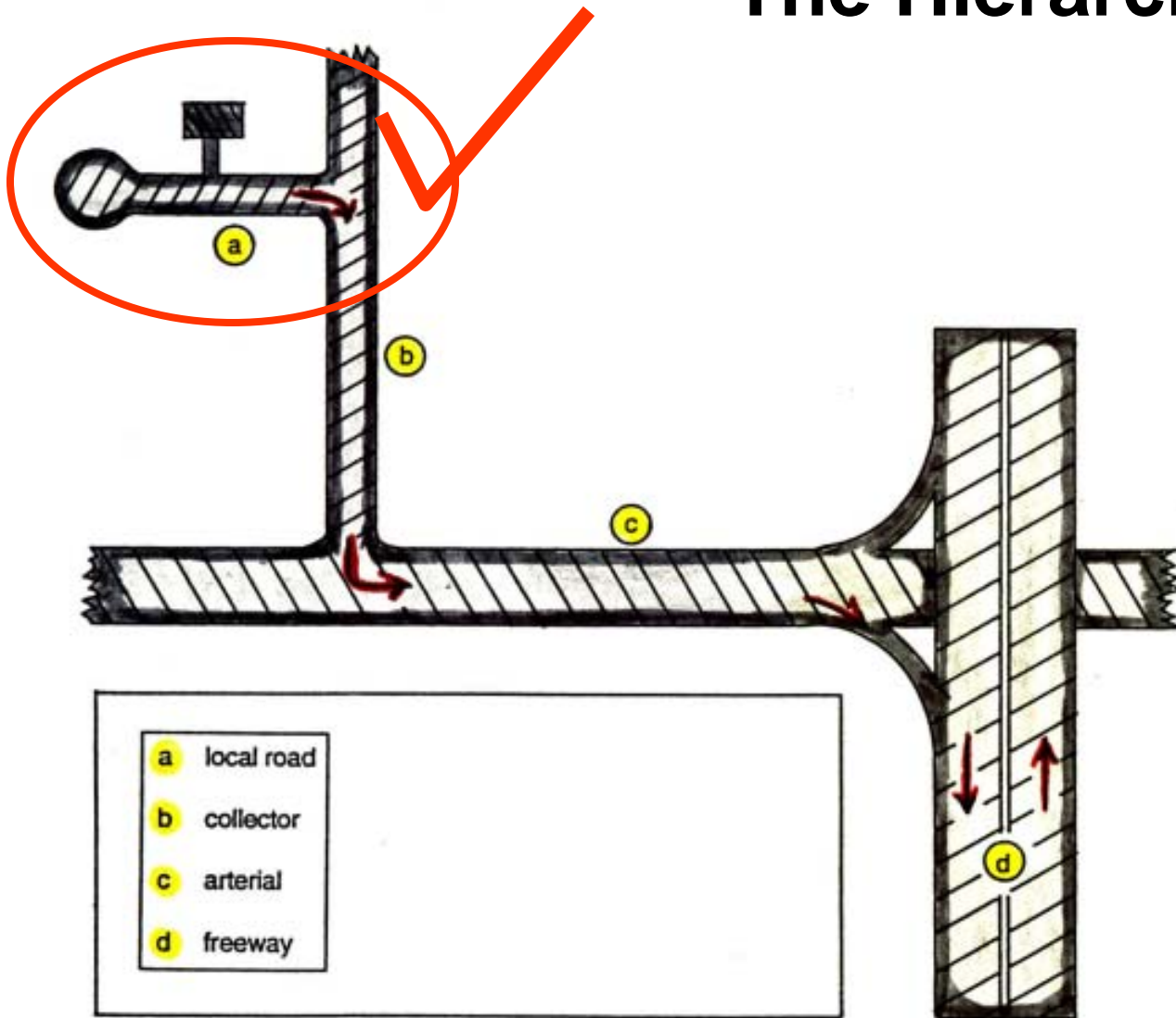
- ▶ Need to be adapted to meet unique conditions in your community
- ▶ Will not apply to all developments
- ▶ Act as benchmarks, but are not cookie cutters
- ▶ Do not address infill and redevelopment
- ▶ Need to be consistent with environmental and watershed plans



Residential Streets & Parking Lots

1. Reduce street width
2. Minimize street length
3. Reduce ROW width
4. Minimize cul-de-sacs
5. Use vegetated open channels
6. Set appropriate parking ratios
7. Parking credits / shared parking
8. Reduce overall parking lot imperviousness
9. Encourage structured parking
10. Integrate stormwater into landscaping

The Hierarchy of Streets



Reduce Street Width



“closed” section road

“open” section road



Clearing and Grading



Allowable Landscaping



Minimize Cul-de-Sacs



Use Vegetated Open Channels





Applicable to USVI roads?



Reduce Overall Parking Lot Imperviousness

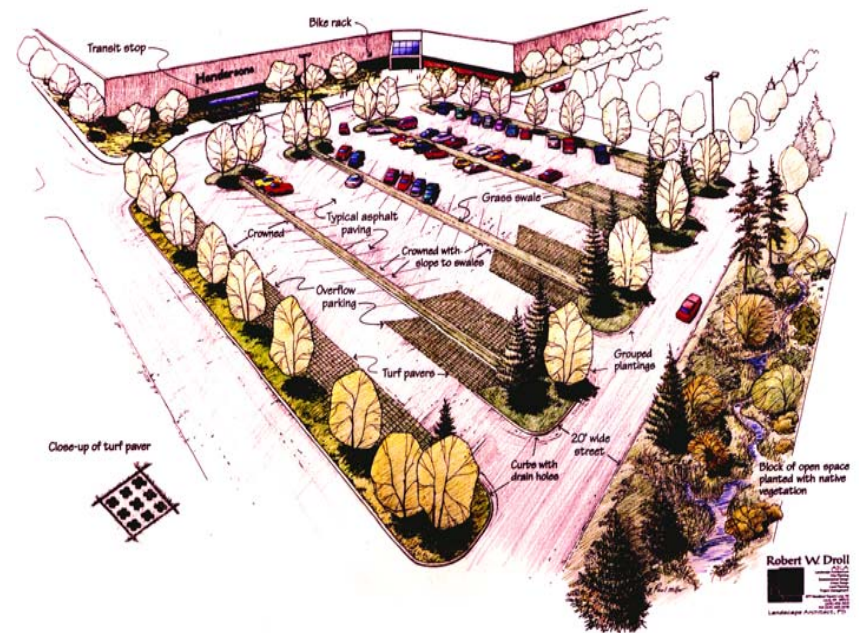
Set appropriate parking ratios

Provide compact car spaces

Minimize stall dimensions

Incorporate efficient parking lanes

Use pervious material in spillover areas



Parking Credits / Shared Parking





<http://www.invisiblestructures.com>

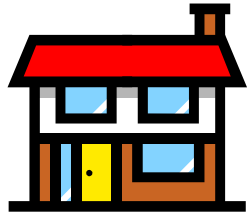
Integrate Stormwater into Landscaping





How about USVI parking lots?





Lot Development

11. Encourage open space developments
12. Relax setbacks and frontages
13. Allow for alternative sidewalks
14. Promote alternative driveways
15. Manage open space naturally
16. Disconnect rooftop runoff

Encourage Open Space Developments

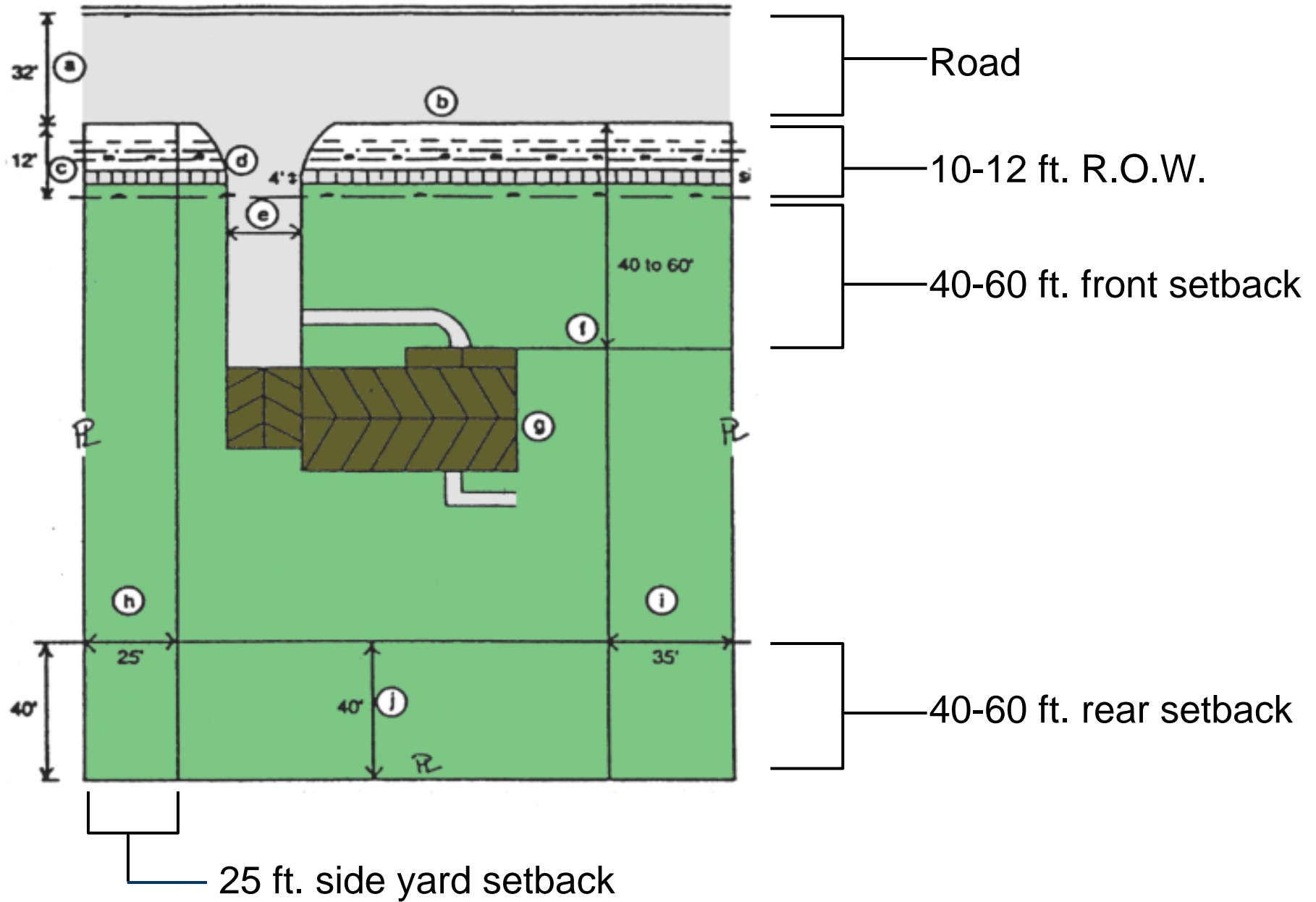


**Conventional
Subdivision**



**Open Space
Subdivision**

Geometry of a Typical One-Acre Lot





Relax Front Setbacks

**Relax Frontages &
Side Setbacks**



Promote Alternative Driveways



Manage Open Space Naturally



Disconnect Rooftop Runoff





Rain Garden

Source: Scott Thomas, James City County, VA



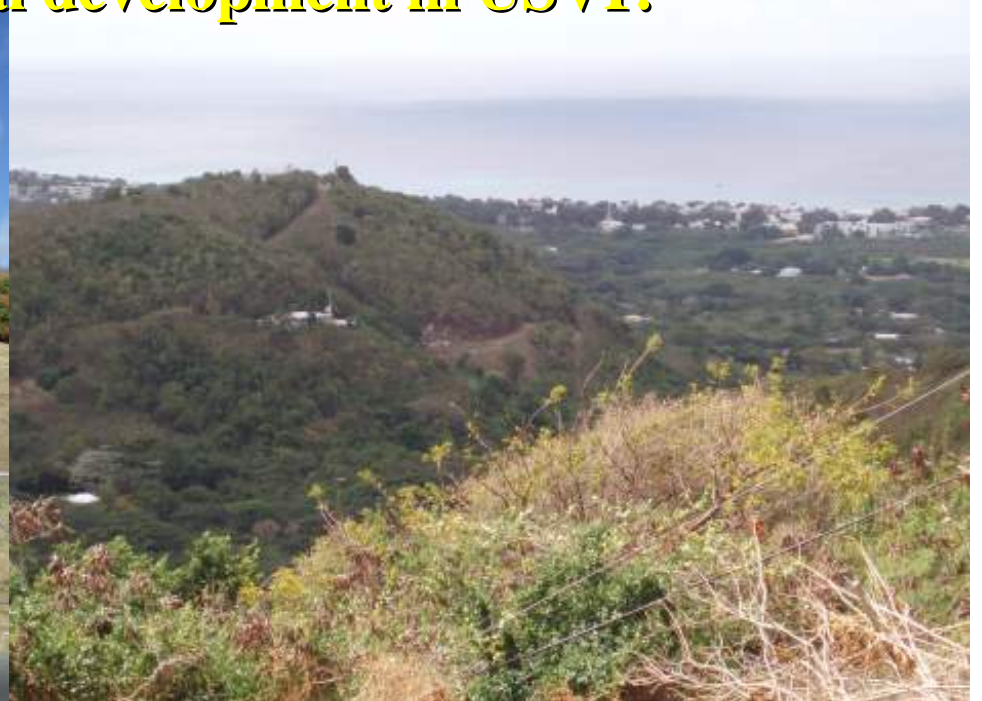


Small scale infiltration

Source: EOR,2005



Applicable to residential development in USVI?

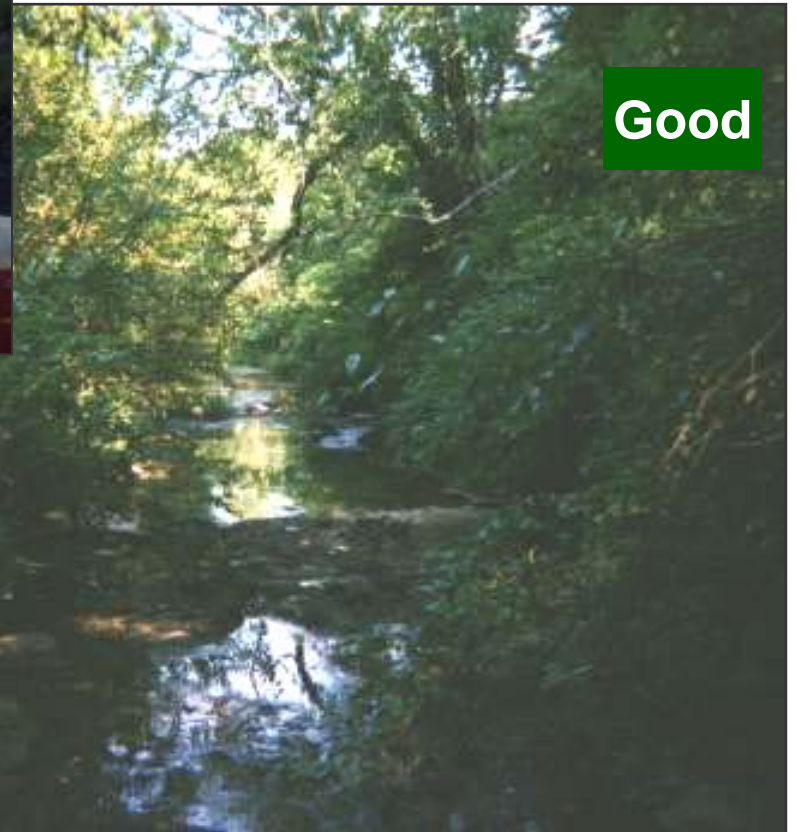




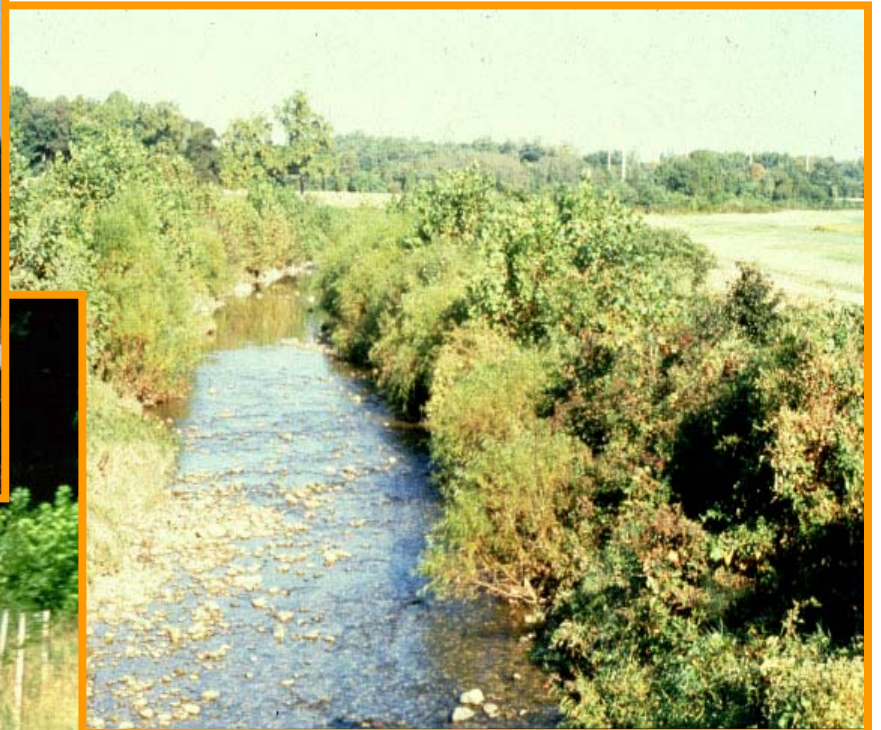
Conservation of Natural Areas

17. Protect aquatic buffers
18. Maintain buffers over time
19. Limit clearing & grading
20. Conserve trees & vegetation
21. Provide conservation incentives
22. Do not discharge untreated stormwater

Protect Aquatic Buffers



Maintain Buffers Over Time



Limit Clearing & Grading



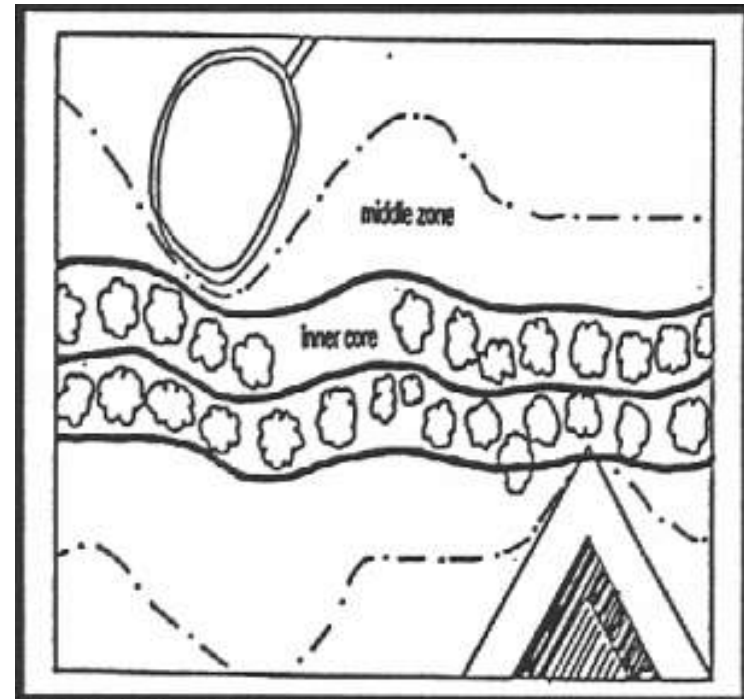
Conserve Trees & Vegetation



Provide Conservation Incentives

Examples of conservation incentives & flexibility

- ▶ By-right open space development
- ▶ Density compensation
- ▶ Stormwater credits
- ▶ Buffer averaging
- ▶ Property tax credit
- ▶ Density bonus
- ▶ Transferable development rights
- ▶ Off-site mitigation



Do Not Discharge Untreated Stormwater



Time for your input...

How can Better Site Design be implemented in the USVI?

