



# NATURAL RESOURCE PRESERVATION INCENTIVE CONCEPT

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One tool in the toolbox for  
protecting Natural Resources



VALUABLE ENVIRONMENTAL  
RESOURCES NEED TO BE PROTECTED



# THESE RESOURCES HAVE TREMENDOUS VALUE TO THE PUBLIC

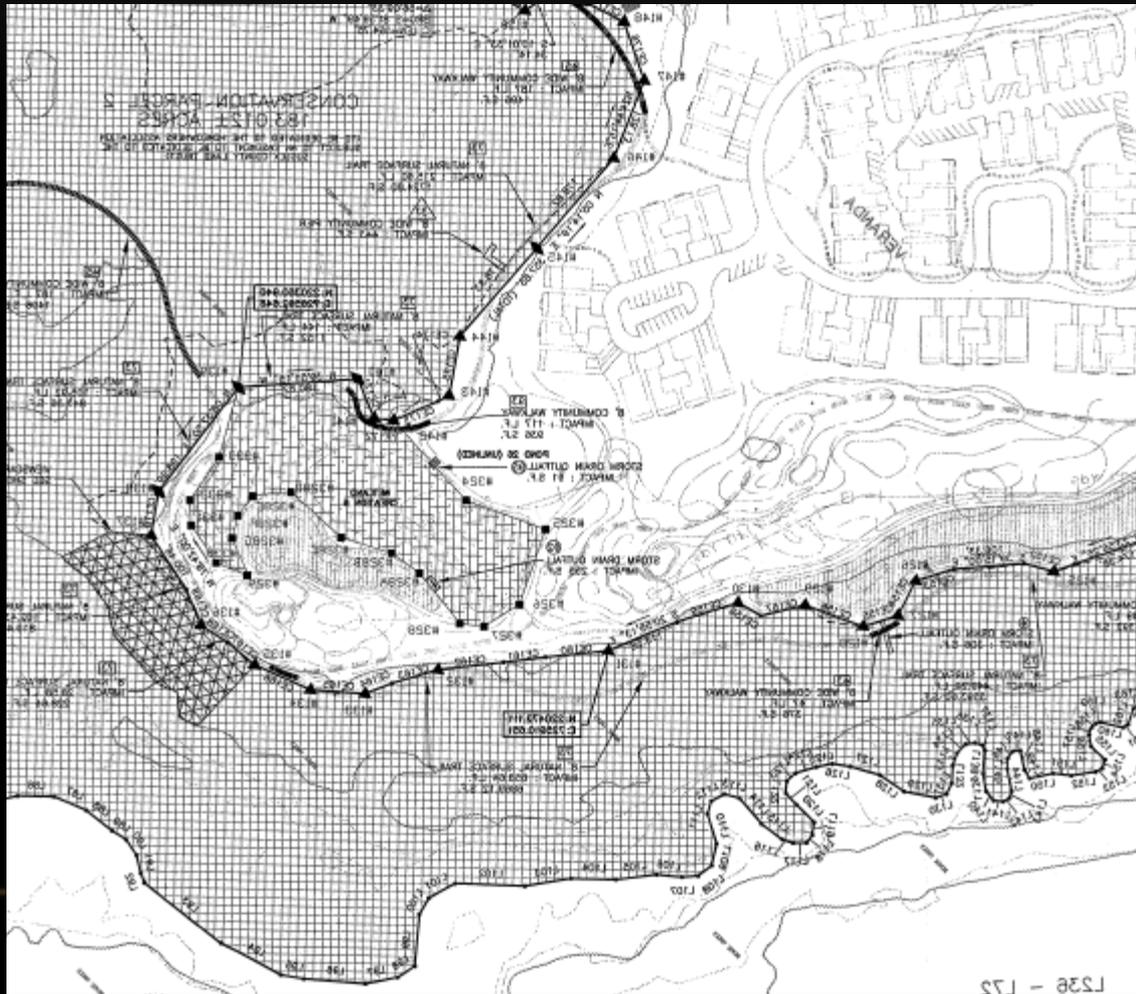




# THESE RESOURCES HAVE LITTLE OR NO VALUE TO LANDOWNER



# MOSTLY PROTECTED DURING DEVELOPMENT



# NEED TO PROVIDE VALUE TO THE CURRENT LANDOWNER



# HOW CAN WE PROVIDE VALUE FOR THESE IMPORTANT RESOURCES?



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January 2006  
[www.epa.gov/smartgrowth](http://www.epa.gov/smartgrowth)



PROTECTING WATER RESOURCES  
WITH HIGHER-DENSITY DEVELOPMENT



## ONE WAY TO ADD VALUE

- This will work for those landowners who eventually plan to sell to a developer, or
- A landowner that wants to sell density credits



# HOW WOULD IT WORK?

- Provide density calculation for Natural Resources at time of development with possible bonuses for higher value resources
- One possibility as proposed:
  - Category 1 (Highest Value) 4x density bonus
  - Category 2 (High Value) 3x density bonus
  - Category 3 (Typical) 2x density bonus
  - Category 4 (Disturbed) 1x density bonus



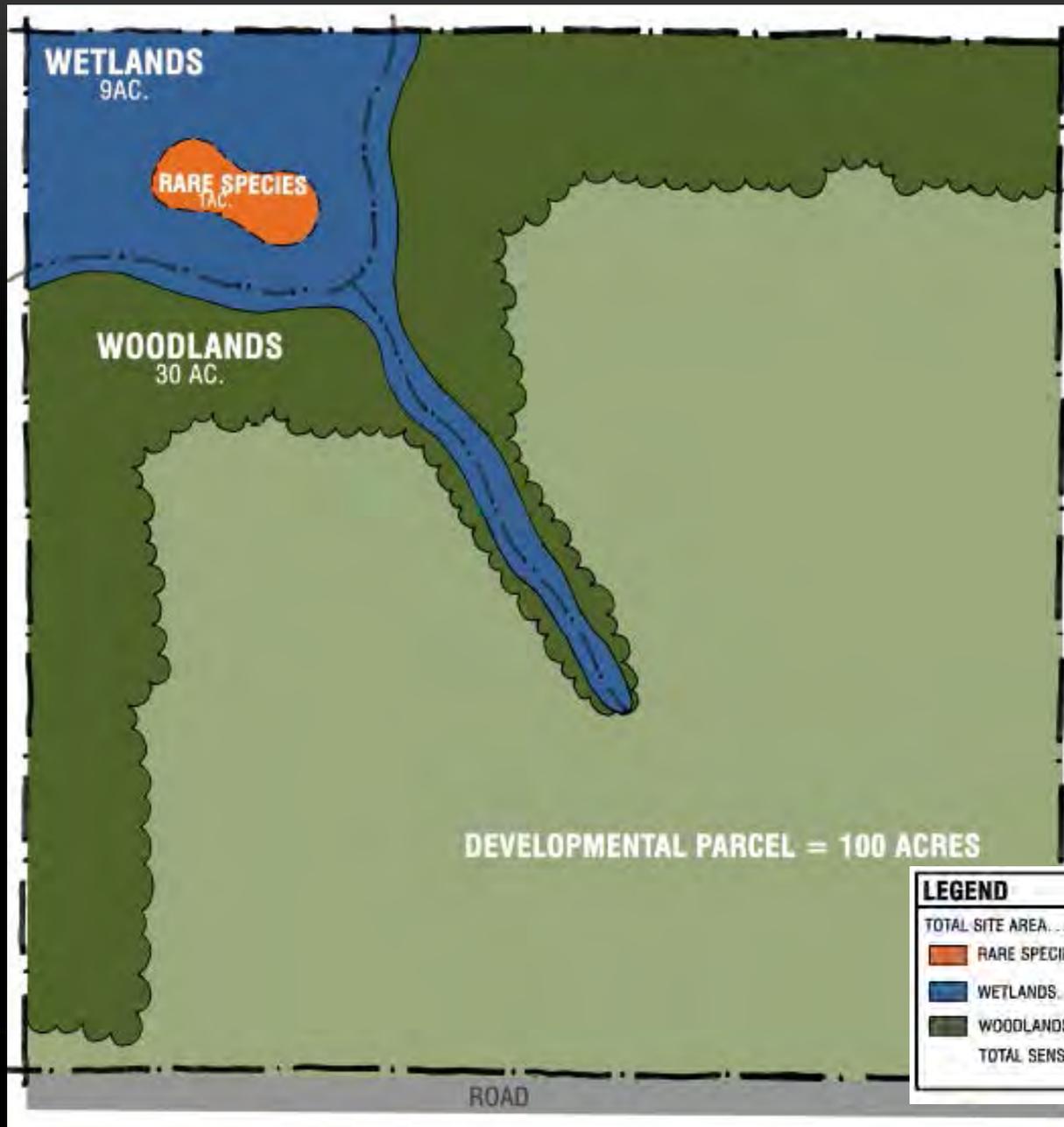
## HOW WOULD IT WORK?

- Allowing landowners to sell density credits in exchange for easements is a way to provide incentives outside of growth areas for important resources.



EXAMPLE

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LEGEND	
TOTAL SITE AREA.....	100 ACRES
RARE SPECIES.....	1 ACRE
WETLANDS.....	9 ACRES
WOODLANDS.....	30 ACRES
TOTAL SENSITIVE AREA= 40 ACRES	

WETLANDS

RARE SPECIES

ACTIVE  
OPEN SPACE

300 +/-  
SINGLE FAMILY  
HOMES

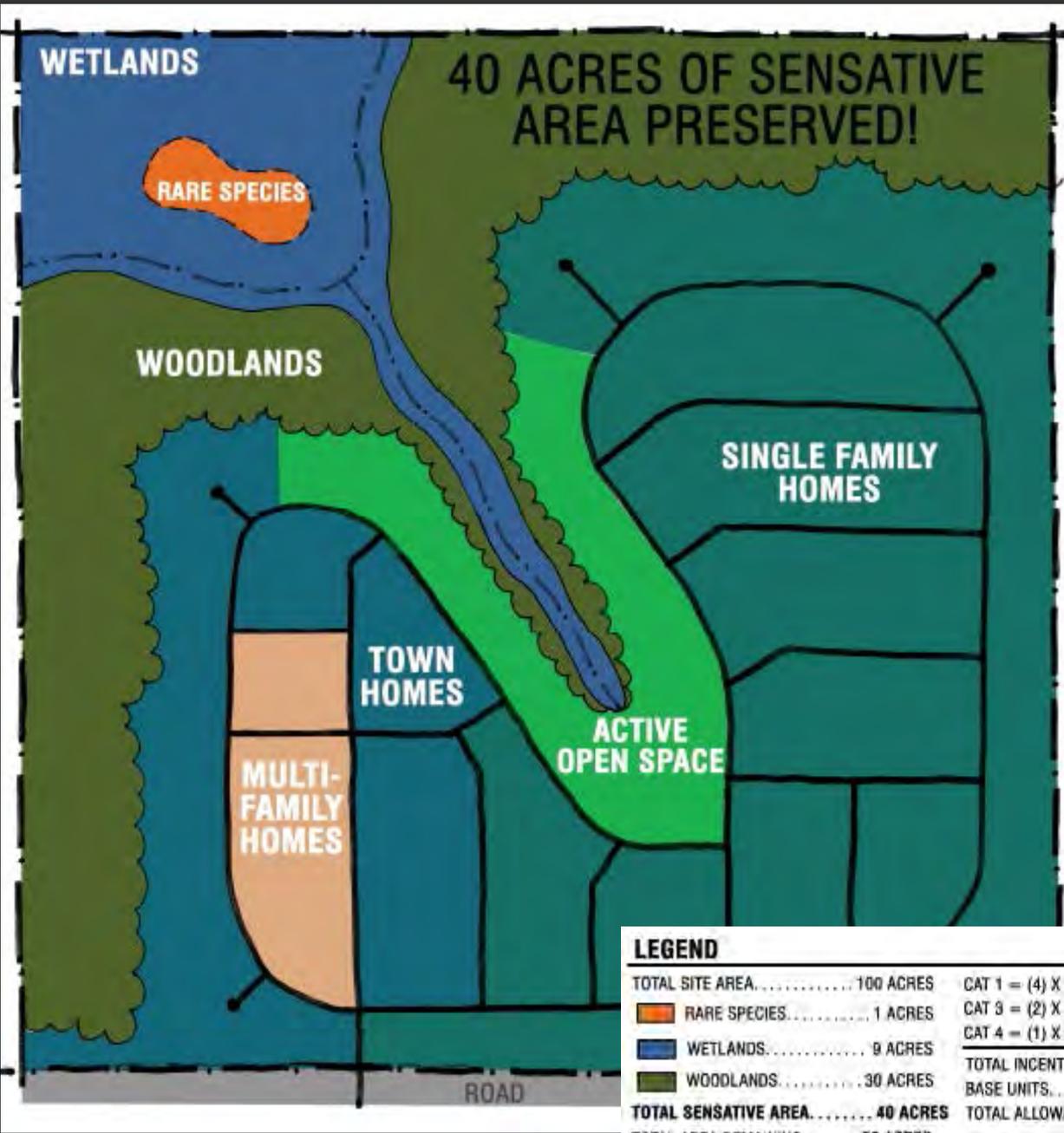
ROAD

TOTAL DENSITY  
= 3 UNITS/ACRE

**LEGEND**

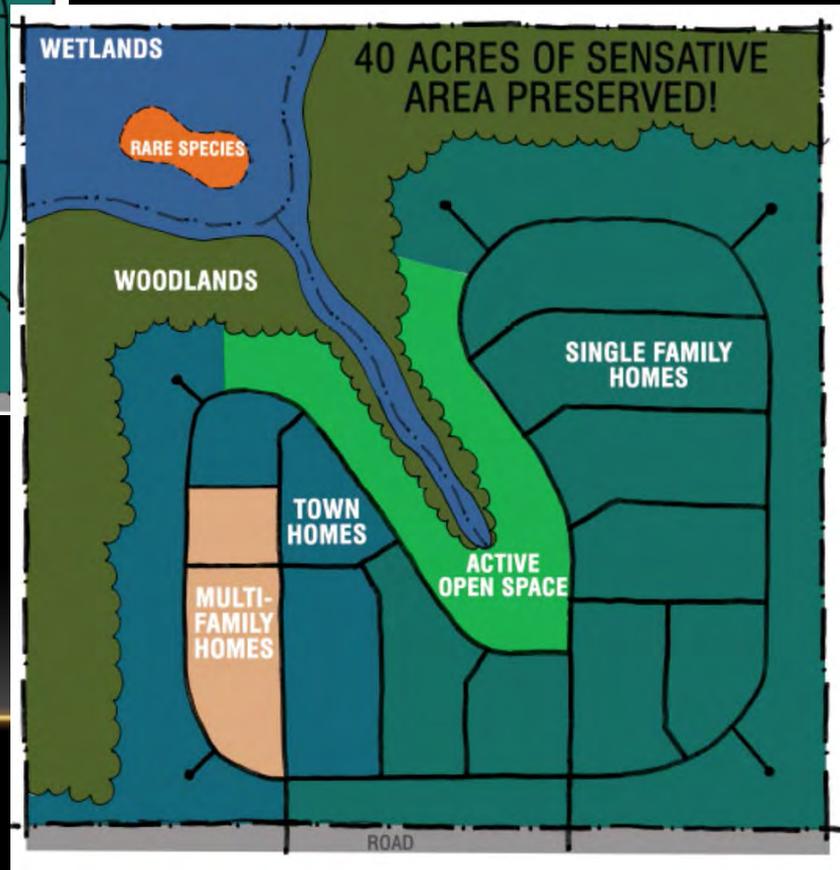
- TOTAL SITE AREA..... 100 ACRES
-  WETLANDS..... 10 ACRES
- ALLOWABLE DEVELOPMENT... 100 ACRES
- 100 AC X3 LOTS/ACRE..... 300 UNITS
-  SINGLE FAMILY UNITS... 30 ACRES
-  OPEN SPACE





**TOTAL DENSITY  
= 4.56 UNITS/ACRE**

LEGEND		UNIT COUNTS	
TOTAL SITE AREA.....	100 ACRES	CAT 1 = (4) X 1ac X (3).....	12
RARE SPECIES.....	1 ACRES	CAT 3 = (2) X 9ac X (3).....	54
WETLANDS.....	9 ACRES	CAT 4 = (1) X 30ac X (3).....	90
WOODLANDS.....	30 ACRES	TOTAL INCENTIVE UNITS.....	156
TOTAL SENSATIVE AREA.....	40 ACRES	BASE UNITS.....	300
TOTAL AREA REMAINING.....	60 ACRES	TOTAL ALLOWABLE UNITS.....	456
TO BE DEVELOPED		SINGLE FAMILY-COTTAGE... AND SINGLE LOTS	202 UNITS
		TOWNHOMES.....	158 UNITS
		MULTI-FAMILY.....	96 UNITS
		OPEN SPACE	
		TOTAL LOTS.....	456





## WHAT IS THE COST?

- Public accepts higher density
  - Public wants to buy in high density
  - Builders build high density
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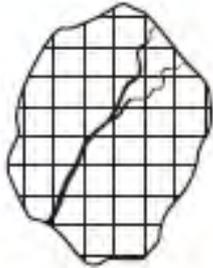


# WHAT ABOUT EVEN HIGHER DENSITY

- In the future

Scenario A	Scenario B	Scenario C
		
Impervious cover = 20% Runoff/acre = 18,700 ft <sup>3</sup> /yr Runoff/unit = 18,700 ft <sup>3</sup> /yr	Impervious cover = 38% Runoff/acre = 24,800 ft <sup>3</sup> /yr Runoff/unit = 6,200 ft <sup>3</sup> /yr	Impervious cover = 65% Runoff/acre = 39,600 ft <sup>3</sup> /yr Runoff/unit = 4,950 ft <sup>3</sup> /yr

## Scenario A



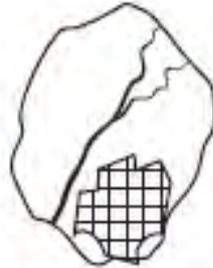
10,000 houses built on  
10,000 acres produce:  
10,000 acres x 1 house  
x 18,700 ft<sup>3</sup>/yr of  
runoff =

**187 million ft<sup>3</sup>/yr of  
stormwater runoff**

**Site: 20% impervious  
cover**

**Watershed: 20%  
impervious cover**

## Scenario B



10,000 houses built on  
2,500 acres produce:  
2,500 acres x 4 houses  
x 6,200 ft<sup>3</sup>/yr of  
runoff =

**62 million ft<sup>3</sup>/yr  
of stormwater runoff**

**Site: 38% impervious  
cover**

**Watershed: 9.5%  
impervious cover**

## Scenario C



10,000 houses built on  
1,250 acres produce:  
1,250 acres x 8 houses  
x 4,950 ft<sup>3</sup>/yr of  
runoff =

**49.5 million ft<sup>3</sup>/yr of  
stormwater runoff**

**Site: 65% impervious  
cover**

**Watershed: 8.1%  
impervious cover**



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# DISCUSSION