INNOVATIVE DEVELOPMENT OF PUBLIC RIGHTS OF WAYS FOR A SUSTAINABLE FUTURE

FEBRUARY 2, 2017

LINETTE STRAUSS, ASLA
STEVEN SPEARS, FASLA, PLA, AICP
REGENERATIVE LANDSCAPES
The SITES Rating System is administered by Green Business Certification Inc (GBCI), the premiere organization independently recognizing excellence in green business industry performance and practice globally. The material on which the SITES Rating System is based was developed through a collaborative, interdisciplinary effort of the American Society of Landscape Architects Fund, The Lady Bird Johnson Wildflower Center at The University of Texas at Austin, and the United States Botanic Garden.
Areas of Focus
ECOSYSTEM SERVICES
Provisioning Services
Products obtained from ecosystems
- Food
- Fresh water
- Fuelwood
- Fiber
- Biochemicals
- Genetic resources

Regulating Services
Benefits obtained from regulation of ecosystem processes
- Climate regulation
- Disease regulation
- Water regulation
- Water purification
- Pollination

Cultural Services
Nonmaterial benefits obtained from ecosystems
- Spiritual and religious
- Recreation and ecotourism
- Aesthetic
- Inspirational
- Educational
- Sense of place
- Cultural heritage

Supporting Services
Services necessary for the production of all other ecosystem services
- Soil formation
- Nutrient cycling
- Primary production
SUITABILITY

- New construction or major renovations
- No maximum size
- Minimum of 2,000 square feet
- Anywhere in the world
- Early engagement
## SITES CERTIFICATION | 200 TOTAL POINTS

<table>
<thead>
<tr>
<th>Certification</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified</td>
<td>70</td>
</tr>
<tr>
<td>Silver</td>
<td>85</td>
</tr>
<tr>
<td>Gold</td>
<td>100</td>
</tr>
<tr>
<td>Platinum</td>
<td>135</td>
</tr>
</tbody>
</table>
CERTIFICATION PROCESS

1. Register your project with GBCI
2. Begin implementing & documenting SITES strategies
3. Meet with your reviewer to answer questions (optional)
4. Submit your documentation for preliminary review
5. Meet with your reviewer to discuss results (optional)
6. Submit your documentation for final review (if needed)
SITES GOALS
Transform the Market through Design, Development, & Maintenance practices

Create Regenerative Systems & Foster Resiliency

Ensure Future Resource Supply & Mitigate Climate Change

Enhance Human Well-Being & Strengthen Community
LINKS TO OTHER SITES PREREQUISITES AND CREDITS

PRE-DESIGN P2.1
USE AN INTEGRATIVE DESIGN PROCESS
SITES PROFESSIONAL CREDENTIAL
What is a SITES AP?

A SITES AP is an individual who possesses the knowledge and skills necessary to support the SITES certification process, including participating in the design and development process, supporting and encouraging integrated design, managing the application and certification process, and providing advocacy and education for the adopting of SITES.
RESOURCES

- SITES website: sustainablesites.org
- SITES v2 Rating System & Reference Guide
- Case studies of certified projects
- Educational webinars & workshops
- Quarterly calls
- Subscribe to newsletter
Green Infrastructure Certification

Welcome to NGICP, the standard for national certification of green infrastructure (GI) construction, inspection, and maintenance workers.

Learn about NGICP  See a list of certified individuals
Chinatown Green Street Demonstration Project
Project Background
DESIGN WORKSHOP

- 45-year old company
- Landscape architecture, urban design and planning, environmental graphics and development services
- 10 offices (8 in US, 2 overseas)
- National leader in performance based design
DESIGN WORKSHOP TEAM

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

LOCAL, NATIONAL AND INTERNATIONAL CITIZENS

STAKEHOLDERS
District Department of Transportation, DC Office of Planning, DC Water, DC Historic Preservation Office, District Department of the Environment, National Capital Planning Commission, Commission of Fine Arts

DESIGN WORKSHOP
Lead Design, Project Management, Public Outreach, Environmental Graphics/Interpretation, Green Infrastructure

Steven Spears - Principal in Charge
Philip Koske - Project Manager
Fenglin Du - Landscape Architect
Kelvin Smith - Environmental Graphic Designer

DEHMNE VAN SWEDEN
Local Landscape Architect, Public Outreach, District, State and Federal Permitting
Lisa Daubach - CEO/Principal
She Orriff - Principal

BLAKEY & AGNEW
Public Relations
Jeff Agnew - Principal
Leslie Blakey - Principal

LARRY KIRKLAND
Artist

SIGMIE COOPER
Historic/Cultural Consultant
Agency Liaison

VIKA CAPITOL
Surveying, Civil Engineering, Green Infrastructure, District, State and Federal Permitting
Kyle Oliver - President
Matthew Hall - Director of Surveys

WALTER P. MOORE
Transportation Engineering
Structural Engineering
Jennifer Park - Principal
Elizabeth Bryan - Senior Associate

CONSTRUCTION ECOSERVICES
Green Infrastructure Operations and Maintenance
Robert Adan - President
David Botts - Director

Indicates DC Based Firm
VISION

GREEN
A term used to refer to goods and services, laws, guidelines and policies claimed to inflict reduced, minimal, or no harm at all, upon ecosystems or the environment.

STREET
Paved public thoroughfare in a built environment; a public parcel of land adjoining buildings in an urban context, on which people may freely assemble, interact, and move about.

DEMONSTRATION
Showing by reason or proof, explaining or making clear by use of examples or experiments; to clearly show.
A NATIONAL DILEMMA

As a society, we now understand the unintended negative consequences of the current model of street infrastructure investment, and are also experiencing an infrastructure that has reached the end of its lifecycle. **Simply put, the majority of our infrastructure in the U.S. is coming upon exhaustion and a new model must be created and implemented.**
A NATIONAL DILEMMA: EXHAUSTED INFRASTRUCTURE

The Federal Highway Administration estimates $170 billion annually is needed to improve conditions.

Interstate 10 in California collapsed after heavy rain. Photograph: Nick Ut/AP
On average, street rights of way are the largest collection of public domain in any given city in the U.S. Road reconstruction offers a great opportunity to integrate green infrastructure into new, vibrant streetscapes. Since they are more than a transportation network, streets should take full opportunity to ensure the most appropriate stormwater management, energy use, and long lifecycle, thus making the corridors green, complete, and smart streets.
• **PHASE I:** Project Kickoff
• **PHASE II:** Discovery
• **PHASE III:** Initial Stakeholder Engagement Meetings and Public Relations

• **PHASE IV:** Preliminary Alternatives and Community Outreach
• **PHASE V:** Draft Master Plan and Preliminary Cost Estimate
• **PHASE VI:** Final Master Plan and Opinion of Probable Costs
THE ASLA METHOD

Define the scope, boundaries, dilemma, thesis, success factors and goals for the project.

Explore the existing conditions of the site and determine the function and potential of the project.

Determine strategies based on the project goals, level of reconstruction, and project potential.

Incorporate and test strategies in the design, implementation, and maintenance of the block.

Construct the preferred alternative based selected set of strategies.

Incorporate and test strategies in the design, implementation, and maintenance of the street.

Define the approach

Discover the personality of each block

Reference partners and benchmarks

Test strategies through design

Implement the preferred alternative

Monitor and report
DEFINE
The approach

Clearly articulate the scope, measures of success, and goals of the project from the start.
DISCOVER
the personality of each block

Rather than using a typical cross section across an entire street, each block should be examined individually to determine its unique use and potential.
REFERENCE

Partners and benchmarks

Identify goals and strategies that can be quantified. Reference national models and benchmark projects in other communities to see what methods have proven to be successful. This will make it possible to measure success and adjust approaches if desired metrics are not met.
Identify potential pilot sites to test ideas on a small-scale. Doing so will ensure success when implemented across the site.
IMPLEMENT

The preferred alternative

Draw from lessons learned in the test phase and employ those strategies that showed greatest success.
By returning to the site after implementation, maintenance regimes can be adjusted as needed, and one can validate whether the goals and strategies were relevant and measure the economics, environment, community, and artistic benefits. This data can then inform future decisions.
## Project Goals

### Environment

<table>
<thead>
<tr>
<th>Goal</th>
<th>Preliminary System of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maximize landscape to absorb and retain stormwater.</td>
<td>Total gallons captured and percent of 0.5&quot; rain event.</td>
</tr>
<tr>
<td>2. Return stormwater to system as a clean resource.</td>
<td>Percent of total public spaces treated to (X) water quality standards.</td>
</tr>
<tr>
<td>3. Reduce ambient air temperatures and heat island effect.</td>
<td>Percent reduction in measured air temperature.</td>
</tr>
<tr>
<td>5. Utilize recycled content and minimize waste in high-impact ways.</td>
<td>Percent by material cost of regionally-sourced materials.</td>
</tr>
<tr>
<td>6. Use regional resources.</td>
<td>Percent by material cost of regionally-sourced materials.</td>
</tr>
<tr>
<td>7. Improve local air quality.</td>
<td>Tons of CO2 eliminated</td>
</tr>
<tr>
<td>8. Maximize appropriate bird and insect habitat.</td>
<td>N/A</td>
</tr>
<tr>
<td>9. Minimize potable water budget.</td>
<td>Gallons of potable water deflected from project (or city?).</td>
</tr>
<tr>
<td>10. Evaluate how the project can improve resiliency to climate change.</td>
<td>Reduction of pipe back-ups in the area/system.</td>
</tr>
<tr>
<td>12. Deliver a project that improves existing tree and vegetation health.</td>
<td></td>
</tr>
<tr>
<td>13. Reduce flood-event frequency.</td>
<td></td>
</tr>
</tbody>
</table>

### Community

<table>
<thead>
<tr>
<th>Goal</th>
<th>Preliminary System of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create and preserve unique social nodes.</td>
<td>Number of distinct places created.</td>
</tr>
<tr>
<td>2. Increase pedestrian safety.</td>
<td>Reduced crime rate and reduced pedestrian accidents.</td>
</tr>
<tr>
<td>3. Expand public/private engagement for the project.</td>
<td>Number of agencies and groups engaged.</td>
</tr>
<tr>
<td>4. Educate the public about the proposed improvements and how sustainability impacts their daily life.</td>
<td>Number of people reached.</td>
</tr>
<tr>
<td>5. Achieve buy-in and support from local developers, non-profits, residents and ASLA community.</td>
<td>Number of agencies and groups that endorse the project.</td>
</tr>
<tr>
<td>6. Improve accessibility along the corridor.</td>
<td>Percent of site ADA compliant.</td>
</tr>
<tr>
<td>7. Increase the opportunities for healthy living within the corridor</td>
<td>Number of opportunities for active living and wellness.</td>
</tr>
<tr>
<td>8. Understand how the project impacts trends related to gentrification and shifts in local population.</td>
<td>Percentage of new residents/businesses to existing residents/businesses.</td>
</tr>
<tr>
<td>9. Understand how the project may impact homeless communities and related issues.</td>
<td>How can the corridor provide appropriate services for the homeless?</td>
</tr>
</tbody>
</table>
# PROJECT GOALS

## Economic

<table>
<thead>
<tr>
<th>GOAL</th>
<th>PRELIMINARY SYSTEM OF MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Allow for a design that lasts.</td>
</tr>
<tr>
<td>2.</td>
<td>Provide a series of projects that contribute to local commerce and economy.</td>
</tr>
<tr>
<td>3.</td>
<td>Increase entrepreneurial investment in the area.</td>
</tr>
<tr>
<td>4.</td>
<td>Capture additional funding for construction and implementation of the project.</td>
</tr>
<tr>
<td>5.</td>
<td>Create new job opportunities in the community.</td>
</tr>
<tr>
<td>6.</td>
<td>Increase 24-hour vitality of project site.</td>
</tr>
<tr>
<td>7.</td>
<td>Increase Return on Investment for developers and property owners.</td>
</tr>
<tr>
<td>8.</td>
<td>Increase connectivity of Convention Center, Carnegie Library, Verizon Center, Portrait Gallery and other large-scale operators.</td>
</tr>
<tr>
<td>9.</td>
<td>Minimize construction phase disruption to local businesses and services.</td>
</tr>
<tr>
<td>10.</td>
<td>Minimize overall operating costs.</td>
</tr>
<tr>
<td></td>
<td>Projected deepening of the project/CAM cost.</td>
</tr>
<tr>
<td></td>
<td>Dollar value added to local businesses.</td>
</tr>
<tr>
<td></td>
<td>Dollar value of private investment.</td>
</tr>
<tr>
<td></td>
<td>Funds raised for Project.</td>
</tr>
<tr>
<td></td>
<td>Number of jobs added to the area.</td>
</tr>
<tr>
<td></td>
<td>Number of pedestrians at indicator times.</td>
</tr>
<tr>
<td></td>
<td>Number of pedestrians at indicator times.</td>
</tr>
<tr>
<td></td>
<td>Walk Score, bike share travel data, pedestrian travel counts and data.</td>
</tr>
<tr>
<td></td>
<td>Number of business days affected by construction.</td>
</tr>
<tr>
<td></td>
<td>Dollars reduced in baseline operating costs.</td>
</tr>
</tbody>
</table>

## Art

<table>
<thead>
<tr>
<th>GOAL</th>
<th>PRELIMINARY SYSTEM OF MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Harbor identity, vitality and personality within the district by improving overall access to art.</td>
</tr>
<tr>
<td>2.</td>
<td>Ensure that art program resonates with the local community and spirit of place.</td>
</tr>
<tr>
<td>3.</td>
<td>Create a diverse network of art.</td>
</tr>
<tr>
<td>4.</td>
<td>Employ local artists to participate and contribute to the design.</td>
</tr>
<tr>
<td>5.</td>
<td>Utilize art to demonstrate project systems and ideas.</td>
</tr>
<tr>
<td>6.</td>
<td>Improve the overall beauty and aesthetics of the area.</td>
</tr>
<tr>
<td></td>
<td>Number of artists engaged in the process.</td>
</tr>
</tbody>
</table>

## Leadership

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<tr>
<th>GOAL</th>
<th>PRELIMINARY SYSTEM OF MEASUREMENT</th>
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<tbody>
<tr>
<td>1.</td>
<td>Embody the mission of ASLA: &quot;...lead the design and stewardship of land and communities&quot;.</td>
</tr>
<tr>
<td>2.</td>
<td>Support and empower the community.</td>
</tr>
<tr>
<td>3.</td>
<td>Leverage the expertise and resources of ASLA and its members to support community, economic, and environmental sustainability.</td>
</tr>
<tr>
<td>4.</td>
<td>Increase the visibility of the landscape architecture profession.</td>
</tr>
<tr>
<td>5.</td>
<td>Promote the value of Landscape Architecture.</td>
</tr>
<tr>
<td></td>
<td>Number of ASLA members who participated throughout the project.</td>
</tr>
<tr>
<td></td>
<td>Number of media events.</td>
</tr>
<tr>
<td></td>
<td>Total contributions to ASLA for project.</td>
</tr>
</tbody>
</table>
SYSTEMS ANALYSIS FOR A COMPREHENSIVE STREET DESIGN

- Overall Site
- Geotechnical/subsurface
- Traffic and transit analysis
- Pavement conditions
- Franchise and public utilities
- Overlays and guidelines (CFA, Historic, L’Enfant, Ownership, etc.)
- Historic time line of development significance
- Tree health
- Existing land use and use intensity
- Views and viewsheds

- Walking distance
- Sun/shade analysis
- Surface temperature
- Lumen/footcandle
- Existing irrigation
- Existing on street parking
- Pedestrian circulation
- Existing wayfinding, signage and interpretive aspects
- Stormwater Drainage
- Energy Use
EXISTING CONDITIONS ANALYSIS : STORMWATER

- The study area is approximately 90% impervious.
- Water in the study area predominantly flows south at a rapid pace.
- The site is at the intersection of three combined sewer system watersheds.
- Areas where drain inlets are failing are consistent with where pavement is failing.
EXISTING CONDITIONS ANALYSIS: URBAN SHADE

- Only 2% building shade in the study area mid-day in June.

- Through all seasons, north-south running streets receive full sun at the heat of the day.

- The project team measured a +20° average surface temperature difference between shade and sun in July.

- In the winter, east/west streets are at least 75% in the shade all day.
EXISTING CONDITIONS ANALYSIS: PEDESTRIAN MOBILITY AND ACTIVITY

- 7th Street NW currently functions as the predominant north-south pedestrian route through the area.
- The sidewalks along 7th Street NW are among the narrowest yet busiest in the neighborhood.
- 8th Street NW has the widest sidewalks (25 feet) and very low pedestrian traffic.
EXISTING CONDITIONS ANALYSIS: TREE COVERAGE AND HEALTH

- 57% of the trees in the study area are in fair or poor health.
- The majority of trees in poor health are located on south-facing blocks.
- 50% of all tree boxes in the study area contain an electrical box.
- 120 average cubic feet of visible soil area for trees within the study area.
EXISTING CONDITIONS ANALYSIS: AUTO CIRCULATION AND INTENSITY

- 6th and 9th Streets NW carry the most automobile traffic in the study area.
- 6th Street NW is designed for the heaviest vehicular capacity, with four lanes of traffic.
- 7th Street NW provides the most mobility options with multiple bus lines and a shared bus/bike lane.
- Loading and garage entry curb cuts are located on 6th Street NW.
EXISTING CONDITIONS ANALYSIS: CULTURAL AND HISTORIC SYSTEMS

- The L’Enfant Plan for Washington, D.C. positioned a strong vertical axis along 8th Street NW between the Carnegie Library and the National Portrait Gallery.
- The Chinatown Gate on H and 7th Street NW also serves as a wayfinding and sculptural element.
<table>
<thead>
<tr>
<th>Environment</th>
<th>Sustainable DC Plan</th>
<th>DDOT Green Infrastructure Standards</th>
<th>Washington, D.C. Downtown Streetscape Regulations</th>
<th>Greenroofs Reference</th>
<th>SITES Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.1: Maximize landscape to absorb and retain stormwater</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.1.a: Direct stormwater volumes to pervious surfaces.</td>
<td>Water 3.2: Increase the use of green infrastructure along public rights of way.</td>
<td></td>
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</tr>
<tr>
<td>E.1.b: Use vegetation to absorb stormwater.</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>E.1.c: Create holding capacity of subsurface conditions.</td>
<td>Soil volume sizing benchmark. Small tree = 3000 cu ft, Medium tree = 4000 cu ft, Large tree = 10000 cu ft.</td>
<td>Downtown Streetscape Regulations - 1104.6: Requires a foot up 12 foot planter per tree appears to be the only pervious zone allowed.</td>
<td></td>
<td>Credit 3.1: Manage precipitation on site to retain the 20th percentile rain event for impervious areas; Credit 3.2: Manage precipitation beyond baseline (20th, 25th or 10th percentile).</td>
<td></td>
</tr>
<tr>
<td>E.1.e: Develop and implement a green roof system cleaning plan.</td>
<td>Provides a basic outline for maintaining green roofs.</td>
<td>Downtown Streetscape Regulations - 1106: Requires maintenance by adjacent property owners.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>E.1.f: Develop and implement a soil maintenance plan.</td>
<td></td>
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</tr>
<tr>
<td>E.2: Return stormwater to system as a clean resource</td>
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</tr>
<tr>
<td>E.2.a: Reduce total TSS from raw stormwater.</td>
<td></td>
<td></td>
<td></td>
<td>Credit 3.3: Runoff Quality 1.3: Treat stormwater to a higher level of quality.</td>
<td></td>
</tr>
<tr>
<td>E.2.b: Reduce total bacterial content of raw stormwater.</td>
<td></td>
<td></td>
<td></td>
<td>Credit 3.3: Runoff Quality 1.3: Treat stormwater to a higher level of quality.</td>
<td></td>
</tr>
<tr>
<td>E.2.c: Reduce levels of heavy metals from raw stormwater.</td>
<td></td>
<td></td>
<td></td>
<td>Credit 3.3: Runoff Quality 1.3: Treat stormwater to a higher level of quality.</td>
<td></td>
</tr>
<tr>
<td>E.2.d: Reduce levels of minerals and chemicals from raw stormwater.</td>
<td></td>
<td></td>
<td></td>
<td>Credit 3.3: Runoff Quality 1.3: Treat stormwater to a higher level of quality.</td>
<td></td>
</tr>
</tbody>
</table>
PARTI DIAGRAM
I STREET PILOT PROGRAM
ANALYSIS AND STRATEGIES

Possible Strategies:
- Increase planted surfaces and add tree canopy to reduce air temperatures and mitigate heat stress in the summer months.
- Expand and improve walkways and seating areas for increased comfort and enjoyment.
- Add a palette of materials and colors to relate to the historical and cultural context.
- Reduce crosswalk distances at intersections to make it safer for pedestrians and bikers.
- Increase public spaces for businesses in the streetscape.
- Use vegetation to absorb and reduce stormwater to reduce the stress on the aging infrastructure.
STRATEGIES FOR COMPREHENSIVE STREET DESIGN

- Crosswalks
- Improved Sidewalk
- Bike Racks
- New Trees
- Permeable Brick Pavers
- Bulb Outs
- Rain Gardens
- Structural Soil
- LED Lighting
- Seating

Legend:
- Central Tree
- Planted Tree
- Bricks
- Rain Garden

EYE STREET CORRIDOR CONCEPT DESIGN

American Society of Landscape Architects, Washington, D.C.
STRATEGY 1: INCREASE PERVERSITY AREA THROUGH INCREASED PLANTING AREA

600 - 700 I STREET NW

LEGEND
- EXISTING TREE
- PROPOSED TREE
- EXISTING PLANTING
- PLANTING AREA
- PERVIOUS AREA

IMPLEMENTATION AREA

1 Street NW

3% EXISTING PERVERSITY SURFACE
24% PROPOSED PERVERSITY SURFACE

EYE STREET CORRIDOR CONCEPT DESIGN
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS WASHINGTON D.C.
DESIGNWORKSHOP
STRATEGY 1: INCREASE PERVIOUS AREA THROUGH INCREASED PLANTING AREA

EYE STREET CORRIDOR CONCEPT DESIGN

CHERRY CREEK NORTH - DENVER, CO
STRATEGY 1: INCREASE PERVIOUS AREA THROUGH INCREASED PLANTING AREA

EYE STREET CORRIDOR CONCEPT DESIGN

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS | ARCHITECTURE D.C.

DESIGNWORKSHOP
STRATEGY 2: RETAIN STORMWATER - PROPOSED RAIN GARDEN

EYE STREET CORRIDOR CONCEPT DESIGN
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS | WASHINGTON, D.C.
STRATEGY 2: RETAIN STORMWATER - PERMEABLE PAVERS

600 - 700 I STREET NW

TD BANK
4511 MASS AVE, UNDER CONSTRUCTION
FNC BANK
ASLA
ADABO
FUTURE DEVELOPMENT
SIXTH & E SYNOAGUE

IMPLEMENTATION AREA

I Street NW

17243 CF
PERMEABLE PAVER RETENTION

100% +
1.2" STORM EVENT WITHIN CAPTURE AREA

EYE STREET CORRIDOR CONCEPT DESIGN
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS WASHINGTON, D.C.
DESIGNWORKSHOP
STRATEGY 2: RETAIN STORMWATER - PERMEABLE PAVERS

- 1 Street NW currently uses Pine Hall Red (PH-1) 4x8x2-1/4 pavers in basketweave pattern. Pine Hall Brick also makes a matching permeable brick paver called StormPave that is used on several municipal, institutional and commercial projects in the district.
STRATEGY 2: RETAIN STORMWATER - PERMEABLE Pavers

EYE STREET CORRIDOR CONCEPT DESIGN
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS | ARCHITECTURE D.C.
DESIGN WORKSHOP
STRATEGY 5: REDUCE ENERGY CONSUMPTION BY SWITCHING TO LED

600 - 700 I STREET NW

TD BANK
400 MASS AVE, UNDER CONSTRUCTION
MOOED USE DEVELOPMENT
PNC BANK
ASLA
NAIRD
FUTURE DEVELOPMENT
60TH & I SYNAGOGUE

IMPLEMENTATION AREA

I Street NW

293 kWh
WATTAGE PER HOUR OF EXISTING LIGHT

141 kWh
WATTAGE PER HOUR OF PROPOSED LIGHT:

52% ENERGY REDUCTION

EYE STREET CORRIDOR CONCEPT DESIGN

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
WASHINGTON D.C.

DESIGN WORKSHOP
BAGBY STREET

- Midtown Redevelopment Authority
- Located immediately south of downtown
- Emerging mixed use district
- Cultural arts and entertainment district
MASTER PLAN: NOT A ONE SIZE FITS ALL
88% of pedestrian area is shaded by tree canopy of majority

14% decrease in hardscape surface temperatures
42% increase of existing tree growth area & organic soils

276% increase in dedicated pedestrian areas

300 tons of carbon reduced from emissions due to use of 25% fly ash in the concrete mix.
$40 million of investment in private redevelopment since project was announced.

20% increase in rental property prices post construction.
38% increase in new seating and social gathering areas

100% use of native and adopted plants
33% of local stormwater captured and filtered by rain gardens before draining to municipal systems.

- 75% reduced nitrogen
- 73% phosphorus removed
- 93% oil and gas removed
- 85% pathogen reduced, pathogen removed
4X the typical project budget dedicated to:
- Art; interpretive and customized elements
43 new bicycle racks installed

70% increase in bicycle use since street renovation
4X increase in average night time light levels

30% reduction in crime rates along the corridor
ECONOMIC IMPACT OF GREAT STREETS CAPES

BAGBY STREET
HOUSTON, TX

- $55 million in reinvestment along the corridor.
- 22% increase in lease rates along the corridor.

CHERRY CREEK
NORTH
DENVER, CO

- 16% in district sales tax in just the first year.
- This was more than double the rates of increase for both the city and the entire Denver Metro Area.

LINCOLN ROAD
MIAMI, FL

- 85% increase in the total assessed value of properties within 1/2 block of improvements.
- 80% (1.2 million) increase in property values.

UPTOWN STREETS CAPE
NORMAL, IL

- $1.5 million (or 9%) of increased property values.
- $680,000 increased revenue by adjacent conference center.

SOUTH GRAND BLVD
ST. LOUIS, MO

- 14% increase in sales tax after 1st year. Proforma projected a 19% increase over 10 years.
THANK YOU

LINETTE STRAUSS, ASLA
STEVEN SPEARS, FASLA, PLA,
AICP