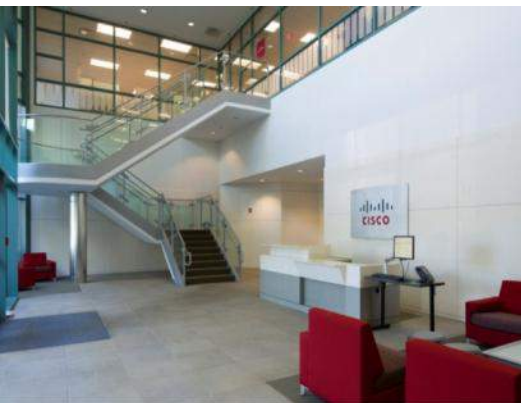


# Existing Conditions





# Existing Conditions





# Existing Conditions





# It works as an office project.

## Improvements

- Typical HQ office/research and development finishes.
- Tilt-up concrete construction with aluminum storefront window entries and glazing.

## Parking

- The 40 acre site contains 2,629 parking spaces (3.25/1,000 SF), 90% of which are shared.

## Power

- Private Power Agreement with Constellation Energy provides power at 85% of PG&E rates.
- 3,000 amps supply a 277/480-volt main switchboard in each building.

## HVAC

- Packaged rooftop units with per building capacity from 60 to 125 tons. Direct digital controls by Automated Logic.

## Elevators

- Each building has one, 2,500-pound capacity elevator.

## Fire Life Safety and Security

- Addressable fire alarm system and automatic wet-pipe fire sprinkler. Access control system and a security camera.

## Restrooms

- Men's and women's restrooms on each floor with one set of lockers and showers per building.

## Dining Areas

- Full cafeteria in 180 West Tasman and 250 West Tasman has a secondary food service area.

# A New Vision



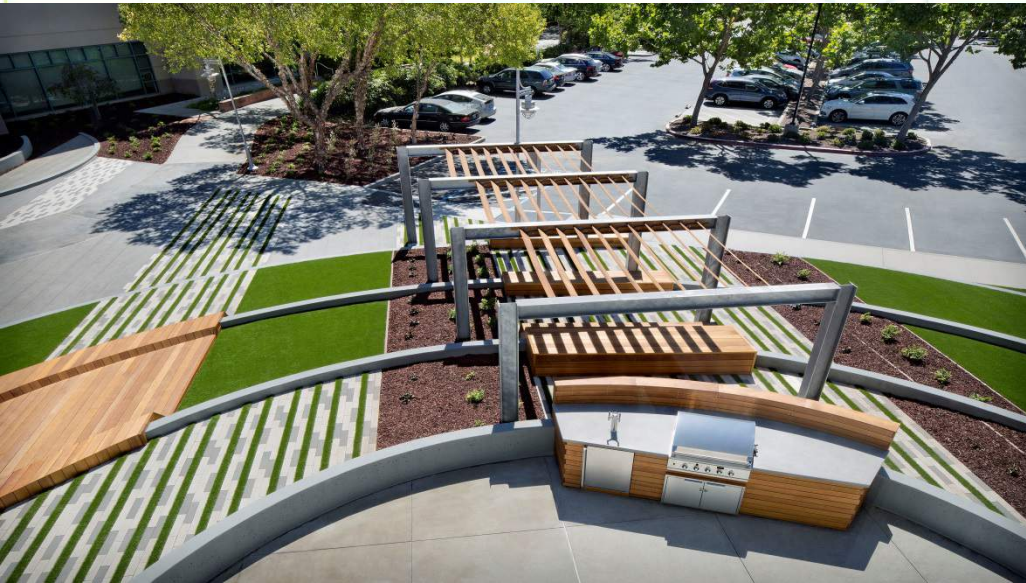


# A New Vision



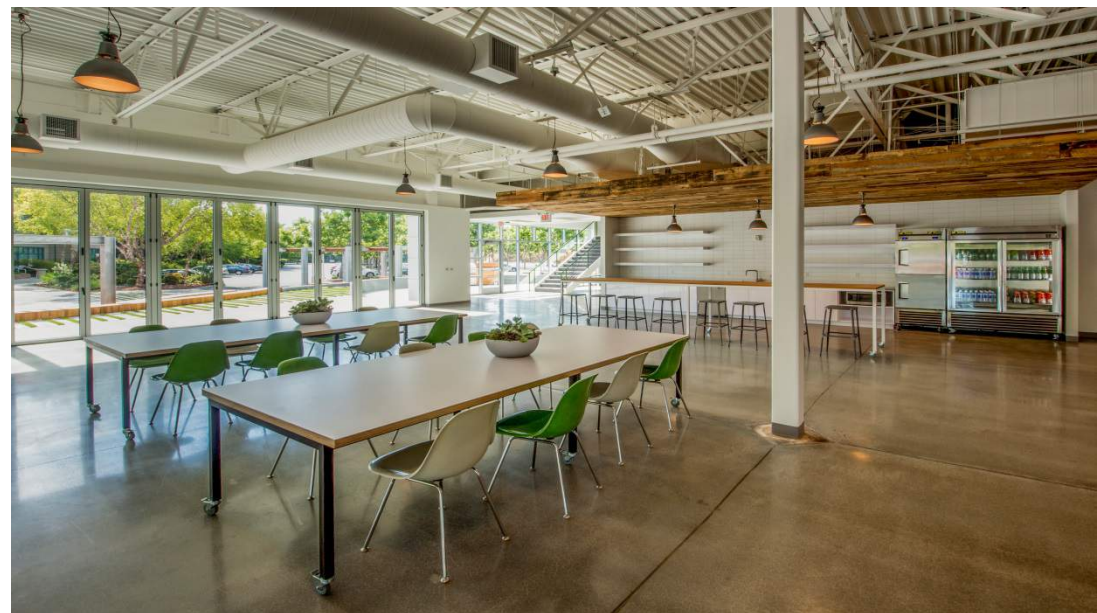


# A New Vision



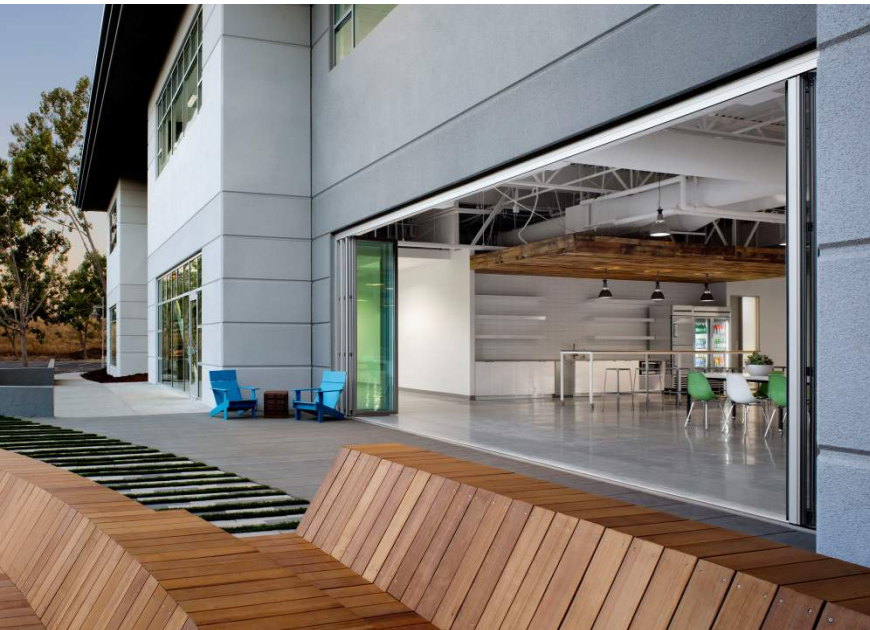


# A New Vision





# A New Vision





# The LEED Conundrum

1. Champion Station is not LEED eligible, so far...
2. Champion Station is not a new planned project.

***So then how do we show the market this campus is a healthy alternative to a traditional business park?***



# What is a Healthy Campus?

## Location

- Walkable, mixed use neighborhood
- Adjacent housing
- Neighborhood retail
- Park/Entertainment options

## Site

- Outdoor plazas with seating
- Dining options
- Pear orchard
- Drought-tolerant landscaping

## Architecture

- Maximize light and air
- Open plan
- Collaborative spaces
- Authentic materials
- Wood, Galvanized metal, Concrete

## Indoor/Outdoor

- All hands meeting areas
- Private patios and meeting spaces
- Operable glazing/fresh air

## Transportation

- Light Rail
- Amtrak
- Bus
- Bike
- Car

## Healthy Amenities

- EV charging stations
- Branded bicycles with storage
- Amenity maps to jogging/walking trails
- Par course
- Community garden
- Ride/walk to shopping
- Exercise/Amenity building(s)

## Concierge

- Facebook/Google services for smaller users
- On campus amenities





# Champion Station





# THE ENVISION™ RATING SYSTEM







# What Types Of Infrastructure Will Envision™ Rate?



## ENERGY

Geothermal  
Hydroelectric  
Nuclear  
Coal  
Natural Gas  
Oil/Refinery  
Wind  
Solar  
Biomass



## WATER

Potable water distribution  
Capture/Storage  
Water Reuse  
Storm Water Management  
Flood Control



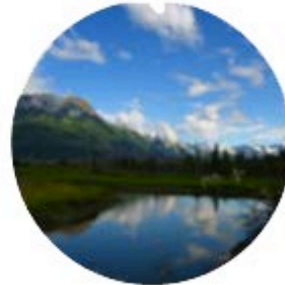
## WASTE

Solid waste  
Recycling  
Hazardous Waste  
Collection & Transfer



## TRANSPORT

Airports  
Roads  
Highways  
Bikes  
Pedestrians  
Railways  
Public Transit  
Ports  
Waterways



## LANDSCAPE

Public Realm  
Parks  
Ecosystem Services



## INFORMATION

Telecommunications  
Internet  
Phones  
Satellites  
Data Centers  
Sensors







# 60 Credits in 5 Categories



## QUALITY OF LIFE

Purpose, Community, Wellbeing



## LEADERSHIP

Collaboration, Management, Planning



## RESOURCE ALLOCATION

Materials, Energy, Water



## NATURAL WORLD

Siting, Land & Water, Biodiversity



## CLIMATE AND RISK

Emission, Resilience

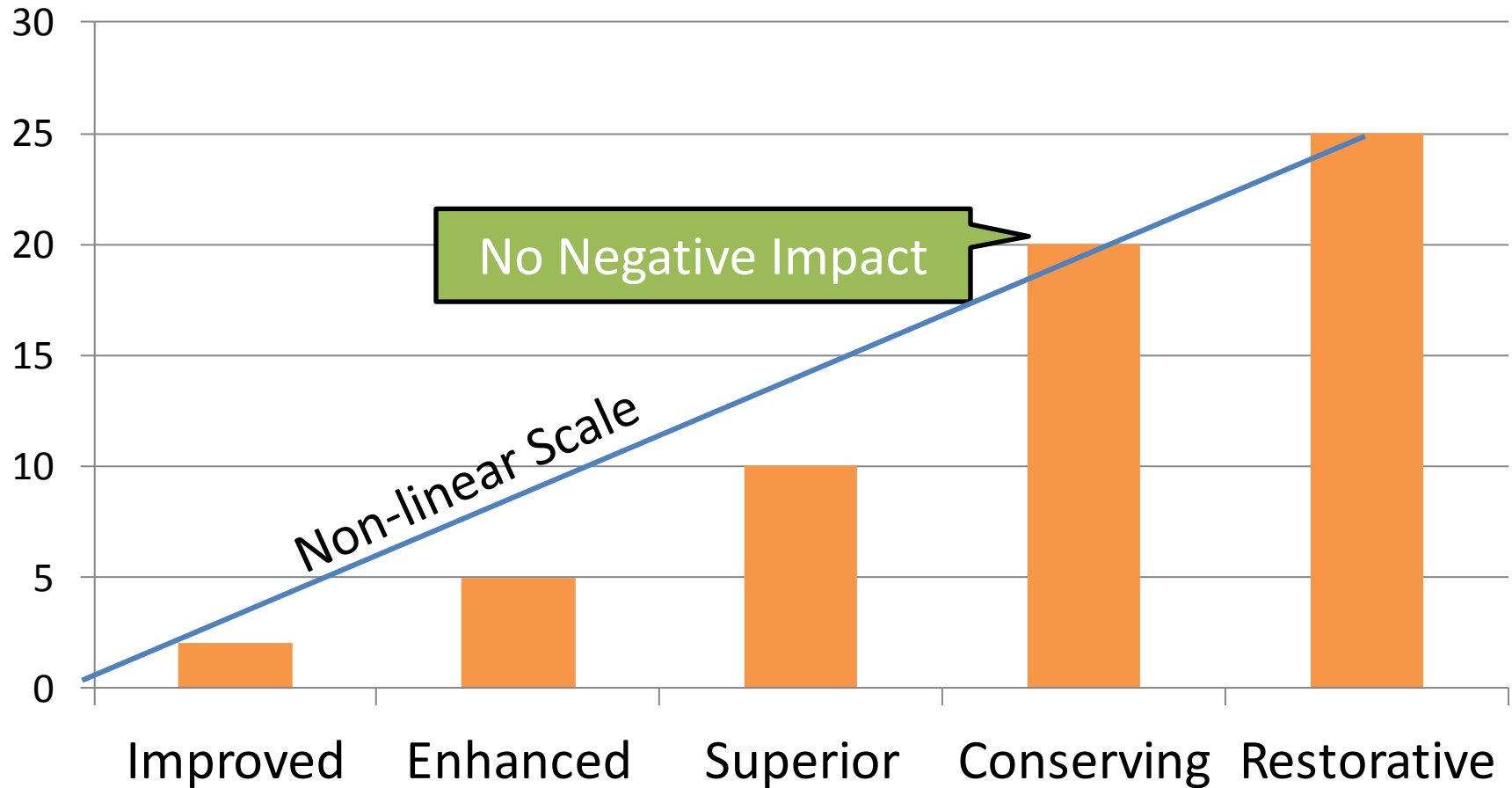






# Levels of Achievement

## QL1.1 IMPROVE COMMUNITY QUALITY OF LIFE







# Input Portal

[News](#)[FAQs](#)[Rating System](#)[ISI Credentials](#)[Project Application](#)[Education & Training](#)[Case Studies](#)[Comments](#)

## Project Application

### Envision™ Sustainable Infrastructure Rating System

[Instructions](#)[Projects](#)[Section Menu](#)[QL](#)[LD](#)[RA](#)[NW](#)[CR](#)[Section Totals Summary](#)[Report](#)

#### Section Menu

Please click on the links to take you to the relevant sections:



QUALITY  
OF LIFE



LEADERSHIP



RESOURCE  
ALLOCATION



NATURAL  
WORLD



CLIMATE  
AND RISK

[< Previous Page](#)[Next Page >](#)





# Rating System

	Section and Objective Numbers	Objectives	Required for Project	Level Of Achievement	Score	Objective Available Points					
QUALITY OF LIFE											
QL1	QL1.1	<b>Improve community quality of life.</b> Improve the net quality of life of all communities affected by the project and mitigate negative impacts to communities. <a href="#">details / guidance</a>	YES	Restorative ▼	25	25					
	Notes: <div></div>										
QL1	QL1.2	<b>Stimulate sustainable growth and development.</b> Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability. <a href="#">details / guidance</a>	YES	Superior ▼	5	16					
	Notes: <div></div>										
QL1	QL1.3	<b>Develop local skills and capabilities.</b> Expand the knowledge, skills and capacity of the community workforce to improve their ability to grow and develop. <a href="#">details / guidance</a>	Assessor Decision		1	15					
			Include ▼								
		Improved ▼		Notes: <div></div>							





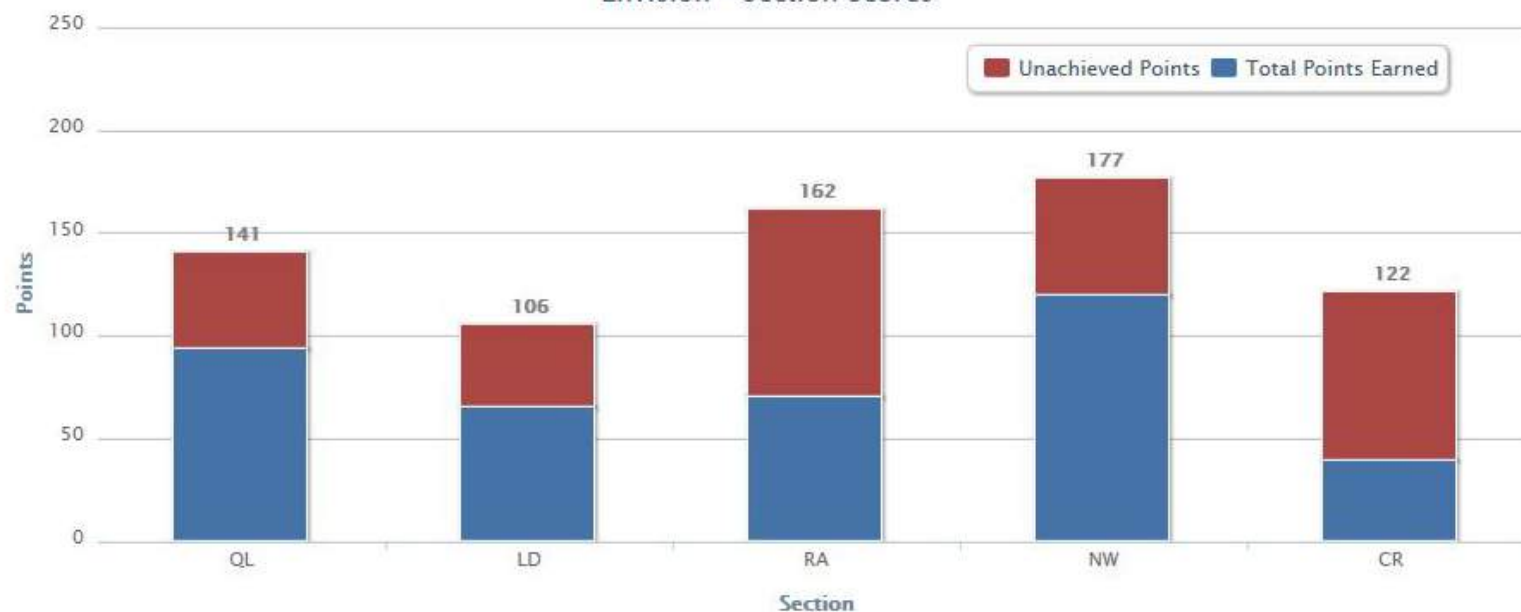


# Scoring Summary

## Section Totals Summary

Section	Maximum Possible Score	Section Points	Innovation Points	Total Points Earned
QL	141	91	3	94
LD	106	66	0	66
RA	162	71	0	71
NW	177	118	2	120
CR	122	40	0	40
<b>Total Project Points</b>	<b>708</b>	<b>386</b>	<b>5</b>	<b>391</b>

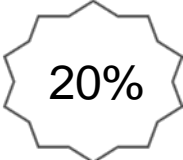



Envision™ Section Scores







# Award Levels

Recognition Level	Minimum Applicable Points	Minimum in Each Category
Bronze	 20%	No minimum category percentage required
Silver Award	 30%	
Gold Award	 40%	
Platinum Award	 50%	





# Fee Schedule

Registration Fee: \$1000


Verification Fee

Project Size (\$)	Non-Member Price	ISI Member Price
Up to 2M	\$3000	\$2400
2-5M	\$8500	\$7000
5-25M	\$17,000	\$14,000
25-100M	\$25,000	\$21,000
100-250M	\$33,000	\$28,000
Over 250M	\$5000 per 100M above base price of \$20,000	

Appeals Fee: \$500 per credit



# [www.sustainableinfrastructure.org](http://www.sustainableinfrastructure.org)




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SUSTAINABLE  
INFRASTRUCTURE

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Building Tomorrow's Infrastructure Today

### Envision™ Rating System

 [Click Here](#)

### Envision™ Checklist

 [Click Here to Download Checklist](#)

### ISI Credential Application

Register here for the ISI Credential and Training Program. You must be registered and your application accepted to participate.

### Accepted Applicants

If your ENV SP application has been accepted, login to the Portal to view the education modules and take the test. Click here

### Envision Credentialed Professionals

Click here to search for a credentialed ENV SP.

ISI provides third-party project **VERIFICATION** for the **Envision™ Sustainable Infrastructure Rating System**

[Click here to find out more ►](#)

#### Latest News

- ISI has Large Presence at Ecobuild America...[details](#)
- Recognizing a Founder...[details](#)
- Easy Updating of Your ISI Information...[details](#)
- Faculty Discounts for Credentialing...[details](#)
- New Envision™ Presentation Templates...[details](#)
- Envision™ Checklist Now Available...[details](#)
- First Class of Verifiers Graduate...[details](#)
- Rebuilding America's Infrastructure...[details](#)







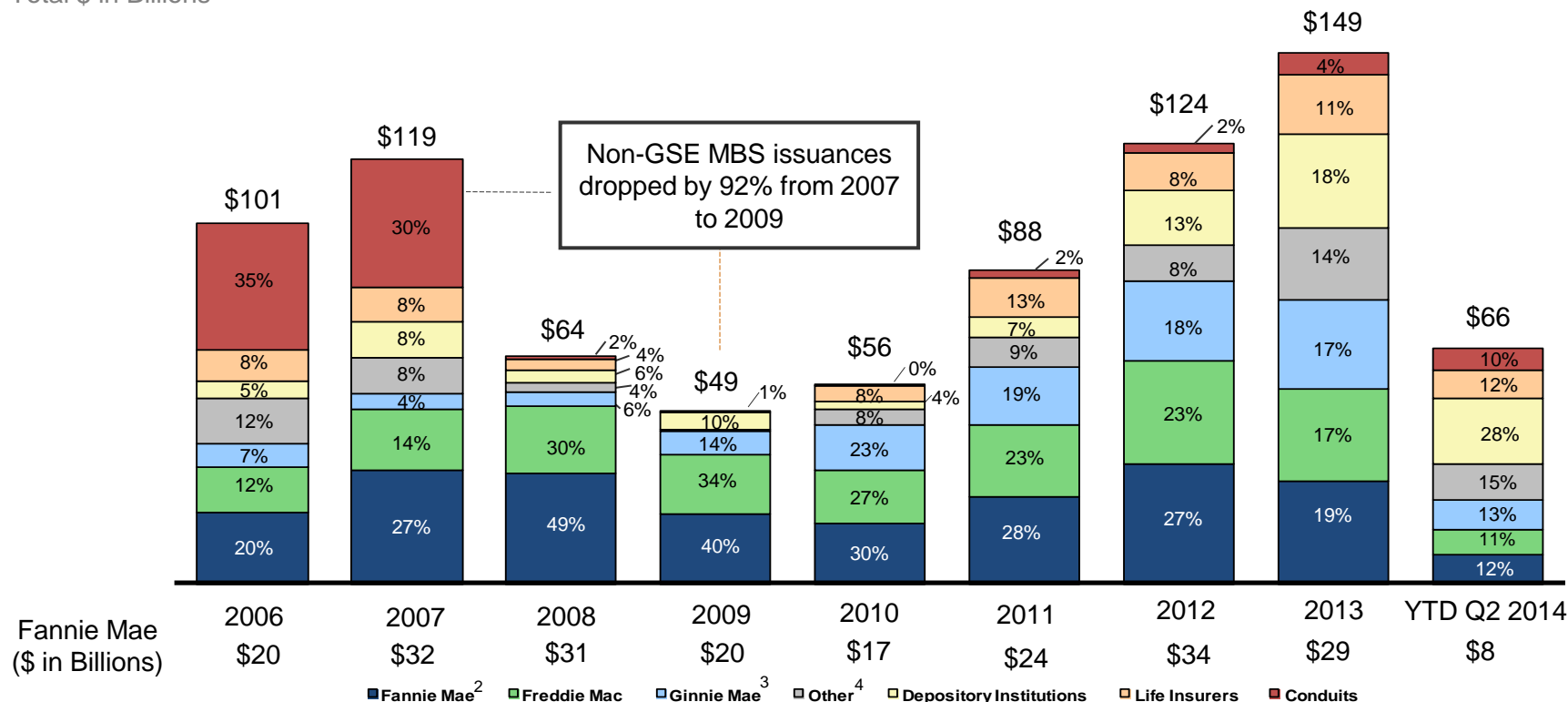
# Fannie Mae Multifamily Green Initiative

ULI Fall Meeting

October 22, 2014

# Estimated Competitive Multifamily Debt Market Acquisitions by Participant<sup>1</sup>

Total \$ in Billions



Diversified participation exists in the multifamily market today and competition is increasing.

Source: Fannie Mae and Freddie Mac 10-K and 10-Q financial statements, ACLI, FDIC, Trepp & Mortgage Bankers Association, Fannie Mae Multifamily Economic Research

## Notes:

<sup>1</sup> Estimated competitive market size is an estimated subset of MF originations activity. It is not meant to be all-inclusive of total MF originations during a specific timeframe.

<sup>2</sup> Excludes purchases of loans from others' portfolios and Treasury HFA New Issue Bond program volume in 2009 and 2010.

<sup>3</sup> Loans securitized by Ginnie Mae include non-dedicated multifamily housing e.g., healthcare and new construction.

<sup>4</sup> Other includes state and local credit agencies, FHLB and other financial institutions.



## Multifamily Green Initiative Mission

The mission of the Fannie Mae Green Initiative is to raise the quality and to increase the affordability of Multifamily Housing in the U.S. while reducing its impact on the natural environment.

## Strategy

Resolve Barriers  
& Friction Points

Provide Financing  
for Smart  
Improvements

Lead & Educate  
Market

The Green Initiative creates value for all multifamily stakeholders: owners, tenants, equity and MBS investors, and lenders.

## Milestones Achieved: 2010-2014

- Conducted national survey of 1,000+ multifamily properties and created ENERGY STAR® for Multifamily Score
  - Created the Multifamily Energy Audit Protocol
- Launched two innovative Green Financing Loan Products: Green Preservation Plus & M-PIRE
  - Created the industry standard for Green MBS
  - Delivered \$130M+ in Green MBS to the market
- Became the first Lender to connect financial and energy performance
  - Redesigned underwriting processes to include a portion of owners and tenants' energy and water projected cost savings in M-PIRE loans



# Green Preservation Plus for Affordable Housing: 5% more

## CASE STUDY: LINC TRANSFORMS AFFORDABLE HOUSING AND CUTS COSTS WITH GREEN PRESERVATION PLUS

### CHALLENGE: REFINANCE AND TACKLE EXPENSE RISK

LINC Housing was ready to reduce rising energy, water and operating expenses and to refinance existing debt at City Gardens Apartments. A 274-unit Affordable Housing property, City Gardens primarily serves family and children.

### SOLUTION: GREEN PRESERVATION PLUS

- » \$19.4M loan
- » \$1.5M for property improvements
- » Tax-exempt bonds retired
- » LIHTC equity partner bought out

### ACTION: SMART INVESTMENTS FOR HIGH PERFORMANCE, LOWER OPERATING COSTS



Reduced natural gas costs

ENERGY STAR®-rated furnaces

Passive solar domestic hot water heating system



Reduced water costs

Low-flow plumbing fixtures

New irrigation system



Reduced electric costs

Energy-efficient lighting in common areas and resident units



Safeguarded long-term value by improving:

Roofing and siding

Storm water drainage

Balconies

Green Preservation Plus provides up to an 85% LTV to support investment in smart property improvements.

# NYC M-PIRE: Underwrites Projected Cost Savings

## \$9.6m M-PIRE Loan vs. \$9.2m Conventional Loan

M-PIRE UNDERWRITES PROJECTED TENANT AND OWNER ENERGY AND WATER SAVINGS



**\$26,815**

Owner's underwritten projected energy & water cost savings



**\$12,480**

Tenants' portion of underwritten projected electricity cost savings

	Standard	M-PIRE
<b>Resulting Pro Forma NOI</b>	\$765,000	\$801,175
<b>Total Loan Proceeds</b>	\$9,200,000	\$9,680,000
<b>DSCR</b>	1.25	1.25

**M-PIRE** provides \$480k in additional loan proceeds while maintaining DSCR.

**M-PIRE** increases pro forma NOI by including a portion of the owner's and tenants' projected energy and water savings.

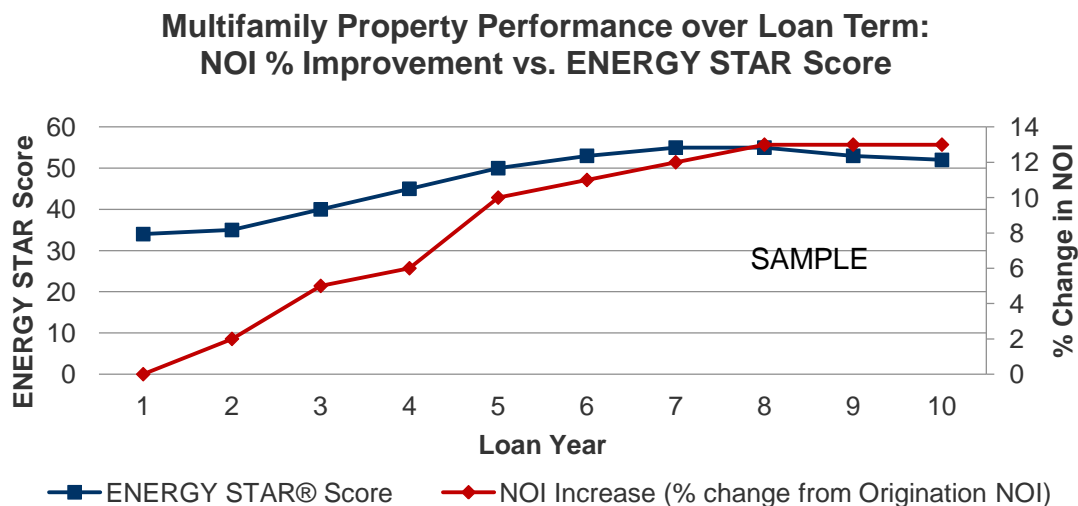
**Note:** Total projected savings at the property are \$78,590

M-PIRE assists owners overcome the split incentive by crediting the *Owner's* NOI with a portion of the *Tenant's* projected cost savings.



## Multifamily's critical knowledge barrier: Performance Data

- There is little to no national data on the long-term relationship between a multifamily property/portfolio's financial performance and its energy and water performance.



Fannie Mae is actively working to address and resolve these knowledge barriers for the Multifamily industry.

## Delivering the ENERGY STAR® Score for Multifamily

- DOE's CBECS did not collect multifamily data as needed by EPA.
- In 2012 and 2013, Fannie Mae collected data from multifamily properties for the EPA to create the ENERGY STAR Score for Multifamily.
  - 1,000+ multifamily properties nationwide
  - High-rise to garden style, 5 units to 300+ units
  - Market Rate to Affordable to Seniors
- Score released Sept. 16, 2014.

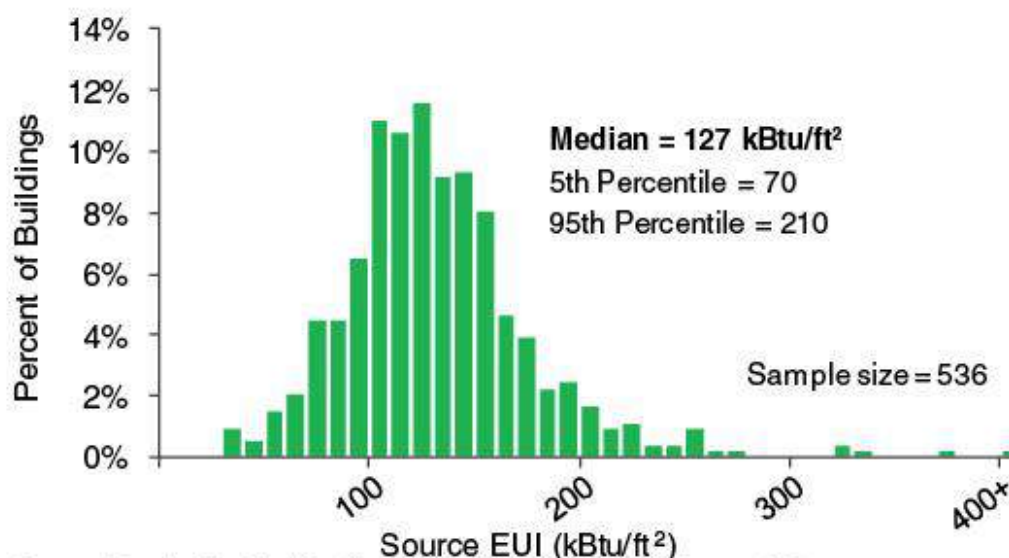


Multifamily owners now have a simple energy metric, and can receive a nationally recognized certification if the score is 75 or more.



# Fannie Mae Survey: Insights into Multifamily performance

**FIGURE 2: DISTRIBUTION OF WHOLE PROPERTY ENERGY USE (PER SQUARE FOOT)**



Source: Fannie Mae Multifamily Energy and Water Market Research Survey.

The least efficient properties use over three times as much energy and six times as much water per square foot as the most efficient properties.

\*Calculation based on the difference between the 5th and 95th percentile values of energy cost per square foot (\$0.62/ft<sup>2</sup> and \$2.27/ft<sup>2</sup>) from the Fannie Mae Survey, applied to a 100,000 square foot property (\$227,000 - \$62,000 = \$165,000).

## \$165K Difference between Worst & Best Energy Performers

- The least efficient property may end up spending \$165,000 more in annual energy costs than a similar property operating the most efficiently.
- On average, a 100,000 square foot property spends \$125,000 on energy and \$33,000 on water annually.
- If this property saved 15% on energy and water costs, it would increase asset value by almost \$400,000, assuming a 6% cap rate.

Fannie Mae's white paper  
"Transforming Multifamily Housing"  
has additional key findings.  
[www.fanniemae.greeninitiative.com](http://www.fanniemae.greeninitiative.com)



## Contact

Chrissa Pagitsas

Director, Green Initiative

Fannie Mae Multifamily

[Chrissa\\_Pagitsas@fanniemae.com](mailto:Chrissa_Pagitsas@fanniemae.com)

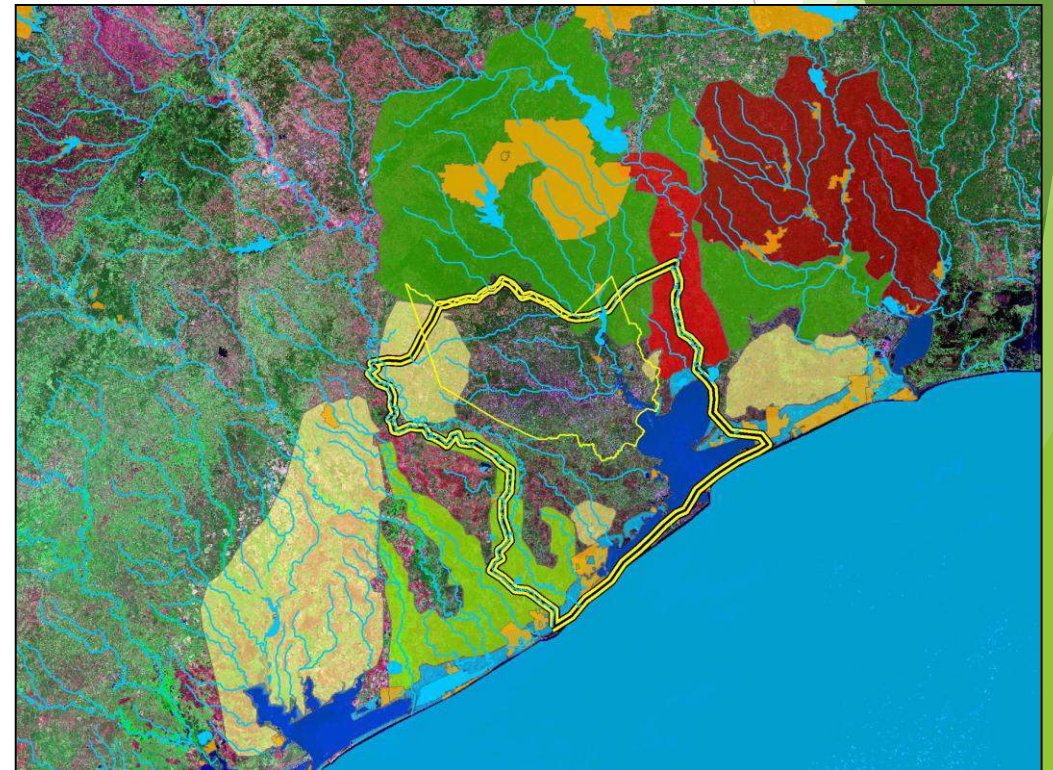
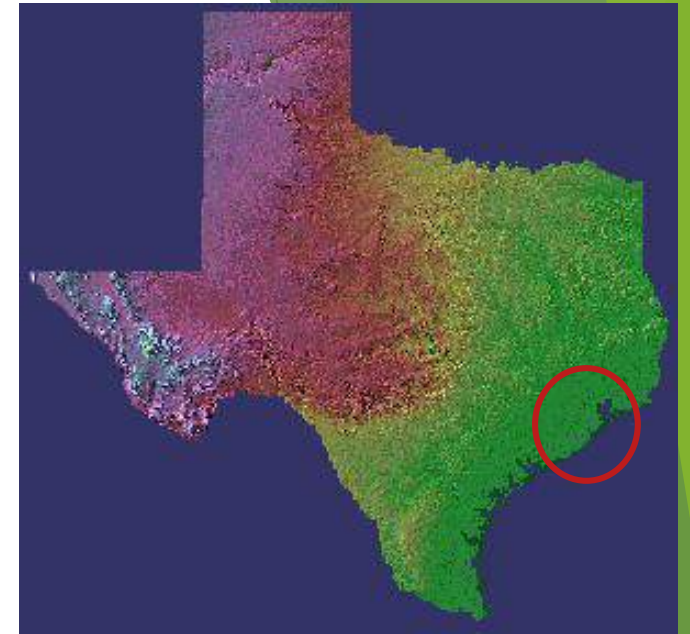
[www.FannieMaeGreenInitiative.com](http://www.FannieMaeGreenInitiative.com)



# “Houston Exploding”

A “lab” for rapid growth  
sustainable scenarios...  
SDC Opportunities?

Rives T Taylor FAIA, LEED BD+C  
Gensler





# The Region Context : The Sustainable Challenge

## Geography:

Largest land area of the Big-4 cities

## Population Sprawl:

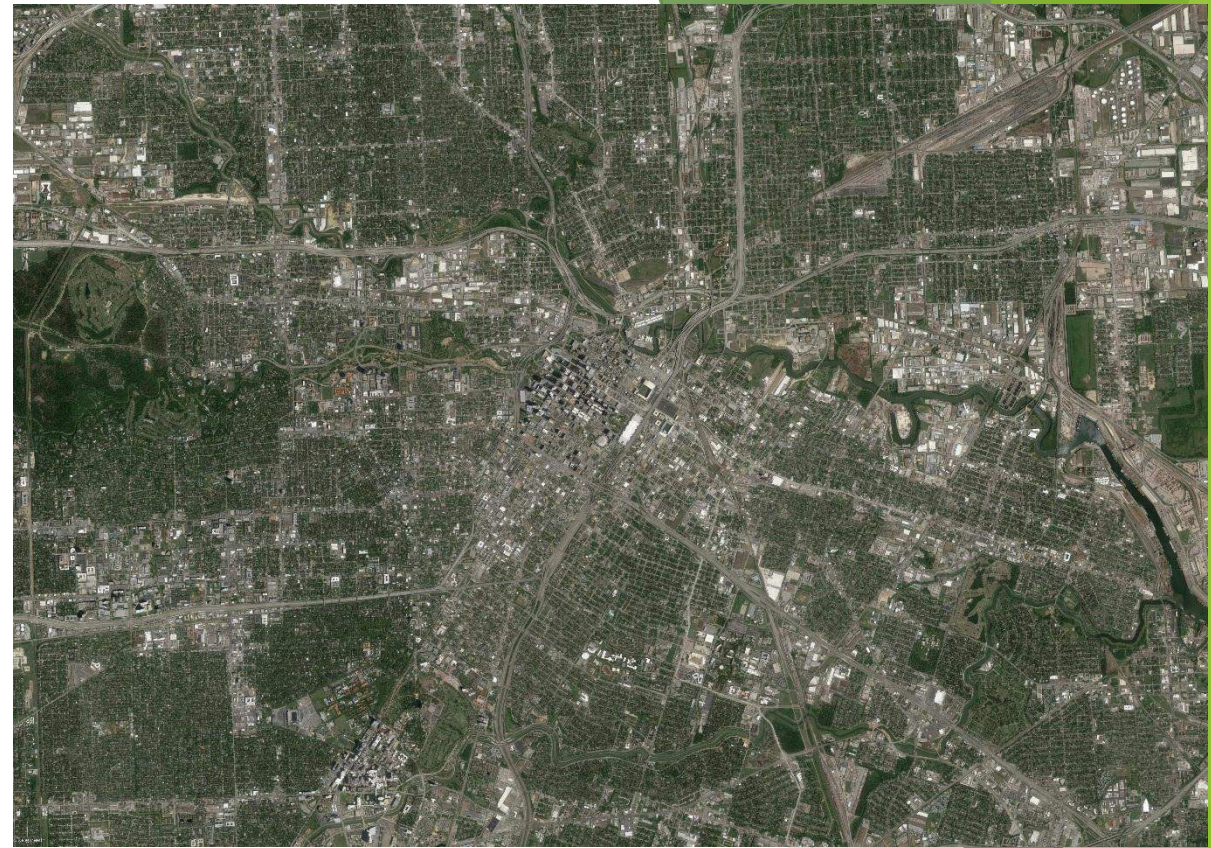
2.1 M(2010 census) in 600 square miles

Pop density of 3,553 persons/square mile

## Economic Strength :

Gross Area Product (GAP) in 2006 was \$325.5 billion

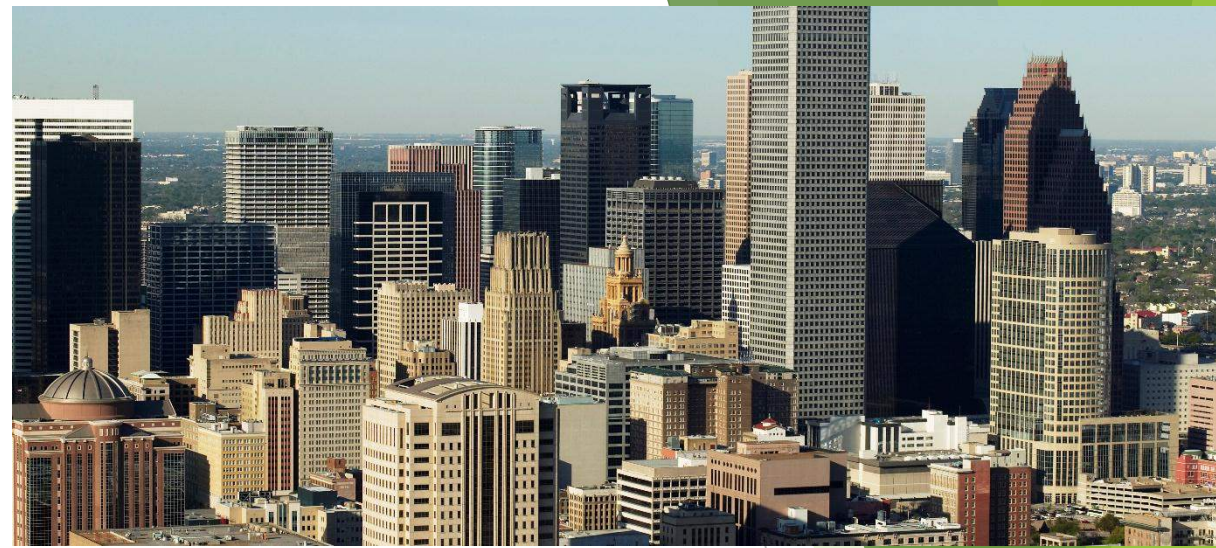
*The City of Houston permitted \$7.3 billion in  
construction over the 12 months from 2nd Quarter  
2013 to 2nd Quarter 2014*





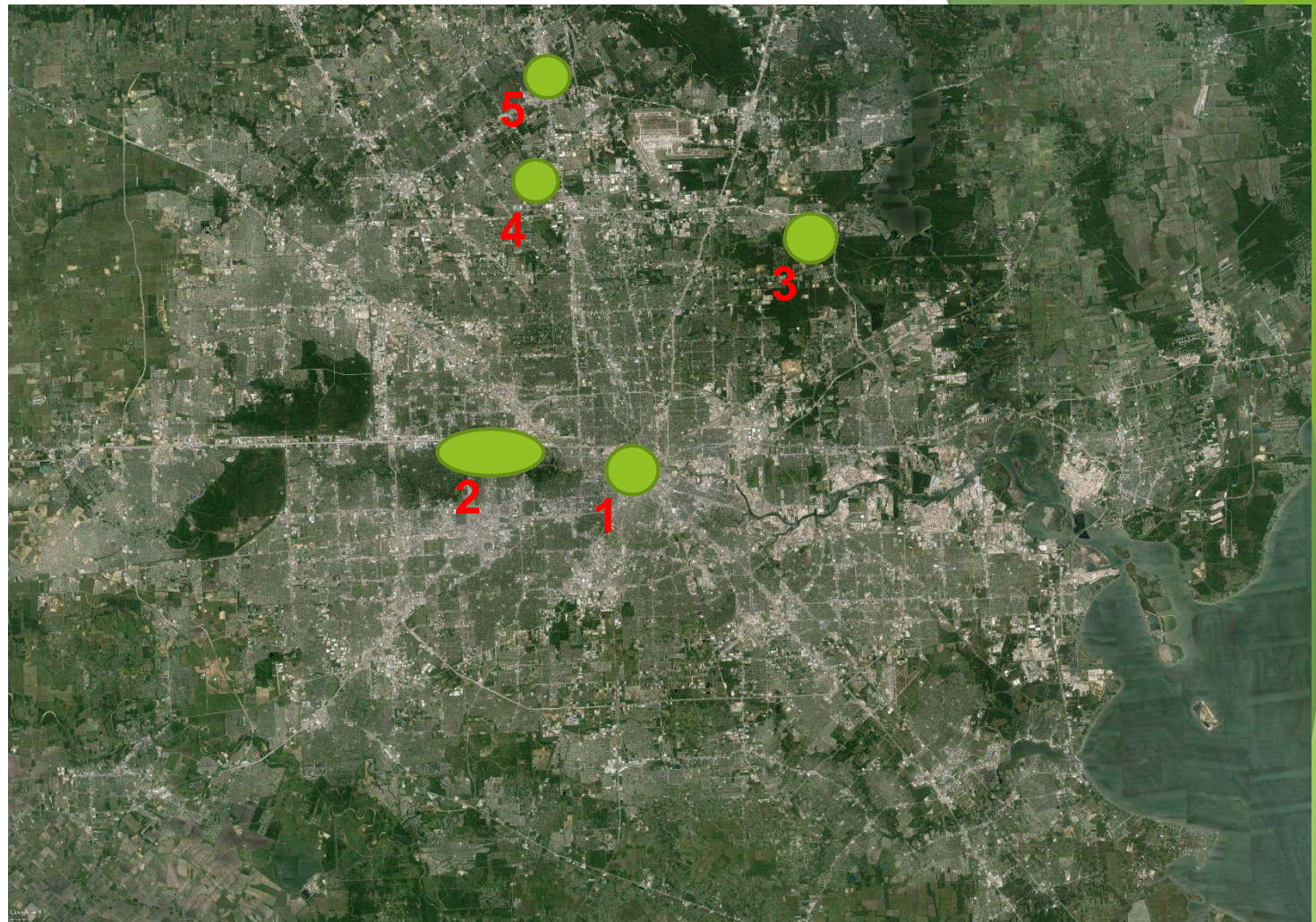
## The Energy Capital – Long Term Growth

- 5,000 energy related companies;
- *Growth will accelerate with foreign companies buying up energy firms:*
- Added 10+ percent more jobs since 2008, since 2000 has shot up 32 percent;
- Most ethnically diverse region in the country - foreign-born population 400,000 increase in last 10 years.





# 5 Districts



1. Downtown and Wards
2. Energy Corridor + Memorial City
3. Generation Park
4. Springwoods Village
5. The Woodlands

<http://www.visithoustontexas.com/mapexplorer>



## 5. The Woodlands

- “The Benchmark” by Mitchell and McHarg
- Planned Development now realized
- Open/ Green space, walkability and the car
- Again, expanding rapidly with infrastructure challenges

**Sustainable community  
designed in tune with nature**

- **Opened in 1974**
- **Preservation of the environment**





## Environmentally Sensitive Practices

- **Value of Nature – *Celebrate Diversity of Forest/Native Species***

**Energy Conservation**

**Storm Water Reduction**

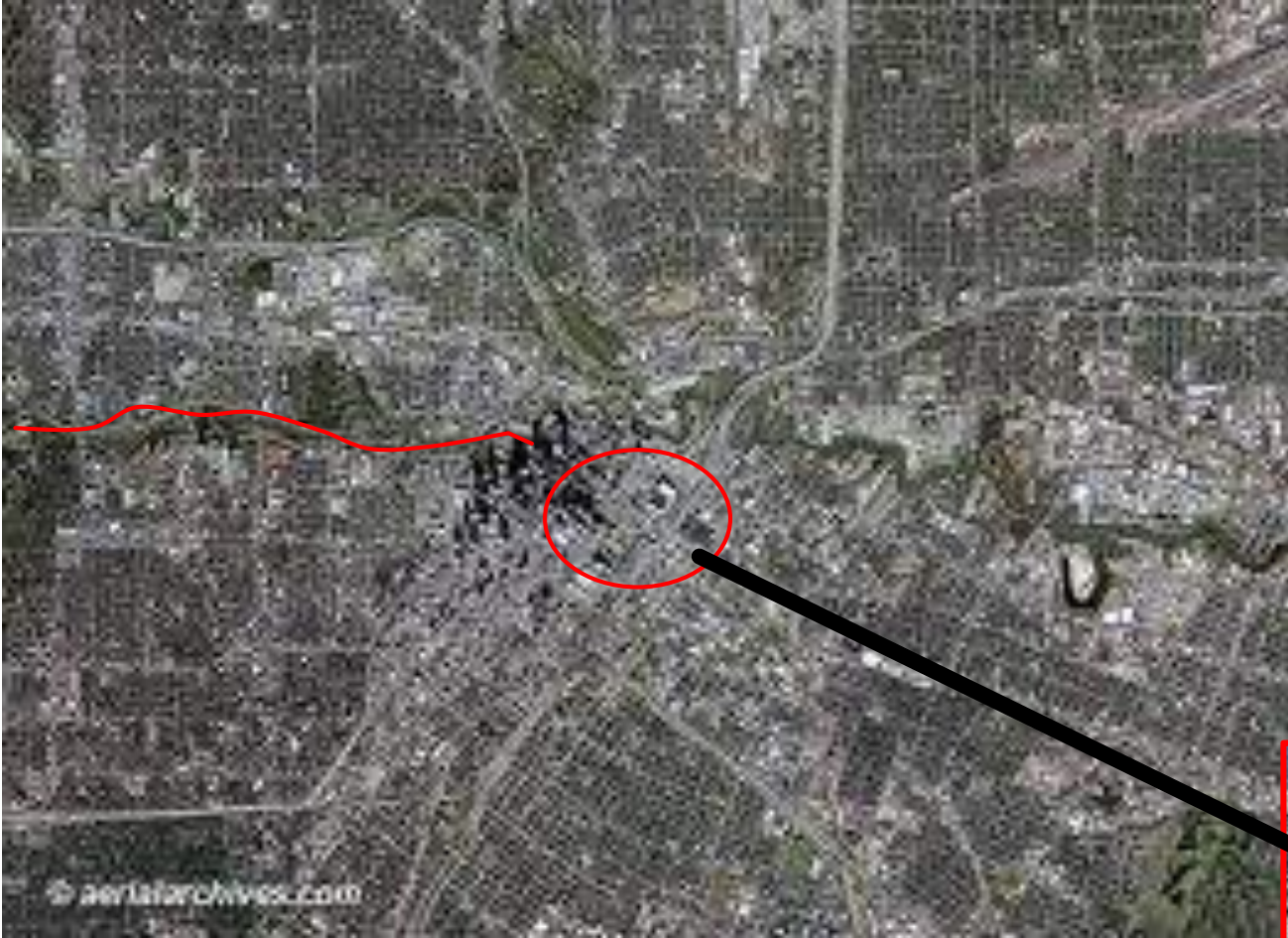
**Wildlife Habitat**



- **Shared parking is standard with schools, churches and parks**
- **Natural area preserves – uplands, natural and created wetlands**

***38 Environmental Awards in 30 Years***

# 1. Downtown



- Downtown Residential
- Downtown Convention and Hotel – New Convention Dis
- Downtown Green Space –Bayou Infrastructure Investment
- Light Rail Transit Oriented Development



## Convention District



The Downtown Houston convention- six properties and 2,000 rooms by 2016.

<http://www.houstonconventionctr.com/HomePage/PressRoom/TheNewHoustonConventionDistrict.aspx>

## Bayou as urban Resource



**Likened to Houston's own Central Park, the ambitious \$58 million project**

<http://buffalobayoupark.org/home/>

<http://buffalobayoupark.org/about-the-project/#overview>