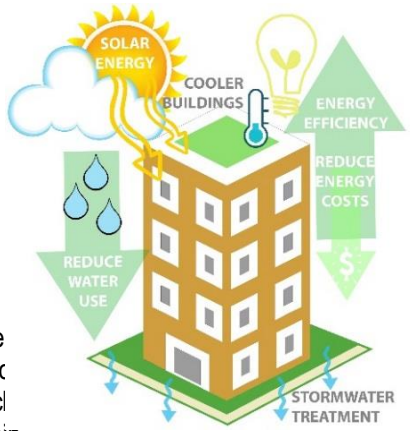
CITY OF ALEXANDRIA

2019 Green Building Policy



POLICY STATEMENT:

Green building is a practice that brings environmental and economic benefits to present and future generations. A green building ensures that sustainable standards are adhered to throughout the design and construction processes to lessen the impacts of the building on the local and global environment, resulting in lower operational costs and a healthy indoor environment for building occupants. The standards of the 2019 City of Alexandria Green Building Policy provided herein establish minimum green building practices for new private development and furthers the City's commitment to lead by example through new development and renovation of its own public buildings. In addition to instituting standards to achieve an overall improvement in building performance, this Green Building Policy includes a cutting-edge, directed-use approach that targets the reduction of energy use and mitigating greenhouse gas emissions, increased water efficiency and improved indoor environmental quality in both new private and public buildings. As a result, implementation of this Green Building Policy will contribute to reduced greenhouse gas emissions, conservation of potable water and improved human health in the City of Alexandria.

DEVELOPMENT STANDARDS:

New private development, new public development (City-owned buildings, including Alexandria City Public Schools) and major renovations that require a Development Site Plan (DSP) or a Development Special Use Permit (DSUP) are subject to comply with the Green Building Policy. The Green Building Policy is in effect as of March 2, 2020 for DSP and DSUP applications submitted on or after this date.

The 2019 Green Building Policy identifies: 1) the pathways to achieve the City's green building performance standards, including certification through four nationally recognized green building rating systems, 2) a minimum level of green building certification for both private and public developments, and 3) priority "Performance Points" within each rating system that a project is expected to achieve.

RATING SYSTEMS & MINIMUM LEVEL OF CERTIFICATION:

LEED, Green Globes, EarthCraft, and National Green Building Standard are the standard third-party green building rating systems accepted under the Green Building Policy. The minimum level of certification for each rating system is provided on the following pages for both public and private development. The latest version of each rating system at the time of the first Final Site Plan submission shall apply.

In addition to the LEED, Green Globes, EarthCraft, or National Green Building Standard green building rating systems, projects may choose an alternative path for certification through an independent, third-party certifier. The independent, third-party certifier must verify that the performance standards of the Green Building Policy are met.

PERFORMANCE POINTS:

Performance Points are defined as specific minimum credit points each project must achieve within the minimum level of certification for the selected green building rating system. Performance Points are identified within the areas of energy use reduction and greenhouse gas emission reductions, water efficiency, and indoor environmental quality. Projects that use LEED should refer to the LEED Credit Library for the specific criteria of each point. Those who utilize Green Globes, EarthCraft, or National Green Building Standard must comply with the Performance Point overlay criteria in Appendix A, B, and C of this Policy, respectively. To maintain alignment with the intent of this Policy, Performance Points may be adjusted over time to correspond with updates to the rating systems, revisions to the building code, and/or updates to state, federal, or other City policies.

In addition to the minimum level of certification and the designated Performance Points, public development will meet the following criteria:

STORMWATER	100% of the required stormwater treatment through green infrastructure.
NET ZERO ENERGY	An energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.

PUBLIC BUILDING RENOVATIONS:

For renovations of City-owned buildings that do not require a DSP or DSUP, the City will apply LEED Interior Design and Construction (ID+C) and LEED Operations and Maintenance (O&M) rating systems as a guideline for interior design and construction projects and targeted renovations of individual building systems (e.g.; HVAC, roof, windows, plumbing, etc.). Actual third-party certification may be used when technically and financially feasible.

FLEXIBILITY:

Flexibility from the Green Building Policy will be considered on a case-by-case basis. If flexibility is requested, the Director of Planning and Zoning will consider the project size, proposed use and the alternate green building practices the applicant proposes to incorporate into the project to determine if the request is justified. The City will use the data collected from this process over time to establish consistent criteria and thresholds for alternatives to compliance with the Green Building Policy.

2019 GREEN BUILDING POLICY | Leadership in Energy and Environmental Design (LEED)											
RATING SYSTEM	MINIMUM LEVEL OF CERTIFICATION		PERFORMANCE POINTS								
			ENERGY USE REDUCTION			WATER EFFICIENCY			INDOOR ENVIRONMENTAL QUALITY		
	Private	Public	POINTS		CREDIT	POINTS		CREDIT	POINTS		CREDIT
			Private	Public		Private	Public		Private	Public	
LEED BUILDING DESIGN AND CONSTRUCTION (BD+C)	Silver	Gold	5	7	Optimize Energy Performance	4	4	Indoor Water Use Reduction	1	1	Low-Emitting Materials
			2	3	Renewable Energy Production				1	1	Construction Indoor Air Quality Management Plan
			1	1	Advanced Energy Metering[2]	1	1	Outdoor Water Use Reduction	1	1	Thermal Comfort
			Optional	3	Enhanced Commissioning				Optional	2	Daylight
									Optional	1	Indoor Air Quality Assessment

NOTES: 1) Refer to LEED Credit Library for point criteria.
2) Applies to non-residential projects only (excludes hotels).

2019 GREEN BUILDING POLICY | Green Globes

RATING SYSTEM	MINIMUM LEVEL OF CERTIFICATION		PERFORMANCE POINTS								
			ENERGY USE REDUCTION			WATER EFFICIENCY			INDOOR ENVIRONMENTAL QUALITY		
	Private	Public	POINTS Private	POINTS Public	CREDIT	POINTS Private	POINTS Public	CREDIT	POINTS Private	POINTS Public	CREDIT
GREEN GLOBES NEW CONSTRUCTION (NC)	2 Green Globes	3 Green Globes	60	68	**3.3.1.1** Assessing Energy Performance (Path A, B, or C)	24	24	**3.4.1.1** Indoor Water Consumption	11	11	**3.7.1.1** Ventilation Air Quality
			9	9	**3.3.9.1.1** On-site Renewable Energy Feasibility Study				8	8	**3.7.1.2** Air Exchange
			-AND-			6	6	**3.2.4.1** Landscape and Irrigation Plan (LIP) by Certified Professional	10	10	**3.7.2.1** Volatile Organic Compounds
			23	23	**3.3.9.1.2** On- or Off-site Renewable Energy						
			-OR-			3	3	**3.2.4.1.1** Soil Type, Drainage and Light Conditions			
			18	18	**3.3.9.2.1** Off-site Renewable Energy						
			-OR-								
			32	32	**3.3.9.1.2** (Partial) and **3.3.9.2.1** (Partial)	2	2	**3.2.4.3.2** Native/Non-invasive Plant Material	5	5	**3.1.2.4** IAQ During Construction
			COMMISSIONING								
			Optional	4	**3.1.3.2.1.1** HVAC and Refrigeration Systems	3	3	**3.2.4.3.3** Turfgrass Minimalized			
			Optional	3	**3.1.3.2.1.5** Plumbing						
			Optional	1	**3.1.3.2.1.6** Electrical	1	1	**3.4.8.2.2** Drip/low Volume Irrigation[3]	Optional	3	**3.1.2.4.2** IAQ of Occupied Areas During Construction
			Optional	1	**3.1.3.2.1.7** Lighting						
			Optional	1	**3.1.3.2.1.8** Building Automation				2-12	2-12	**3.7.4** Thermal Comfort
			Optional	1	**3.1.3.3.1** Training Requirements						
			Optional	6	**3.1.3.4.1** Operations and Maintenance Manuals	1	1	**3.4.8.2.3** WaterSense/SWAT/Smart Control System[3]	Optional	8	**3.3.5.4** Daylighting
			METERING, MEASUREMENT AND VERIFICATION[2]								
			1	1	**3.3.3.1.1.1** Electricity	0.5	0.5	**3.4.8.2.4** Regulation of Precipitation Rate on Sprinkler[3]	Optional	7	**3.7.3.1.1** Daylighting
			1	1	**3.3.3.1.1.2** Heating Fuels						
			1	1	**3.3.3.1.1.4** Other, with description (as applicable)	0.5	0.5	**3.4.8.2.5** Swing Joints/Flex Pipes on Irrigation Heads[3]	Optional	2	**3.1.2.4.1** IAQ During Construction Indoor Air Quality Test Pathway
			0.5 - 3	0.5 - 3	**3.3.3.1.2** Sub-metering (as applicable)						

NOTES: 1) Refer to Appendix A: "City of Alexandria, VA Performance Design Targets – Directed Use Criteria ("Performance Points") for Green Globes" for Performance Point criteria.
2) Applies to non-residential projects only (excludes hotels).
3) Credit is only applicable if an automated irrigation system is installed.

2019 GREEN BUILDING POLICY | EarthCraft Multifamily

RATING SYSTEM	MINIMUM LEVEL OF CERTIFICATION		PERFORMANCE POINTS								
			ENERGY USE REDUCTION			WATER EFFICIENCY			INDOOR ENVIRONMENTAL QUALITY		
	Private	Public	POINTS Private	POINTS Public	CREDIT	POINTS Private	POINTS Public	CREDIT	POINTS Private	POINTS Public	CREDIT
EARTHCRAFT MULTIFAMILY (ECMF)	Gold	N/A	2-5	N/A	**IN 1.1** Solar, Micro-hydro, Wind Electric **IN 1.2** Solar-ready Design **IN 1.3** Solar Electric System or **IN 1.5** Common Areas Solar Electric Use	INDOOR WATER USE			4	N/A	**IAQ 2.7** VOC Materials and **IAQ 2.12** Zero Carpet in Units
						9-14	N/A	**WE 1.2** Water Treatment **WE 1.3** Water Softeners **WE 1.4** Storage **WE 1.5.1** WaterSense Toilet **WE 1.5.2** WaterSense Urinal **WE 1.5.3** WaterSense Lavatory Faucet **WE 1.5.4** WaterSense Showerhead **WE 1.6** Toilet < 1.1 gallon/flush			
			1-2	N/A	**EO 3.4** Light Commercial Community Center (as applicable) or **EO 3.5** Light Commercial Ready Spaces (as applicable)	-OR-					
						5-10	N/A	**WE 1.2** Water Treatment **WE 1.3** Water Softeners **WE 1.5.1** WaterSense Toilet **WE 1.5.2** WaterSense Urinal **WE 1.5.3** WaterSense Lavatory Faucet **WE 1.5.4** WaterSense Showerhead **40%** Reduction from Baseline	2	N/A	**BE 3.15** Insulation **BE 3.16** Walls **BE 3.17** Exterior Insulation **BE 3.18** Ceilings **BE 3.19** Attic Kneewalls or **BE 3.20** Insulate Roofline
			COMMISSIONING			OUTDOOR WATER USE					
			Optional	N/A	**EO 2.3** Pre-occupancy Briefing	4-9	N/A	**WE 2.4** Turf <40% **WE 2.5** Vegetate 4:1 Slopes **WE 2.7** Drought Tolerant/Native Plants **WE 2.8** Guidebook and **WE 2.6** Irrigation[2]			
			Optional	N/A	**EO 2.4** Post-occupancy Briefing						
			Optional	N/A	**EO 2.5** Environmental Management and Building Maintenance Guidelines for Staff	-OR-					
						3	N/A	**WE 2.10.1** Greywater Irrigation[2]	1	N/A	**IAQ 2.9** Pre-occupancy Flush
			Optional	N/A	High-rise Addendum	-OR-					
			METERING								
			Optional	N/A	**IN 1.7 12** Months Post-Construction Energy Monitoring	3	N/A	**WE 2.10.2** Rainwater Irrigation[2]			

NOTES: 1) Refer to Appendix B-1: "City of Alexandria, VA Performance Design Targets – Directed Use Criteria ("Performance Points") for Earthcraft Multifamily (ECMF)" for Performance Point criteria.
2) Credit is only applicable if an automated irrigation system is installed.

2019 GREEN BUILDING POLICY | EarthCraft Light Commercial

RATING SYSTEM	MINIMUM LEVEL OF CERTIFICATION		PERFORMANCE POINTS								
			ENERGY USE REDUCTION			WATER EFFICIENCY			INDOOR ENVIRONMENTAL QUALITY		
	Private	Public	POINTS Private	POINTS Public	CREDIT	POINTS Private	POINTS Public	CREDIT	POINTS Private	POINTS Public	CREDIT
EARTHCRAFT LIGHT COMMERCIAL (ECLC)[2]	Certified	Gold	1	1	**BE 1A** Envelope Air Tightness Test	INDOOR WATER USE			2	2	**IEQ 5** Certified Flooring **IEQ 6** Composite Wood or **IEQ 7** Product Transparency
			1	1	**ES 5** High Performance Duct System	3	3	**WE 1A** High Efficiency Toilets **WE 1B** Pint Flush or Waterless Urinals **WE 1C** Automatic Faucets, and/or **WE 1D** High Efficiency Showerheads	1	1	**IEQ 1** Decoupled Ventilation **IEQ 2** (DCV) **IEQ 3** Air Filtration Media or **IEQ 4** Radon Exposure Prevention
			-AND-								
			1	1	**IN 1** Renewable Energy Installation						
			-OR-								
			2	2	**IN 2** Renewable Energy Procurement				Optional	1	**BE 7** Daylighting Design Strategies
			COMMISSIONING			OUTDOOR WATER USE					
			Optional	3	**EO 1** Building Systems Commissioning						
			METERING			3	3	**WE 2** Landscape Plan **WE 3** Efficient Irrigation System and/or No Irrigation and/or **WE 4** Non-potable Water Source Used for Irrigation[3]	PR[4]	PR[4]	**IEQ R3** Minimize Indoor Air Contamination
			PR[4]	PR[4]	**EO R1** Utility Tracking						

NOTES: 1) Refer to Appendix B-2: "City of Alexandria, VA Performance Design Targets – Directed Use Criteria ("Performance Points") for Earthcraft Light Commercial (ECLC)" for Performance Point criteria.
2) Applicable to commercial buildings, schools and public facilities up to 80,000 square feet.
3) Credit is only applicable if an automated irrigation system is installed.
4) PR = Program Requirement; no points assigned.

2019 GREEN BUILDING POLICY | National Green Building Standard (NGBS)

RATING SYSTEM	MINIMUM LEVEL OF CERTIFICATION		PERFORMANCE POINTS								
			ENERGY USE REDUCTION			WATER EFFICIENCY			INDOOR ENVIRONMENTAL QUALITY		
			POINTS		CREDIT	POINTS		CREDIT	POINTS		CREDIT
	Private	Public	PRIVATE	PUBLIC		PRIVATE	PUBLIC		PRIVATE	PUBLIC	
NGBS GREEN NATIONAL GREEN BUILDING STANDARD (NGBS)	SILVER	N/A	66	N/A	**702** Performance Path	39 + Additional Documentation of LEED Water Tool Results to demonstrate 40% reduction	N/A	**802.2** Water-conserving Appliances **802.4** Showerheads **802.5** Faucets ***Additional non-NGBS Documentation Required:*** LEED Water Tool Outputs - Demonstrate a 40% reduction in indoor water use relative to baseline water use using the LEED Water Tool	6 - 18 (depending on credits selected)	N/A	**Achieve listed number of points for at least two of the following:** **901.4** Wood Materials: 10 points **901.7** Floor Materials: 8 points **901.9** Interior Architectural Coatings: 8 points **901.10** Interior Adhesives and Sealants: 5 points **901.11** Insulation: 4 Points **901.12** Furniture and Furnishings: 2 points
			2 per kW+ Documentation that onsite generation is projected to meet at least 5% of energy demand	N/A	**706.5** On-Site Renewable Energy System. **706.2** Renewable Energy Service Plan. ***Additional non-NGBS documentation required:*** Proof that the planned on-site renewable energy will exceed 5% of planned demand				9 points required for multi-family 7 points required for townhomes	N/A	**902.2** Building Ventilation Systems -2 points **902.4** HVAC System Protection – 3 points **904.1** Indoor Air Quality (IAQ) During Construction – 2 points **901.15** Non-Smoking Areas – 2 points (only applicable to multi-family projects)
			1 for multifamily projects	N/A	**705.7** Submetering System	5	N/A	**503.5** Landscape Plan	9	N/A	**903.3** Relative Humidity **905.1** Humidity Monitoring System
			14 for multifamily projects	N/A	**705.6** Installation and Performance Verification	Additional Documentation of WaterSense Water Budget tool to demonstrate 50% reduction	N/A	**802.6.1/2/3/4 Irrigation Systems** **Additional non-NGBS Documentation Required:** EPA WaterSense Water Budget Tool - Demonstrate at least a 50% reduction in irrigation water demand using the Water Budget Tool	Optional	N/A	**901.1** Space and Water Heating Options **902.2** Building Ventilation Systems **902.3** Radon Reduction Measures
									Optional	N/A	**904.2** Indoor Air Quality (IAQ) Post Completion **904.12** Indoor Air Quality (IAQ) Post Completion – 3 points

NOTES: 1) Refer to Appendix C: "City of Alexandria, VA Performance Design Targets – Directed Use Criteria ("Performance Points") for National Green Building Standard (NGBS)." for Performance Point criteria.
2) Applicable to residential projects only. Does not apply to public projects.

APPENDIX A: CITY OF ALEXANDRIA, VA PERFORMANCE DESIGN TARGETS – DIRECTED USE CRITERIA ("PERFORMANCE POINTS") FOR **GREEN GLOBES FOR NEW CONSTRUCTION (NC).**

For additional information, refer to the Green Globes for New Construction Technical Reference Manual v1.50.

As part of achieving a minimum certification of Two Green Globes for private projects, or Three Green Globes for public projects in the City of Alexandria, VA, Green Globes projects must fulfill the following Green Globes criteria:

ENERGY

Energy Reduction for Private Projects

Green Globes Criteria: 3.3.1.1: All private projects must achieve a minimum of 60 points under Pathways A, B, or C, identified in criteria 3.3.1.1 for an EUI > 30% (60 points)

Energy Reduction for Public Projects

Criteria 3.3.1.1: All projects must achieve a minimum of 68 points under Pathways A, B, or C, identified in criteria 3.3.1.1 for an EUI ≥ 35% (68 points)

Renewable Energy for Private Projects

3.3.9.1.1.: Perform feasibility study under criteria 3.3.9.1.1 to determine whether 5% onsite renewable energy equipment or 40% off-site renewable energy equipment is achievable for the project (9 points)

Per the result of the feasibility study, achieve these criteria by following one of the three paths below:

PATH 1: Criteria 3.3.9.1.2: Installation of 5% or greater **on-site** renewable energy; or installation of 40% or greater **off-site** renewable energy. (23 points)

OR

PATH 2: Criteria 3.3.9.2.1: Procurement of RECs and/or offsets for 200% of building energy for a minimum of three years (18 points)

OR

PATH 3: Achieve Criteria 3.3.9.1.2 for installation of either 2% on-site or 20% off-site renewable energy equipment (14 points) **AND** achieve 3.3.9.2.1 for procurement of RECs and/or offsets for 100% of building energy for minimum of three years (18 points).

Renewable Energy for Public Projects

3.3.9.1.1.: Perform feasibility study under criteria 3.3.9.1.1 to determine whether a minimum of 10% onsite renewable energy equipment or 60% off-site renewable energy equipment is achievable for the project (9 points)

Per the result of the feasibility study, achieve these criteria by following one of the three paths below:

PATH 1: Criteria 3.3.9.1.2: Installation of 10% or greater **on-site** renewable energy; or installation of 60% or greater **off-site** renewable energy (23 points)

OR

PATH 2: Criteria 3.3.9.2.1: Procurement of RECs and/or offsets for 200% of building energy for a minimum of six years (18 points)

OR

PATH 3: In cases where the onsite/offsite renewable energy goals may be partially achieved, Criteria 3.3.9.1.2 for installation of either a minimum of 5% on-site or 30% off-site renewable energy equipment (14 points) **AND** achieve 3.3.9.2.1 for procurement of RECs and/or offsets for 100% of building energy for minimum of six years (18 points).

Commissioning for Public Projects (Optional for Private Projects)

The City of Alexandria recommends that all private projects attempt to include Commissioning whenever possible, although it is not required for private projects. Public projects must fulfill commissioning criteria related to mechanical systems, plumbing, and electrical, specifically by utilizing the following Green Globes Criteria:

3.1.3.2.1.1., HVAC and refrigeration systems (4 points)
3.1.3.2.1.5., Plumbing (3 points)
3.1.3.2.1.6., Electrical (1 point)
3.1.3.2.1.7., Lighting (1 point)
3.1.3.2.1.8., Building automation (1 point)
3.1.3.3.1., Training requirements (1 point)
3.1.3.4.1., Operations and Maintenance manuals (6 points)
Total points: (17 points)

*Advanced Energy Metering for Public and Private Projects**

All applicable points in the following Green Globes Criteria related to whole building/significant use metering must be fulfilled (*as applicable to the building's systems*):

3.3.3.1.1.1., Electricity (1 point)
3.3.3.1.1.2., Heating Fuels (1 point)
3.3.3.1.1.3., Steam (1 point)
3.3.3.1.1.4., Other, with description (1 point)
Total possible points for this section: (4 points)

And, for the following end uses making up over 10% of the building load, *as applicable to the building*:
3.3.3.1.2.1., Sub-metering on lighting and lighting controls by floors or zones (0.5 points)
3.3.3.1.2.2., Sub-metering on plug loads by floor or zones (0.5 points)
3.3.3.1.2.3., Sub-metering on major electric HVAC equipment (0.5 points)
3.3.3.1.2.4., Sub-metering on chilled water generation (0.5 points)
3.3.3.1.2.5., Sub-metering for onsite renewable energy generation (0.5 points)

3.3.3.1.2.6., Sub-metering for heating water or steam generation (0.5 points)
Total possible points for this section: (3 points)

**Applies to non-residential projects only, excluding hotel projects. Such projects are excluded from being required to comply with these criteria, although the City of Alexandria urges projects to consider compliance with these criteria, where possible.*

WATER EFFICIENCY

Indoor Water Use for Public and Private Projects

The following Green Globes Criteria must be fulfilled:

3.4.1.1, Projected water consumption determined to be less than the baseline by a minimum of 40%
(24 points)

Outdoor Water Use for Public and Private Projects

The following Green Globes Criteria must be fulfilled through a project achievements in both landscaping (Site), and irrigation systems (Water) performance:

3.2.4.1., Landscape Irrigation Plan (LIP) by Landscape Architect (6 points)
3.2.4.1.1., LIP for soil type, drainage and light (3 points)
3.2.4.3.2., Native/Non-invasive plants (2 points)
3.2.4.3.3., Turf grass minimalized (3 points); and
-The following criteria and points are only applicable if an automated irrigation system is installed-
3.4.8.2.2., Drip/low volume irrigation (1 point)
3.4.8.2.3., Watersense/SWAT/Smart Control system (1 point)
3.4.8.2.4., Regulation of precipitation rate on sprinkler systems (0.5 point)
3.4.8.2.5., Swing joints/Flex pipes on irrigation heads (0.5 point)

INDOOR ENVIRONMENTAL QUALITY

Indoor Environmental Quality for Public and Private Projects

The following Green Globes Criteria must be fulfilled:

3.1.2.4 IAQ During Construction (5 points maximum)
3.3.5.4 Daylighting (8 points) (public buildings only)
3.7.3.1.1 Daylighting (7 points) (public buildings only)
3.7.1.1 Ventilation Air Quantity (11 points)
3.7.1.2 Air Exchange (8 points)
3.7.2.1 Volatile Organic Compounds (10 points)
3.7.4 Thermal Comfort (up to 12 points depending on building use/purpose)

Indoor Air Quality for Public Projects

3.1.2.4.1 IAQ During Construction: Indoor Air Quality Test pathway (2 points)
3.1.2.4.2 IAQ of Occupied Areas During Construction (3 points)

APPENDIX B-1: CITY OF ALEXANDRIA, VA PERFORMANCE DESIGN TARGETS ("PERFORMANCE POINTS") – DIRECTED USE CRITERIA FOR **EARTHCRAFT MULTIFAMILY (ECMF).**

For additional information, refer to the EarthCraft Multifamily Technical Guidelines.

The EarthCraft Multifamily rating system is not applicable to public projects. For private projects, as part of achieving the minimum certification requirements for EarthCraft Gold, the following must also be completed projects in the City of Alexandria:

ENERGY:

Renewable Energy

Achieve one of the four paths below:

IN 1.1: Solar, micro-hydro, or wind electric system (4 points)

OR

IN 1.2: Solar-ready design (2 points)

OR

IN 1.3: Solar electric system (5 points)

OR

IN 1.5: Common areas use solar electric system (4 points)

Community Buildings/Commercial Spaces *(as applicable for mixed-use developments with ground floor commercial use and multifamily units above).*

Achieve one of the two following credits:

EO 3.4: EarthCraft Light Commercial for community center (2 points)

OR

EO 3.5: EarthCraft Light Commercial ready spaces (1 point)

Commissioning (optional)

Achieve the following credits:

EO 2.3: Provide pre-occupancy briefing for tenant (2 points)
EO 2.4: Project participates in post-occupancy debriefing (2 points)
EO 2.5: Environmental management and building maintenance guidelines for staff (2 points)
Achieve all applicable items on the High Rise Addendum (applicable for low-, mid-, and high-rise projects)

Advanced Metering (optional)

Achieve the following credit:

IN 1.7: Developer contracts for at least 12 months post-construction energy monitoring (6 points)

WATER EFFICIENCY

Indoor Water Use

Achieve one of the two paths below:

PATH 1: Earn a minimum of 9 points and up to 14 points from any combination of the following credits:

WE 1.2: Water treatment system NSF certified (2 points)
WE 1.3: Water softeners certified to NSF/ANSI Standard 44 (2 points)
WE 1.4: Store < .5 gallons of water between water heater and furthest fixture (2 points)
WE 1.5.1: WaterSense toilet (2 points); WE 1.5.2: WaterSense urinal (1 point)
WE 1.5.3: WaterSense lavatory faucet (1 point);
WE 1.5.4: WaterSense showerhead (2 points) and
WE 1.6: Toilet < 1.1 gallon/flush (2 points)

OR

PATH 2: Earn a minimum of 5 points and up to 10 points from any combination of the following credits:

WE 1.2: Water treatment system NSF certified (2 points)
WE 1.3: Water softeners certified to NSF/ANSI Standard 44 (2 points)
WE 1.5.1: WaterSense toilet (2 points)
WE 1.5.2: WaterSense urinal (1 point);
WE 1.5.3: WaterSense lavatory faucet (1 point)
WE 1.5.4: WaterSense showerhead (2 points); and demonstrate a 40% reduction from the baseline through the Indoor Water Use Calculator

Outdoor Water Use

Achieve one of the three paths below:

PATH 1: Earn a minimum of 4 points and up to 9 points from any combination of the following credits:

WE 2.4: Turf <40% of landscaped area (2 points);
WE 2.5: Vegetate slopes exceeding 4:1 (1 point);
WE 2.7: Drought-tolerant/native landscaping turf and plants (1 point);
WE 2.8: Xeriscape guidebook given to property manager or owners (1 point); and
WE 2.6: Irrigation (4 points) (WE 2.6 is only applicable if automated irrigation is installed)

OR

PATH 2: WE 2.10.1: Greywater irrigation system (3 points) (only applicable if automated irrigation is installed)

OR

PATH 3: WE 2.10.2: Rainwater irrigation system (3 points) (only applicable if automated irrigation is installed)

INDOOR ENVIRONMENTAL QUALITY

Achieve the following:

Earn a total of 4 points between IAQ 2.7: Certified low or no VOC materials and IAQ 2.12: No carpet in all units

AND

Earn a total of 2 points from any combination of the following credits:

BE 3.15: Insulate with foam insulation
BE 3.16: Walls
BE 3.17: Continuous exterior insulation
BE 3.18: Ceilings
BE 3.19: Attic kneewalls, and/or
BE 3.20: Insulate roofline

AND

Achieve IAQ 2.9: Pre-occupancy flush (1 point)

APPENDIX B-2: CITY OF ALEXANDRIA, VA PERFORMANCE DESIGN TARGETS ("PERFORMANCE POINTS") – DIRECTED USE CRITERIA FOR **EARTHCRAFT LIGHT COMMERICAL (ECLC) v2.1.**

For additional information, refer to the EarthCraft Light Commercial Technical Guidelines.

As part of achieving the minimum certification requirements for EarthCraft Light Commercial (ECLC) Certified for private developments and ECLC Gold for public developments, the following must also be completed for projects in the City of Alexandria:

ENERGY:

Energy for Private Projects:

Achieve the following credits:

BE 1A: Measured ELR75 is 0.30 or better (1 point)

AND

ES 5: High Performance Duct System (1 point)

AND

IN 1: Renewable Energy Installation of 5% or greater on-site renewable energy; or installation of 40% or greater off-site renewable energy. (1 point)

OR

IN 2: Renewable Energy Procurement of RECs and/or offsets for 200% of building energy for a minimum of three years (2 points)

Energy for Public Projects:

Achieve the following credits:

BE 1A: Measured ELR_{75} is 0.30 or better (1 point)

AND

ES 5: High Performance Duct System (1 point)

AND

IN 1: Renewable Energy Installation of 10% or greater **on-site** renewable energy; or installation of 60% or greater **off-site** renewable energy. (1 point)

OR

IN 2: Renewable Energy Procurement of RECs and/or offsets for 200% of building energy for a minimum of six years (2 points)

Commissioning for <u>Public Projects</u> (Optional for Private Projects)

Achieve the following credit:

EO 1: Building Systems Commissioning (3 points)

WATER USE:

Indoor Water Use

Earn a total of 3 points from any combination of the following credits:

WE 1A: High Efficiency Toilets
WE 1B: Pint Flush or Waterless Urinals
WE 1C: Automatic Faucets and/or
WE 1D: High Efficiency Showerheads

Outdoor Water Use

Earn a total of 3 points from any combination of the following credits:

WE 2: Xeriscape Landscape Plan
WE 3: Efficient Irrigation System or No Irrigation System and/or
WE 4: Non -Potable Water Source Used for Irrigation (WE 4 is only applicable if an automated irrigation system is installed)

INDOOR ENVIRONMENTAL QUALITY

Achieve 4 points from the following credits:

Earn a total of 1 point from any combination of the following credits:

IEQ 1: Decoupled Ventilation
IEQ 2: Demand Control Ventilation (DCV)
IEQ 3: Air Filtration Media: MERV 11 or Higher or
IEQ 4: Radon Exposure Prevention

AND

Earn a total of 2 points from any combination of the following credits:

IEQ 5: Certified Flooring
IEQ 6: Composite Wood Contains No Added Urea-Formaldehyde or
IEQ 7: Product Transparency Label Material Selection

AND

Earn 1 point from BE 7: Daylighting Design Strategies

APPENDIX C: CITY OF ALEXANDRIA, VA PERFORMANCE DESIGN TARGETS – DIRECTED USE CRITERIA ("PERFORMANCE POINTS") FOR **NATIONAL GREEN BUILDING STANDARD (NGBS).**

For additional information, refer to the 2020 National Green Building Standard Manual.

The National Green Building Standard rating system is not applicable to public projects or commercial projects. For private residential projects, as part of achieving the minimum certification requirement of Silver for National Green Building Standard, the following must also be completed projects in the City of Alexandria:

ENERGY

Optimize Energy Use:

The following criteria must be fulfilled:

- All projects must achieve a minimum of 66 points under the 702 Performance Path. Neither the prescriptive path nor the ERI target path should be used for compliance with the Alexandria Green Building Standard (66 points)

On-Site Renewables:

The on-site renewables must be 5% of the total site energy to meet the Alexandria Green Building Standard. Points allotted are 2 points kW+. The following criteria must be fulfilled:

- 706.5 On-Site Renewable Energy System
- 706.2 Renewable Energy Service Plan
- Additional non-NGBS documentation required: Proof that the planned on-site renewable energy will exceed 5% of planned demand

Measurement and Verification:

The following criteria must be fulfilled:

- Earn 1 point under 705.7 Submetering System (1 point)

Enhanced Commissioning:

The following criteria must be fulfilled:

- Projects must achieve 14 points under 706 Installation and Performance Verification (14 points)

WATER EFFICIENCY

NGBS does have a performance rating for water efficiency under section 804, using Water Rating Index (WRI) methodology. However, the WRI methodology combines indoor and outdoor water use into a single metric.

Indoor Water Use:

In addition to achieving the minimum 39 required points under Water Efficiency for NGBS Silver (across indoor and outdoor use), projects must use the LEED Water Tool to calculate their design water baseline and design water savings and demonstrate a projected reduction of 40% over the baseline.

The following criteria must be fulfilled:

- 802.2 Water-conserving Appliances
- 802.4 Showerheads
- 802.5 Faucets
- Additional non-NGBS Documentation Required: LEED Water Tool Outputs - Demonstrate a 40% reduction in indoor water use relative to baseline water use using the LEED Water Tool

Outdoor Water Use:

In addition to achieving the minimum required 39 required points under Water Efficiency for NGBS Silver (across indoor and outdoor use), projects must use the EPA WaterSense Water Budget to calculate their irrigation water demand baseline, demonstrate a projected reduction of 50% relative to the baseline.

The following criteria must be fulfilled:

- 503.5 Landscape Plan
- 802.6.1/2/3/4 Irrigation Systems
- Additional non-NGBS Documentation Required: EPA WaterSense Water Budget Tool - Demonstrate at least a 50% reduction in irrigation water demand using the Water Budget Tool

INDOOR ENVIRONMENTAL QUALITY

Low Emitting Materials:

Achieve at least the applicable maximum number of points, as listed, *in at least two* of the following six categories:

- 901.4 Wood Materials (10 points)
- 901.7 Floor Materials (8 points)
- 901.9 Interior Architectural Coatings (8 points)
- 901.10 Interior Adhesives and Sealants (5 points)
- 901.11 Insulation (4 points)
- 901.12 Furniture and Furnishings (2 points)

Indoor Air Quality Construction Management:

Achieve the listed number of points for each of the following categories. A total of 9 points are required for multi-family and 7 points required for townhomes.

- 902.2.3 or 902.2.4: Building Ventilation Systems. Indicating MERV Filters must be at least MERV 8 (2 points)
- 902.4 HVAC System Protection (3 points)

- 904.1 Indoor Air Quality (IAQ) During Construction (2 points)
- 901.15 Non-Smoking Areas (2 points)

Thermal Comfort:

Achieve the listed number of points for each of the following categories:

- 903.3 Relative Humidity (7 points)
- 905.1 Humidity Monitoring System (2 points)

Daylighting (Optional):

There is no specific daylighting requirement in NGBS.

Private Projects Enhanced Indoor Air Quality Strategies (Optional):

901.1 Space and Water Heating Options
902.2 Building Ventilation Systems
902.3 Radon Reduction Measures

Indoor Air Quality Assessment (Optional):

904.2 Indoor Air Quality (IAQ) Post Completion
904.12 Indoor Air Quality (IAQ) Post Completion (3 points)