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**Matthews Memorial Terrace
Green Charrette Summary**
10 February 2009

Attendees

First Name	Last Name	Organization	Role	Email & Phone
Jeff	Goins	PGN Architects	Architect	j.goins@pgnarchitects.com 202-822-5995
Marina	Mochkina	PGN Architects	Architect	m.mochkina@pgnarchitects.com 202-822-5995
Olandan	Davenport	Davenport & Associates	Attorney	diagdeje@cs.com 202-463-0141
Bambi	Tran	Sustainable Design Consulting	Charrette Facilitator	bambi@sustaindesign.net 202-352-4563
Ray	Norris	Bowman Consulting	Civil Engineer/ Landscape Designer	raymondnorris@bowmanconsulting.com 301-519-8999
Tom	Wahl	Hamel Builders	Contractor/Cost Estimator	twahl@hamelbuilders.com 410-379-6700x138
Jeff	Warner	Hamel Builders	Contractor/Cost Estimator	jwarner@hamelbuilders.com 410-379-6700x116
David	Parrish	The Community Builders	Developer/Owner	dparrish@tbcinc.org 202-552-2505
Steve	Fish	The Community Builders	Developer/ Owner/ Construction Manager	sfish@tcbinc.org 857-221-8724
Dan	Murphy	The Community Builders	Developer/ Owner/ Facility Manager	dmurphy@tcbinc.org 857-221-8685
Rob	Vieira	The Community Builders	Developer/ Project Manager	rvieira@tcbinc.org 202-552-2503
Ken	Cantwell	Summit Engineers	MEP Engineer	ken@summitengineers.com 703-533-5593
Matthew	Hudson	Matthews Memorial Baptist Church	Owner	pastor@mmbcdc.org
Stephanie	Otey	COVI/Matthews Memorial Baptist Church	Owner/ Facility Manager	stephanieotey@mmbcdc.org 202-247-7452

Discussion Items

Project Description

Site:

- The existing site consists of approximately 79,311 square feet (1.82 ac) of land area and is mid-block, bounded by Martin Luther King Jr. Avenue, SE to the west and Dunbar Road, SE to the

ZONING COMMISSION
CASE No. 08-25
SUBMIT No. 33

east. The site is currently improved with one two-story duplex, two three-story houses, one two-story house, and an asphalt parking lot. The site also contains parking for Matthews Memorial Baptist Church. Directly across Martin Luther King Jr. Avenue from the project site are several three-story garden style apartment buildings and detached single family dwellings. Commercial uses exist further north across Martin Luther King Jr. Avenue. The site is located approximately ¼ mile from the Anacostia Metro station, and Suitland Parkway is to the east.

- Phase I environmental assessment has been completed. No major problems were discovered. Developer to investigate if Phase I covered inside of existing houses. If not, then contract for such investigation and plan for remediation if needed.
- Transit access: Metro station (Anacostia Station – Green line), which is also hub for over 10 bus lines, is within 0.35-mile walk of the site.
- Adjacent to the apartment building will be a three-story community services building (to be developed separately), which will also have 11 surface parking spaces.

Entitlement:

- Matthews Memorial Baptist Church owns the site.
- Application for consolidated review and approval of a Planned Unit Development (PUD) and a related map amendment to the R-5-B Zone District as well as relief from the off-street parking and loading requirements are being sought with the DC Office of Planning. The public hearing is expected to take place in March 2009.

Program:

- New construction of affordable rental multi-family residential building
- 5-story with underground parking garage, 107,516 square feet
- 99 dwelling units (1, 1+den, 2, 3-bd) for three different target populations, all of whom will have incomes at or below 60% of the area median income: seniors (62 and older), families qualifying for public housing (those relocated from public housing nearby), and other qualifying families. Approximately 1/3 of the residential units will be programmed for each target population.
- Ground floor: Community services spaces (i.e., a community room, a meeting room with kitchen facilities) plus dwelling units
- Terrace Floor and Floors: Terrace level courtyard that acts as a green roof plus dwelling units
- Parking: 50 underground parking spaces for the dwelling units

Issues:

- Green Criteria:
 - DC Green Building Act requires meeting Green Communities Criteria v2006, but Enterprise now only considers for funding/grants projects that comply with Green Communities Criteria v2008.
 - Owner/Developer got permission from DC Office of the Deputy Mayor for Planning and Economic Development – New Communities Office to use Green Communities Criteria v2008 as a standard that is "substantially equivalent" to Green Communities Criteria v2006.
- Regulatory
 - Parking: The Owner/Developer is trying to get relief from the off-street parking and loading requirements from DC Office of Planning.
- Green Communities Implementation:
 - The Developer (The Community Builders) already incorporates some green strategies as part of their standard practice (e.g., low-flow fixtures).
 - It was agreed that the best way to ensure that green strategies get implemented is to incorporate them into the project drawings and specifications. Without proper documentation, the Construction Contractor will not be able to get good bids and provide accurate cost estimates.

Green Vision/Goals

Participants confirmed the overarching green vision and goals for the project. It is as follows:

Matthews Memorial Terrace will be a quality, healthy, comfortable, and energy-efficient multifamily community with minimal impact on the natural environment. It will demonstrate the Owner's commitment to environmental sensitivity by incorporating proven, durable, and cost-effective green design and construction strategies. The Owner will work with the residents to promote a safe, caring, and comfortable living environment for residents and their guests. Through training and supportive encouragement, the residents as well as the building maintenance and custodial staff will be empowered to sustain the green community through healthy and resource-efficient operations, maintenance, housekeeping, and lifestyles.

Green Communities Criteria

Following is a summary of the major discussions and decisions on the Green Communities criteria. More detailed information is available in the Green Development Plan.

Integrated Design Process:

Rob Vieira, Project Manager with The Community Builders, will take the lead in ensuring that the Green Development Plan gets implemented. He will develop a coordination plan with responsibility assignments. The project team will hold at least monthly meetings to check on the project's status and achievement of Green Communities criteria. The Green Development Plan is submitted with this summary. The Owner/Developer has hired a Construction Contractor with green building experience to provide pre-construction services for the project.

Location and Neighborhood Fabric:

Existing site has four small residential buildings and an asphalt parking lot that serves Matthews Memorial Baptist Church. The parking lot and buildings will be demolished to make room for the project on this infill site. The project is dense (54 dwelling units per acre) and surpasses Green Communities requirements. There will be two connections to sidewalks leading to surrounding neighborhoods. The site is within a 0.35-mile walk of the Anacostia Metro Station (Green line), which also serves as a major Metrobus hub for the area.

Site Improvements

A Phase I Environmental Site Assessment has been conducted. No major problems were discovered. The Owner/Developer will confirm whether the investigation included inside the existing houses. If not, then arrangements will be made to carry out a Phase I for inside the houses and develop a remediation plan if hazardous materials are found. The construction team will implement erosion and sedimentation controls during construction (DC-mandated practices comply with EPA's Best Management Practices) and ensure that the control measures are in place for the duration of the construction. Landscaping will be 100% appropriate for the site with special consideration for plantings on the terrace, which is essentially an extensive green roof above the underground parking garage.

Water Conservation

The MEP Engineer will coordinate with the Architect to select and specify fixtures to comply with, and in some cases exceed, the mandatory Green Communities maximum flow/flush rates for toilets, lavatory faucets, kitchen faucets, and showerheads. The Owner/Developer will explore the effectiveness of Gerber's 1.1 gpf toilets (model # EF-21-302) to see if they would be suitable for this project. The Charrette Facilitator does not know an effective toilet that is below 1.28 gpf. Because 100% of the landscaping will be appropriate for the site, irrigation of the landscaping is not planned. However, as the project gets further developed, the team will re-evaluate whether irrigation is necessary. If so, the Civil Engineer will design a highly efficient irrigation system to comply with the requirements. A cistern/rain barrel is being considered for irrigation of the terrace plantings if needed.

Energy Efficiency

The MEP Engineer will coordinate with all members of the project team, especially the Architect, to incorporate energy saving strategies to achieve at least 15% savings over ASHRAE 90.1-2004. Strategies include: proper air sealing details; R-21 2x6 walls up to roof (fiberglass batt or dense-pack cellulose); vinyl low-e windows with U-Factor of 0.40 or less and Solar Heat Gain Coefficient (SHGC) of 0.55 or less and maybe a reflective coating; R-38 roof (polyiso or spray foam or SIPS either on top of roof decking or in wood truss cavity); highly reflective white TPO roofing membrane; internal blinds for windows in all units; R-11 in plenum between 1st floor slab and underground parking; no heating of garage; no wet sprinklers in attic; Energy Star/energy-efficient indoor and outdoor lighting and controls; Energy Star appliances; split heat pump system (min. SEER 14); programmable thermostat with 8 degree range; and either an efficient gas central hot water system (condensing modulating boiler or gas hot water tanks) or individual energy-efficient electric hot water heaters in the units. Other strategies that are being considered include: nighttime setback for corridor and common space lighting (investigate impact on CCTV); and solar hot water pre-heating. It was determined that light shelves and solar panels are cost prohibitive; and structural insulated panels (SIPS) are not suitable for the walls due the required 2-hour rating. The MEP Engineer will engage an energy modeler to assist in determining the best energy efficiency package for the project, taking into considering cost, aesthetics, and ventilation requirements.

Materials Beneficial to the Environment

The Construction Contractor plans to crush the asphalt parking lot and reuse it for sub-base material and/or non-structural applications. The Architect will specify recycled-content materials with the goal of achieving 10%-20% recycled-content materials. The Architect has so far selected fiber cement siding and panels and metal panels for the facades with high recycled content percentages. The Architect to specify recycled-content materials, including: concrete, steel, gypsum wallboard, TPO roofing, and insulation. A white TPO roofing membrane (with recycled-content) is planned for 100% of the roof area. This will also contribute to the energy efficiency of the building.

Healthy Living Environment

The Architect will specify low-VOC materials, including plywood boxes for cabinets, to comply with the requirements. The Construction Contractor plans to seal the underside of countertops to prevent the release of urea-formaldehyde from the countertop substrate. Strict adherence to the specifications is important to achieving these goals during construction. The Architect will develop construction details to ensure proper treatment of water drainage and vapor barrier. The MEP Engineer will explore the feasibility of an integrated ventilation design. Potential strategies to meet ASHRAE 62.1-2007 for ventilation include: natural ventilation as much as possible; either intermittent kitchen exhaust for each unit or continuous/intermittent kitchen exhaust plus recirculating kitchen hood fans for each unit; central continuous bath exhaust; and a separate ventilation system for corridor/common spaces. The Owner/Developer is interested in installing alternatives to carpets for the units, but concerns were raised about sound transmission, comfort (especially for seniors), and marketability. The Architect will work with the Owner/Developer/Facility Manager to select the most appropriate flooring materials. The Owner will investigate the feasibility a no-smoking policy (enforcement of no-smoking policy is difficult).

Operations and Maintenance

The Owner/Facility Manager will develop the Operations & Maintenance manuals. The manual will include information for both maintenance employees and residents, compiled from information provided by the entire design/construction team. The Owner/Facility Manager will conduct walk-throughs and orientation with new residents and tenants. The Owner/Facility Manager plans to coordinate with the design team to incorporate signage highlighting the green features of the project.

Conclusion

Currently, a total of 34 points are being pursued and highly achievable and another 37 points are "maybe." These "maybe" points will be resolved by the project team as the design progresses to ensure that the Matthews Memorial Terrace project exceed Green Communities requirements.

Action Items

- SDC will develop a Charrette summary and update the Green Development Plan.
- The project team will follow up on "maybe" credits as assigned.
- The project team will incorporate the mandatory and targeted Green Communities Criteria into the drawings and specifications as assigned.

APPENDIX

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Matthews Memorial Terrace Green Charrette Agenda

10 February 2009
1:00 pm – 5:00 pm

Agenda

- Review purpose of charrette
- Brief introduction to green building
- Review the building project scope
- Review the Green Vision for the project
- Review the Green Communities Criteria requirements
- Discuss Green Communities Criteria and other Green Building Options
 - Identify strategies, commitment and implementation issues
- Conclusion
 - Assign follow-on work

Exhibit GB-1: Intended Method of Satisfying Green Communities Criteria

Must include a **Site Map** indicating distance of utilities and sidewalk connections as appropriate. Must include **Context Map** indicating locations of minimally required community facilities and their distances from project boundaries

	Item Green Communities v2008	Yes/No	Points	Reasons for Not Meeting
Section 1. Integrated Design Process				
1-1	Green Development Plan (Mandatory)	Yes		
Section 2: Location and Neighborhood Fabric				
2-1a	Smart Site Location: Proximity to Existing Development (Mandatory except for Infill Sites or Rehab. Must provide site map demonstrating that project satisfies this item).	N/A		Site is infill site; therefore requirement is not applicable
2-1b	Smart Site Location: Protecting Environmental Resources (Mandatory except for infill sites or rehab).	N/A		Site is infill site; therefore requirement is not applicable
2-1c	Smart Site Location: Proximity to Services (Mandatory except for infill sites or rehab).	N/A		Site is infill site; therefore requirement is not applicable
2-2	Compact Development (Mandatory except rehab)	Yes		
2-3	Walkable Neighborhoods: Sidewalks and Pathways (Mandatory)	Yes		
2-4a	Smart Site Location: Make Use of Passive Solar Heating / Cooling (Optional 4 points)	No	0	Building orientation is dictated by property boundaries
2-4b	Smart Site Location: Grayfield, Brownfield or Adaptive Reuse Site (Optional 10 points)	No	0	Site is not grayfield, brownfield, or adaptive reuse site
2-5	Compact Development (Optional 5 points maximum for at least 7 units per acre for detached or semi-detached; 12 units per acre for town homes; and 20 units per acre for apartments)	Yes	5	
2-6	Walkable Neighborhoods: Connections to Surrounding Neighborhoods (Optional 5 points)	Yes	0	Design has 2 connections and it is not feasible to make an additional connection
2-7	Transportation Choices (Optional 12 points)	Yes	12	
Section 2 Subtotal			17	
Section 3: Site Improvements				
3-1	Environmental Remediation (Mandatory)	Yes		
3-2	Erosion and Sedimentation Control (Mandatory)	Yes		
3-3	Landscaping (Mandatory - if providing landscaping)	Yes		
3-4	Surface Water Management (Optional 5 points)	No	0	Project's stormwater management design will meet DC's requirements for stormwater quality management only (not quantity). There is minimal open space so site is not suitable for bioretention ponds, large rain garden areas. The intensive green roof is above the underground parking, so there is limited infiltration. Cistern is not cost feasible/ appropriate for the project
3-5	Storm Drain Labels (Optional 2 points)	Yes	2	

Section 3 Subtotal		2		
Section 4: Water Conservation				
4-1a	Water Conserving Appliances and Fixtures: New Construction (Mandatory)	Yes		
4-1b	Water Conserving Appliances and Fixtures: Moderate Rehab (Mandatory)	N/A		Project is new construction; therefore requirement is not applicable
4-1c	Water Conserving Appliances and Fixtures (Optional 5 points)	Maybe	?	1.1 gpf toilets are not proven for commercial use. Owner will explore 1.1 gpf toilets (Gerber makes 1.1 gpf toilet (Gerber EF-21-302)) to see if they are effective/functional and cost feasible
4-2	Efficient Irrigation (Mandatory - if providing irrigation)	N/A		Project will not have any permanent irrigation; therefore requirement is not applicable
Section 4 Subtotal		0		
Section 5: Energy Efficiency				
5-1a	Efficient Energy Use (Mandatory for new construction)	Yes		
5-1b	Efficient Energy Use (Mandatory for moderate rehab)	N/A		Project is new construction; therefore requirement is not applicable
5-2	Energy Star Appliances (Mandatory if providing appliances)	Yes		
5-3a	Efficient Lighting: Interior (Mandatory)	Yes		
5-3b	Efficient Lighting: Exterior (Mandatory)	Yes		
5-4	Electricity Meter (Mandatory except for 0 bedroom dwelling units)	Yes		
5-5a	Additional Reductions in Energy Use: New Construction (Optional - 1 point for each additional HERS score or each 1% reduction in energy)	Maybe	?	Goal is at least 15% savings over ASHRAE 90.1-2007. Energy analysis is required before team can commit to even greater savings
5-6a	Renewable Energy (Optional 5 points, plus 5 points for each additional 10 percent increment, up to a maximum of 15 points)	No	0	PV is too expensive for project budget
5-6b	Photovoltaic (PV) Ready (Optional 2 points)	No	0	PV is too expensive for project budget
Section 5 Subtotal		0		
Section 6: Materials Beneficial to the Environment				
6-1	Construction Waste Management (Optional 5 points)	Yes	5	
6-2	Recycled Content Material (Optional 2 points, plus 2 points for each additional 5 percent increment, not to exceed 14 points)	Yes	5	Goal is 10-20% recycled content materials, so more points may be possible
6-3	Certified, Salvaged and Engineered Wood (Optional 5 points)	No	0	Cost premium for FSC-certified wood is 10-15% (or ~\$25k-35k), therefore Owner would rather invest in other green features

6-4a	Water-Permeable Walkways (Optional 5 points)	No	0	Permeable concrete has not been tested enough for maintenance impacts, therefore Owner would rather invest in other green features
6-4b	Water-Permeable Parking Areas (Optional 10 points)	No	0	Meeting the requirements of this credit would require rebuilding the parking lot, which is not cost feasible. Also, permeable concrete has not been tested enough for maintenance impacts. Therefore, Owner would rather invest in other green features
6-5a	Reduce Heat-Island Effect: Roofing (Optional 5 points)	Yes	5	
6-5b	Reduce Heat-Island Effect: Paving (Optional 5 points)	No	0	Majority of hardscaped area is existing asphalt surface parking, therefore Owner would rather invest in other green features
6-5c	Reducing Heat-Island Effect: Plantings (Optional 5 points)	Maybe	?	Civil Engineer to investigate whether this credit can be achieved as the landscape design is developed. Landscaping design will focus on low maintenance, low-water demand, and aesthetics
Section 6 Subtotal			15	
Section 7: Healthy Living Environment				
7-1	Low/No VOC Paints and Primers (Mandatory)	Yes		
7-2	Low/No VOC Adhesives and Sealants (Mandatory)	Yes		
7-3	Urea Formaldehyde-free Composite Wood (Mandatory)	Yes		
7-4	Green Label Certified Floor Covering (Mandatory - if providing floor coverings)	Yes		
7-5a	Exhaust Fans: Bathroom (Mandatory except for moderate rehab)	Yes		
7-5b	Exhaust Fans: Kitchen (Mandatory except for moderate rehab)	Yes		
7-5c	Exhaust Fans - Kitchen: Moderate Rehabilitation (Optional 5 points)	N/A		Project is new construction; therefore requirement is not applicable
7-6a	Ventilation (Mandatory except for moderate rehab)	Yes		
7-6b	Ventilation: Moderate Rehabilitation (Optional 10 points)	N/A		Project is new construction; therefore requirement is not applicable
7-7	HVAC Sizing (Mandatory)	Yes		
7-8	Water Heaters: Mold Prevention (Mandatory)	Yes		
7-9a	Materials in Wet Areas: Surfaces (Mandatory)	Yes		
7-9b	Materials in Wet Areas: Tub and Shower Enclosures (Mandatory)	Yes		
7-10a	Basements and Concrete Slabs: Vapor Barriers (Mandatory)	Yes		

7-10b	Basements and Concrete Slabs: Radon (Mandatory)	N/A		DC is within EPA Zone 3; therefore requirement is not applicable
7-11	Water Drainage (Mandatory)	Yes		
7-12	Garage Isolation (Mandatory)	Yes		
7-13	Clothes Dryer Exhaust (Mandatory)	Yes		
7-14	Integrated Pest Management (Mandatory)	Yes		
7-15	Lead-Safe Work Practices (Mandatory except new construction)	N/A		Project is new construction; therefore requirement is not applicable
7-16	Healthy Flooring Materials: Alternative Sources (Optional 5 points)	Maybe	?	Market may demand carpet in dwelling units (excluding baths and kitchens) (especially for seniors). Architect to work with the Owner/Developer/Facility Manager to select the most appropriate flooring materials
7-17	Smoke-free Building (Optional 2 points)	Maybe	?	Owner to investigate the feasibility a no-smoking policy (enforcement of no-smoking policy is difficult)
7-18	Combustion Equipment: Includes Space and Water-Heating Equipment (Mandatory)	Yes		
Section 7 Subtotal		0		
Section 8: Operations and Maintenance				
8-1	Building Maintenance Manual (Mandatory)	Yes		
8-2	Occupant's Manual (Mandatory)	Yes		
8-3	Homeowner and New Resident Orientation (Mandatory)	Yes		
Section 8 Subtotal		0		
GRAND TOTAL		34		

To be eligible for grants, loans and tax credit equity, a project must comply with all of the mandatory provisions of the Green Communities criteria. In addition, new construction must earn 35 points from the Optional Criteria, while moderate rehab projects must earn 30 points from the Optional Criteria.



Green Development Plan

Developer Name: Matthews Memorial
Terrace Limited
Partnership
(The Community Builders,
Inc. & Matthews Memorial
Baptist Church)

Project Name: Matthews Memorial
Terrace

Address: XX Martin Luther King Jr.
Avenue, SE
Washington, DC 20020



Project Description

Description

Summary description of site and proposed development including location details and number & type of units:

Matthews Memorial Terrace is a 107,516 square feet, five-story rental apartment building with modern amenities. Adjacent to the apartment building will be a three-story community services building (to be developed separately). The new residential building will provide approximately 99 units of housing ((1, 1+den, 2, 3-bd) for three different target populations, all of whom will have incomes at or below 60% of the area median income: seniors (62 and older), families qualifying for public housing (those relocated from public housing nearby), and other qualifying families. Approximately 1/3 of the residential units will be programmed for each target population. The building will also include a community room, a meeting room with kitchen facilities, and a terrace level courtyard that acts as a green roof. The building will provide 50 underground parking spaces for the housing units and 11 surface parking spaces for the community services building.

The existing site consists of approximately 79,311 square feet (1.82 ac) of land area and is mid-block, bounded by Martin Luther King Jr. Avenue, SE to the west and Dunbar Road, SE to the east. The site is currently improved with one two-story duplex, two three-story houses, one two-story house, and an asphalt parking lot. The site also contains parking for Matthews Memorial Baptist Church. Directly across Martin Luther King Jr. Avenue from the project site are several three-story garden style apartment buildings and detached single family dwellings. Commercial uses exist further north across Martin Luther King Jr. Avenue. The site is located approximately ¼ mile from the Anacostia Metro station, and Suitland Parkway is to the east.

The project has been designed to achieve a high quality that is reflective of the best elements of the surrounding neighborhood. The massing, materials, and shape of the design will allow the new building to blend with the surrounding architectural styles and to act as a transition from both the larger structure of Matthews Memorial Baptist Church building and nearby apartment buildings to the neighboring row houses. One of the project's significant design features is the use of the natural landscape to create very little cut and fill and to add public space and an entrance to the garage at grade. The residential building will incorporate green building features that meet or exceed the Green Communities Initiative standard.

Goals

Sustainability Goal/ Mission Statement:

Matthews Memorial Terrace will be a quality, healthy, comfortable, and energy-efficient multifamily community with minimal impact on the natural environment. It will demonstrate the Owner's commitment to environmental sensitivity by incorporating proven, durable, and cost-effective green design and construction strategies. The Owner will work with the residents to promote a safe, caring, and comfortable living environment for residents and their guests. Through training and supportive encouragement, the residents as well as the building maintenance and custodial staff will be empowered to sustain the green community through healthy and resource-efficient operations, maintenance, housekeeping, and lifestyles.

Facilitator

Name	Address	Affiliation	Tel. No.	E-Mail
A. Bambi Tran, Sustainable Design Consulting	1611 Connecticut Ave, NW #200 Washington, DC 20009	Project Manager	202-352-4563	bambi@sustaindesign.net

Attachments

- Site and context maps
- Green charrette summary, including attendee list and agenda



Green Development Plan: Mandatory & Optional Items

Green Communities Criteria

Developer Name: Matthews Memorial Terrace Limited Partnership

(The Community Builders, Inc. & Matthews Memorial Baptist Church)

Project Name: Matthews Memorial Terrace
XX Martin Luther King Jr. Avenue, SE
Address: Washington, DC 20020



Credit Requirements: Green Communities v2008				Areas of Consideration			Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
Integrated Design Process												
Mandatory	1.1	Green Development Plan	Submit a Green Development Plan that outlines the integrated design approach used for this development that demonstrates involvement of the entire development team. The plan must provide the following: • The name and role of each member of the professional design and development team. • A statement of the overall green development goals of the project and the expected intended outcomes from addressing those goals. • A description of the process that was used to select the green building strategies, systems and materials that will be incorporated into the project. • A description of how each of the mandatory and optional items will be included in the project. • Identification of which members of the design and development team are responsible for implementing the green features. • A description of follow-up measures to be taken through the completion of design, permitting, construction and operation to ensure that the green features are included and correctly installed, and that the owners or tenants receive information about the function and operation of the features. The plan must include meeting minutes or another type of doc captures and summarizes components of the integrated design have been completed at the time of application. Indicate whether this is the first time the developer has complete with green features. If so, explain why the developer wants to them in this project. If this is not the first green project, the plan a written statement on how the integrated design approach take project compares to approaches taken for previous affordable designed and developed by members of the project team.	Rob Vieira, Owner/Developer	-- Owner will take the lead in assuring the implementation of the Green Development Plan. -- Owner got permission from DC Office of the Deputy Mayor for Planning and Economic Development-- New Communities Office to use Green Communities v2008 as a standard that is "substantially equivalent" to Green Communities v2006. -- Conduct periodic team meetings to discuss critical design and construction issues. -- Make sure targeted Green Communities requirements are incorporated into project documents (plans and specs). -- Green Development Plan will be an evolving document, to be modified as the design progresses.	-- Green Development Plan establishes green goals and strategies for the project						

Credit Requirements: Green Communities v2008				Areas of Consideration			Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
Location and Neighborhood Fabric												
Mandatory except infill site or rehabs	2.1a	Smart Site Location: Proximity to Existing Development	Provide site map demonstrating that the development is located on a site with access to existing roads, water, sewers and other infrastructure within or contiguous (having at least 25 percent of the perimeter bordering) to existing development. Do not build on tracts of land that require installing a septic tank or a sanitary sewer line extension of 1,000 feet or greater from the property line of the tract being developed, or within critical potable watershed areas. An infill site is a site that has 75 percent of its perimeter bordering existing development or roads and has access to existing infrastructure.	N/A	-- Site is infill site; therefore requirement is not applicable							
Mandatory except infill site or rehabs	2.1b	Smart Site Location: Protecting Environmental Resources	Do not locate new development, including buildings, built structures, roads or other parking areas, on portions of sites that meet any of the following: • Land within 100 feet of wetlands, including isolated wetlands or streams. Maintain or establish riparian buffer using native vegetation where possible. Bike and foot paths are allowed if at least 25 feet from the wetlands boundary. • Land within 100 feet of critical slope area • Prime farmland • Public parkland • Land that is specifically identified as habitat for any species on federal or state threatened or endangered lists • Land with elevation at or below the 100-year floodplain An infill site is a site that has 75 percent of its perimeter bordering existing development or roads and has access to existing infrastructure.	N/A	-- Site is infill site; therefore requirement is not applicable							

Credit Requirements: Green Communities v2008				Areas of Consideration				Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project	
Mandatory except infill site or rehabs	2.1c	Smart Site Location: Proximity to Services, New Construction	Provide a location map with exact distances indicating that the project is located within a ¼ mile of at least two, or ½ mile of at least four, of the following facilities: Adequate (means bus stops within one-quarter mile and rail or ferry within one-half mile radius of the development; bus service during peak periods of 30 or more transit rides per weekday or fixed rail or ferry service of at least hourly service during the periods of 6-9:30 a.m. and 3:30-7 p.m.) public transportation, supermarket, public school, library, licensed child care center, usable park space; bank, medical or dental office, post office, convenience store, laundry/dry cleaner, pharmacy, place of worship, community or civic center that is accessible to residents. An infill site is a site that has 75 percent of its perimeter bordering existing development or roads and has access to existing infrastructure.	N/A	-- Site is infill site, therefore requirement is not applicable								
Mandatory except rehabs	2.2	Compact Development	The Project architect must complete the density calculation as defined below and certify its correctness. The minimum net density for new construction must be: • 6 units per acre for detached or semi-detached houses • 10 for townhomes; and • 15 for apartments Net density is measured by taking the total dwelling units after construction, divided by the acreage of the entire tract down to one decimal point, minus dedicated acreage of public street rights of way, riparian and wetland buffers, and open space that has been dedicated through a conservation program.	N/A	-- Site is infill site, therefore requirement is not applicable								

Credit Requirements: Green Communities v2008				Areas of Consideration			Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory	2.3	Walkable Neighborhoods: Sidewalks and Pathways	Connect the project to the pedestrian grid. Provide a site map indicating that sidewalks or other all-weather pathways exist or were created within a multifamily property or single-family subdivision to link the residential development to public spaces, open spaces and adjacent development. Projects whose building entrances open directly on to a public sidewalk meet this requirement.	Sarah Story, Landscape Architect	-- Main entrance at West end opens directly onto a public sidewalk along Martin Luther King Jr. Ave.							
4	0	2.4a Smart Site Location: Make Use of Passive Solar Heating/Cooling	Orient building to make the greatest use of passive solar heating and cooling. • Elongate building on an east-west axis. The east-west axis of the building should be within 15 degrees of due east-west. • The glazing area on the north- and south-facing walls of the building should be at least 50% greater than the sum of the glazing area on the east- and west- facing walls. • The roof should have a minimum of 450 square feet of south facing area that is oriented appropriately for solar applications. • At least 90% of the glazing on the south-facing wall should be completely shaded (using shading, overhangs, etc.) at noon on June 21 and unshaded at noon on December 21. Two points may be awarded if the applicant is able to orient the buildings as required above to the maximum extent feasible based on site constraints.				-- Building orientation is dictated by property boundaries.	1	1	1	3	N
10	0	2.4b Smart Site Location: Grayfield, Brownfield or Adaptive Reuse Site	Locate the project on a grayfield, brownfield or adaptive reuse site. Grayfield is previously developed abandoned site, such as parking lots, obsolete shopping centers, and dilapidated residential structures scheduled to be deconstructed or demolished.				-- Site is not grayfield, grayfield, brownfield or adaptive reuse site; there are some existing uses.	1	1	1	3	N

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					Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
5	5	2.5	Compact Development	Calculate density as defined under 2-2—Compact Development and increase average minimum density for new construction to meet or exceed the following guidelines: • 7 units per acre for detached or semi-detached; • 12 units per acre for town homes; and • 20 units per acre for apartments	Jeff Goins, Architect	-- Proposed design is approx. 54 dwelling units per acre (99 units / 1.82 acres).	-- Smaller footprint has less site disturbance, impact on habitat.		3	3	3	9	Y
5	0	2.6	Walkable Neighborhoods: Connections to Surrounding Neighborhoods	Provide a site map demonstrating at least three separate connections (excluding entrances / exits from a single building) to sidewalks or all-weather pathways in surrounding neighborhoods.				-- Design has 2 connections; not feasible to make an additional connection.	1	1	1	3	N
12	12	2.7	Transportation Choices	Provide a context map demonstrating that the site is within ¼ mile radius of adequate bus service (≥30 transit rides per weekday per bus route), or ½ mile radius from adequate fixed rail or ferry station (hourly service 6-9am and 3:30-7pm). Site qualifies for 6 points. If it can be shown that the site is within ½ mile of combined transit services (bus, rail and ferry) constituting 60 or more transit rides per weekday, it qualifies for 12 points.	Rob Vieira, Owner/Developer	-- Site is within 0.35 mile walking distance of Anacostia Metro Station (Green Line). -- Anacostia Metro Station is also hub for many Metro bus lines, including: A2, A42, A46, A48, P1, P2, P6, W2, W4, 94. -- Consider car-share program later.	-- Walking to public transportation stops promotes good health.		3	3	3	9	Y
Site Improvements													
Mandatory	3.1	Environmental Remediation	Conduct a Phase I Environmental Site Assessment and any additional assessments required to determine whether any hazardous materials are present on site. Indicate which of the following has been or will be used: ASTM Transaction Screen, Phase I Environmental Site Assessment, or Phase II abatement plan.	Rob Vieira, Owner/Developer	-- Previous Phase I Environmental Site Assessment of site did not reveal contamination. -- Owner to provide Executive Summary for Phase I report. -- Investigate if Phase I covered inside of existing houses. If not, then contract for such investigation to determine whether potential contamination (e.g., lead, asbestos) exists. Develop plan for remediation if needed.	-- Hazardous materials should be excluded from Construction Waste Management strategy.							

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				Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory	3.2	Erosion and Sedimentation Control	Implement EPA's Best Management Practices for erosion and sedimentation control during construction, referring to the EPA document, Storm Water Management for Construction Activities (EPA 832-R-92-005). Erosion control measures must include all of the following: a) Stockpile and protect disturbed topsoil from erosion (for reuse). b) Control the path and velocity of runoff with silt fencing or comparable measures. c) Protect on-site storm sewer inlets, streams, and lakes with straw bales; silt fencing, silt sacks, rock filters, or comparable measures. d) Provide swales to divert surface water from hillsides. e) If soils in a sloped area (i.e., 25%, or 4:1 slope) are disturbed during construction, use tiers, erosion blankets, compost blankets, filter socks and berms, or some comparable approach to keep soil stabilized.	Ray Norris, Civil Engineer	-- Civil Engineer to develop erosion and sedimentation control plan (ESC Plan) for implementation by Contractor during construction. -- ESC Plan will meet DC's requirements, which is more stringent than EPA's Storm Water Management for Construction Activities (EPA 832-R-92-005) document. -- Strategies include: silt fencing; inlet protection; construction truck entrance system; sump pits; truck wash; soil stabilization with berms and filter socks; stockpiling and protecting topsoil.	-- If installed permanently, some strategies could serve to manage stormwater as well.						
Mandatory if providing landscape	3.3	Landscaping	Commit to providing a tree or plant list, to be certified by the Architect or Landscape Architect at Construction Documents stage, that the selection of new trees and plants are at least 50% native species, 100% appropriate to the site's soils and microclimate, and do not include invasive species.	Ray Norris, Civil Engineer	-- Landscape Architect to select 100% appropriate plants, taking into consideration the planting location, soils, and microclimate. -- Intensive green roof terrace over part of underground parking will have native/adapted/low water demand plants. -- Architect to investigate alternative to liquid membrane for roof of underground parking. -- Plantings will consist of mix of shade trees, shrubs, and ground cover.	-- Shading helps reduce heat gain. -- Trees promote good health, can help filter indoor and outdoor pollutants.						

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					Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project	
5	0	3.4	Surface Water Management	Capture, retain, infiltrate and/or harvest the first ½ inch of rainfall that falls in a 24-hour period.				-- Minimal open space: site not suitable for bioretention ponds, large rain garden areas, bioswales. -- Intensive green roof is above underground parking, so have limited infiltration. -- Cistern not cost feasible for project. -- Stormwater management design will meet DC's requirements for stormwater quality management only (not quantity).	1	1	1	3	N	
2	2	3.5	Storm Drain Labels	Assure that the project plans and specifications call for labeling of all storm drains or storm inlets to clearly indicate where the drain or inlet leads.	Ray Norris, Civil Engineer	-- Civil Engineer to specify labeling requirements. -- Coordinate with existing DC initiatives (some drains and inlets in DC already labeled).	-- Help raise awareness of sources of water pollution. -- Incorporate topic in occupant orientation.		3	2	3	8	Y	
Water Conservation														
Mandatory	4.1a	Water Conserving Fixtures: New Construction	Install water-conserving fixtures with the following specifications: Toilets – 1.3 GPF (gallons per flush) or better including dual-flush toilets and pressure assisted toilets. Showerheads – 2.0 GPM (gallons per minute) or better Kitchen faucets – 2.0 GPM or better Bathroom faucets – 2.0 GPM or better	Ken Cantwell, MEP Engineer	-- MEP Engineer to coordinate with Architect to select fixtures with following rates: power-assisted 1.28 gpf toilets (Kohler); 0.8 gpm lavatory faucets; 1.75 gpm showerheads; 2.0 gpm kitchen faucets. -- Contractor estimated \$250 premium per unit for these fixtures. -- Owner to explore 1.1 gpf toilets (Gerber makes 1.1 gpf toilet (Gerber EF-21-302)).	-- Confirm maintenance requirements to make sure strategy is easily maintainable.								

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				Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory		4.1b	Water Conserving Fixtures: Mod Rehab	Install water-conserving fixtures with the following specifications for toilets and shower heads and follow requirements for other fixtures wherever and whenever they are replaced: Toilets – 1.3 GPF (gallons per flush) or better including dual-flush toilets and pressure assisted toilets. Showerheads – 2.0 GPM (gallons per minute) or better Kitchen faucets – 2.0 GPM or better Bathroom faucets – 2.0 GPM or better	N/A	— Project is new construction, therefore requirement is not applicable						
5	0	4.1c	Water Conserving Appliances and Fixtures	Install water-conserving fixtures with the following specifications: Toilets – 1.1 GPF (gallons per flush) or better Showerheads – 1.75 GPM (gallons per minute) or better Kitchen faucets – 2.0 GPM or better Bathroom faucets – 1.5 GPM or better			— Need to minimize resident maintenance calls. — 1.1 gpf toilets are not proven for commercial use. However, Owner will explore 1.1 gpf toilets (Gerber makes 1.1 gpf toilet (Gerber EF-21-302)) to see if they are effective/functional and cost feasible.	1	1	1	3	N
Mandatory if irrigation necessary		4.2	Efficient Irrigation	If irrigation is necessary, use recycled gray water, roof water, collected site run-off, water from a municipal recycled water system or a highly efficient irrigation system including at least the following requirements: • Install irrigation system designed by an EPA Water Sense certified professional or qualified landscape professional. • At least 50% of landscape planting beds have a drip irrigation system to minimize evaporation • Turf and each type of bedding area (based on watering needs) should be separately zoned • A timer/controller that activates the valves for each watering zone at the best time of day to minimize evaporative losses while maintaining healthy plants and obeying local regulations and water-use guidance • Install a moisture sensor controller or rain delay controller. • Watering tubes for trees are allowed for a grace period of two years.	Ray Norris, Civil Engineer	— Owner has mandate for plantings, but want them to be low maintenance. — Project expected to not have any permanent irrigation; therefore requirement is not applicable. — However, if irrigation is deemed necessary, especially if conventional turf is to be installed, then Civil Engineer to design highly efficient irrigation system to comply with requirements. — Consider cistern for courtyard/green roof area.	— Cistern will contribute to stormwater water management.					

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				Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
Energy Efficiency												
Mandatory	5.1a	Efficient Energy Use: New Construction	Provide verification demonstrating energy efficiency by meeting one of the following: • Energy Star standards (HERS Index of 85 in climate zones 1–5, or HERS Index of 80 in climate zones 6–8, as established by the Residential Energy Services Network (RESNET) policy effective July 1, 2006) for all residential structures under four stories. U.S. climate zones are identified in the 2007 International Energy Conservation Code (IECC 2007). See the ENERGY STAR for Homes website to identify the climate zone in which the project is located: http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_performance • Residential structures four stories or above must exceed ASHRAE 90.1-2004 by 15 percent. • Projects in California, regardless of size, must exceed by 15 percent the version of Title 24 under which the project is permitted. • Low rise projects in Oregon, Washington, Idaho and Montana must meet the performance requirements of Northwest Energy Star.	Ken Cantwell, MEP Engineer	-- MEP Engineer to coordinate with Architect to reduce heating/cooling load via air tight construction and good building envelope design. -- Strategies include: proper air sealing details; R-21 2x6 walls up to roof (fiberglass batt or dense-pack cellulose); vinyl low-e windows with U-Factor of 0.40 or less and Solar Heat Gain Coefficient (SHGC) of 0.55 or less and maybe a reflective coating; R-38 roof (polyiso or spray foam or SIPS either on top of roof decking or in wood truss cavity; need to create slope in framing for 1:12 roof slope for drainage); highly reflective white TPO roofing membrane; internal blinds for windows in all units; R-11 in plenum between 1st floor slab and underground parking (sprinklers to be placed here to avoid from freezing); no heating of garage; no wet sprinklers in attic; Energy Star/energy-efficient indoor and outdoor lighting and controls; Energy Star appliances; split heat pump system (min. SEER 14); gas central hot water system (condensing modulating boiler or gas hot water tanks) or individual electric hot water heaters in units. -- Consider nighttime setback for corridor and common space lighting (investigate impact on CCTV) -- Consider solar hot water pre-heating and geothermal (geothermal for community building also) -- Consider hybrid geothermal and cooling tower system to cover additional AC load. -- No light shelves due to costs. -- No SIPS for walls due to required 2-hour rating. -- MEP Engineer to engage energy modeler to assist in determining best energy efficiency package for project, taking into considering cost, aesthetics, and ventilation requirements.	-- Energy efficient strategies impact comfort. -- Glazing impacts daylighting, heat gain/loss. Need to balance energy efficiency requirements and daylighting goals. -- Meeting ventilation requirements will reduce energy efficiency of project.						

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				Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory	5.1b	Efficient Energy Use: Moderate Rehab	Identify an architect with green building experience, an engineer or energy auditor to conduct an energy analysis of the existing building condition and identify cost-effective energy improvements by preparing an energy improvement report. The report analyzes the current and projected energy performance of the building. Implement those improvements with a 10-year or earlier payback as identified by a qualified engineer or home energy rater. Include the energy improvement report and recommendations by the qualified profession, indicating which improvements were chosen. A report does not have to be generated for each single-family home because the analysis presumably will recommend standard measures that can be applied to all homes that are of a similar building type.	N/A	— Project is new construction, therefore requirement is not applicable							
Mandatory if providing appliances	5.2	Energy Star Appliances	If providing appliances, install Energy Star clothes washers, dishwashers and refrigerators. When the energy performance of the home is modeled to produce a HERS Index for 5-1a, the model should include the appliances and the HERS Index should reflect this.	Jeff Goins, Architect	-- Architect to coordinate w/ Owner/Building Management to select ENERGY STAR dishwasher and refrigerator for each unit. -- Architect to coordinate w/ Owner/Building Management to select ENERGY STAR clothes washer. Washer to be located in shared laundry room (multiple or single) or in unit (issues include maintenance, cost, market demand). -- Refer to ENERGY STAR website (www.energystar.gov) for qualified products.	-- Saves water AND energy.						
Mandatory	5.3a	Efficient Light: Interior	Install the ENERGY STAR Advanced Lighting Package (minimum of 60% ENERGY STAR qualified hard-wired fixtures and 100% ENERGY STAR qualified ceiling fans where installed) in all interior units, and use ENERGY STAR qualified or high-efficiency commercial grade fixtures in all common areas and outdoors. If reusing existing fixtures in a rehab, installing compact fluorescent light bulbs (CFLs) is permitted. If installing new fixture, these must be ENERGY STAR labeled. The following lighting types are exempt from this requirement: emergency lighting, lighting required by code for health and safety purposes; and lighting used for eye adaptation near covered vehicle entrances and exits.	Jeff Goins, Architect	-- Architect to coordinate w/ Owner/Building Management to select ENERGY STAR lighting fixtures. -- Potential interior lighting design: overhead T-8 linear fixture in kitchen and perhaps task lighting; switched outlets in bedrooms; ceiling plate connected to switch and switched outlet in dining room; switched outlet in living room; overhead light fixture in entry; bathroom ceiling fan/light and vanity light in bathrooms; overhead fixture or wall sconce CFLs for common areas and hallways. -- Refer to ENERGY STAR website (www.energystar.gov) for qualified products.	-- Lighting quality impacts visual comfort and safety.						

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Mandatory	5.3b	Efficient Light: Exterior	Install daylight sensors or timers on all outdoor lighting, including front and rear porch lights in single family homes. The following lighting types are exempt from this requirement: emergency lighting; lighting required by code for health and safety purposes; and lighting used for eye adaptation near covered vehicle entrances and exits.	Jeff Goins, Architect	-- Architect to coordinate w/ Owner/Building Management to select fixtures and appropriate sensors. Emphasis will be on night-sky compliant/full cut-off fixtures to limit light trespass and night sky pollution while providing needed safety and security. -- Ensure DC required light poles on street side comply with requirements. -- Potential exterior lighting design: wall sconces at entry; light posts around courtyard; wall washers. -- Consider ENERGY STAR LED fixtures.	-- Reduce energy load. -- Contributes to safety at night						
Mandatory except for zero bedroom units	5.4	Electricity Meter	Install individual or sub-metered electric meters.	Ken Cantwell, MEP Engineer	-- Electric submeters is mandated by DC law, so units will be submetered for electric and perhaps water. -- Consider linking meters to a Building Automation System.	-- Reduce energy load. -- May contribute to measurement and verification strategies for optimal building performance.						
15-20	?	5.5	Additional Reductions in Energy Use: New Construction	Ken Cantwell, MEP Engineer	-- See 5.1a		-- Energy analysis required before team can commit to this credit.	2	2	1	5	?
			Exceed the relevant Energy Star HERS score (80 or 85 by climate zone) for low-rise residential buildings, or Provide calculations for the following: • Forecast the annual energy efficiency of the entire project to exceed ASHRAE 90.1-2004 by 15 percent as in 5-1a. • Analyze and adopt additional energy improvements. • Reforecast annual energy costs with the additional improvements. Use that figure to determine the percentage of energy savings from the baseline established in the first bullet. • For Moderate and Substantial rehabilitation projects, perform energy modeling as required in 5-1b and determine percentage that exceeds the required 15% reduction in energy usage from pre-renovation figures. • For projects in California, regardless of size, exceed by 15 percent the version of Title 24 under which the project is permitted. 1 pt for each additional HERS score or each 1% reduction in energy									

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15	0	5.6a	Renewable Energy	Install PV panels, wind turbines, or other renewable source to provide at least 10 percent of the project's estimated electricity demand.				-- PV system too expensive. -- Proposed roof areas taken up by other uses, including solar hot water pre-heating, if cost-feasible.	1	1	1	3	N	
2	0	5.6b	Photovoltaic (PV) Ready	Site, design, engineer and wire the development to accommodate installation of PV in the future. General contractor and PV contractor must document the following: 1) information on the roof load; 2) location of conduit and 3) the potential location of the dash box. GC and PV contractor should provide documentation to building owner and manager. Submit photos that demonstrate the following: • Orient buildings to permit access to sunlight • Design and include south facing architectural elements on the roof for PV • Reserve unobstructed roof areas where panels can be placed • Run wiring from the prospective PV location to a central panel, as part of the general electrical work				-- Future solar panel installation is unlikely dues to cost. -- PV system too expensive. -- Proposed roof areas taken up by other uses, including solar hot water pre-heating, if cost-feasible.	1	1	1	3	N	
Materials Beneficial to the Environment														
5	5	6.1	Construction Waste Management	Reduce the amount of construction waste sent to the landfill. • Investigate and document local options for diversion (recycling, reuse, etc.) of all anticipated major constituents of the project waste stream, including cardboard packaging and "household" recyclables (e.g., beverage containers). • Commit to following waste management plan that is appropriate for the site and local conditions, and that recycles or salvages at least 25% of non-hazardous construction and demolition debris (see LEED for Homes chart MR 3-A for calculations).	Jeff Goins, Architect	-- Architect to include in Division 1 specs requirement for Contractor to carry out construction waste management practices to divert construction and demolition waste from the landfills. -- Contractor plans to crush and reuse asphalt for sub-base on site. -- Goal: 50-75% diversion.	-- Minimize impact on groundwater due to leaching from landfills. -- Hazardous materials should be excluded from Construction Waste Management strategy.		2	3	2	7	Y	

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					Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
14	5	6.2	Recycled Content Material	The percentage of recycled content material is based on cost or value and does not include mechanical and electrical equipment. Provide calculations for recycled content percentage as follows: • For a given material or furnishing, multiply the recycled content percentage by weight (postconsumer or post-industrial) by the value of the product to find the value of the recycled content for that item. • Add up the values of the recycled content of all the materials and furnishings. • Divide this sum by the total value of the materials for the project. 2 points for the first 5 percent, plus 3 points for each additional 5 percent increment, not to exceed 14 points	Jeff Goins, Architect	-- Architect to specify recycled content materials to be used in the building. Coordinate with Contractor for cost estimates. -- Strategies include: steel rebars; slag/flyash as partial cement replacement in concrete; gypsum wall board; fiber cement siding and panels; metal panels for facades; cellulose or fiberglass batt insulation; TPO roofing membrane. -- Owner to investigate whether they have a standard % goal for recycled content materials. -- Goal: 10-20% recycled content materials.	-- Select materials available regionally to lessen transportation energy impacts. -- Select materials that also are not high-emitting/toxic.	-- Potential cost premiums and/or availability issues for unique products	2	3	2	7	Y
5	0	6.3	Certified, Salvaged and Engineered Wood	Commit to using at least 25 percent (by cost) wood products and materials that are certified in accordance with the Forest Stewardship Council, salvaged wood, or engineered framing materials. The percentage of certified, salvaged and engineered wood products is based on cost or value. The project architect must complete and submit the following calculation: Divide the sum of the value of all certified, salvaged or engineered wood products by the value of all wood products.				-- Cost premium of 10-15% for FSC, which is ~\$25k-35k FSC-certified wood premium. -- Owner would rather invest in other green features.	2	1	1	4	N
5	0	6.4a	Water-Permeable Walkways	Use water-permeable materials in 50 percent or more of walkways.				-- Some walkways are existing. -- Permeable concrete has not been tested enough for maintenance impacts. -- Owner would rather invest in other green features.	2	1	1	4	N

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5	0	6.4b	Water-Permeable Parking Areas	Use water-permeable materials in 50 percent or more of paved parking areas.				- Existing asphalt surface parking area is impervious. - Meeting the requirements of this credit would require rebuilding the parking lot, which is not cost feasible. - Permeable concrete has not been tested enough for maintenance impacts. - Owner would rather invest in other green features.	2	1	1	4	N
5	5	6.5a	Reduce Heat-Island Effect: Roofing	Use ENERGY STAR qualified (reflectivity of greater than .65) and high-emissive roofing (with an emissivity of at least 0.8 when tested in accordance with ASTM 408). Or, install a "green" (vegetated) roof for at least 50 percent of the roof area. Combinations of high-albedo and vegetated roof can be used, providing they collectively cover 75 percent of the roof area.	Jeff Goins, Architect	Architect to specify white TPO roofing membrane for entire residential building.	Energy STAR roof will help reduce heat gain.		3	3	3	9	Y
5	0	6.5b	Reduce Heat-Island Effect: Paving	Use light-colored, high-albedo materials and/or an open-grid pavement, with a minimum Solar Reflective Index of 0.6, over at least 30 percent of the site's hardscaped area.				- Majority of hardscaped area is existing asphalt surface parking. - Owner would rather invest in other green features.	2	1	1	4	N
5	?	6.5c	Reducing Heat-Island Effect – Plantings	Locate trees or other plantings to provide shading for at least 50% of sidewalks, patios, and driveways within 50 feet of the home. Shading should be calculated for noon on June 21, when the sun is directly overhead, based on five years' growth.	Ray Norris, Civil Engineer	- Civil Engineer to investigate whether this credit can be achieved as the landscape design is developed. - Landscape design will focus on low maintenance, low-water demand, and aesthetics.		Focus on landscaping design is on low maintenance, low-water demand, and aesthetics rather than reducing heat island effect.	2	1	2	5	?

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				Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
Healthy Living Environment												
Mandatory	7.1	Low / No Volatile Organic Compounds (VOC) Paints and Primers	Specify that all interior paints and primers must comply with current Green Seal standards for low VOC limits.	Jeff Goins, Architect	-- Architec to specify appropriate products. -- Architect to coordinate w/ General Contractor to ensure installation of correct products.	-- Impact health and comfort. -- Select regional materials to lessen transportation energy impacts,						
Mandatory	7.2	Low / No VOC Adhesives and Sealants	Specify that all adhesives must comply with Rule 1168 of the South Coast Air Quality Management District. All caulks and sealants must comply with regulation 8, rule 51, of the Bay Area Air Quality Management District.	Jeff Goins, Architect	-- Architec to specify appropriate products. -- Architect to coordinate w/ General Contractor to ensure installation of correct products.	-- Impact health and comfort. -- Select regional materials to lessen transportation energy impacts,						
Mandatory	7.3	Urea Formaldehyde-free Composite Wood	Use particleboard and MDF that is certified compliant with the ANSI A208.1 and A208.2. If using composite wood that does not comply with ANSI, all exposed edges and sides must be sealed with low-VOC sealants.	Jeff Goins, Architect	-- Architect to specify appropriate products. -- Architect to Coordinate w/ General Contractor to ensure installation of correct products. -- Strategies: Seal underside of countertop and select plywood boxes for kitchen cabinets. -- Owner questions for how long formaldehyde off gas.	-- Impact health and comfort, -- Select regional materials to lessen transportation energy impacts.						
Mandatory if floor coverings provided	7.4	Green Label Certified Floor Covering	Do not install carpets in below grade living spaces, entryways, laundry rooms, bathrooms, kitchens or utility rooms. If using carpet, use products that meet the Carpet and Rug Institute's Green Label certified carpet, pad and carpet adhesives.	Jeff Goins, Architect	-- Architect to coordinate with Owner/Building Management to select appropriate flooring products. -- Issues to consider in selection: sound transmission, cost, maintenance, durability, market demand. -- Consider carpet in bedrooms only; PVC-free sheet flooring in kitchen and bathrooms; engineered wood flooring in other areas. -- Architect to coordinate w/ General Contractor to ensure installation of correct products.	-- Impact health and comfort. -- Select regional materials to lessen transportation energy impacts.						

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Mandatory	7.5a	Exhaust Fans – Bathroom	Install Energy Star-labeled bathroom fans that exhaust to the outdoors and are connected to a light switch and are equipped with a humidistat sensor or timer, or operate continuously.	Ken Cantwell, MEP Engineer	-- MEP Engineer to explore integrated ventilation design. -- Potential strategies: individual bath fan for units (low-sone and Energy STAR with timer) or continuous central bath exhaust system (allows for better balancing of units and ensures proper exhaust). -- Need Enterprise interpretation whether central bath exhaust system will meet credit requirements. -- Issues: 99 exhaust penetrations in walls vs. space for vertical shafts. -- Specify low-VOC mastic for any ductwork.	-- Impact health and comfort and energy efficiency.						
Mandatory except for moderate rehabs	7.5b	Exhaust Fans – Kitchen: (For New Construction and Substantial Rehabilitation)	Install power vented fans or range hoods that exhaust to the exterior.	Ken Cantwell, MEP Engineer. See 7.5a	-- MEP Engineer to explore integrated ventilation design. -- Potential strategies: individual kitchen exhaust fan for units (Energy STAR) or intermittent central kitchen exhaust system (allows for better balancing of units and ensures proper exhaust). -- Need Enterprise interpretation whether central kitchen exhaust system will meet credit requirements. -- Issues: 99 exhaust penetrations in walls vs. space for vertical shafts. -- Specify low-VOC mastic for any ductwork.	-- Impact health and comfort and energy efficiency.						
5	0	7.5c	Exhaust Fans – Kitchen: (For Moderate Rehabilitation)	N/A	-- Project is new construction			1	1	1	3	N

Credit Requirements: Green Communities v2008				Areas of Consideration			Barriers	Quantifiable Areas				
				Champion	Strategies	Integration		Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory except for moderate rehabs		7.6a	Ventilation: (For New Construction and Substantial Rehabilitation)	Install a ventilation system for the dwelling unit providing adequate fresh air per ASHRAE 62.1-2007 for residential buildings above 3 stories or ASHRAE 62.2 for single family and low-rise multifamily dwellings.	Ken Cantwell, MEP Engineer: See 7.5a	-- MEP Engineer to explore integrated ventilation design; coordinate w/ Architect as needed; get Enterprise interpretation as needed. -- Potential strategy: natural ventilation as much as possible (operable window area must be equal to 4% of floor area; eligible natural ventilated areas are areas within 25' of window); direct intermittent kitchen exhaust for each unit or continuous/intermittent kitchen exhaust + recirculating kitchen hood fans for each unit; central continuous bath exhaust; separate ventilation system for corridor/common spaces. -- Minimize vents and roof penetrations by grouping vents as much as possible. -- Issue: Numerous exhaust penetrations in walls vs. space for vertical shafts (which may be required to be fire-rated).	-- Impact health and comfort and energy efficiency.					
10	0	7.6b	Ventilation: (Moderate Rehabilitation)	Install a ventilation system for the dwelling unit providing adequate fresh air per ASHRAE 62.1-2007 for residential buildings above 3 stories or ASHRAE 62.2 for single family and low-rise multifamily dwellings.	N/A	-- Project is new construction		1	1	1	3	N
Mandatory		7.7	HVAC Sizing	Size heating and cooling equipment in accordance with the Air Conditioning Contractors of America (ACCA) Manual, Parts J and S, ASHRAE handbooks, or equivalent software, to prevent short-cycling of heating or air conditioning and ensure adequate dehumidification.	Ken Cantwell, MEP Engineer	-- MEP Engineer to size HVAC equipment and ductwork in accordance with ASHRAE, using energy modeling software.	-- Impact health and comfort and energy efficiency.					

Credit Requirements: Green Communities v2008				Areas of Consideration			Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory	7.8	Water Heaters: Mold Prevention	Use tankless hot water heaters or install conventional hot water heaters in rooms with drains or catch pans with drains piped to the exterior of the dwelling and with non-water sensitive floor coverings. Drain pans shall be sloped, corrosion resistant (e.g., stainless or plastic) with drains at the low point. Condensate lines shall be drained to drainage system; not just deposited under slab.	Ken Cantwell, MEP Engineer	- MEP Engineer to design appropriate drainage. - MEP Engineer to coordinate w/ Architect to specify appropriate flooring.	- Select materials available regionally to lessen transportation energy impacts and have recycled content. - Select materials that also are not high-emitting/toxic.						
Mandatory	7.9a	Materials in Wet Areas: Surfaces	In wet areas, use materials that have smooth, durable, cleanable surfaces. Do not use mold propagating materials such as vinyl wallpaper and unsealed grout.	Jeff Goins, Architect	- Architect to specify appropriate products. - Strategies include: Denshield with ceramic tile and sealed grout for tub surround, cultured marble backsplash for bath sink, laminate backsplash for kitchen, gypsum wallboard walls and ceilings throughout.	- Impact health and comfort. - Select materials available regionally to lessen transportation energy impacts and have recycled content. - Select materials that also are not high-emitting/toxic.						
Mandatory	7.9b	Materials in Wet Areas: Tub and Shower Enclosure	Use fiberglass or similar enclosure or, if using any form of grouted material, use backing materials such as cement board, fiber cement board or equivalent (i.e., not paper-faced).	Jeff Goins, Architect	- Architect to specify appropriate products. - Strategies include: Denshield with ceramic tile and sealed grout for tub surround.	- Select materials available regionally to lessen transportation energy impacts and have recycled content. - Select materials that also are not high-emitting/toxic.						
Mandatory except for rehabs	7.10a	Basements and Concrete Slabs: Vapor Barrier	- Provide vapor barriers under all slabs. - For concrete floors either in basements or the on-grade slab, install a capillary break of 4 inches of clean or washed gravel (0.5 inch diameter or greater) placed over soil. - Cover all gravel with a 6 millimeter polyethylene sheeting moisture barrier, with joints lapped 1 foot or more to prevent moisture from migrating from the soil through the slab to a living or storage area. - On interior below grade walls, avoid using separate vapor barrier or a below grade vertical insulation (such as polyethylene sheeting, vinyl wallpaper or foil faced), which can trap moisture inside wall systems. Semi-vapor permeable rigid insulation is not considered a vapor barrier.	Jeff Goins, Architect	- Required by DC Code. - Architect to design appropriate wall/floor sections incorporating vapor barriers per requirements.	- Impact health and comfort. - Insulation under slab can reduce heat loss.						

Credit Requirements: Green Communities v2008				Areas of Consideration				Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project	
Mandatory	7.10b	Basements and Concrete Slabs – Radon: New Construction	In EPA Zone 1 and 2 areas, install passive radon-resistant features below the slab along with a vertical vent pipe with junction box available, if an active system should prove necessary. For substantial rehab, test the homes or building for presence of radon. If elevated levels of radon exist, introduce radon-reduction measurements. Check technical guidance at www.epa.gov/iaq/radon/pubs/index.html .	N/A	-- DC is within EPA Zone 3; therefore requirement is not applicable								
Mandatory	7.11	Water Drainage	Provide drainage of water to the lowest level of concrete away from windows, walls and foundations by implementing the following techniques: • Water management – Walls o Provides a housewrap/ weather resistive barrier with sheets lapped, shingle style, especially over windows, doors and other penetrations to prevent rain water that penetrates the finished exterior cladding system, from entering the wall assembly or being introduced into window or door openings o Provides a pathway for liquid water that has penetrated the cladding system or accumulates due to daily or seasonal changes in thermal and humidity levels behind the cladding system to safely exit the exterior wall assembly o Flashing and/or weather-resistive barriers installed in rough window and door openings must integrate with window and door unit flashings, particularly at the sill and head OR o Install pan flashing, side flashing that extends over pan flashing, and Head Flashing (top flashing) that extends over side flashing on windows and exterior door openings. Apply window pan flashing over building paper at sill and corner patch o Flashings at roofs wall intersections and at penetrations through the wall (i.e. plumbing, electrical, vents, HVAC refrigerant lines, etc.) that are provided by other trades must be integrated with the drainage plane to keep water from entering the wall assembly. • Water Management - Roof Systems o Installation of drip edge at entire perimeter of roof o Flashing where sloped roofs meet gable wall end/all vertical wall integrated into building drainage plane o Use of kick-out flashings at all wall eave intersections integrated into drainage plane o At wall/roof intersections maintain >= 2" clearance between wall cladding and roofing materials • Integrity and Continuity of the Thermal Barrier o The drainage plane, when properly sealed, can also reduce airflow through the wall assembly, which improves the thermal performance of the cavity insulation	Jeff Goins, Architect	-- Required by DC Code. -- Architect to design appropriate drainage system/wall sections so water drains away from building. -- Foundation drainage to tie into existing sewer system.	-- Impact health and comfort.							

Credit Requirements: Green Communities v2008				Areas of Consideration			Barriers	Quantifiable Areas				
				Champion	Strategies	Integration		Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory	7.12	Garage Isolation	• Provide a continuous air barrier between the conditioned (living) space and any unconditioned garage space to prevent the migration of any contaminants into the living space. • Do not install air handling equipment in a garage. • All connecting doors between living space and garage shall include an automatic closer, and shall be fixed with gaskets or otherwise made substantially air-tight with weather stripping. • In single-family houses install a CO alarm inside the house on the wall that is attached to the garage and outside the sleeping area.	Jeff Goins, Architect	Strategies: Concrete 1st floor will be air barrier between underground garage and living units; air handling equipment for units will not be installed in garage. -- Architect to specify that all connecting doors between living space and garage shall include an automatic closer, and shall be fixed with gaskets or otherwise made substantially air-tight with weather stripping. -- MEP Engineer to design proper ventilation system for underground garage. DC code requires 25' from garage exhaust and unit intakes (so consider putting exhaust on roof).	-- Locate vents appropriately so that they do not draw exhaust fumes or can be vandalized						
Mandatory	7.13	Clothes-Dryer Exhaust	Clothes dryers must be exhausted directly to the outdoors.	Ken Cantwell, MEP Engineer	-- Architect to coordinate w/ Owner/Building Management to decide whether Washer/dryer will be located in shared laundry room (multiple or single) or in unit (issues include maintenance, cost, market demand) -- MEP Engineer to coordinate with Architect to exhaust dryers directly outdoors.	-- Locate vents appropriately so that they cannot be vandalized.						
Mandatory	7.14	Integrated Pest Management	Seal all wall, floor and joint penetrations with low VOC caulking to prevent pest entry. Provide rodent and corrosion proof screens (e.g., copper or stainless steel mesh) for large openings.	Jeff Goins, Architect	-- Architect to design appropriate details to achieve proper air sealing and pest management.	-- Reduced/no use of toxic pest control strategies promote good health.						
Mandatory	7.15	Lead-Safe Work Practices	For properties built before 1978, use lead-safe work practices during renovation, remodeling, painting and demolition.	N/A	-- Project is new construction; therefore requirement is not applicable							

Credit Requirements: Green Communities v2008				Areas of Consideration				Quantifiable Areas					
					Champion	Strategies	Integration	Barriers	Level of Ease of Implementation	Level of Commitment	Economic Viability	Total Score	Criteria in project
5	?	7.16	Healthy Flooring Materials: Alternative Sources	Use non-vinyl, non-carpet floor coverings in all rooms.	Jeff Goins, Architect	- Architect to coordinate with Owner/Building Management to select appropriate flooring products. - Issues to consider in selection: sound transmission, cost, maintenance, durability, market demand. - Consider carpet in bedrooms only, PVC-free sheet flooring in kitchen and bathrooms; engineered wood flooring in other areas. - Carpet is \$2/sf vs. PVC-free flooring is \$3.50/sf. - Architect to coordinate w/ General Contractor to ensure installation of correct products.		Market may demand carpet in dwelling units (excluding baths and kitchens) (especially for seniors)	2	1	2	5	?
2	?	7.17	Smoke-free Building	Implement and enforce a "no smoking" policy in all common and individual living areas of all buildings. Common areas include rental or sales offices, entrances, hallways, resident services areas, and laundry rooms.	Rob Vieira, Owner/Developer	- Owner to investigate feasibility of no-smoking policy. - Enforcement will be difficult.		Enforcement of no-smoking policy is difficult.	2	1	2	5	?
Mandatory		7.18	Combustion Equipment (includes space and water-heating equipment)	Specify power vented or combustion sealed equipment. One hard-wired carbon monoxide (CO) detector shall be installed for each sleeping area, minimum one per floor.	Ken Cantwell, MEP Engineer	- If central hot water boilers will be used, then they will be power vented. Carbon monoxide monitors will be installed where appropriate. - MEP Engineer to work with Owner/Building Management to determine preferred hot water heating system.							
Operations and Maintenance (all mandatory criteria)													
Mandatory		8.1	Building Maintenance Manual for Owner	Provide a manual that includes the following: a routine maintenance plan; operations and maintenance guidance for all appliances, HVAC operation, water-system turnoffs, lighting equipment, paving materials and landscaping, pest control, and other systems that are part of each occupancy unit; and an occupancy turnover plan that describes in detail the process of educating the tenant about proper use and maintenance of all building systems.	Rob Vieira, Owner/Developer	- Owner/Building Management will coordinate w/ entire design/construction team to compile best practice maintenance Manual - Key is to start early.	Impact all green strategies. Proper operations and maintenance is critical for a green building to remain green.						

Credit Requirements: Green Communities v2008				Areas of Consideration			Quantifiable Areas					
				Champion	Strategies	Integration	Barriers	Level of Ease of Implement	Level of Commitment	Economic Viability	Total Score	Criteria in project
Mandatory	8.2	Occupant's Manual	Provide a guide for homeowners and renters that explains the intent, benefits, use and maintenance of green building features, along with the location of transit stops and other neighborhood conveniences and features, and encourages additional green activities such as recycling, gardening, use of healthy cleaning materials, alternative measures to pest control, and purchase of green power. For homeowners, include appropriate instructions from 8-1 above.	Rob Vieira, Owner/Developer	-- Owner/Building Management to develop guide based on Maintenance Manual. -- Provide specific information for renters and staff on how to properly operate and maintain the green features they use.	-- Impact all green strategies. Proper operations and maintenance is critical for a green building to remain green.						
Mandatory	8.3	Homeowner and New Resident Orientation	Provide a comprehensive walk-through and orientation to the homeowner or new resident using the Occupant Manual from 8-2 above that reviews the building's green features, operations and maintenance, along with neighborhood conveniences that may facilitate a healthy lifestyle.	Rob Vieira, Owner/Developer	-- Owner/Building Management to develop and conduct orientation program based on Occupant's Manual.	-- Impact all green strategies. Proper operations and maintenance is critical for a green building to remain green.						
134	34	Total										

Min. 35 New construction projects
Min. 30 Rehabilitation projects

KEY:

	Mandatory criteria
	Optional criteria

Certification that all Green Communities Criteria listed above have been satisfied:

Green Specialist

Signature:

Name: A. Bambi Tran
Title: Project Manager
Tel. No.: 202-352-4563
E-mail: bambi@sustaindesign.net
Accreditation: LEED AP ; Assoc. AIA
Date: 2/26/2009

Project Architect

Signature:

Name:
Title:
Tel. No.:
E-mail:
Accreditation:
Date:

Project Sponsor

Signature:

Name: David Parrish
Title: Vice President
Tel. No.: (202) 552-2505
E-mail: DParrish@TCBInc.org
Date: 03/05/2009



Green Development Plan Primary Subject Areas

Developer Name: Matthews Memorial Terrace Limited Partnership
(The Community Builders, Inc. & Matthews Memorial Baptist Church)

Project Name: Matthews Memorial Terrace

Address: XX Martin Luther King Jr. Avenue, SE
Washington, DC 20020



Development Option #		Discussion - to include consideration of all issues, including the following:						
Primary Subject Area	Relating to Green Communities Criteria	Champion <i>who will take the item forward?</i>	Strategies <i>what strategies should be employed?</i>	Integration <i>holistic relation-ship to other elements?</i>	Barriers <i>what barriers must be overcome?</i>	Level of Ease of Implement. <i>how easy to implement item?</i>	Level of Commitment <i>how important is this item to the project?</i>	Economic Viability <i>how costly is item to implement?</i>
	2.4a Smart Site Location: Make Use of Passive Solar Heating/Cooling				Building orientation is dictated by property boundaries.	1	1	1
	5.1a Efficient Energy Use: New Construction	Ken Cantwell, MEP Engineer	– MEP Engineer to coordinate with Architect to reduce heating/cooling load via air tight construction and good building envelope design. – Strategies include: proper air sealing details; R-21 2x6 walls up to roof (fiberglass batt or dense-pack cellulose); vinyl low-e windows with U-Factor of 0.40 or less and Solar Heat Gain Coefficient (SHGC) of 0.55 or less and maybe a reflective coating; R-38 roof (polyiso or spray foam or SIPS either on top of roof decking or in wood truss cavity; need to create slope in framing for 1:12 roof slope for drainage); highly reflective white TPO roofing membrane; internal blinds for windows in all units; R-11 in plenum between 1st floor slab and underground parking (sprinklers to be placed here to avoid from freezing); no heating of garage; no wet sprinklers in attic; Energy Star/energy-efficient indoor and outdoor lighting and controls; Energy Star appliances; split heat pump system (min. SEER 14); gas central hot water system (condensing modulating boiler or gas hot water tanks) or individual electric hot water heaters in units. – Consider nighttime setback for corridor and common space lighting (investigate impact on CCTV). – Consider solar hot water pre-heating and geothermal (geothermal for community building also). – Consider hybrid geothermal and cooling tower system to cover additional AC load. – No light shelves due to costs. – No SIPS for walls due to required 2-hour rating. – MEP Engineer to engage energy modeler to assist in determining best energy efficiency package for project, taking into considering cost, aesthetics, and ventilation requirements.	– Need to balance energy efficiency requirements/goals and ventilation requirements.	– Energy efficient strategies impact comfort. – Glazing impacts daylighting, heat gain/loss. Need to balance energy efficiency requirements and daylighting goals. – Meeting ventilation requirements will reduce energy efficiency of project.			



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Mandatory Optional

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Primary Subject Area	Relating to Green Communities Criteria	Champion <i>who will take the item forward?</i>	Strategies <i>what strategies should be employed?</i>	Integration <i>holistic relation-ship to other elements?</i>	Barriers <i>what barriers must be overcome?</i>	Level of Ease of Implement. <i>how easy to implement item?</i>	Level of Commitment <i>how important is this item to the project?</i>	Economic Viability <i>how costly is item to implement?</i>
Energy Issues	5.1b Efficient Energy Use: Moderate Rehab	N/A						
	5.2 Energy Star Appliances	Jeff Goins, Architect	– Architect to coordinate w/ Owner/Building Management to select ENERGY STAR dishwasher and refrigerator for each unit – Architect to coordinate w/ Owner/Building Management to select ENERGY STAR clothes washer. Washer to be located in shared laundry room (multiple or single) or in unit (issues include maintenance, cost, market demand). – Refer to ENERGY STAR website (www.energystar.gov) for qualified products.	– Saves water AND energy.				
	5.3a Efficient Light: Interior	Jeff Goins, Architect	– Architect to coordinate w/ Owner/Building Management to select ENERGY STAR lighting fixtures. – Potential interior lighting design: overhead T-8 linear fixture in kitchen and perhaps task lighting; switched outlets in bedrooms; ceiling plate connected to switch and switched outlet in dining room; switched outlet in living room; overhead light fixture in entry; bathroom ceiling fan/light and vanity light in bathrooms; overhead fixture or wall sconce CFLs for common areas and hallways. – Refer to ENERGY STAR website (www.energystar.gov) for qualified products.	– Lighting quality impacts visual comfort and safety.				
	5.3b Efficient Light: Exterior	Jeff Goins, Architect	– Architect to coordinate w/ Owner/Building Management to select fixtures and appropriate sensors. Emphasis will be on night-sky compliant/full cut-off fixtures to limit light trespass and night sky pollution while providing needed safety and security. – Ensure DC required light poles on street side comply with requirements. – Potential exterior lighting design: wall sconces at entry; light posts around courtyard; wall washers. – Consider ENERGY STAR LED fixtures.	Contributes to safety at night				



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Mandatory Optional

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Primary Subject Area	Relating to Green Communities Criteria	Champion <i>who will take the item forward?</i>	Strategies <i>what strategies should be employed?</i>	Integration <i>holistic relationship to other elements?</i>	Barriers <i>what barriers must be overcome?</i>	Level of Ease of Implement. <i>how easy to implement item?</i>	Level of Commitment <i>how important is this item to the project?</i>	Economic Viability <i>how costly is item to implement?</i>
	5.4 Electricity Meter	Ken Cantwell, MEP Engineer	- Electric submeters is mandated by DC law, so units will be submetered for electric and perhaps water. - Consider linking meters to a Building Automation System.	- Reduce energy load. - May contribute to measurement and verification strategies for optimal building performance.				
	5.5a Additional Reductions in Energy Use: New Construction	Ken Cantwell, MEP Engineer	Goal is at least 15% energy savings. See credit 5.1a for details.	Need to balance energy efficiency requirements/ goals and ventilation requirements.	Greater energy efficiency typically increases costs.	2	2	1
	5.5b Additional Reductions in Energy Use: Moderate Rehab	N/A						
	5.6a Renewable Energy				- PV system too expensive. - Proposed roof areas taken up by other uses, including solar hot water pre-heating, if cost-feasible.	1	1	1
	5.6b Photovoltaic (PV) Ready				- Future solar panel installation is unlikely due to cost. - PV system too expensive. - Proposed roof areas taken up by other uses, including solar hot water pre-heating, if cost-feasible.	1	1	1



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Mandatory Optional

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Water Issues	3.4 Surface Water Management				- Minimal open space: site not suitable for bioretention ponds, large rain garden areas, bioswales. - Intensive green roof is above underground parking, so have limited infiltration. - Cistern not cost feasible for project. - Stormwater management design will meet DC's requirements for stormwater quality management only (not quantity).	1	1	1
	3.5 Storm Drain Labels	Ray Norris, Civil Engineer	- Civil Engineer to specify labeling requirements. - Coordinate with existing DC initiatives (some drains and inlets in DC already labeled).	- Help raise awareness of sources of water pollution. - Incorporate topic in occupant orientation.		3	2	3
	4.1a Water Conserving Fixtures: New Construction	Ken Cantwell, MEP Engineer	- MEP Engineer to coordinate with Architect to select fixtures with following rates: power-assisted 1.28 gpf toilets (Kohler), 0.8 gpm lavatory faucets; 1.75 gpm showerheads; 2.0 gpm kitchen faucets. - Contractor estimated \$250 premium per unit for these fixtures. - Owner to explore 1.1 gpf toilets (Gerber makes 1.1 gpf toilet (Gerber EF-21-302)).	Confirm maintenance requirements to make sure strategy is easily maintainable.				
	4.1b Water Conserving Fixtures: Mod Rehab	N/A						
	4.1c Water Conserving Appliances and Fixtures				- Need to minimize resident maintenance calls. 1.1 gpf toilets are not proven for commercial use. However, Owner will explore 1.1 gpf toilets (Gerber makes 1.1 gpf toilet (Gerber EF-21-302)) to see if they are effective/functional and cost feasible.	1	1	1



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Mandatory Optional

Development Option # _____		Discussion - to include consideration of all issues, including the following:						
Primary Subject Area	Relating to Green Communities Criteria	Champion <i>who will take the item forward?</i>	Strategies <i>what strategies should be employed?</i>	Integration <i>holistic relation-ship to other elements?</i>	Barriers <i>what barriers must be overcome?</i>	Level of Ease of Implement. <i>how easy to implement item?</i>	Level of Commitment <i>how important is this item to the project?</i>	Economic Viability <i>how costly is item to implement?</i>
	4.2 Efficient Irrigation	Ray Norris, Civil Engineer	- Owner has mandate for plantings, but want them to be low maintenance. - Project expected to not have any permanent irrigation; therefore requirement is not applicable. - However, if irrigation is deemed necessary, especially if conventional turf is to be installed, then Civil Engineer to design highly efficient irrigation system to comply with requirements. - Consider cistern for courtyard/green roof area.	Cistern will contribute to stormwater water management.				
Building Operation Issues	8.2 Occupant's Manual	Rob Vieira, Owner/Developer	- Owner/Building Management to develop guide based on Maintenance Manual. - Provide specific information for renters and staff on how to properly operate and maintain the green features they use.	Impact all green strategies. Proper operations and maintenance is critical for a green building to remain green.				
	8.3 Homeowner and New Resident Orientation	Rob Vieira, Owner/Developer	Owner/Building Management to develop and conduct orientation program based on Occupant's Manual.	Impact all green strategies. Proper operations and maintenance is critical for a green building to remain green.				
	6.1 Construction Waste Management	Jeff Goins, Architect	- Architect to include in Division 1 specs requirement for Contractor to carry out construction waste management practices to divert construction and demolition waste from the landfills. - Contractor plans to crush and reuse asphalt for sub-base on site. - Goal: 50-75% diversion.	- Minimize impact on groundwater due to leaching from landfills. - Hazardous materials should be excluded from Construction Waste Management strategy.		2	3	2



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Durability Issues	6.2	Recycled Content Material	Jeff Goins, Architect	– Architect to specify recycled content materials to be used in the building. Coordinate with Contractor for cost estimates. – Strategies include: steel rebars; slag/flyash as partial cement replacement in concrete; gypsum wall board; fiber cement siding and panels; metal panels for facades; cellulose or fiberglass batt insulation; TPO roofing membrane. – Owner to investigate whether they have a standard % goal for recycled content materials. – Goal: 10-20% recycled content materials.	– Select materials available regionally to lessen transportation energy impacts. – Select materials that also are not high-emitting/toxic.	– Potential cost premiums and/or availability issues for unique products	2	3	2
	6.3	Certified, Salvaged and Engineered Wood				– Cost premium of 10-15% for FSC, which is ~\$25k-35k FSC-certified wood premium. – Owner would rather invest in other green features.	2	1	1
	7.9a	Materials in Wet Areas: Surfaces	Jeff Goins, Architect	– Architect to specify appropriate products. – Strategies include: Densshield with ceramic tile and sealed grout for tub surround, cultured marble backsplash for bath sink, laminate backsplash for kitchen, gypsum wallboard walls and ceilings throughout.	– Impact health and comfort. – Select materials available regionally to lessen transportation energy impacts and have recycled content. – Select materials that also are not high-emitting/toxic.				
	7.9b	Materials in Wet Areas: Tub and Shower Enclosure	Jeff Goins, Architect	– Architect to specify appropriate products. – Strategies include: Densshield with ceramic tile and sealed grout for tub surround.	– Select materials available regionally to lessen transportation energy impacts and have recycled content – Select materials that also are not high-emitting/toxic				



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	7.10a Basements and Concrete Slabs: Vapor Barrier	Jeff Goins, Architect	- Required by DC Code. - Architect to design appropriate wall/floor sections incorporating vapor barriers per requirements.	- Impact health and comfort. - Insulation under slab can reduce heat loss.				
	7.10b Basements and Concrete Slabs - Radon: New Construction	N/A	DC is within EPA Zone 3; therefore requirement is not applicable					
	8.1 Building Maintenance Manual for Owner	Rob Vieira, Owner/Developer	- Owner/Building Management will coordinate w/ entire design/construction team to compile best practice maintenance Manual - Key is to start early.	Impact all green strategies. Proper operations and maintenance is critical for a green building to remain green.				
	7.1 Low / No VOC Paints & Primers	Jeff Goins, Architect	- Architect to specify appropriate products. - Architect to coordinate w/ General Contractor to ensure installation of correct products.	- Impact health and comfort. - Select regional materials to lessen transportation energy impacts.				
	7.2 Low /No VOC Adhesives & Sealants	Jeff Goins, Architect	- Architect to specify appropriate products. - Architect to coordinate w/ General Contractor to ensure installation of correct products.	- Impact health and comfort. - Select regional materials to lessen transportation energy impacts.				



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Washington, DC 20020



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Primary Subject Area	Relating to Green Communities Criteria	Champion <i>who will take the item forward?</i>	Strategies <i>what strategies should be employed?</i>	Integration <i>holistic relation-ship to other elements?</i>	Barriers <i>what barriers must be overcome?</i>	Level of Ease of Implement. <i>how easy to implement item?</i>	Level of Commitment <i>how important is this item to the project?</i>	Economic Viability <i>how costly is item to implement?</i>
	7.3 Formaldehyde-free Comp. Wd.	Jeff Goins, Architect	- Architect to specify appropriate products. - Architect to Coordinate w/ General Contractor to ensure installation of correct products. - Strategies: Seal underside of countertop and select plywood boxes for kitchen cabinets. - Owner questions for how long formaldehyde off gas.	- Impact health and comfort. - Select regional materials to lessen transportation energy impacts.				
	7.4 Green Label Certified Floor Covering	Jeff Goins, Architect	- Architect to coordinate with Owner/Building Management to select appropriate flooring products. - Issues to consider in selection: sound transmission, cost, maintenance, durability, market demand. - Consider carpet in bedrooms only; PVC-free sheet flooring in kitchen and bathrooms; engineered wood flooring in other areas. - Architect to coordinate w/ General Contractor to ensure installation of correct products.	- Impact health and comfort. - Select regional materials to lessen transportation energy impacts.				
	7.5a Exhaust Fans - Bathroom: New Construction	Ken Cantwell, MEP Engineer	- MEP Engineer to explore integrated ventilation design. - Potential strategies: individual bath fan for units (low-sone and Energy STAR with timer) or continuous central bath exhaust system (allows for better balancing of units and ensures proper exhaust). - Need Enterprise interpretation whether central bath exhaust system will meet credit requirements. - Issues: 99 exhaust penetrations in walls vs. space for vertical shafts. - Specify low-VOC mastic for any ductwork.	Impact health and comfort and energy efficiency.				



Green Development Plan Primary Subject Areas

Developer Name: Matthews Memorial Terrace Limited Partnership
(The Community Builders, Inc. & Matthews Memorial Baptist Church)

Project Name: Matthews Memorial Terrace

Address: XX Martin Luther King Jr. Avenue, SE
Washington, DC 20020



Development Option #		Discussion - to include consideration of all issues, including the following:						
Primary Subject Area	Relating to Green Communities Criteria	Champion <i>who will take the item forward?</i>	Strategies <i>what strategies should be employed?</i>	Integration <i>holistic relation-ship to other elements?</i>	Barriers <i>what barriers must be overcome?</i>	Level of Ease of Implement. <i>how easy to implement item?</i>	Level of Commitment <i>how important is this item to the project?</i>	Economic Viability <i>how costly is item to implement?</i>
	7.5b Exhaust Fans – Kitchen: New Construction	Ken Cantwell, MEP Engineer: See 7.5a	– MEP Engineer to explore integrated ventilation design. – Potential strategies: individual kitchen exhaust fan for units (Energy STAR) or intermittent central kitchen exhaust system (allows for better balancing of units and ensures proper exhaust). – Need Enterprise interpretation whether central kitchen exhaust system will meet credit requirements. – Issues: 99 exhaust penetrations in walls vs. space for vertical shafts. – Specify low-VOC mastic for any ductwork.	– Impact health and comfort and energy efficiency.				
	7.5c Exhaust Fans – Kitchen: (For Moderate Rehabilitation)	N/A						
	7.6a Ventilation: (For New Construction and Substantial Rehabilitation)	Ken Cantwell, MEP Engineer: See 7.5a	– MEP Engineer to explore integrated ventilation design; coordinate w/ Architect as needed; get Enterprise interpretation as needed. – Potential strategy: natural ventilation as much as possible (operable window area must be equal to 4% of floor area; eligible natural ventilated areas are areas within 25' of window); direct intermittent kitchen exhaust for each unit or continuous/intermittent kitchen exhaust + recirculating kitchen hood fans for each unit; central continuous bath exhaust; separate ventilation system for corridor/common spaces. – Minimize vents and roof penetrations by grouping vents as much as possible. – Issue: Numerous exhaust penetrations in walls vs. space for vertical shafts (which may be required to be fire-rated).	– Impact health and comfort and energy efficiency.				



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Mandatory		Optional							
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Healthy Living Environment Issues	7.6b	Ventilation: (Moderate Rehabilitation)	N/A	— Project is new construction					
	7.7	HVAC Sizing	Ken Cantwell, MEP Engineer	— MEP Engineer to size HVAC equipment and ductwork in accordance with ASHRAE, using energy modeling software.	— Impact health and comfort and energy efficiency.				
	7.8	Water Heaters: Mold Prevention	Ken Cantwell, MEP Engineer	— MEP Engineer to design appropriate drainage. — MEP Engineer to coordinate w/ Architect to specify appropriate flooring.	— Select materials available regionally to lessen transportation energy impacts and have recycled content. — Select materials that also are not high-emitting/toxic.				
	7.9a	Materials in Wet Areas: Surfaces	Jeff Goins, Architect	— Architect to specify appropriate products. — Strategies include: Denshield with ceramic tile and sealed grout for tub surround, cultured marble backsplash for bath sink, laminate backsplash for kitchen, gypsum wallboard walls and ceilings throughout.	— Impact health and comfort. — Select materials available regionally to lessen transportation energy impacts and have recycled content. — Select materials that also are not high-emitting/toxic.				
	7.9b	Materials in Wet Areas: Tub and Shower Enclosure	Jeff Goins, Architect	— Architect to specify appropriate products. — Strategies include: Denshield with ceramic tile and sealed grout for tub surround.	— Select materials available regionally to lessen transportation energy impacts and have recycled content — Select materials that also are not high-emitting/toxic				



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	7.10a Basements and Concrete Slabs: Vapor Barrier	Jeff Goins, Architect	- Required by DC Code. - Architect to design appropriate wall/floor sections incorporating vapor barriers per requirements.	- Impact health and comfort. - Insulation under slab can reduce heat loss.				
	7.10b Basements and Concrete Slabs -- Radon: New Construction	N/A	DC is within EPA Zone 3; therefore requirement is not applicable					
	7.11 Water Drainage	Jeff Goins, Architect	- Required by DC Code. - Architect to design appropriate drainage system/wall sections so water drains away from building. - Foundation drainage to tie into existing sewer system.	Impact health and comfort.				
	7.12 Garage Isolation	Jeff Goins, Architect	Strategies: Concrete 1st floor will be air barrier between underground garage and living units; air handling equipment for units will not be installed in garage. Architect to specify that all connecting doors between living space and garage shall include an automatic closer, and shall be fixed with gaskets or otherwise made substantially air-tight with weather stripping. MEP Engineer to design proper ventilation system for underground garage. DC code requires 25' from garage exhaust and unit intakes (so consider putting exhaust on roof).	Locate vents appropriately so that they do not draw exhaust fumes or can be vandalized				



Green Development Plan Primary Subject Areas

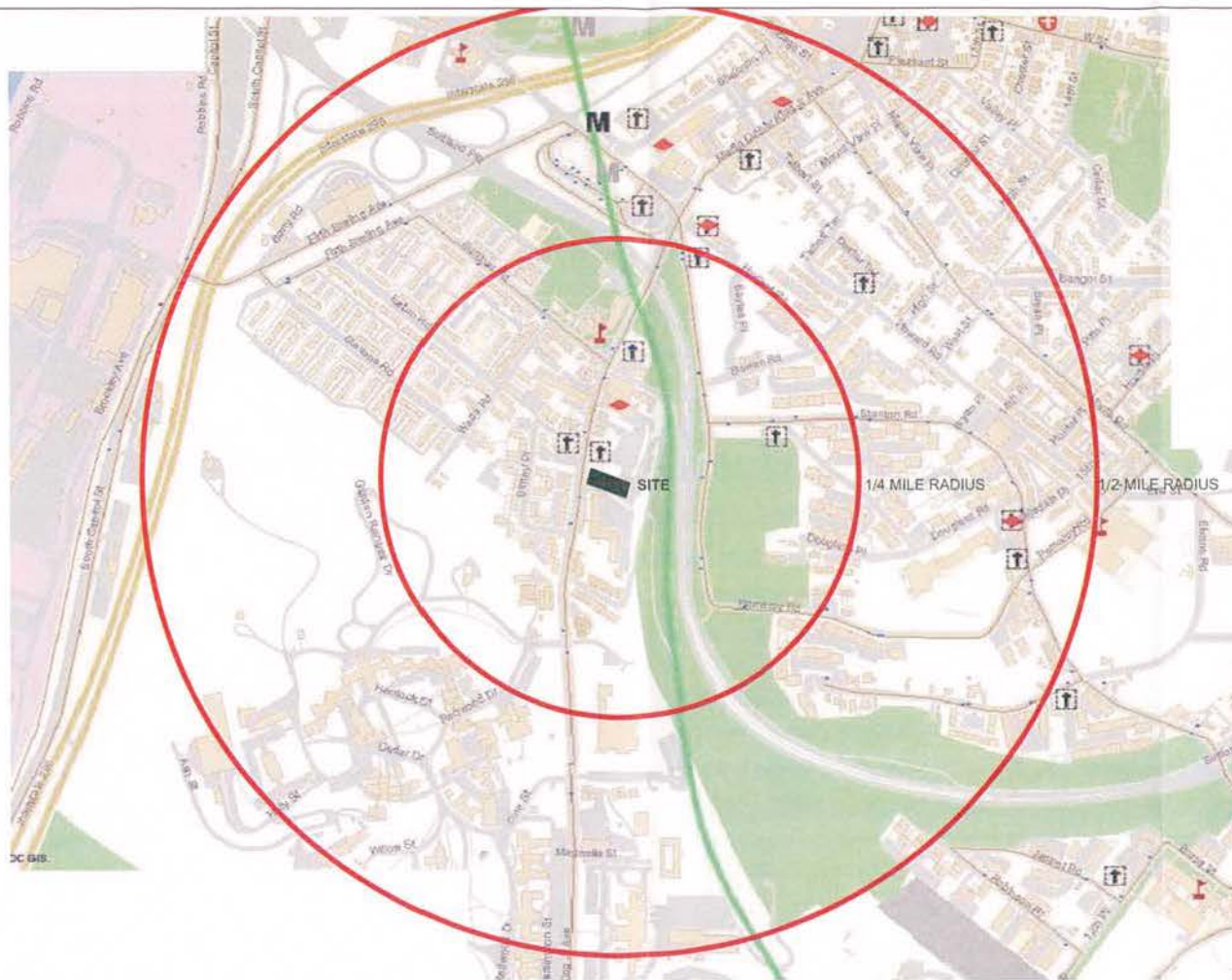
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	7.13	Clothes-Dryer Exhaust	Ken Cantwell, MEP Engineer	– Architect to coordinate w/ Owner/Building Management to decide whether Washer/dryer will be located in shared laundry room (multiple or single) or in unit (issues include maintenance, cost, market demand) – MEP Engineer to coordinate with Architect to exhaust dryers directly outdoors.	– Locate vents appropriately so that they cannot be vandalized.				
	7.14	Integrated Pest Management	Jeff Goins, Architect	– Architect to design appropriate details to achieve proper air sealing and pest management.	– Reduced/no use of toxic pest control strategies promote good health.				
	7.15	Lead-Safe Work Practices	N/A	– Project is new construction; therefore requirement is not applicable					
	7.16	Healthy Flooring Materials: Alternative Sources	Jeff Goins, Architect	– Architect to coordinate with Owner/Building Management to select appropriate flooring products. – Issues to consider in selection: sound transmission, cost, maintenance, durability, market demand. – Consider carpet in bedrooms only; PVC-free sheet flooring in kitchen and bathrooms; engineered wood flooring in other areas. – Carpet is \$2/sf vs. PVC-free flooring is \$3.50/sf. – Architect to coordinate w/ General Contractor to ensure installation of correct products.		– Market may demand carpet in dwelling units (excluding baths and kitchens) (especially for seniors)	2	1	2
	7.17	Smoke-free Building	Rob Vieira, Owner/Developer	– Owner to investigate feasibility of no-smoking policy. – Enforcement will be difficult.		– Enforcement of no-smoking policy is difficult.	2	1	2
	7.18	Combustion Equipment (includes space and water-heating equipment)	Ken Cantwell, MEP Engineer	– If central hot water boilers will be used, then they will be power vented. Carbon monoxide monitors will be installed where appropriate. – MEP Engineer to work with Owner/Building Management to determine preferred hot water heating system.					



LEGEND

- METRO BUS STOPS
- CHILD CARE FACILITIES
- METRO STATION ENTRANCES
- METRO STATIONS
- PLACES OF WORSHIP
- PRIMARY CARE CENTER
- PUBLIC SCHOOLS
- METRO BUS LINES

01
E2a
CONTEXT MAP
SCALE: NTS

MATTHEWS MEMORIAL TERRACE, LP

WASHINGTON, DC

E2a



MATTHEWS MEMORIAL BAPTIST CHURCH
2516 Martin Luther King Jr. Ave. SE
Washington, DC 20009

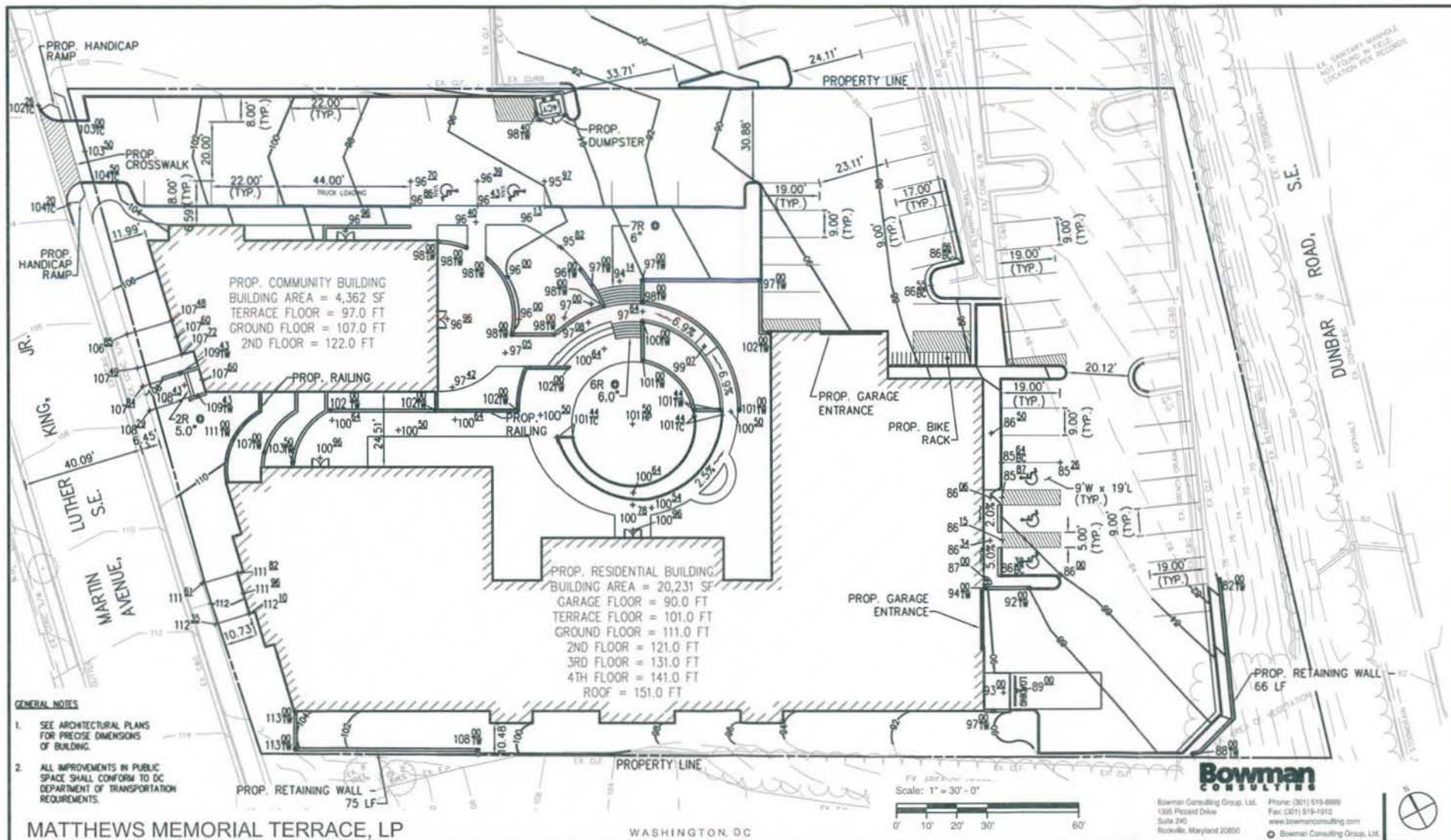


THE COMMUNITY BUILDERS, INC.
1323 H Street, NW
Washington, DC 20005



PGH ARCHITECTS, PLLC
1617 M Street, NW
Washington, DC 20005

SEPTEMBER 24, 2008



MATTHEWS MEMORIAL TERRACE, LP

WASHINGTON, DC



MATTHEWS MEMORIAL BAPTIST CHURCH
 2415 North Luther King Jr. Ave. SE
 Washington, DC 20003



THE COMMUNITY BUILDERS, INC.
 1323 H Street, NW
 Washington, DC 20005



P&R ARCHITECTS, PLLC
 1217 M Street, NW
 Washington, DC 20005

C2.00 - SITE DEVELOPMENT PLAN

SEPTEMBER 22, 2008

NOT FOR CONSTRUCTION

SITE TABULATION

2616 MARTIN LUTHER KING JR. AVENUE, S.E.
WASHINGTON, D.C. 20020
SQUARE 5868; A&T LOTS 1000, 1001, 1002, 1047, 1050, & LOT 172

NARRATIVE: THIS PROJECT INCLUDES THE DEMOLITION OF THE EXISTING RESIDENTIAL BUILDINGS AND PORTIONS OF THE PARKING LOT AND THE CONSTRUCTION OF A NEW 5-STORY RESIDENTIAL BUILDING WITH UNDERGROUND PARKING AND A SEPERATE COMMUNITY BUILDING.

PRESENT USE: PRESENTLY THERE ARE ONE 2-STORY HOUSE, TWO 3-STORY HOUSES, AND ONE 2-STORY DUPLEX ON THE LOTS.

PROPOSED USE: 5-STORY RESIDENTIAL BUILDING WITH ONE LEVEL OF UNDERGROUND PARKING AND A SEPERATE COMMUNITY BUILDING.

EXISTING ZONING: R-5-A

PROPOSED ZONING: R-5-B

FAR: 2.71

EXISTING AREA OF SITE: 79,311 SF

PROP. GROSS FLOOR AREA: 13,086 SF (COMMUNITY BLDG.)
107,516 SF (RESIDENTIAL BLDG.)

UNIT TOTAL: 99 LIVING UNITS

DISTURBED AREA

DISTURBED AREA = 72,330 SF

AREA DISTURBED FOR UTILITY CONNECTIONS = 1,500 SF

TOTAL DISTURBED AREA = 73,830

PARKING TABULATION

PARKING SPACES REQUIRED:

COMMERCIAL BLDG. = 12 SPACES (PER TRAFFIC CONSULTANT)

RESIDENTIAL BLDG. = 0.5 PER UNIT = 50 SPACES

PARKING SPACES PROVIDED:

COMMERCIAL BLDG. = 40 SPACES IN EXTERIOR LOT

RESIDENTIAL BLDG. = 50 SPACES IN GARAGE

MATTHEWS MEMORIAL TERRACE, LP

WASHINGTON, DC

Scale: 1" = 30' - 0"



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**C2.10 - SITE DEVELOPMENT
PLAN NOTES**

SEPTEMBER 22, 2008

NOT FOR CONSTRUCTION