

Designing *with* Nature

Gary Mitchell, AICP
Vice President

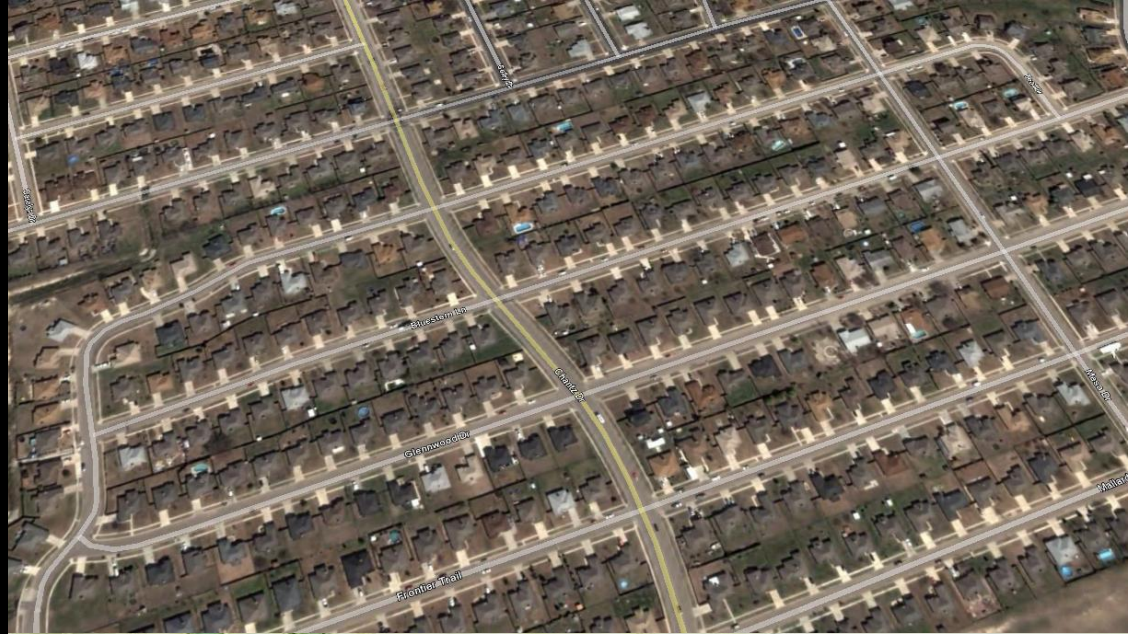


KENDIG KEAST
COLLABORATIVE



Up for Discussion

- Why?
- Why not seen here more?
- But is here already
- How?



WHY?

Resource Protection

- Inadequate attention to resource protection – in land development AND development regulation

Jan 1995



Panorama Dr

Laketeway St

I-45 Frontage

45

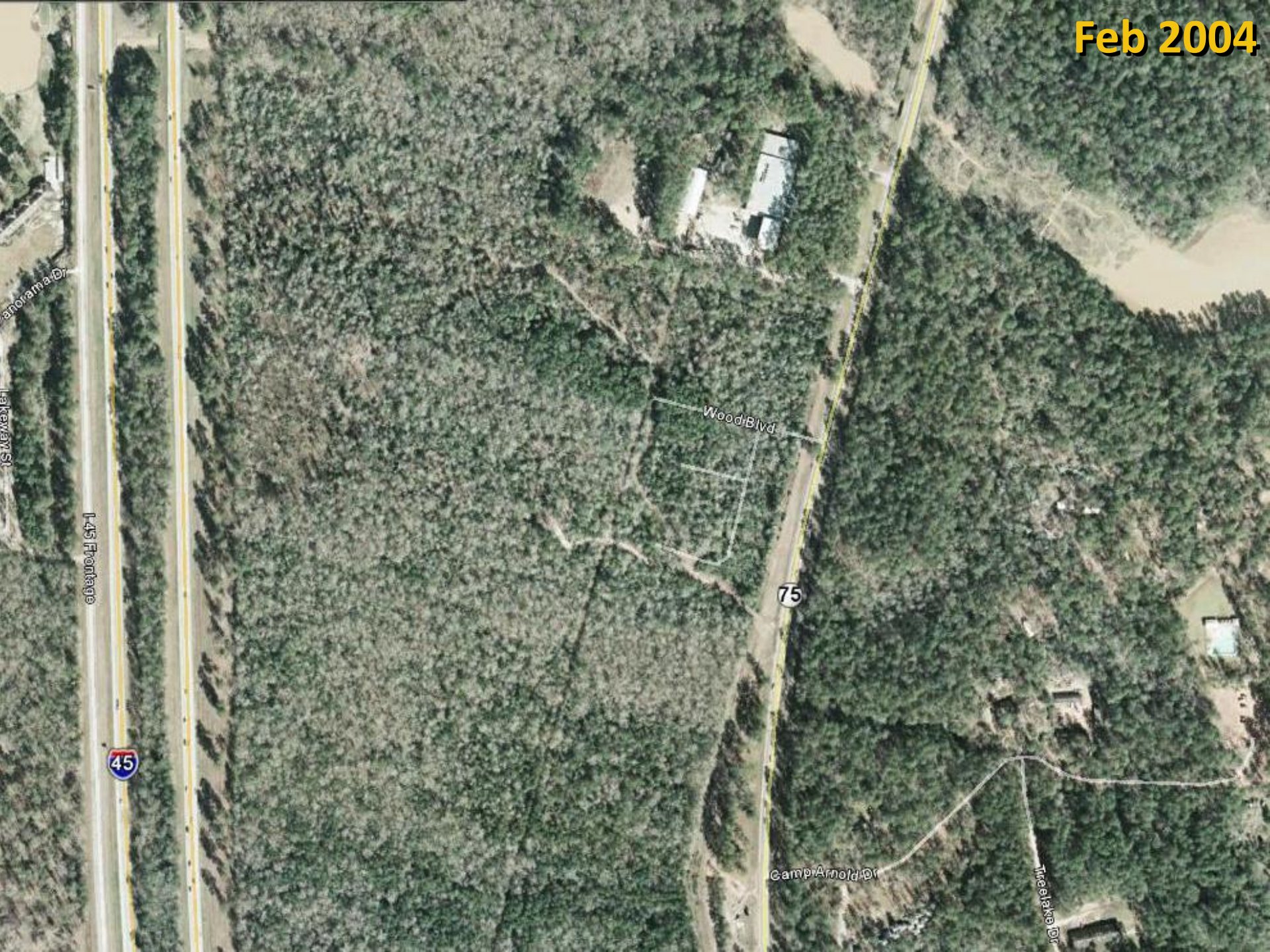
Wood Blvd

75

Camp Arnold Dr

Firelake Dr

Feb 2004



Shovana Dr

Leikeway St

145 Frontage

45

Wood Blvd

75

Camp Arnold Dr

Threlkeld Dr

Oct 2005



anorama Dr

lakeview St

L45 Frontage

45

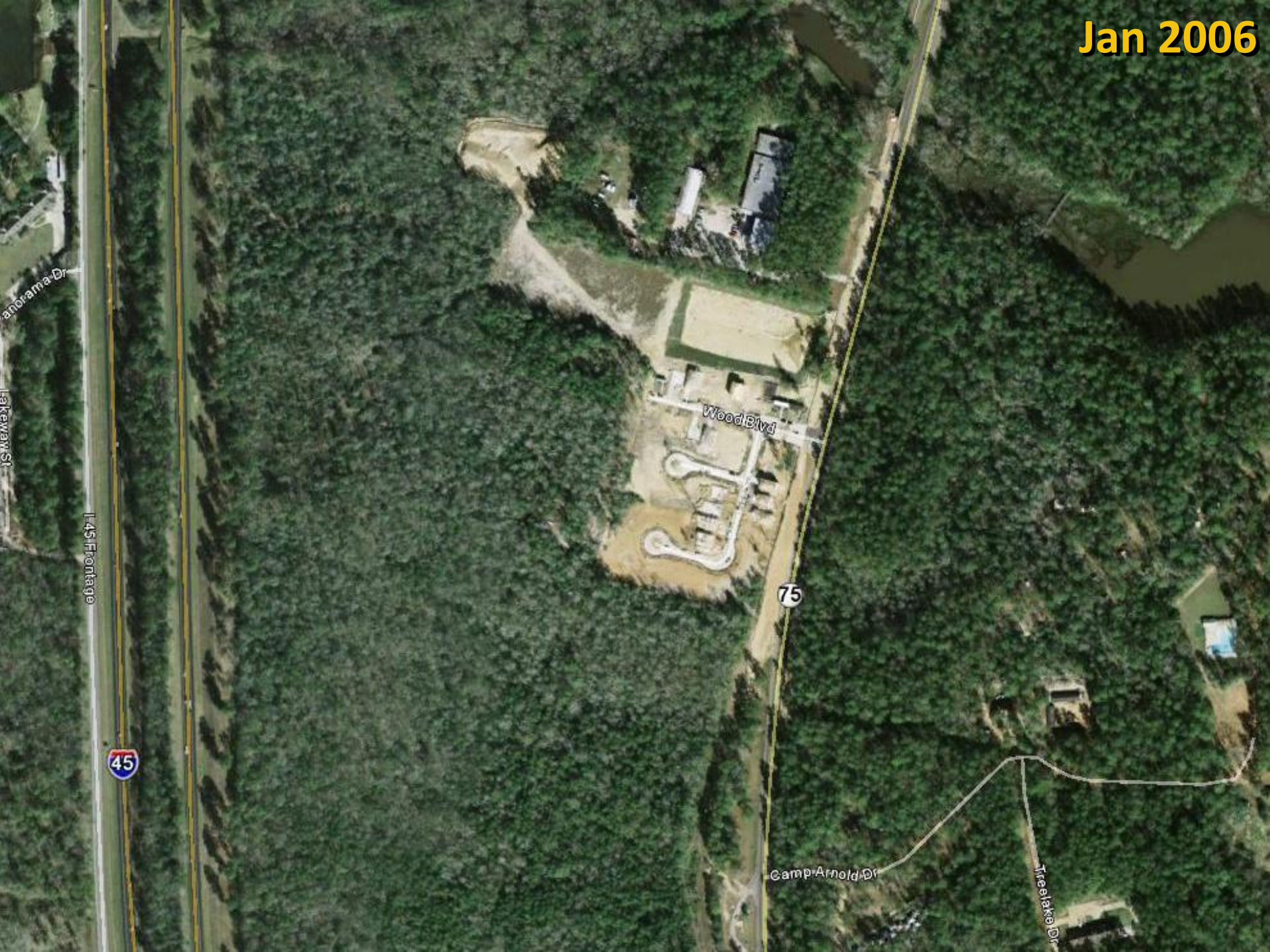
75

Wood Blvd

Camp Arnold Dr

Fire Lake Dr

Jan 2006



Panorama Dr

L 45 Frontage

45

75

Wood Blvd

Camp Arnold Dr

Firelake Dr

Apr 2006



Anotham Dr

Leikeway St

I-45 Frontage

45

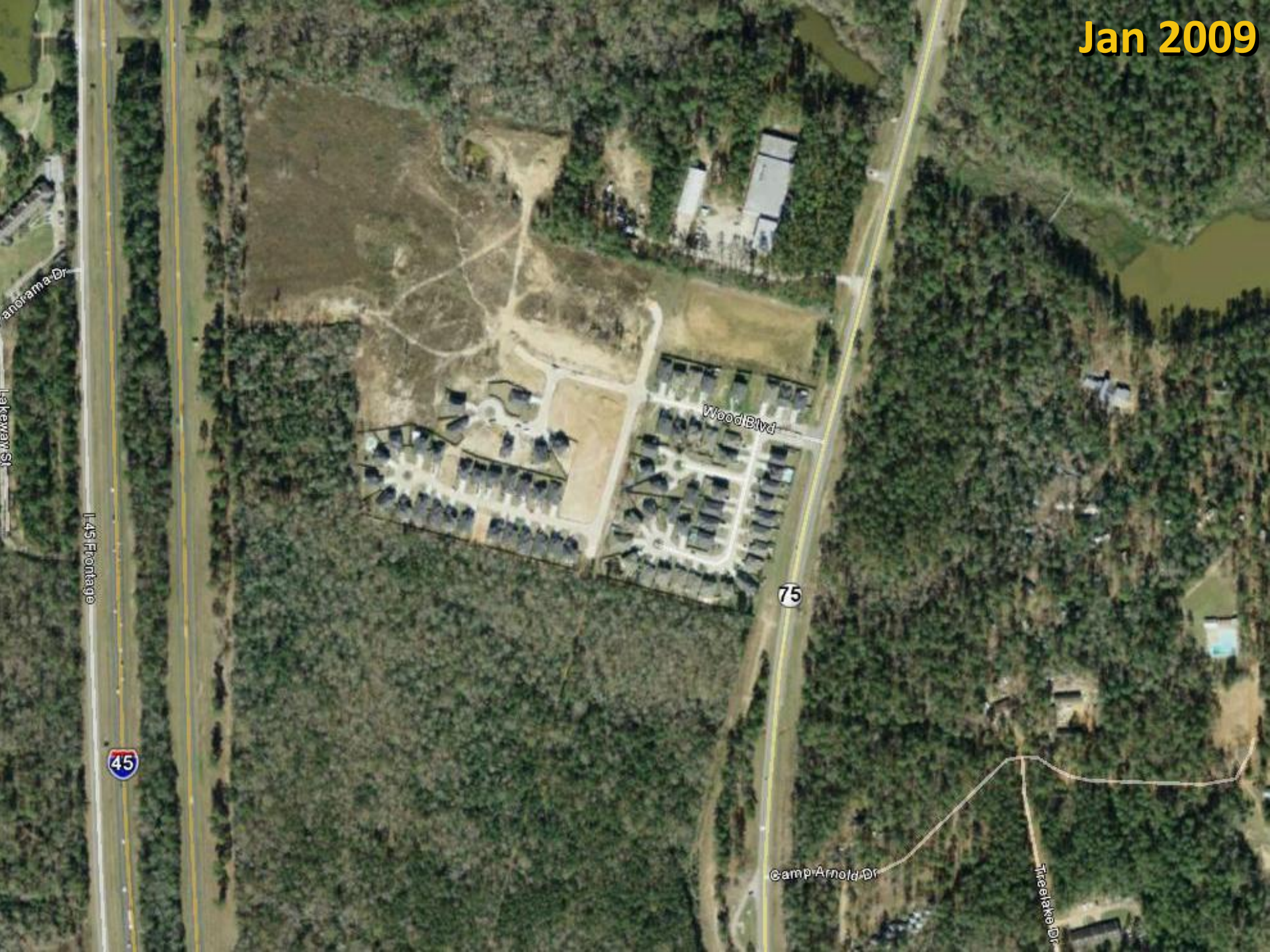
Wood Blvd

75

Camp Arnold Dr

Tice Lane Dr

Jan 2009





WHY?

Development Quality/Livability

- Bland, monotonous design
of places people will live





WHY?

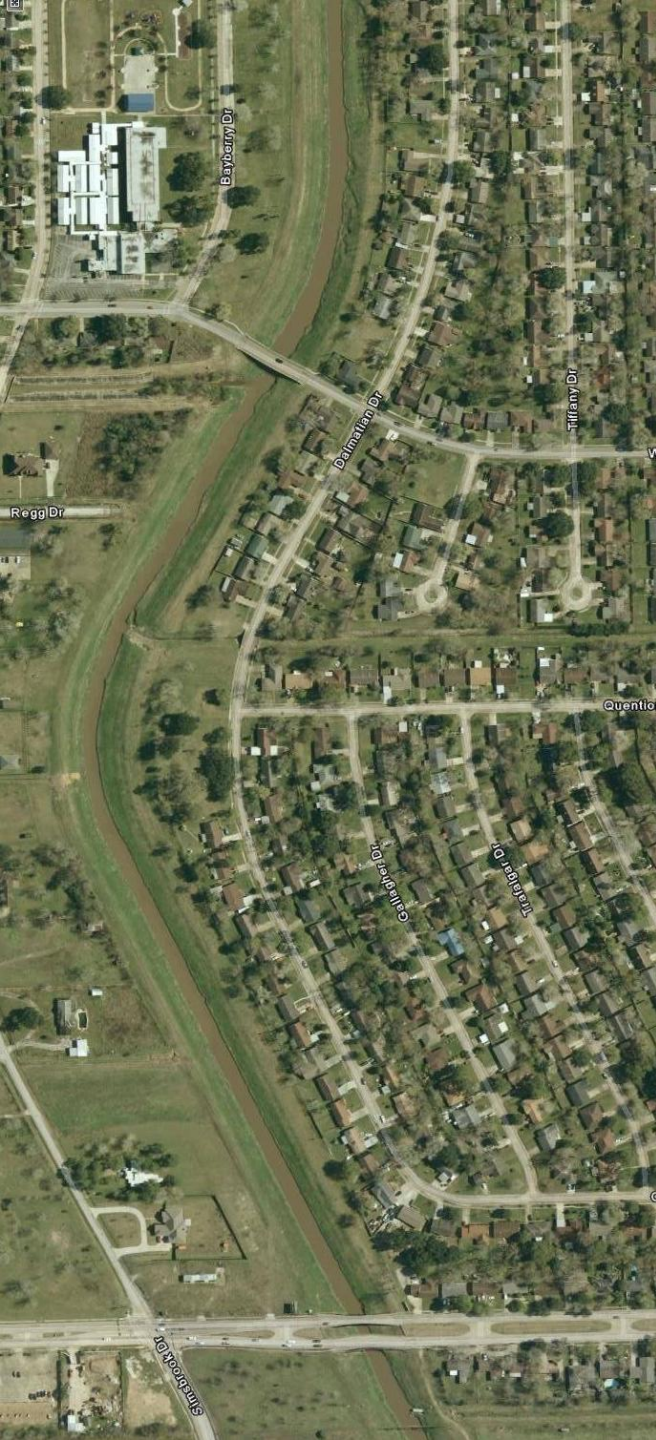
Development Economics

- Impact on house price with amount spent on site work and streets/infrastructure
- Add value ... a profitable approach



Why not seen here more?

- “Pancake City”
- Relatively flat terrain in most of region
- “Flood control” mentality
- Limited – and basic – regulation



“If only we hadn’t built that last row of homes in every subdivision along our bayous, our flooding problems would be much less serious.”

Art Storey

Executive Director

Harris County Flood Control District



Greens Bayou, Parkwood Est., 6/9/01 am





Upper Sims Bayou - Meredith Manor Subdivision, 6/9/01



Why seen elsewhere more?

- Build-out situations
- Infill on constrained sites
- Obvious resource protection needs
(water supply, hillsides, historic sites)
- Greater ag preservation focus
in some places

Bottom Line

- Reduce development “footprint”
- Minimize disturbance:
 - soil
 - drainage patterns
 - vegetation

Lead Applicant

HOUSTON-GALVESTON
AREA COUNCIL

Submittal Date

AUGUST 2010

Sustainable Communities

Regional Planning Grant Application

Houston and the surrounding 13-county region of the Gulf Coast Planning Region of Texas are at an historic juncture. While the perception may exist that the decision-drivers for this region are solely economic, there is an emerging recognition that this region has the building blocks to be one of the most **livable**, **equitable** and **sustainable** places in the nation.

Livability News

HoustonTomorrow
An institute for research, education, and discussion

12 Years
of
Change

View my presentations on
slideshare



[About](#) | [Donate](#) | [Forward this newsletter](#)

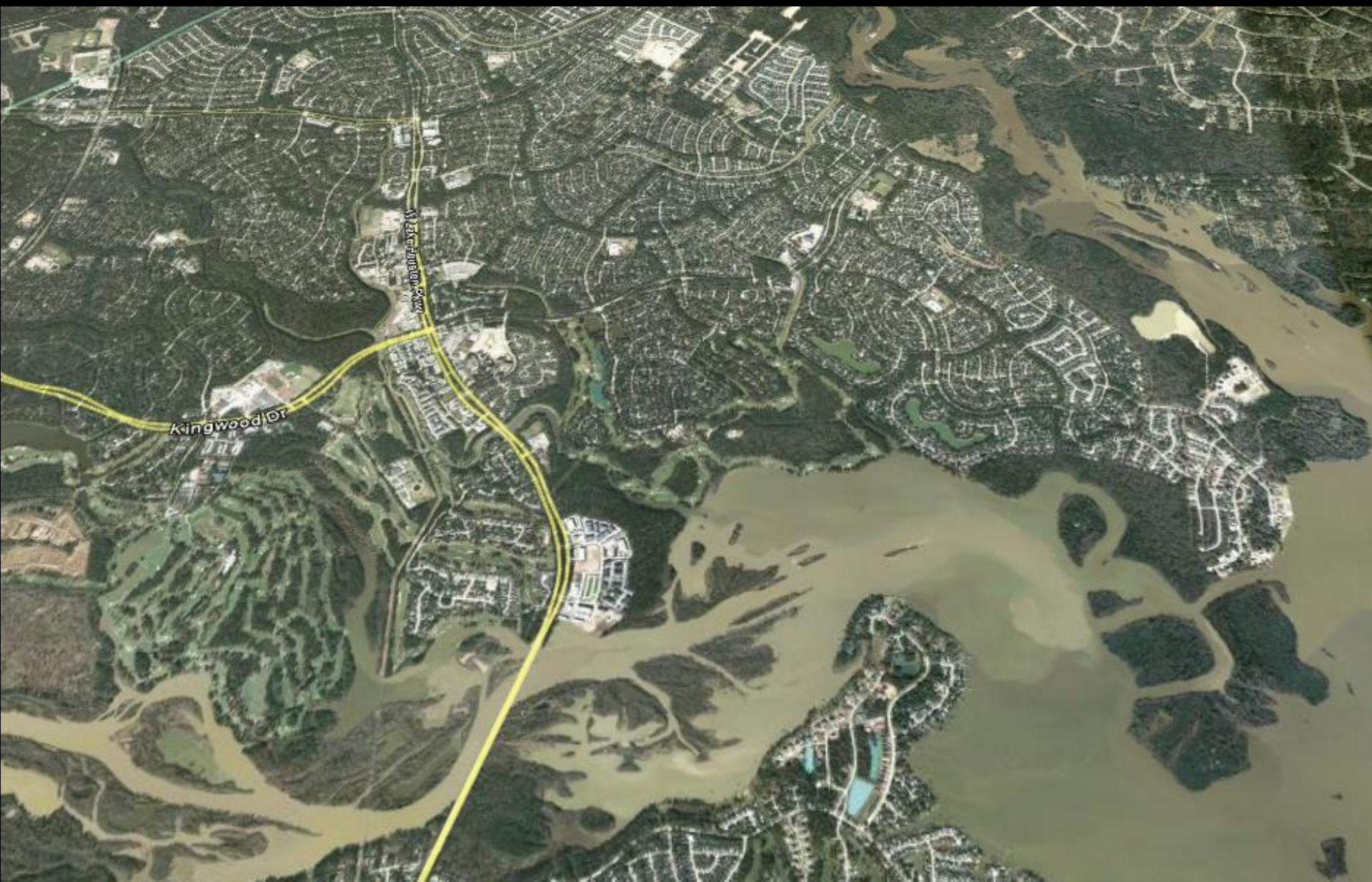
October 14, 2010

Houston region wins \$3,750,000 Sustainable Communities grant

The Houston region has been awarded \$3,750,000 from the federal [Sustainable Communities Partnership](#), the Partnership announced today.

The money will be used for [a region-wide sustainable planning process](#) to be headed by the Houston-Galveston Area Council.

"This grant is part of the DOT's, HUD's and EPA's coordinated effort to promote sustainable communities through a \$98 million Sustainable Communities Regional Planning Grant Program,"



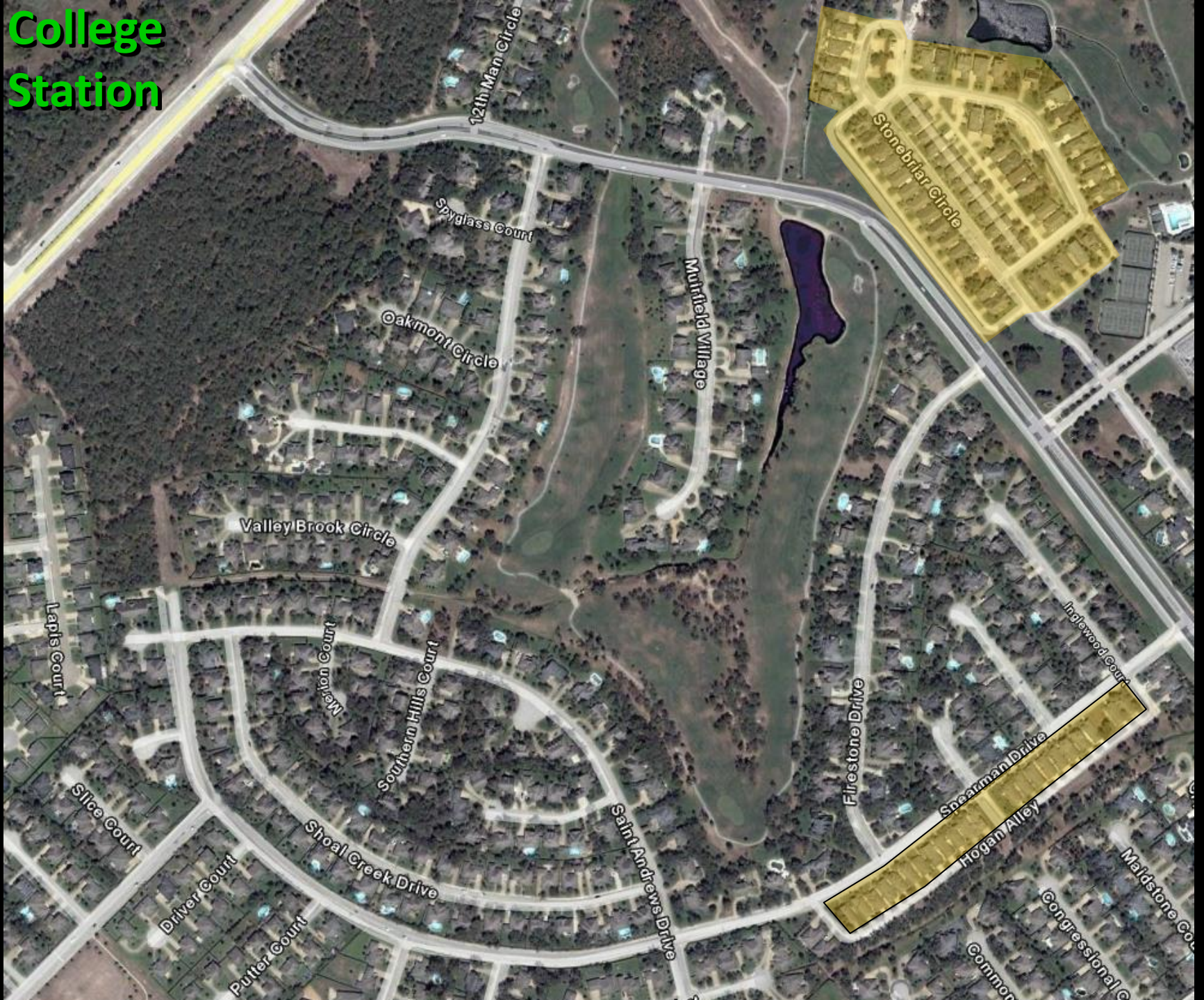
Kingwood





Temple

College Station









United States Golf Association
For the good of the game

Home

Rules and Handicapping

Championships

Memberships

Regional Updates

Green Section Record

Research

Turf Advisory Service

Environmental

Audubon Cooperative Sanctuary Program For Golf Courses

A cooperative effort between the United States Golf Association (USGA) and Audubon International, this program promotes ecologically sound land management and the conservation of natural resources. Its positive impact extends beyond the boundaries of the golf course and helps benefit the community beyond.

Golf courses work towards certificates of recognition in six categories. Audubon International provides each golf course with one-on-one assistance in devising an appropriate environmental plan.

» Audubon International

Environmental Planning

Each club generates a written plan outlining their goals and proposed projects. It provides a useful tool for clubs to monitor their progress in meeting their goals.

Wildlife and Habitat Management



☆ **chron**.com | *Where Houston lives*

June 26, 2008, 8:45PM

Missouri City leaders vote to buy club for public park

By **ERIC HANSON**

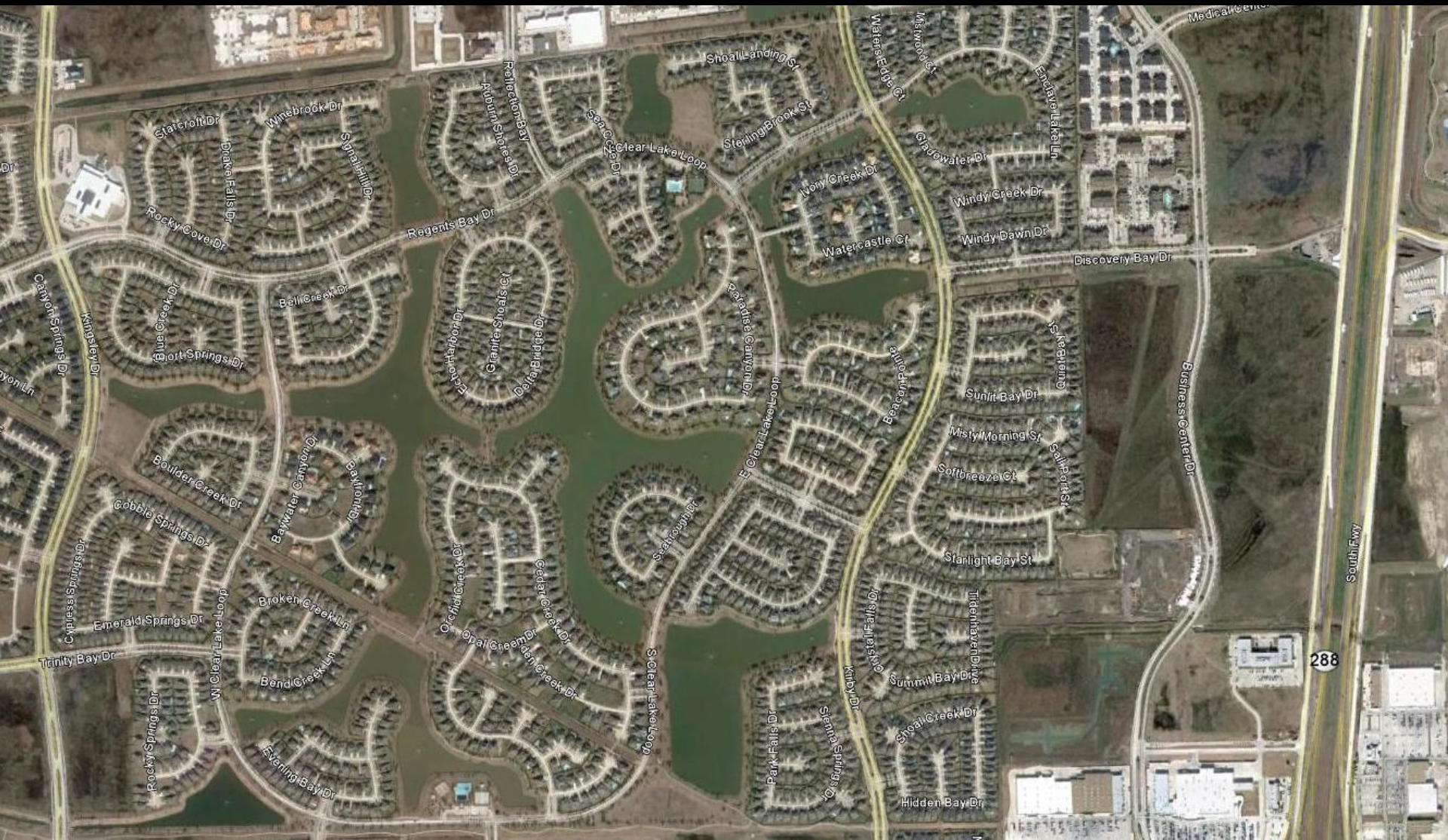
Copyright 2008 Houston Chronicle

MISSOURI CITY — The Quail Valley Country Club will become a public park after city leaders here voted to buy the property through eminent domain.

In a unanimous vote, the council agreed Thursday to pay \$3.1 million for the 390-acre tract which meanders through the Quail Valley development. Leaders voted 7-0 after meeting in executive session for about an hour.



McAllen



Shadow Creek Ranch - Pearland

It Doesn't Have to be This Way ...





100-foot minimum setbacks along roads

Protect wetlands

Protect tree row



Protect forested area

Protect surface drainage

Open space views from every lot

Too many ordinances silent (or quiet) on resource conservation ...

Sec. 26-3. Purpose.

The purpose of this chapter is to set forth the procedures and standards for development of property, layout and design of subdivisions or real property within the corporate limits of the city and its extraterritorial jurisdiction which are intended to promote the health, safety and general welfare of the city and the safe, orderly, and healthful development of the city. (Ord. No. 95-38, § I, 4-25-95; Ord. No. 07-045, § III, 5-22-07)

Sec. 4-6-3. Purpose.

This chapter is adopted for the following purposes:

- (1) To encourage and provide for orderly, safe and healthful development of areas within the City and within the Extraterritorial Jurisdiction of the City in accordance with the Comprehensive Plan and other Utility, traffic and Planning studies related to the development of the City;
- (2) To protect the character and the economic stability of the City;
- (3) To provide adequate and efficient transportation, drainage, water, sewage, schools, parks, playgrounds, recreation and other public requirements and facilities;
- (4) To provide for efficient design of Subdivisions, in conformance with the Zoning Ordinance, development codes and construction codes of the City.

(Ord. No. 6505, § 1, 11-7-2000)

Zoning Ordinance

Comparison to Texas Local Government Code Chapter 211, Municipal Zoning Authority

Section 1 Purpose

The **zoning regulations** and districts as herein established have been made **in accordance with a Comprehensive Plan** for the purpose of promoting the health, safety, morals, and general welfare of the City. They have been designed to lessen the congestion in the streets; to secure safety from fire, panic and other dangers; to provide adequate light and air; to prevent the overcrowding of land, to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewer, schools, parks and other public requirements. They have been made with reasonable consideration, among other things, for the character of the district, and its peculiar suitability for the particular uses specified; and with a view to conserving the value of buildings and encouraging the most appropriate use of **land** throughout the City consistent with a Comprehensive Plan.

Article 16

Purposes

Sec. 16.103 Natural and Cultural Resources

The following sections outline the measures this Code adopts to promote the protection of natural and cultural resources as described and outlined in the Comprehensive Plan. Each purpose listed below strives to balance the interests of the general public with those of individual property owners. This Code is adopted for such purposes including, but not limited to:

- A. Controlling the density, open space, land use, and vegetative cover to prevent surface water contamination;
- B. Protecting life and property by avoiding or lessening the hazards of flooding, stormwater accumulation, runoff, or destabilization of soils by district or performance standards;
- C. Avoiding or lessening soil erosion hazards;
- D. Preserving and protecting areas with limited development potential due to hydrology, soils, or other natural conditions as habitats for wildlife;
- E. Respecting the area's history by preserving archaeological, historical, and/or architectural resources;
- F. Minimizing expenditure of public money for costly flood control projects;
- G. Minimizing the need for relief efforts associated with flooding and generally undertaken at the expense of the general public;
- H. Minimizing prolonged business interruptions;
- I. Minimizing damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
- J. Ensuring that potential buyers are notified that property is in an area of special flood hazard; and
- K. Ensuring that those who occupy the areas of special flood hazard assume responsibility for their actions.

Code Shortcomings

- Lack of specificity – *what, why, how?*
- Lack of flexibility – *alternative ways to achieve compliance*
- Lack of incentives – *and disincentives*

Subdivision Regulations

SECTION 8: General Requirements and Minimum Standards of Design

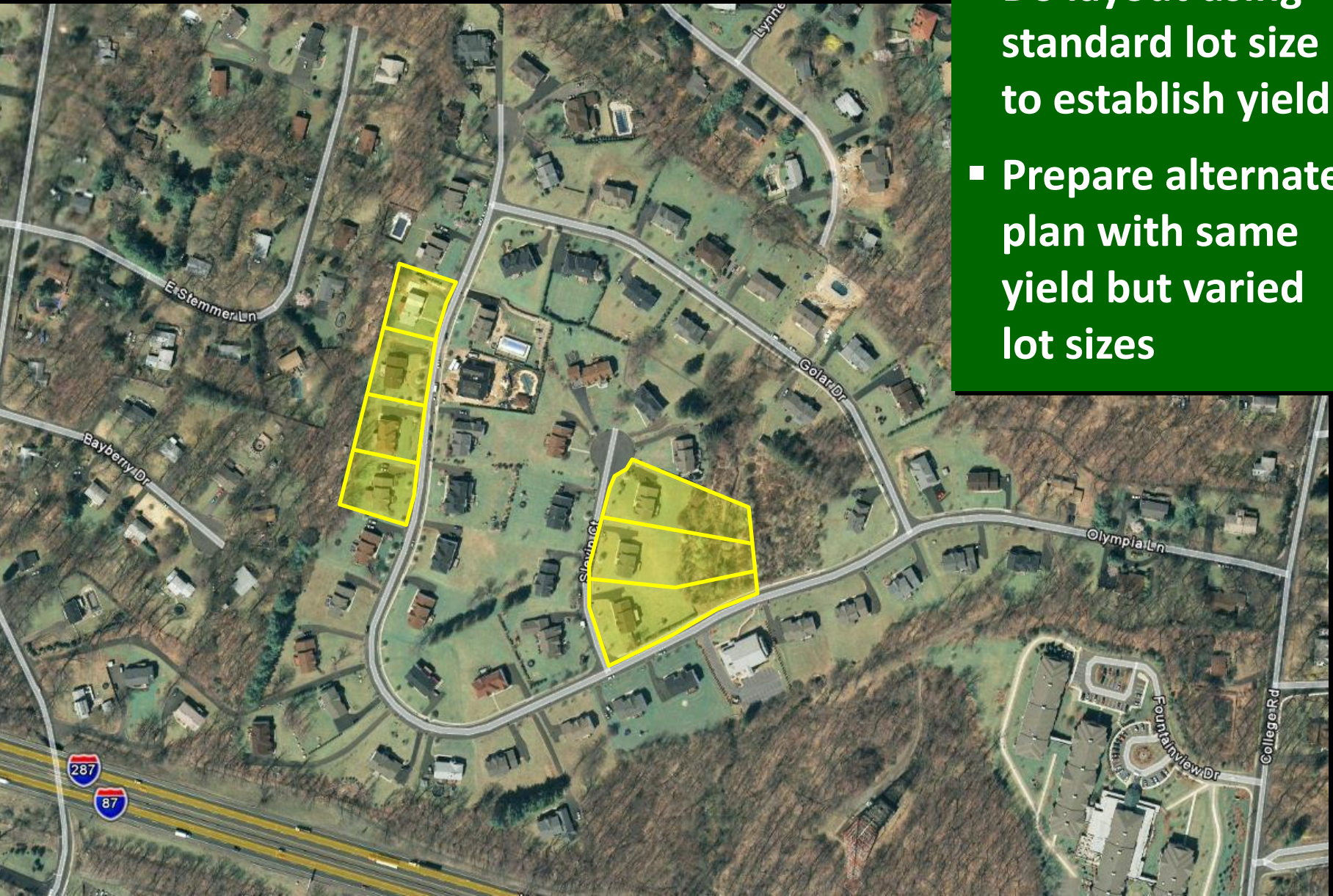
Sec. 8-A Community Assets

In all subdivisions, due regard shall be shown for all natural features such as trees, water-courses, historical spots, and similar community assets, which, when preserved, will add attractiveness and value to the property.

Lot Size Averaging

STEPS:

- Do layout using standard lot size to establish yield
- Prepare alternate plan with same yield but varied lot sizes

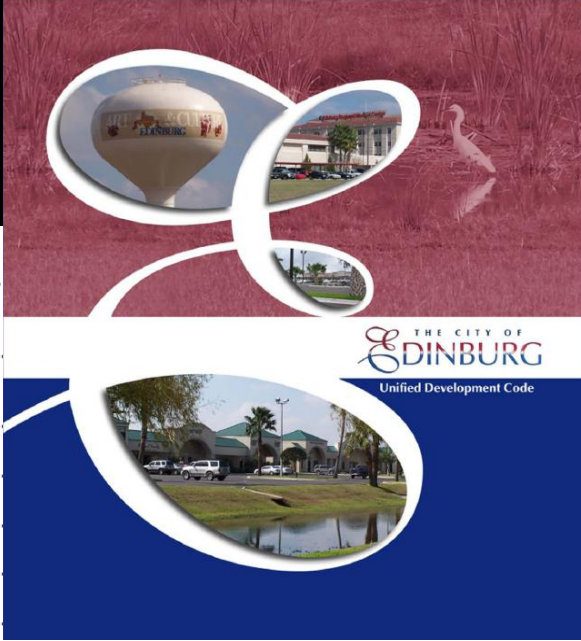


OTHER BENEFITS:

- Recover lost lot yield
- Avoid higher lot and home prices
- Address area housing needs
- Reduce overall land consumption and sprawl
- Avoid “cookie cutter” outcomes
- Promote more creative design – without PUD



Article 3 District and Bulk Standards
Division 3.100 Purpose
Division 3.200 District Standards
 Sec. 3.201 District Standards, Residential and Nonresidential.....
 Sec. 3.202 Calculation of Density and Intensity.....
 Sec. 3.203 Bonuses
 Sec. 3.204 Nonresidential Scale Regulations
Division 3.300 Bulk Regulations - Standard Development.....64
 Sec. 3.301 Single-Family Detached.....64
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 Sec. 3.303 Multi-Family66
 Sec. 3.304 Nonresidential Bulk Requirements67
Division 3.400 Bulk Regulations - Planned and Cluster Development.....69
 Sec. 3.401 Single-Family Cluster Development.....69
 Sec. 3.402 Housing Palette for Planned Residential Development69
 Sec. 3.403 Planned District Housing Types.....70
 Sec. 3.404 Averaged Lots.....79
 Sec. 3.405 Residential Mix Standards for Planned Residential Developments.....81



Conservation Design



- Lots “blanket” entire site
- No common open space
- Lot lines ignore natural features

Yield = 18 lots

Conservation Design



- Now 50% common open space
 - Lot size range 20K-40K sq ft
- Yield = 18 lots
(density neutral)

Conservation Design



- **Now 60% common open space**
- **Density bonus in return (24 vs. 18 lots)**
- **Lot size range 12K-24K sq ft**

Conservation Design



- Now 70% common open space
- Density bonus bigger in return (36 vs. 18 lots)
- Lot size range 6K-12K sq ft

Site features drive design rather than lot size limits





d. Cluster Development

- 1) A cluster development is a residential subdivision in which the lots are allowed to be smaller (in area and width) than otherwise required for the underlying, base zoning district, but in which the overall density cannot exceed the maximum density limit for the underlying zoning district. Through the cluster development option, a subdivision can contain no more lots than would otherwise be allowed for a conventional subdivision in the same zoning district, but the individual lots within the development could be smaller than required in a conventional subdivision. Smaller lot sizes within a cluster development are required to be offset by a corresponding increase in open space.

ii. Common Open Space

a. Minimum Requirement

Common open space is required within a cluster development to ensure that the overall density within the development does not exceed the maximum density allowed by the underlying zoning district. Common open space must be provided in an amount at least equal to the difference between:

- i. The actual, average lot area per dwelling unit within the cluster development; and
- ii. The required lot area per dwelling unit for conventional development within the underlying base zoning district.





**Neighborhood
School**

**Commercial
Reserve**

**Drainage
Ways**

City Park

The Greenways - Amarillo



Benefits of Conservation Developments

- Still absorb some growth in constrained areas
- Designed specifically to protect resources
- Satisfy parkland and drainage set-asides (i.e., “amenities”) without loss of lot yield
- Built-in buffering
- Reduce urban footprint
- Reduce costs of development and add value

*Rearranging development and density
on the landscape*

By the Numbers

Cost Item	Conventional	Cluster
Lots	142	142
Lot size	½ acre	¼ acre
Open Space Ratio	0%	50%
Runoff System	Curb/gutter	Street swales
Cost per lot	\$17,325	\$6,259
Street cost	\$2,008,200	\$663,000
Detention ponds	\$48,000	\$0
Stormwater pipe	\$352,000	\$66,000
Berms	\$0	\$10,000
Swales	\$0	\$92,700
Other	\$0	\$43,005
TOTAL	\$2,460,200	\$887,705

SOURCE:
U.S. EPA

“A look at the most successful projects in any region will reveal that open space has not been wasted. Projects that feature open space are projects that sell and, at the same time, provide environmental amenities and opportunities for recreation.”

Land Development

National Association of Home Builders

Summer 1992





“Planned Development”

- A unique zoning tool that offers an alternative to the more **rigid** regulations of the standard zoning ordinance
- Promotes **flexibility** in design
- Allows **diversification** of uses, structures and open space
- Allows **room for negotiation** during review process that traditional zoning does not

PUD Purpose Statement

The Planned Unit Development (PUD) concept allows for developments that ...

- **Use a design that may not necessarily comply with the regulations**
- **Provide a superior development outcome and/or other features or amenities that offer special benefits**
- **Increase compatibility and reduce negative impacts**
- **Promote:**
 - **integrated design of mixed uses**
 - **more efficient use of land**
 - **preservation of open space**
 - **innovative and imaginative site planning**

PUD Reality Too Often ...

- “Show us your plan and we’ll let you know what we think”
- Make up standards as we go
- Does the City really have a plan?
- Knee-jerk official and neighbor reaction to “density”
- Plus – **if best path to good design** – often too lengthy, too contentious (“time is money”)

“Country Living” option within city

Map 2.2

Future Land Use and Character

- Neighborhood Conservation
- Rural
- Estate
- Restricted Suburban
- General Suburban
- Urban
- Urban Mixed Use
- General Commercial
- Suburban Commercial
- Business Park
- Institutional/Public
- Texas A&M University
- Natural Areas - Protected
- Natural Areas - Reserved
- Utilities
- Redevelopment Areas
- Water
- City Limits
- ETJ - 3.5 Mile
- ETJ - 5 Mile (estimated)

Note: A comprehensive plan shall not constitute zoning regulations or establish zoning boundaries.



Country
Style
Living

Making it Happen

- Annex and zone
- “Unify” ordinances – and build in “PD” flexibility
- Build incentives into ordinances and process – and disincentives to “cookie cutter” outcomes
- Negotiate development agreements
- Recruit developers and projects
- Educate officials, residents, development community – and make it visual
- “Design / build”
- Acquire (greenway system, banking/mitigation)

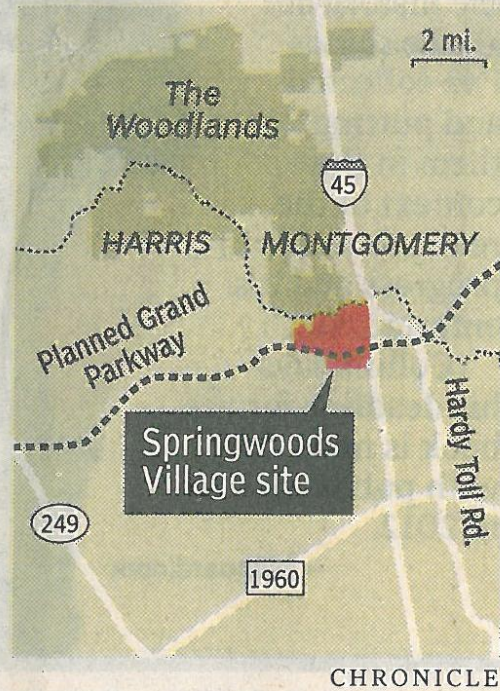
10/6/10

Developer betting on N. Harris' future


■ 1,800-acre community will take root next to The Woodlands

By **NANCY SARNOFF**
HOUSTON CHRONICLE

A major mixed-use community where residents would be able to walk to a town center with shops, offices and other public amenities is set to break ground just south of The Woodlands in early 2011.



- Build on Woodlands model (28,000 acres)
- 20%+ in parks and green space
- 190 acres in nature preserve
- 5,000 homes
- 8.5m sq ft office
- 1.2m sq ft retail
- Walkable town center



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[CLICK HERE FOR CONCEPTUAL DEVELOPMENT PLAN](#)

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SEEING THE FOREST. AND THE TREES.

[SPRING CREEK](#)

[2,000 ACRES](#)

[ECOSYSTEMS](#)

[THE FOREST](#)

[CLICK HERE FOR THE NATURE PRESERVE CONCEPT PLAN](#)



Site Context Plan

The 150.3 acre Springwoods Village Nature Preserve is located on the northern edge of the community and is bordered by Spring Creek on the north. The design of the community allows fingers of open space and open water to thread into the living and walking environment. This allows for water to be treated and stored in a manner that benefits the overall Springwoods community while enhancing the natural environment and providing connectivity for residents and workers to the Spring Creek Greenway.

Nature Preserve Plan

This conceptual illustrative demonstrates the incredible potential for the Springwoods Nature Preserve. The open space area provides many functions to the community.

Regarding water, the run-off from the built environment is purified through a series of bio-filtration wetlands before entering into the storage ponds. These storage ponds allow for six feet of freeboard, providing enough storage for large storm events. All earth grading to construct these ponds and wetlands is located outside a 100 ft. existing wetland buffer and all water is cleansed before entering back into the Spring Creek waterway.

In addition to the functional aspects of the water systems in the preserve, the water offers a retreat for the community, provides a cooling effect, and maintains various habitats for local wildlife. A boat launch near Spring Creek will provide access to non-motorized boating on Spring Creek.

The Nature Center

The Nature Center building and garden will be a hub for community activity and learning. It's also the gateway for those entering the Nature Preserve. In addition to a garden for outdoor staging of events, the center could be used to house events for community members.





Welcome to The Villages of Indian Lakes! The Settlement Patio Home models are complete...click here to choose your floor plan, or click

[MAIN](#) [AMENITIES](#) [FIND US](#) [MASTER PLAN](#) [FAQS](#) [NEWS](#) [HOMES](#) [DEED RESTRICTIONS](#) [LINKS](#)

The best in rural estate living...

At The Villages of Indian Lakes, you'll find an unsurpassed vision of Texas Paradise. Nested among majestic heritage oaks, along meandering streams and a private fishing lake, the Villages of Indian Lakes offers the discriminating homesite buyer an opportunity to live as nature intended! Homesites range from 1.2 acres to over 3 acres, and are protected by restrictive covenants. Located just minutes from College Station and a short hour north of Houston, it makes a perfect local getaway or a commuter's dream!

Use the links above to learn more about The Villages of Indian Lakes and how you can reserve your homesite today!



GALLERY



Exquisite Resort-Style Pool

Our beautiful pool features a waterfall that seemingly drops off into Lake Arapaho.

ECO-DEVELOPMENT

The Villages of Indian Lakes is a unique residential community with an emphasis on conservation. Owners will have the rare opportunity to experience abundant wild life and natural resources.





Your Natural Habitat

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[about us](#)
[our vision](#)
[live](#)
[work](#)
[play](#)
[what's new](#)
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[links](#)

Welcome to Montgomery Farm

Welcome to Montgomery Farm, a place for those who wish to live in harmony with nature. Defined by its conservation-focused designs and wide open spaces, this dynamic community borders the vibrant cities of Plano and Allen, north of Dallas. Here, thoughtfully planned greenways and trails connect residents to school, work, shopping, recreation, and each other.



Latest News

"Agriculture is the new golf."

.....
"Lifestyle center" lures shoppers with atmosphere

.....
Montgomery Farm named one of the "Hottest Neighborhoods" in Dallas

Once again Montgomery Farm has been recognized as one of the most innovative and dynamic communities in North Texas.

DHome

The October issue of D Home magazine names Montgomery Farm one of the six hottest neighborhoods in Dallas -- the only master-planned community recognized by the magazine.

Here's a sampling of what D Home had to say:

- This place was green before green became hip, hot and happening. What began as Frances and Philip O'Bryan Montgomery's 500-acre family horse farm north of Dallas is the area's first meticulously planned, self-sustaining suburban development that puts conservation ahead of profit margins.
- Philip Williams and Amy Monier dug in their heels to ensure that the inevitable development would happen under the guidance of the nation's top conservation brainpower, with input from environmentally sensitive artists, engineers, builders and landscape architects.



“We need **nature
as much in the city
as in the countryside.”**

Ian McHarg

Design with Nature