

engineeringgreen2011

Integrating ESD with Community
Revitalization in the Urban Landscape:

The 400 Block of N. Duncan Street

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JGL Design Associates & Morgan State University

Integrating ESD with Community Revitalization in the Urban Landscape
(The 400 Block of N. Duncan St.)

Can we really “engineer” green in the urban landscape?



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How do we define a “sustainable urban community”?

Community

- Crime / Safety
- Quality Housing
- Healthcare
- Education / Schools
- Clean Neighborhoods
- Employment
- Access to Shopping
- Convenient Transportation
- Parking

Professionals

- Green Spaces
- Water Quality
- Energy Efficiency
- Best Management Practices
- Walkability
- Infrastructure
- Air Quality
- Pervious Surfaces
- Mass Transit

Livability

Green Design



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Can people dealing with livability
issues be expected to “care” about
green issues?

Can green design techniques be part of
the solution to livability problems?



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Can existing urban neighborhoods be transformed into sustainable communities?



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The 400 Block of N. Duncan St. Project



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Integrating ESD with Community Revitalization in the Urban Landscape (The 400 Block of N. Duncan St.)

Genesis of the Duncan Street Project

NDC

- Mission to revitalize Baltimore's neighborhoods via a participatory design process
- Active community leadership
- C.A.R.E. neighborhood's needs identified
- Design volunteers recruited

MSU

- ESD course for LA graduate students
- Maryland stormwater manual & regulations (ESD)
- Urban application of ESD
- Actual site needed for course study

Partnership



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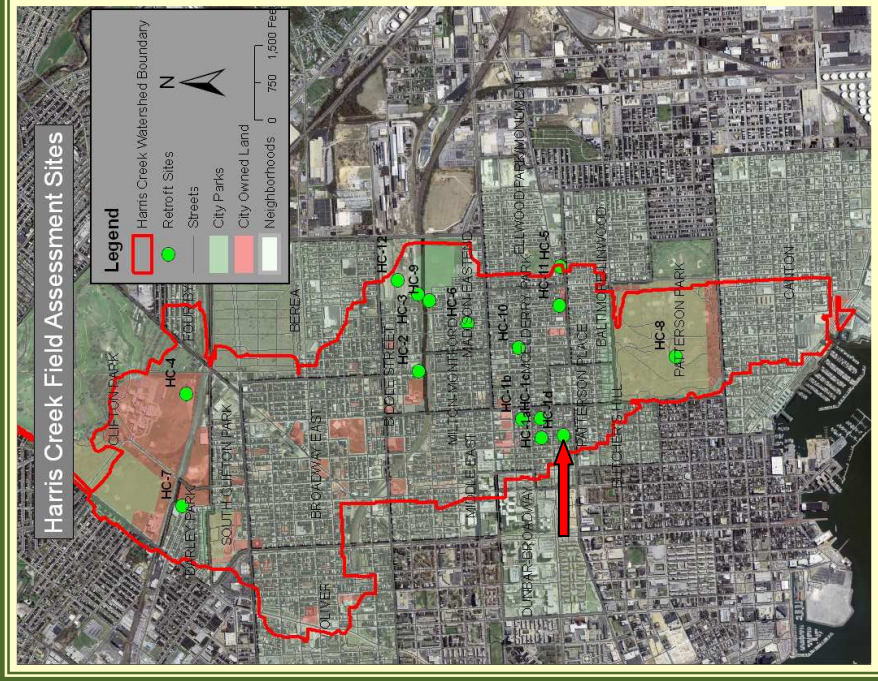
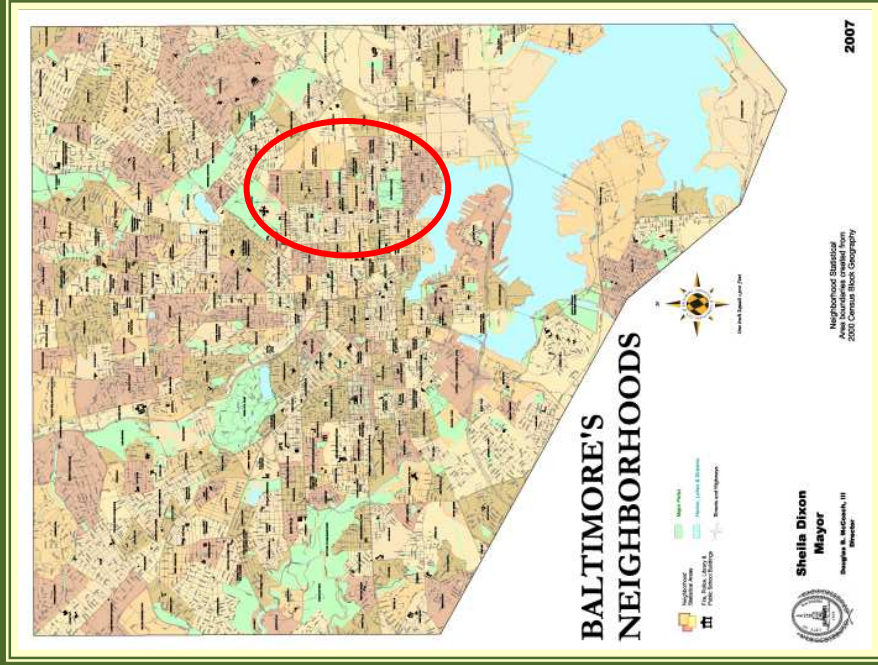


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Site Description



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The Reality of the Urban Landscape

Constraints

- High degree of imperviousness
- Limited ability to “re-grade”
- Existing infrastructure
- Multiple property owners
- Zoning & Regulations
- Aging/integrity of structures
- Funding priorities
- Antiquated land use expectations
- Social issues

Opportunities

- Active community design process via NDC
- “Open” spaces / vacancies
- Minimal development pressures
- Chesapeake Bay focus
- Mandates / Pressures
- Partnerships
- Current funding availability
- Social issues



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Community Design Process

- Meeting with C.A.R.E. community representatives
- Develop understanding of community concerns & priorities
- Conduct site assessment & analysis
- Meetings with Baltimore City DPW Watershed Liaison
- Design Charette – develop program
- Site design
- Community presentation & feedback
- Input from design professionals City officials



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Community Design Program

- Additional parking for community members (not Hopkins or the Market)
- Safety & crime deterrence (defensible spaces)
- Deterrence of trash dumping
- Create flexible green community spaces
- Dissuade short cut traffic on Duncan St.
- Minimal maintenance



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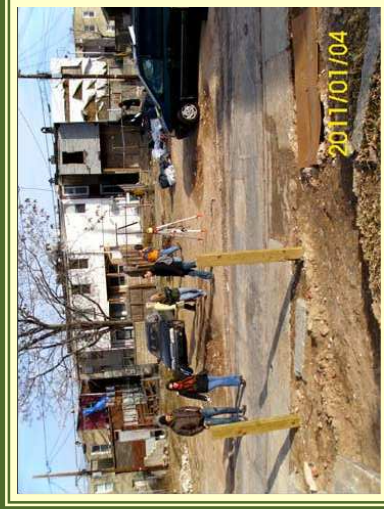
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Site Assessment & Analysis

- Verify topography (spot elevations)
- Locate utilities
- Vacancy assessment
- *Evaluate drainage patterns, systems & problems*
- *Cursorry soils assessment*
- Traffic patterns
- Opportunities & constraints



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Design Charette

- Form a partnership between community & designers
- *Educate community on ESD principles*
- Create design teams (community members, students, design professionals, Baltimore City officials, NDC, faculty)
- Develop multiple design concepts to meet community program
- *Integrate ESD objectives*
- Present & evaluate concepts
- Select preferred concept



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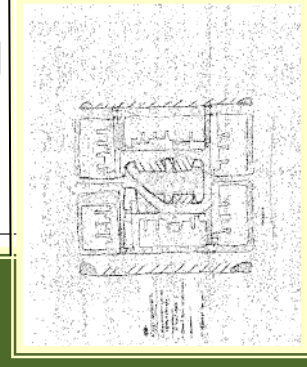
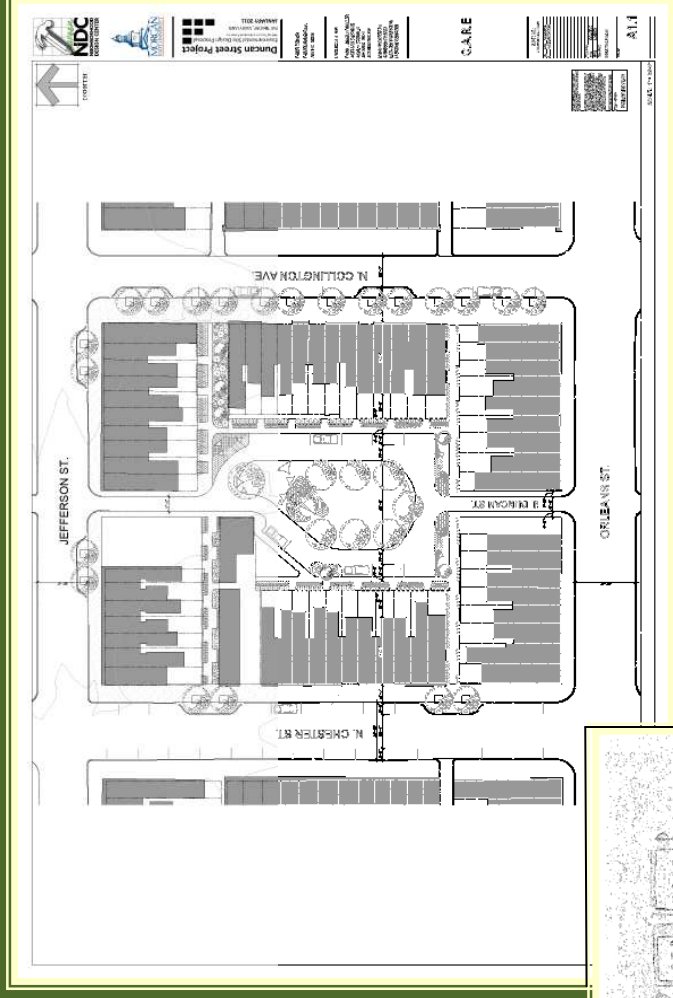
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Site Design – Community Program

- 11 new parking spaces (not visible from main streets)
- Central flexible green space
- Loop road (no cut through)
- Connections to back of homes (eyes on the street)
- Green alleys & lighting dissuade criminal activity (not inviting)
- Road design, parking & plantings discourage dumping (not easy to dump & run)
- Access for trash & service vehicles
- Low maintenance plantings & materials



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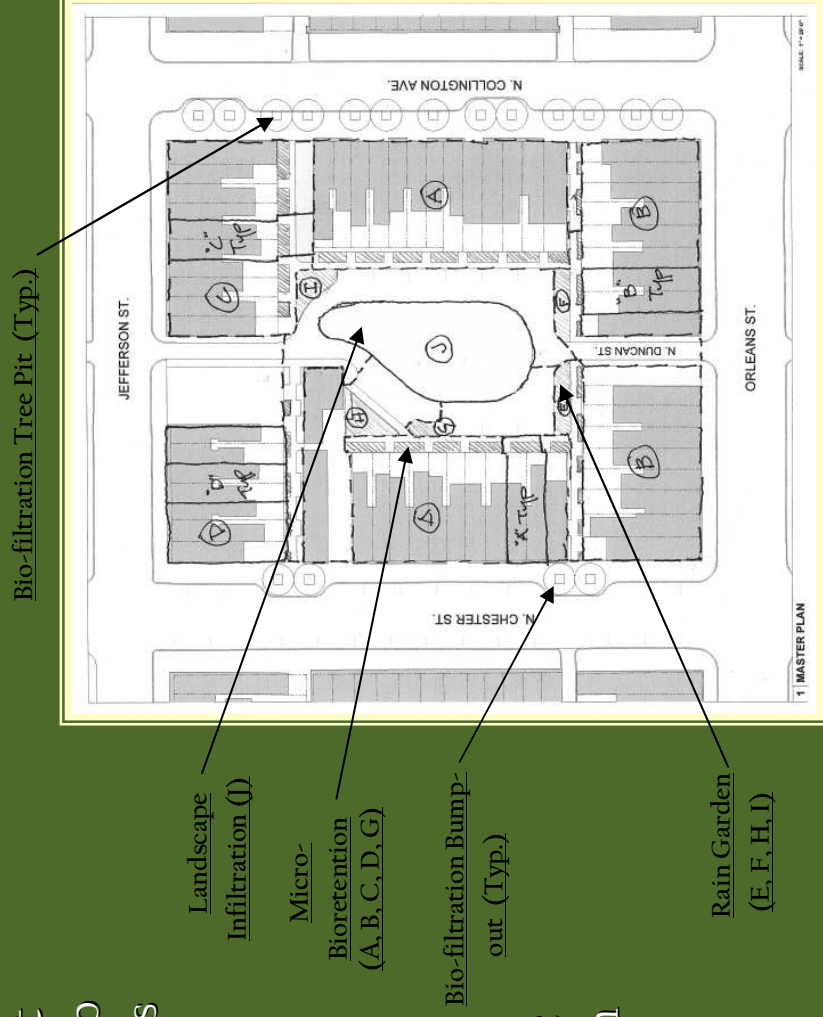
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Site Design - ESD

- Exceeded ESD Redevelopment goal of 50% treatment – able to treat 100% impervious surfaces (P_E=I²)
- “Sub-watersheds” defined within the design
- Incorporated ESD practices throughout the site – part of the design, not imposed
- ESD practices are amenities & support the community design
- ESD incorporated at a scale that is “transferable”
- ESD did not impose on individual residences



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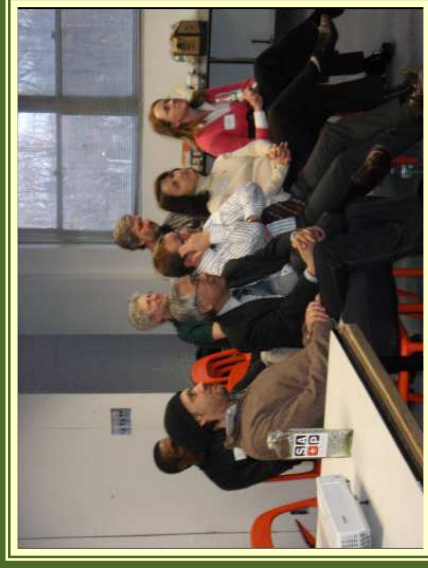
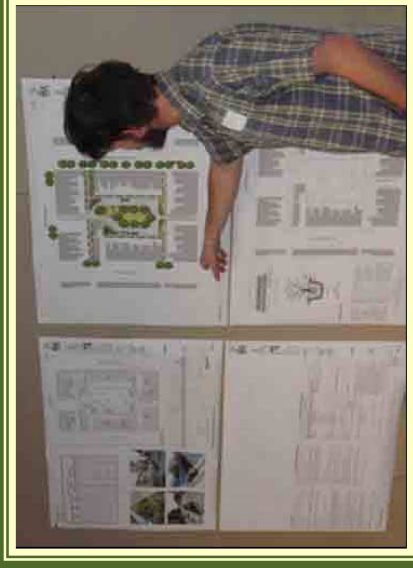
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Community Presentation

- Community
 - Needs / program were priority
 - All program issues addressed
 - Engaged in the process
 - Learned importance of ESD
- Design Professionals
 - ESD redevelopment issues
 - Integrated process
 - BMP applications
- Baltimore City
 - Pursue Duncan St. project
 - Broader application
 - Process & templates



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Status & Future Actions

- Additional Baltimore City & Community “Buy-In”
 - > Process
 - > Zoning & Regulations
 - > Property Ownership
 - > Funding – Final Design Phase & Construction
- Final Design
 - > Site Information
 - Utilities (Underground locations & Elevations)
 - Soil Borings/Testing
 - Topographic Detail
 - > ESD Calculations
 - > Construction Details & Specs
 - > Maintenance Plans
- Community based green jobs



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